ISD REPORT

On Thin Ice An overview of the governance of Hudson Bay

Liane E. Benoit Benoit and Associates May 2011

International Institute for Sustainable Development

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Introduction

The world can tell us everything we want to know. The only problem is that the world doesn't have a voice. But the world's indicators are there. They are always talking to us.

Quitsak Tarkiasuk Voices from the Bay

The history of governance on Hudson Bay is a saga filled with intrigue, conquest, exploitation and triumph. From the earliest days of indigenous rule to the geopolitical battles over territory and fur; from the alliances of Samuel Hearne and Matonabbee to the contemporary regimes of co-management and self-governance, all comprise a political record rich and complex in the struggles and efforts taken to control, administer and profit from this diverse and iconic region. Today, the territory surrounding Hudson Bay falls within the jurisdiction of three provinces: Quebec, Ontario and Manitoba, and the territory of Nunavut. The federal government plays a strong hand in its administration through various acts and instruments as do the Cree, Inuit and First Nations whose hereditary claims to much if its lands and waters have largely been acknowledged through new legal and jurisdictional arrangements. As agents of civil society, environmental non-governmental organizations (NGOs) have also played a role in this region, whether as allies with First Nations in the battles against hydro development, as adversaries to these same groups in the controversy over the fur trade, or as advocates for the conservation of fish and wildlife habitat and the responsible stewardship of Arctic lands and waters. This long and convoluted political history notwithstanding, the governance of Hudson Bay as a separate, integral biosphere has yet to be effectively addressed and today, appears nowhere on the national agenda.

Yet all is not well with the bay. The Hudson Bay watershed is under assault from a range of external pressures unprecedented in its natural or social history. Among these are the multiple impacts of climate change and the scourge of persistent toxic pollutants that threaten both the resilience of the ecosystem and the people dependent on it. These incremental pressures have been exacerbated by those created from other, more immediate, man-made sources. Hydroelectric developments on tributaries on both sides of its coastline have had a profound effect on the marine environment. More mega-dams and diversions are planned or in the making. Recent discoveries of precious minerals and metals in the boggy lowlands adjacent to the bay have ignited a feeding frenzy among mining interests, with upwards of 32,000 claims already secured in Northern Ontario alone. Quebec's recently announced Plan Nord carves out an ambitious 25-year strategy to aggressively exploit that province's own vast reserves of metals and minerals, forests and hydro, much of it falling within the range of the eastern James and Hudson Bay watersheds. Where once Europeans dominated foreign interest in this northern region, it is now countries like China, Brazil and India that are competing to secure access to its raw resources, each determining how best the bay can satisfy their industrial needs with little regard to the collective footprint they impose on the region.

In 1968, Garrett Hardin, an American ecologist and scholar, penned a now classic essay describing the potential harm that can be inflicted when humans, sharing a common resource and each with a legitimate claim to its use, attempt to maximize their own profit with no regard to their aggregate impact. The story is a cautionary tale, one that resonates with disturbing relevance in the context of the current development on Hudson Bay.

The Tragedy of the Commons

Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality... the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another; and another.... But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all (Hardin, 1968).

So what laws and safeguards are in place to guard against such a "ruin" of the Hudson Bay commons? Is there sufficient authority and oversight to ensure that the legitimate rights of each province and territory to exploit the resources within their respective boundaries do not destroy the integrity of the marine basin as a whole? A survey of current political arrangements indicates no lack of governance, with numerous layers of legislation and regulation on the books to control and guide human behaviour and protect the integrity of environment. Laws exist at all levels of government to dictate land use, preserve habitat, ensure water quality and assess environmental impacts. A more enlightened perspective on development and environment is also assumed to inform decisions. The greater environmental consciousness and political activism in the latter decades of the 20th century resulted in the emergence of a new creed, one of "sustainable development," that encourages decision-makers to strike a more strategic and reasoned balance between industrialization and conservation and suggests that future generations should inherit a world no less pristine and intact than the one we currently enjoy.

But recently the tide appears to have ebbed somewhat on the sea of environmental consciousness. The stark realities of the global recession, pervasive economic insecurity and the more right-wing sensibilities of many governments have shifted priorities both in Canada and around the world away from environmental concerns and toward financial pragmatism. The youth rebelling in the streets of New York and Toronto today are no longer marching to save the whales, but to share the wealth. Given this pervading political climate, the question then becomes one of assessing how adequate a net of protection is being cast over the Hudson Bay "commons" by the current governance regime. Furthermore, we must

ask how much political will still exists among residents and stakeholders to ensure the necessary funding, instruments and institutions are in place to exploit its rich resources while preserving some semblance of its ecological integrity.

On this note, the history of Hudson Bay presents some cause for optimism. Indeed, innovation and imagination in governance appear endemic to this region of the North. Led by the Cree and Inuit of Northern Quebec in the 1960s, the indigenous peoples in many parts of the Hudson Bay watershed have protested, negotiated and, in some cases, litigated their way into some of the most innovative political arrangements found in any federation anywhere in the world. Beginning with an insistence on the settlement of outstanding land claims prior to the development of massive hydroelectric projects, the right of aboriginal peoples to pursue their traditional culture and lifestyle, with a degree of autonomy and self-governance and access to their share of the wealth generated from the development of their hereditary lands, is now largely acknowledged and in some regions, protected by formal agreements and law. Although the land claim negotiation process is neither complete nor perfect, it has become an integral part of the governance structure of the North, providing new opportunities for aboriginal collaboration, employment and wealth while ensuring hereditary rights to hunt, trap and fish on traditional lands and waters. It has afforded indigenous communities a strong and legitimate voice in the environmental impact assessment processes and provided them some degree of leverage over what activities of industry will be welcomed into the region. These agreements have also paved the way for a new internet-savvy generation of aboriginal entrepreneurs to actively engage and participate in the development of the North, providing a way forward out of the poverty, isolation and misguided government policies that have constrained their opportunities in the past, while still retaining the traditional knowledge and reverence for the land that is an integral part of their heritage and belief system.

But is the status quo enough? Who plays honest broker among the governments, residents, industries, environmental NGOs, aboriginal groups and capitalists who are all negotiating and competing to promote their respective interests in this region? Is there a system of governance in place sufficiently robust to monitor the aggregate impacts of climate change and development on Hudson Bay and call a halt to the game should the ecological balance tip too far off centre? This paper intends to wade into these deep, dark Hudson Bay waters to explore and assess the current governance structure over this watershed. It will attempt to identify the gaps, if any, that exist in that web of authority, to cast an eye within Canada and further abroad to find governance models that have addressed similar complex geographic and political challenges, and if required, to offer options regarding a possible way forward toward some overarching governance structure that would ensure that the integrity of Hudson Bay is adequately and cooperatively conserved so that the fate of this precious commons does not indeed end in tragedy.

Defining Governance

The task of defining governance for the purpose of this discussion reveals a body of academic literature astounding in its depth and diversity. Unlike other common terms in the modern dialectic, such as

"sustainable development," for which precise and consistent language can be found, no such clarity exists around the definition of the word "governance," relegating it, according to one preeminent political scholar, to the category of "buzzword (personal communication, C.E.S. Franks, Professor Emeritus of Political Studies, Queen's University, October 17, 2011). That being said, a survey of the literature offers up several observations on the nature and practice of governance that are worthy of review and might provide context and guidance in assessing the robustness and relevance of the current "governance" of Hudson Bay.

The earliest definitions of "governance" saw it as synonymous with "government." It was assumed all leadership and authority in society were arranged in a highly hierarchical and formal structure beginning with the Crown or President, passing through to parliaments or legislatures (assuming a democracy), on by ministries, departments and the courts, through the agencies and instruments of the bureaucracy to be eventually imposed upon "the people." Toward the end of the 20th century, this common understanding of "governance" as the exclusive purview of "governments" began to blur and the term began to insinuate its way into the broader popular and academic discourse to describe the way all organized forms of human endeavour were "governed." The following survey of definitions provides some flavour for contemporary interpretations:

- 1. "The interactions between public and/or private entities ultimately aiming at the realization of collective goals...comprises governing activities of governments, businesses, and civil-society actors; it encompasses economic, communicative, and regulatory steering mechanisms; and it embraces both structure and process" (Rhodes, 2004).
- 2. "Implies an arrangement of distinct but interrelated elements—statues, including policy mandates; organizational, financial, and programmatic structures; resource levels; administrative rules and guidelines; and institutionalized rules and norms—that constrain and enable the tasks, priorities, and values that are incorporated into regulatory, service production, and service delivery processes" (Lynn, Heinrich, & Hill, 2000, p. 4).
- 3. "The process of governing through both formal and informal arrangements. Governance is concerned with the processes by which citizens participate in decision-making, how government is accountable to its citizens and how society obliges its members to observe its rules and laws. Governance comprises the mechanisms and processes for citizens and groups to articulate their interests, mediate their differences, and exercise their legal rights and obligations. It is the rules, institutions, and practices that sets limits and provide incentives for individuals, organizations and firms" (Daley & Mi-Young Park, 2011, p. 2).

While all these learned definitions are essentially variations on a similar theme, each emphasizes a slightly different aspect of governance that contributes to our understanding of the whole. Rhodes is credited with developing the concept of governance as a "web" or "net" of leadership and authority. Heinrich, Lynn and Hill suggest governance is best understood through the instruments, structures and regulations that guide and constrain the behaviour, values and activities within a government or organization. Daley and

Mi-Young Park of the Food and Agriculture Organization draw attention to the fact that not all governance is exercised through formal arrangements and structures; that authority may also be exercised through practice, convention and relationships of respect, as when the advice of an elder is sought in the resolution of a dispute. This interpretation also suggests the notion of "governance" as a bottom-up rather than top-down process, one that provides the means and mechanisms through which average citizens are empowered, their obligations defined and their rights preserved.

Lastly, the Institute on Governance includes the notion of accountability in its definition of governance, itself a term often poorly understood, especially by those accountable. Although this principle will be discussed further in the following section, it might be prudent here to reference the understanding of the Auditor General (AG) of Canada on this point. According to the AG, accountability is defined as "a relationship based on the obligation to demonstrate and take responsibility for performance in light of agreed upon expectations... Accountability is rather seen to be assumed and/or agreed to by each party in a recognized accountability relationship, even when one party does indeed delegate responsibilities to the other, as in the traditional case" (Office of the Auditor General of Canada, 2011)

A recent Washington-based initiative aimed at examining governance in the context of the Arctic has put forward yet another perspective on governance that is worthwhile considering given the geographic focus of the "Connecting the Bay" Engagement Series. According to the Report of the 2010 Arctic Governance Project (AGP, 2010, p. 4), "governance" can be simply defined as "a social function centered on efforts to steer human actions toward collective outcomes that are beneficial to society and away from harmful outcomes."

This interpretation, while almost poetic in its simplicity, raises certain philosophical questions. In identifying "society" as the ultimate and exclusive beneficiary of "governance," the AGP seems to suggest that other elements of the natural world (i.e., lands, waters, ecosystems and other species) hold value only in relation to their potential benefit to society, rather than attributing merit and value to them in their own right. The AGP goes on to describe the governance of environmental matters, such as the prevention of dangerous climate change or the degradation of large marine ecosystems, as "public bads." This further reinforces the "society-centric" notion and assumes a degree of consensus within government or organizations over what constitutes a public "good" or "bad" that rarely, if ever, exists in practice. Thus in defining "governance" as a process of steering society toward qualitative end points, the AGP definition offers much scope for debate in what is otherwise a very insightful and instructive discussion of governance in the Arctic.

The potential to explore the many variations on the definition of "governance" found in the literature is endless; however, at its core rests the concept of authority and power—how it is acquired; who wields it; how it is wielded; in whose interest; through which mechanisms, regulations and instruments; as well as who is to be held accountable for the outcomes, both positive and negative, of the execution of that authority. A precise definition of "governance" may well prove both elusive and unnecessary; more important to the discussion at hand is an acquaintance with the elements that are necessary for the

practice of "good governance" and of the basic instruments and values that can inform a discussion on the governance of Hudson Bay.

Elements of Good Governance

The exercise of governance is by its nature an imperfect art, one prone to all the fallibilities of the individuals responsible. Certain qualities and standards have therefore been established over time that are generally perceived to constitute "good governance" and provide the necessary checks and balances that will ensure that the desired objectives are achieved and that corruption is kept at bay. These include principles such as legitimacy, transparency and the aforementioned accountability, and have been summed up and described most effectively by the United Nations in Table 1.

Table 1: The Five Good Governance Principles

1. Legitimacy and Voice	Participation – all men and women should have a voice
	in decision making, either directly or through legitimate
	intermediate institutions that represent their
	intention. Such broad participation is built on freedom
	of association and speech, as well as capacities to
	participate constructively.
	Consensus orientation – good governance mediates
	differing interests to reach a broad consensus on what
	is in the best interest of the group and, where possible,
	on policies and procedures.
2. Direction	Strategic vision – leaders and the public have a broad
	and long-term perspective on good governance and
	human development, along with a sense of what is
	needed for such development. There is also an
	understanding of the historical, cultural and social
	complexities in which that perspective is grounded.
3. Performance	Responsiveness – institutions and processes try to
	serve all stakeholders.
	Effectiveness and efficiency – processes and
	institutions produce results that meet needs while
	making the best use of resources.

4. Accountability	Accountability – decision-makers in government, the
	private sector and civil society organizations are
	accountable to the public, as well as to institutional
	stakeholders. This accountability differs depending on
	the organizations and whether the decision is internal
	or external.
	Transparency – transparency is built on the free flow
	of information. Processes, institutions and information
	are directly accessible to those concerned with them,
	and enough information is provided to understand and
	monitor them.

Source: United Nations Development Program (1997)

The Arctic Governance Project (2010) has also explored the concept of "good governance" and offers some insights on its practice that are specific and relevant to its exercise in the North. They are:

- 1. A requirement to build trust, alleviate tensions and limit adversarial interactions among all the major players who hold legitimate interests in the Arctic, such as indigenous groups, other Northerners, industry, government and NGOs.
- 2. The need to strengthen the regulatory framework in the North through both the enhancement of existing regulatory regimes and the creation of bodies to regulate emerging industries such as shipping, oil and gas, mining and tourism.
- 3. The establishment of a systems-based or holistic approach to ecological management and spatial planning as well as the requirement for comprehensive environmental impact assessments that encourage an integrative approach to the management of terrestrial and marine environments. Respect for these three elements—trust, regulation and systems-based management, coupled with the principles highlighted by the United Nations Environment Programme, offer some key foundational components of sound ecological governance in the Arctic and might be readily applied to a model of "good" system of governance for the Hudson Bay watershed.

The Many Faces of Governance

In recent years, political analysts have begun to distinguish between various types of governance, several of which are directly relevant to the discussion at hand. These are, but are not limited to, institutional governance, ecological governance and indigenous governance. All are fundamentally subsets of the original governance concept but are aimed at defining or emphasizing more precisely one particular aspect or set of principles of governance. None is mutually exclusive.

1. Institutional Governance

Institutional governance is largely preoccupied with the instruments and mechanics of governance and the organizational framework through which social objectives are achieved. It has been more formally defined as "the configuration of state and private organizations and institutional arrangements that impact on and create the mechanisms by which economic and social outcomes within nations are produced" (Griffiths & Zammuto , 2005). In other words, institutional governance represents the cogs, wheels and chassis upon which the work of governance hangs. These arrangements and institutions can be formal or informal. They include legally binding documents such as national constitutions and international conventions, formal government structures such as parliaments and congresses, but also the loosest and most organic of "governing" instruments and institutions such as the organizing committees that arose within the Occupy Wall Street movement and the tent camps set up in public parks by protestors.

While it is beyond the scope of this initial discussion to explore in depth all key instruments that contribute to the framework of institutional governance, given the nature of these discussions, it is worthwhile to explore the terminology surrounding key founding documents, the one instrument that generally represents the output of multistakeholder initiatives such as this.

1.a Definition of Key Founding Instruments

Most formal institutional governance arrangements begin with some form of foundation document or instrument. These can be legally or non-legally binding, can include as signatories both governmental and non-governmental organizations and generally lay out the broad principles, intentions and objectives of a proposed organization or arrangement. To provide some clarity around the terminology of these instruments, the following definitions have been borrowed from the legal department of the United Nations (2014).]

Charter is used for particularly formal and solemn instruments, such as the constituent treaty of an international organization (e.g., Magna Carta of 1215, the Charter of the United Nations of 1945, the Charter of the Organization of American States of 1952).

Convention is used for formal multilateral treaties normally negotiated under the auspices of an international organization that are open to participation by the international community as a whole, or by a large number of states (e.g., Convention on Biological Diversity of 1992, United Nations Convention on the Law of the Sea of 1982, Vienna Convention on the Law of Treaties of 1969).

Declaration is often deliberately chosen as a term that indicates that the parties do not intend to create binding obligations but merely want to declare certain aspirations. They can, however, also be legally binding therefore it is necessary to establish in each individual case whether the parties intend to create binding obligations (e.g., 1992 Rio Declaration).

Memorandum of understanding is an instrument of a less formal kind. It often sets out operational arrangements under a framework agreement and is also used for the regulation of technical or detailed matters. It is typically in the form of a single instrument, does not require ratification and can be entered into by either by states or organizations (e.g., United Nations uses memoranda of understanding to arrange both conferences and peacekeeping missions).

Treaty has to be a binding instrument, which means that the contracting parties intend to create legal rights and duties; secondly, the instrument must be concluded by states or international organizations with treaty-making power; thirdly, it has to be governed by international law; finally the engagement has to be in writing.

Other terms, such as statutes, covenants and accords are also often used but, like those above, the meaning of the terms is variable and can change from state to state or from region to region (United Nations, 2014) giving founders significant latitude in determining what label they wish to place on the instrument of their intentions.

1.b Barriers to Institutional Governance

In the assessment of any governance arrangement, it is helpful to identify early in the process what are the common barriers to good governance. In an excellent discussion on governance and climate change, authors Biesbroek, Termeer, Kabat and Klosterman (2009) have come up with three obstacles that tend to crop up most often in the context of environmental oversight, impediments they describe as "barriers in policy processes that stagnate policy processes, which are beyond the capabilities of individuals to break through and need collective action to change" (p. 3).

The first of these is "uncertainty," defined as "a lack of institutional consensus that a problem truly exists or the degree to which it poses a threat to society (Biesbroek et al, 2009, p. 4). Uncertainty can be created by conflicting or inconclusive scientific evidence, challenges in establishing direct causal relationships between negative impacts and sources or simply an effective media campaign by one interest group to discredit another. Any uncertainty created in the minds of decision-makers and stakeholders, whether legitimate or not, can effectively derail a progressive policy process. As the fate of the Kyoto Protocol clearly demonstrates, even a wisp of doubt surrounding the credibility of a threat can provide decision-makers with a compelling rationale to do little or nothing, and doing nothing is always easier than doing something; hence "uncertainty" can prove a powerful deterrent to action and undermine the most noble and progressive of intentions.

The next barrier is fragmentation. This relates to circumstances where a large number of different players and authorities are involved in responding to an issue at different levels of governance and can be

exacerbated by the wide dispersal of materials and human resources (Biesbroek et al, 2009, p. 5). Such fragmentation often occurs when a jurisdiction is shared among several different levels of government and/or among several different agencies. Management of the "environment" as a purview of authority fits squarely into this category with different levels of government, international agencies, local communities and NGOs all active, either formally or informally, in this realm. The challenges of fragmentation are also greater when the various parties responsible do not share the same language and culture or when conflicts exist among decision-makers' priorities, values and objectives. Given the numerous and disparate jurisdictions that hold sway over Hudson Bay, the issue of fragmentation may yet prove to be one of the most compelling arguments for the establishment of some overriding governance structure to ensure the coordinated management of this region.

The third obstacle identified by the authors has to do with the short time horizon of politicians and policies (Biesbroek et al, 2009, p. 8). It is an unavoidable reality in democracies that political leaders have to return to the people for a new mandate every few years. This obligation allows only a relatively small window of opportunity for elected officials to implement their proposed agendas and show results. Consequently, most policies are developed with expediency in mind. Even when long-term national commitments, such as greenhouse gas reduction, are made by politicians, these policies can be revised or reversed when a new administration comes to power and a different set of priorities, goals and ideology is installed. The challenge in creating any body that might oversee the long-term security and ecological health of Hudson Bay therefore becomes one of developing an institutional governance structure supported by objectives, instruments and resources sufficiently robust to withstand the pressures imposed by the short-term interests of political leadership and resilient enough to maintain its integrity, purpose and financial base in the context of a constantly shifting policy environment.

On the flip side of this caution, it should also be noted that changes in leadership and government can sometimes be beneficial. Replacements that occur in the leadership of various stakeholder groups and governments can on occasion help to eliminate barriers and bring new vision and political will to the mix. It sometimes takes only one change in the composition of a governing body to alter the entire tenor of an organization; and while the short-term timeframe of leadership and politicians can unquestionably represent a constraint on long-term policy objectives, it can also, on occasion, represent salvation.

There is one last point to consider in any discussion of expediency in governance, something often referred to as "realpolitik." This refers to situations where certain principles and practices must be compromised or sacrificed in order to address some imminent political threat. One recent example might be the current government's Economic Action Plan, which pumped billions of dollars of public money into the economy in the face of the global recession. Though generally recognized as the right thing to do, such policy ran directly opposite to conservative fiscal values. To have remained ideologically rigid in the face of this circumstance would have likely led to both the defeat of the minority government and a deeper national economic crisis. Thus "realpolitik" can involve hard choices and trade-offs between competing "goods" for society and usually represent a triumph of expediency over principle.

Finally, as the infamous 1980s television series "Yes, Minister" clearly demonstrated, ways can always be found within any machinery of government to satisfy the requirements of laws and regulations without truly respecting the intent of those requirements; in other words, to respect the law but not the spirit of it. Bureaucratic process has an astounding capacity to take the path of least resistance and the culture of a particular government or organization can significantly affect the rigour with which instruments of governance will be applied. Thus, without vigilance and pressure from civil society, the checks and balances in place to ensure the integrity of instruments such as environmental assessment can fall prey to measures such as an incremental withdrawal of personnel and funding, a shifting in institutional priorities or the "streamlining" of legislation in the name of greater "efficiency."

2. Indigenous Governance

In many Indigenous languages, the concept of governance is translated simply as "our way of life" or "our life" (Royal Commission on Aboriginal Peoples, 1996, p. 115). This reflects a more holistic belief system with spiritual roots embedded in a strong dependence on, and stewardship of, the natural world. As such, its providence is far removed from the ideologies that inform the political systems of much of the Western world.

Not surprisingly, this has led to the evolution of a different set of practices and instruments than those observed by Westminster-style governments such as Canada, with less reliance on written agreements, a more participatory and consensual approach to decision-making and a less adversarial attitude to conflict resolution. The historic practice of families spending many months away on the land has resulted in a form of governance more respectful of family autonomy while at the same time characterized by a strong sense of collective responsibility—a balance between independence and obligation reaffirmed through communal practices such as food sharing (Barnaby, 2009). Research undertaken by the Arctic Governance Project goes further in defining the principles of indigenous governance. It draws attention to practices such as participatory decision making, a greater acknowledgement of diverse viewpoints, learning from experience, reliance on specialized leadership abilities, respect for all forms of human life and concern for the long-term consequences of current actions (Arctic Governance Project, 2010 p. 11). Underpinning all this is a deep reservoir of traditional ecological knowledge passed on from generation to generation through an oral tradition, much of which survives to this day.

The ability of the indigenous communities of Hudson Bay to retain pure forms of aboriginal governance has been under pressure since the days of first contact with European society. Efforts by the Canadian government to eradicate all vestiges of aboriginal spirituality and governance in less enlightened times, characterized most notably by the Indian Act and the residential school system, did succeed in causing some erosion of these core beliefs and practices. But the cultural resilience and determination of aboriginal peoples has proved strong. The principles of indigenous governance have experienced a

renaissance of late and are gaining new legitimacy and respect. A survey of northern governance in the Hudson Bay region today indicates that, despite the power of the dominant political culture, influence has flowed in both directions, with many indigenous practices and perspectives being adopted and incorporated into the new regimes established by recent agreements with Nunavut, the James Bay Cree and Nunavik.

Despite a similar indigenous providence, it would nonetheless be naïve to assume, given the great diversity of culture and ethnology present around the bay, that aboriginal communities represent a single stakeholder or interest group or share a homogenous set of aspirations and opinions on issues of development and conservation. A circumpolar survey of indigenous peoples' positions on oil drilling in the Arctic will aptly illustrate the spectrum of opinion that exists among aboriginal groups on many critical issues. Indigenous communities today face the same dilemma regarding public "good" and trade-offs as do the rest of society, and as they have historically. They do, however, bring to that struggle an ideological heritage based on a reverence of the natural world that can inform the underlying tenets of this discussion and add a number of important and constructive perspectives and approaches to the exercise based on their traditional beliefs and practices.

3. Ecological Governance

Ecological governance shares some of the same principles and values of indigenous governance, especially in its emphasis on responsible stewardship of the environment. It is an approach that embeds concern for the environment in all levels of decision making and views the economy as a subset of the ecosystem (Brandis, n.d.). It assumes that biophysical limits exist, including on water, and attempts to foster circular systems to reduce demand on both local and distant ecosystems (Brandis, n.d.). Ecological governance also strives to strengthen ecological, social and community resilience to change. At its core and much like traditional aboriginal governance, it is an approach that strives to connect humans and communities to the natural world and to respect the laws of nature (Brandis, n.d.).¹

Since the early 1960's, some facet of ecological governance has infiltrated virtually every aspect of the mainstream, from how we sort and dispose of household waste, to the industrial practices of corporations, to the priorities and policies of governments. Tools of ecological management such as Environmental Impact Assessment (EIA) have joined more traditional instruments such as land-use planning and fisheries and wildlife management and are now well-established and accepted instruments of ecological protection. Major international economic organizations such as the World Bank, the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD) have all established environmental policies and standards designed to reflect the basic tenets of ecological management, if not its absolute practice. As one analysis of the IMF observed, "severe

¹ Community Ecological Governance, see http://www.gaiafoundation.org/communities-ecosystems-governance

environmental degradation can affect a country's macroeconomic performance over the long run. If not dealt with appropriately and early, environmental problems could eventually impose a heavy burden on an economy and hamper growth" (Gandhi, 1998). Such impetus for the need to respect the environment, although far from reflecting the ideals of ecological governance, has at the very least placed environmental protection on the corporate and government agenda, ensuring they are acknowledged, if not entirely embraced.

Environmental non-governmental organizations (ENGOs) have likewise emerged from the margins of society to join the mainstream as legitimate, well-organized and politically engaged interest groups. In the process, new approaches to conflict resolution and community engagement have been developed and a certain grudging respect has arisen between opponents on both sides of the development/conservation debate.

Perhaps the greatest watershed moment for the ecological governance movement was the publication in 1987 of the United Nations-sponsored Bruntland Commission Report, *Our Common Future*, and the subsequent United Nations-sponsored Earth Summit that took place in Rio, Brazil in 1992. It was during those heady days of the environmental movement that the principles of "sustainable development" were consecrated in Agenda 21, with strong commitments to address issues of biodiversity, protection of the world's forests and oceans and climate change made by the world's leading Western nations. Although much has been accomplished since, the 20th anniversary of the Earth Summit, to be celebrated with another international conference, is not scheduled to hold the same promise. The world has moved on and it is economic rather than environmental issues that are garnering the headlines. The initial commitment of many corporations and governments to embrace the principles of ecological governance have in some cases been gradually replaced with "green washing," essentially an exercise in public relations and "spin" aimed at reassuring the public that certain ecologically unsustainable practices are being accomplished with the greatest of environmental integrity—a technique of tokenism that creates the reassuring perception of ecological stewardship while doing little to further the environmental agenda.

4. Networked Governance

Networked governance is an elaboration on the Rhodes-style definition whereby complex issues of public policy are addressed through the active engagement of multiple sectors of civil society with governments and their agencies to arrive at a shared vision and an agreed set of goals, actions and outcomes. The "network" of stakeholders can be drawn from all sectors of civil society (communities, special interest groups, non-governmental organizations, business, industry and concerned citizens) as well as all levels of government (local, regional, provincial, federal, national and international). The relationships are not generally hierarchical, with authority, responsibility and accountability ultimately shared among the different levels of government and the participating civil society stakeholders.

This model of networked governance has evolved in response to both the complexity of public policy issues facing governments today and a recognition of limitations in knowledge, innovation and moral authority that can result when governments operate in isolation from other stakeholders. It seeks to enrich the policy landscape by engaging each relevant sector of society in the public policy process and bringing to the issue the benefit of their perspectives, expertise and experience. As Huppé, Creech and Naublauch (2012, p. 4) describe it: "Governance networks combine the voluntary energy and legitimacy of the civil society sector with the financial muscle and interest of businesses and the enforcement and rule-making power and coordination and capacity-building skills of states and international organizations."

It therefore holds that the engagement of multiple stakeholders with their respective strengths, perspectives and capacities in the exercise of addressing a common issue and negotiating a common vision will result in policy outcomes and achievements more robust, resilient and successful than those that could be achieved through the efforts of government alone. Examples of networked governance systems indicate the role played by government can vary considerably and runs on a continuum from a strong centralized leadership model, as in the role played by United Nations agencies in Large Marine Ecosystem projects in developing countries, to situations where the process is almost completely autonomous of government, such as the case of the Canadian Boreal Forestry Agreement. In this latter example, project leadership and management exist almost entirely outside of government, with federal, provincial and local authorities participating exclusively as stakeholders and the governance network running parallel to and in concert with existing government policy and regulations. Both of these examples of networked governance, as well as many others, will be discussed later in this paper.

In all instances of networked governance, the success of the process is highly dependent on the relationship between the participants and the level of good faith, respect and trust that each brings to the table. Identified as "social capital" within the networked governance model, it is this amalgam that allows diverse participants, often with strongly polarized opinions and interests, to ultimately agree upon a vision and a common set of goals, actions and outcomes (Huppé, Creech & Naublauch, 2012, p. 4). As one scholar wrote: "Trust develops in conditions where the multiple perspectives of diverse stakeholders are addressed, so that the information for management decisions is clear, accountable and legitimate to all parties" (Kendrick, 2003).

As with other models of governance, networked governance faces many challenges that can undermine the process and render it unworkable. Given the consensual nature of the process and the need for collaboration and collective action for success, the majority of these barriers revolve around disparities in the level of trust, commitment and willingness to compromise (i.e., social capital) exhibited by the participants. It is not uncommon in networked governance arrangements for many of the stakeholders to come to the process with resentments, misconceptions and prejudices in place and to have to work

through these issues and arrive at a new level of understanding and trust before true progress toward a common vision can be made. Likewise, not all stakeholders share the same capacities, resources, commitment or world view, and these disparities and imbalances must likewise be addressed and accommodated to ensure a balance of power and appropriate symmetry within the process. Among the risks are that inadequate leadership and brokering of the process will allow dominant stakeholder groups to highjack the agenda, leading to inadequate and inappropriate outcomes where the usual benefits associated with network governance do not outweigh the social, financial and institutional costs.

A new governance structure for Hudson Bay will likely reflect many of the values and practices found in ecological, indigenous and networked governance, none of which are mutually exclusive. The development of a common ecological vision for the bay among the many disparate interest groups and governments who hold a stake in its welfare will involve leadership, the support of sound science and traditional-based knowledge, a high level of "social capital" and not a significant amount of funding and resources. An active network of association must be built among all governments, communities, industries and NGOs active in the region, as well as a strong capacity for communication, collaboration and conflict resolution to enable these many interests to arrive at a common vision for the future of this inland sea. The governance models briefly described here provide clues to a possible way forward. Following is a brief overview of some of the efforts of the past that might likewise inform the journey.

Review of Past Efforts to Enhance Governance on Hudson Bay

Voices from the Bay

Voices from the Bay was a collaborative ecological and systems management study undertaken in the Hudson Bay region in the mid 1990s. The initiative was largely driven by the concerns of the Hudson Bay Inuit and Cree over the impact of hydroelectric development and the threat posed by southern-generated persistent organic toxins that were contaminating their traditional food supply and the northern environment in general. The effects of climate change were also beginning to be noted in this region, adding yet another stressor to the ecology of Hudson Bay. Aware that development of their resource-rich territory was inevitable and that Western scientific data on this region was scarce, the project focused primarily on capturing the wealth of traditional ecological knowledge that was present within their communities and recording this oral material for posterity so it might serve as a reference and baseline against which to assess further impacts and changes. The project, spearheaded by the Environmental Committee of Sanikiluaq and supported by the Canadian Arctic Resources Committee (CARC), with funding from the federal government, industry and a range of foundations and NGOs, became a landmark in the history of Arctic research, not only for the wealth of valuable ecological information that it gathered, but for its recognition of traditional ecological knowledge as a legitimate cornerstone of Arctic research.

The output of the Voices from the Bay project was prolific and all recordings and written records from the project are housed in the Wilfred Laurier University Library. A synthesis of the research appears in a the book *Voices from the Bay – Traditional Ecological Knowledge of Inuit and Cree in the Hudson Bay Bioregion* (Miriam McDonals, 1997) as well as through eight scholarly papers covering topics such as human impacts on Hudson Bay, the health effects of development and the implications of climate change on the future of the bioregion. As such, this body of research represents a key foundational resource for any future initiatives concerning the ecological protection and integrity of Hudson Bay and has set of standard of cooperation, innovation and excellence that future endeavours would do well to emulate. So well received was this initiative that the United Nations recognized the community of Sanikiluaq with a "We the Peoples: 50 Communities Award," which honoured 50 remarkable communities around the world as part of the UN's 50th anniversary celebrations.

Hudson Bay Ocean Working Group

The same year as the publication of Voices from the Bay, the Government of Canada passed the Canada's Oceans Act (1997), a piece of legislation consecrating the boundaries of Canada's marine territory under the terms of United Nations Convention on the Law of the Sea. This legislation directed the Minister of Fisheries and Oceans to take the lead in developing and implementing plans for the integrated management of all activities in the estuaries, coastal waters and marine waters of Canada.

Perhaps inspired by the work of the Voices from the Bay project and with the authority granted under the Department of Fisheries and Oceans' (DFO) new Ocean's mandate, in the fall of 2000 DFO initiated an integrated management planning process for Hudson Bay, hosting two workshops on the western coast of Hudson Bay. The first was titled Charting a Co-ordinated Approach to Management of the Western Hudson Bay Region, and the second, Examining the Health of the Hudson Bay Ecosystem. Following up on these workshops, DFO staff undertook extensive community consultations in the western Hudson Bay region in order to share information about DFO's new management responsibilities for marine waters and to learn what management issues were important to coastal communities.

The key issues identified (Hudson Bay Working Group, n.d.) were:

- 1. Environmental the unique nature of the Hudson Bay ecosystem, resource management initiatives, environmental stresses, co-management initiatives, cumulative effects monitoring and management, climate change.
- Information/Knowledge Acquisition, Sharing and Management scientific, traditional ecological
 and economic knowledge of the area, identification of the challenges related to information
 sharing and management.
- 3. Economic development trends and intentions, opportunities for current and future marine transportation.

- 4. Social-Cultural aboriginal issues including, Manitoba First Nations, Metis and Inuit historical/legal rights and interests, resource co-management, subsistence and commercial harvesting.
- 5. Jurisdictional constitutional jurisdictions of the federal, territorial and Manitoba governments, including joint arrangements under the Nunavut Final Agreement.

The result of these consultations was the creation of the Hudson Bay Ocean Working Group (HBOWG) with a mandate to develop an integrated management plan for Hudson Bay. Several meetings were held at various locations on the bay that included a broad range of community representatives and other stakeholders. In addition to mapping out terms of reference for the HBOWG and initiating work on the integrated management plan, these meetings explored themes that included traditional knowledge, climate change, Canada's Oceans Strategy and planning for protected areas in Hudson Bay (Hudson Bay Working Group, n.d.). Two papers were published as result of these meetings that would be worth reviewing prior to initiating any new consultations: *Charting a Co-ordinated Approach to Management of the Western Hudson Bay Region*² and *Examining the Health of the Hudson Bay Ecosystem*.³

Although the HBOWG made some excellent initial progress, it must be noted that the scope of the integrated management strategy under this DFO initiative dealt with only the western Hudson Bay region, roughly from the border of Ontario, north along Hudson Bay to Baffin Island. As such, it captures only a part of the geographic region represented by the "Connecting the Bay" Engagement Series, and despite its utility to the current exercise, captures only a small piece of the overall picture.

Review of the Current Governance Framework in the Region

Understanding the current governance structure of the Hudson Bay watershed is not an exercise for the faint of heart. The region borders four separate provincial and territorial jurisdictions, boasts Crown lands and aboriginal responsibilities that fall solidly within the purview of the federal government and includes four settlement areas subject to the stipulations and conditions of four major land claim agreements with the peoples of Nunavut, Nunavik, the Eeyou Marine Region and the Eastern James and Hudson Bay regions. Each agreement is idiosyncratic. Nunavut exercises a form of self-government underwritten by an Act of Parliament and holds responsibilities more in keeping with a territorial government, whereas the Nunivik Agreement establishes a regional government within a Canadian province—a first in Canada (Rodon & Grey, 2009, p. 331). The other land claim agreements establish regimes and agencies comprised of both indigenous and government representatives that fall more appropriately under the heading of "co-management" within the framework provincial and federal authority, but are likewise unique in their composition and history. Manitoba has likewise undertaken a series of agreements and settlements with

² See http://umanitoba.ca/institutes/natural_resources/im-node/hudson_bay/chartingcoordinate.pdf

³ See http://umanitoba.ca/institutes/natural_resources/im-node/hudson_bay/examininghealth.pdf

Northern indigenous communities and remains engaged in a process aimed at making good on its commitments.

The governance of the Hudson Bay watershed is therefore best understood as a Rhodes-like net with multiple strands of governance composed of national, provincial, territorial, municipal, First Nations, Cree and Inuit authorities, all having jurisdiction over some aspect of activity and development in this region. To add to the dynamic, the Boreal Forestry Agreement, relevant to some of the more southerly forest regions of the Hudson Bay watershed, has introduced a new instrument of environmental governance between NGOs and industry that operates outside the purview of government. Many of the boards, commissions and advisory committees established under the land claims agreements remain answerable, accountable, or both, to various provincial or federal ministries, as well as to Inuit or Cree designated organizations (CDO). Like a net, these multiple authorities occasionally overlap and tangle, occasionally develop rents that let the fish swim free and tend to be thrown on the areas of greatest activity. The question to be addressed is whether the legislative net, as it currently exists, is adequate to the task of protecting the bay in the face of the waves forecast to crash in the forthcoming decades.

A completely detailed description of the complex jurisdictional arrangements of Hudson Bay and their respective regulatory frameworks is well beyond the scope of this paper; however, for the purpose of this discussion, the following section will highlight those authorities and instruments—legislation, agencies, and policies—that directly affect the lands, waters and resources of this region. In the interest of efficiency, it will not include a detailed account of the many international organizations such as the Arctic Council or UN bodies or the numerous conventions and declarations that are relevant to this region, although it may be assumed that these have some influence on Canadian government's policies and responsibilities. It will also not examine the many central agencies and instruments of government within Canada that unquestionably affect the welfare of the region but are not directly germane to a discussion centred principally on ecological governance. Not examined will include major instruments such as taxation policy and budgets (arguably among the most powerful of fiscal tools), health policy, foreign affairs and trade legislation; nor will other extraneous players such as insurance companies (Lloyds of London largely dictates the shipping season on Hudson Bay) or industry associations. Large aboriginal organizations such as the Grand Council of the Cree, Inuit Tapirisat Kanatami and the Assembly of First Nations will also not be analyzed in detail, although they have definitely played an important role in the governance of the region and continue to influence public policy.

The pervasive hand of the Government of Canada stretches its reach widely over the Hudson Bay watershed. As the custodian of the Crown lands and the inland seas that comprise its internal waters, federal departments play many roles in land use, resource development, environmental protection and wildlife and marine management in this region and have been active participants in all of the agreements that have been negotiated and signed with indigenous peoples. That being said, the Hudson Bay basin as an ecological concern has garnered very little of the federal government's attention to date. Although the current federal government has signalled a renewed interest in Northern sovereignty and the economic potential of Arctic resources, the Northern dimensions of Canada's foreign policy seem to be preoccupied

with issues and regions somewhat beyond the frontiers of Hudson Bay and with little focus being given to the welfare of this important inland sea.

Following is a summary of some of the federal legislation that has been influential in shaping the current governance regime of Hudson Bay. While far from comprehensive, it gives some flavour of the range of instruments and legislation that impacts this region as well as a sample of the wide diversity of authorities that govern various aspects of its environmental management.

Federal Jurisdiction

Environment Canada

Canadian Environmental Assessment Act (CEAA)

The CEAA authorizes the federal government to undertake environmental assessments of any projects involving federal funding or which are being undertaken on federal lands, as well as on all waters and in the airspace above those lands, with the exception of lands under the administration and control of the Commissioner of Yukon, the Northwest Territories or Nunavut. These lands also include reserves, surrendered lands and any other lands that are set apart for the use and benefit of a band and are subject to the Indian Act, and all waters on and airspace above those reserves or lands (Government of Canada, 1992). CEAA is triggered on any occasion where the federal government is the proponent of a project, makes or authorizes a payment or guarantees a loan for a project, sells or leases Crown lands or transfers administration to a province or territory for the purpose of a project or where the Federal government grants a permit, license or in any way grants approval of a project (Government of Canada, 1992). In other words, CEAA assessments are a relatively common occurrence.

There are two levels of assessments authorized under the act—screenings and comprehensive assessments, the latter being a far more involved process than the former and usually reserved for major projects. In circumstances where more than one authority has an obligation to undertake an environmental assessment, that is to say a project involving both federal and provincial jurisdiction, agreements to undertake a joint assessment are often struck, as was the case, after much political puffery and foot stamping, in the proposed Great Whale hydro development environmental review.

Interestingly, the federal government can also initiate an environmental assessment if the minister feels that a project being undertaken by a provincial or territorial government might have a significant negative impact on another province or territory (Government of Canada, 1992). Subsection 16(1) of the act requires every environmental assessment to include consideration of the environmental effects of a project, including "any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out" (Government of

Canada, 1992).⁴ Responsible authorities must determine appropriate means to satisfy this requirement as part of the screenings and comprehensive studies.

Also noteworthy in the act is the clause recognizing traditional ecological knowledge (TEK) as a legitimate resource in the fulfillment of these environmental assessments. The involvement of indigenous groups and organizations as stakeholders in any environmental review process is now considered standard, but recognition of the legitimacy of TEK has taken some time to establish in practice. Although not under the auspices of this act, Environment Canada's Northern Contaminants Program (NCP) has been groundbreaking in this regard and has served as a model for many subsequent federal government Northern research initiatives.

On July 12, 2010, the Harper government passed several amendments to CEAA within the omnibus Federal Budget Act intended to "streamline" the environmental assessment process, at the same time exempting some CAD\$82 billion worth of infrastructure projects under Canada's Economic Action Plan from a requirement for assessment.⁵ The Harper government is currently proposing to further streamline the CEAA process by removing the need for both the federal and provincial or territorial governments to undertake assessments in the case of large provincial projects.

Migratory Bird Act

Most migrating birds found in Canada are protected under the Migratory Birds Convention Act (MBCA) of 1917, which was the Canadian legislative response to the International Migratory Bird Convention of 1916. The Canadian government has the authority to pass and enforce regulations to protect those species of migratory birds that are included in the convention. The act is administered by the Wildlife Enforcement Division of Environment Canada in cooperation with provincial and territorial governments, which holds jurisdiction over some species such as pelicans, cormorants, hawks and owls, which were thought to be pests in 1916, but have since become recognized for their ecological importance and are now protected under provincial and territorial jurisdiction. Enforcement of the federal act and regulations is the responsibility of the Canadian Wildlife Service, the Royal Canadian Mounted Police and provincial or territorial law enforcement authorities.⁶

Species at Risk Act

The Species at Risk Act also owes its providence to an international agreement, in this case the 1992 International Convention on Biodiversity, to which Canada is a signatory. The convention was one of

⁴ See http://www.ceaa.gc.ca/default.asp?lang=En&n=1F77F3C2

⁵ See http://www.ceaa.gc.ca/default.asp?lang=En&xml=B6531D7A-8F4C-4A1B-AB90-4A99B713B579

⁶ For more information about the MBCA, see the Environment Canada web site at http://www.ec.gc.ca/nature/default.asp?lang=En&n=C7564624-1#1

several international accords to come out of the landmark 1992 Earth Summit on sustainable development. The Species at Risk Act represents the Canadian government's legislative response to this international commitment and is intended to prevent wildlife species from becoming extinct and to provide the necessary actions for the recovery of those threatened or endangered. It offers legal protection for wildlife species and the conservation of their biological diversity.⁷ The provincial governments of Manitoba, Ontario and Quebec also have acts protecting species at risk, which pertain to private as well as public lands, but vary widely in terms of what species are covered under the act and the degree to which habitats for listed will be protected. species

Canada Wildlife Act

The 1973 act gives the federal government authority to undertake wildlife research and, in cooperation with the provinces and territories, to undertake wildlife conservation and interpretation activities. The act allows for the creation, management and protection of wildlife areas for wildlife research activities, or for conservation or interpretation of wildlife.⁸

Polar Bear Administrative Committee

The Polar Bear Administrative Committee (PBAC) is comprised of federal government representatives and representatives from Ontario, Quebec, Newfoundland and Labrador, Manitoba, Nunavut, Yukon and the Northwest Territories. The PBAC provides a forum for the collaborative management of polar bear populations by relevant jurisdictions in Canada to ensure that Canada fulfills all obligations for polar bear conservation, including obligations under the international Agreement on the Conservation of Polar Bears and their habitats.

The Canada Water Act

The 1970 Act contains provisions for formal consultation and agreements with the provinces. Under the Canadian Constitution, the provinces hold jurisdiction over water resources and responsibility for their day-to-day management while the federal government has certain specific responsibilities relating to fisheries and navigation, as well as exercising certain overall responsibilities in relation to water such as the conduct of foreign affairs and negotiation of international treaties.

The Nunavut Act

As described in detail in the section below related to Land Claims Agreements and Related Acts.

⁷ Species at Risk Act, see http://laws-lois.justice.gc.ca/eng/acts/S-15.3/

See the full text of the Canada Wildlife Act at http://www.ec.gc.ca/alef-ewe/default.asp?lang=en&n=E8EA5606-1

Transport Canada

Canada Shipping Act

On July 1, 2007, the Canada Shipping Act replaced previous legislation of the same name and became the principal legislation governing safety in marine transportation and recreational boating, as well as protection of the marine environment. It applies to any Canadian vessel operating in all waters and to all vessels operating in Canadian waters, from canoes and kayaks to cruise ships and tankers. The revision of the act was accomplished in consultation with stakeholders and outlines all standards and regulations related to marine safety, marine personnel, licensing, pilotage, transportation of dangerous goods and protection of the marine environment from hazards created by shipping.

Navigable Waters Protection Act

This act ensures that no structure or impediment shall be built or placed in, on, over, under, through or across any navigable water without the minister's prior approval of the work, the site and the plans for it. It also gives the minister the right to order the removal of any work that interferes with navigation.

Arctic Waters Pollution Prevention Act

This legislation, shared jointly among several departments including the Ministry of Natural Resources and Environment Canada, prohibits any person or ship from depositing waste of any type in Arctic waters or in any place on the mainland or islands of the Canadian Arctic where that waste might end up in the marine environment. It is essentially pollution-prevention legislation that ensures Arctic waters do not become a dumping ground for hard-to-dispose-of materials and urban garbage, including nuclear waste. It provides for reporting procedures for accidental spills and outlines regulations for enforcement and penalties, usually fines up to a maximum of \$25,000. The act also provides the authority for seizure of cargo and ships suspected of polluting Arctic waters and outlines the duties of a "pollution prevention officer," a role usually fulfilled by the Coast Guard or, on occasion, the Canadian military.

Department of Fisheries and Oceans (DFO)

Fisheries Act

The Fisheries Act is one of the oldest statues in Canadian governance. The Constitution of Canada awarded the federal government jurisdiction over all sea, coastal and inland fisheries as well as responsibility for

fish habitat. The provinces were granted authority over the use of inland waters, beds of watercourses and shorelines. Under the Fisheries Act, the Department of Fisheries has authority to grant licenses and regulate fishing within all waters in the fishing zones of Canada, all waters in the territorial sea of Canada and all internal waters of Canada, including Hudson Bay and the Hudson Strait. FDO manages the fisheries primarily through co-management, a process that brings together local hunters and fishers, government agencies and public management boards to share responsibility for fishery resources. Together, DFO and other stakeholders develop and implement plans to ensure that fish and marine mammals are harvested at sustainable levels.

Given its jurisdictional responsibilities, it has often fallen to DFO to intervene when major developments such as hydroelectric dams or mining operations threaten the habitat of fish stocks, although compromises through accommodation and mitigation are regularly sought in such instances.

The department is also highly dependent on the quality and quantity of scientific data and research available to it. Institutions such as the Freshwater Institute in Winnipeg have been invaluable in advancing marine research and continue to play a critical role for fishery, fish habitat and oceans management programs.

The incredible breadth of this jurisdiction and the relatively limited resources available to the ministry to fulfill its mandate compels the department to focus on those regions of greatest marine activity and concern and to leverage its resources through cooperation and co-management regimes.

Oceans Act

1997 saw the passage of the Oceans Act, which extended Canada's exclusive economic zone (EEZ) jurisdiction to 200 nautical miles (370 km) off the coast and committed the Government of Canada to developing an oceans strategy for the management of marine ecosystems. This mandate is the result of, and in keeping with, provisions of the United Nations Convention on the Law of the Sea (UNCLOS) to which Canada is a signatory. The establishment of the Canadian EEZ commits Canada to protect marine environments, to regulate scientific research and to control offshore installations and structures. The department is also obligated through this legislation to adhere to the framework for integrated marine management outlined in UNCLOS. This includes a commitment to establish monitoring programs, protect vulnerable fish or marine mammal habitats and cooperate with coastal communities in the conservation and management of local marine regions.

Aboriginal Affairs and Northern Development Canada (AANDC)

A recent change to the name of this department reflects a more accurate description of the indigenous peoples—First Nations, Inuit and Metis—with whom this department is primarily engaged, as well as a

⁹ See http://www.dfo-mpo.gc.ca/regions/central/pub/fresh-douces/01-eng.htm

¹⁰ See http://www.dfo-mpo.gc.ca/regions/central/oceans/index-eng.htm

¹¹ Ibid

greater emphasis on "Northern Development," perhaps signalling this current government's intent to pursue a more aggressive economic agenda in the North. As the department responsible for the administration of the Indian Act, it has fallen to this agency to negotiate outstanding treaty and comprehensive land claim agreements in the Hudson Bay region as well as to exercise its fiduciary responsibility with regard to education, health, housing, water, etc. for those First Nations not as yet covered by land claims agreements and whose bands remain directly under the jurisdiction of the Indian Act. It should be noted that reserves and territories are federal lands. Projects undertaken there should trigger all applicable federal legislation with respect to environmental assessment, resource, land and marine management, although in situations where agreements are in place, many of these responsibilities are in effect being managed or co-managed by the respective territory or designated Inuit or Cree authority. Even in cases where comprehensive land claims agreements are in place, and unless ownership has been transferred, the federal government retains titular authority over these lands.

Land Claims Agreements and Related Acts

i. The James Bay and Northern Quebec Land Claim Agreement (JBNQLCA)

This historic 1975 JBNQLCA was the first comprehensive land claim agreement to be negotiated in Canada between indigenous peoples and the Crown. As such, it has had a strong influence over how the governance of aboriginal lands of the Hudson Bay region has evolved and is credited with pioneering many of the shared management regimes that now exist in other areas of the Hudson Bay region. The agreement was precipitated by the Cree and Inuit's strong resistance to the proposed development of several major hydroelectric projects in the James and Hudson Bay regions that would flood much of their hereditary lands, redirect the water flow of several major rivers and significantly impact the welfare and traditional lifestyle of the local peoples. In Canada and Quebec, the Cree and the Inuit are all signatories to the final agreement with the 55th parallel marking the divide between the Inuit and Cree territories. The agreement covers a geographic area of approximately 140,000 square miles in Northern Quebec, defines land rights and ownership, provides financial compensation, guarantees employment opportunities, ensures protection for traditional way of life and strives to promote sound ecological management of the region consistent with indigenous values.

I(a) Land

More specifically, the Agreement prescribes a new governance structure that divides responsibility for land and wildlife management between the Cree, Inuit, Government of Quebec and Government of Canada. Of particular note was the designation of three categories of land under the Terms of the Agreement:

Category I – lands are allocated to indigenous peoples for their exclusive use and benefit and largely consist of lands in and around communities where they reside—3,250 square miles are allocated to Inuit and 2,158 to the Cree. Quebec has retained the right to use Category I lands if public activity encroaches

on this territory, but they are obliged to provide replacement lands of equal value. Local matters on Category I land are managed by the residents through municipal councils. Consent for mining on Category I lands is required from the community; however, Quebec has retained the rights to mineral and subsurface resources, and can transfer these to a third party. In such a case where mining is undertaken on Category I lands, the owner of the mining rights must provide compensation to the community.

Category II – lands where indigenous peoples have exclusive hunting, fishing and trapping rights but no special right of occupancy. If the Government of Quebec earmarks these lands for development, they must be replaced with lands of a similar value. Mining exploration and technical surveys are carried out freely but must not interfere unreasonably with traditional activities.

Category III – comprises the majority of land within the territory and is land where exclusive rights and privileges have not been granted to indigenous peoples. Indigenous peoples are still able to pursue hunting, fishing and trapping year round, and certain species are reserved for their exclusive use, but beyond this right of land usage, the lands fall under the jurisdiction of the Province of Quebec and can be developed accordingly.

I(b) Financial compensation

The agreement awarded \$225 million in compensation to Cree and Inuit for loss of their lands, with the money to be allocated to 22 communities over 20 years. Two authorities were created to administer these funds, the Inuit Makivik Corporation and the Cree Regional Authority (CRA).

The CRA serves as the administrative arm of the Cree government, the Grand Council of the Cree. It has responsibilities with respect to environmental protection; the hunting, fishing and trapping regime as outlined in Section 22 of the Agreement; economic and community development; and the Board of Compensation. The Board of Directors is made up of the chairman of the CRA, who is also the grand dhief of the Cree, the vice-chairman and the chiefs of each of the nine Cree communities, and one other person from each community as delegated by that community.

Likewise, Makivik Corporation is run by a five-member executive committee that includes a president and a 16-member Board of Directors. All are elected by the Inuit of this region. Makivik Corporation plays a similar role to the CRA in that it serves to protect the economic and social rights and interests of the Inuit and administer the financial compensation provided to Inuit under the JBNQA, and more recently, the offshore 2008 Nunavik Inuit Land Claim Agreement

I(c) Environmental Management

Under the terms of the James Bay agreement, two advisory bodies were created to ensure the Inuit and Cree an opportunity to participate in the environmental protection of the region. The James Bay Advisory Committee on the Environment and Kativik Environmental Advisory Committee are each comprised of

equal representation from their respective regional authorities, Quebec and Canada. The mandate of each committee is to:

- "Oversee the administration and management of the environmental and social protection regime established pursuant to Section 23 of the JBNQA;
- Advise the governments on major issues relating to the implementation of the environmental and social protection regime and the land-use regime;
- Study and make recommendations to laws, regulations, policies and administrative procedures relating to the natural and social environments as well as land use;
- Advise the governments whenever they create or amend laws, regulations and policies relating to the natural and social environments as well as land use;
- Study the mechanisms and the environmental and social impact assessment and review procedure for the region, as well as make recommendations" (Kativik Environmental Advisory Committee, n.d.).

In addition it should be noted that the Department of Lands and Forests must send forestry management plans to the relevant advisory committee for all Category II lands. Forestry undertaken on Category I lands still require cutting rights or permits from the province, but no stumpage fees are required, and they are under the jurisdiction of the local community.

For Category III lands, all regulatory power with regard to management and environmental protection rests with Quebec or the Crown and activities undertaken on these lands are not subject to the oversight of the advisory committees.

It should also be noted with respect to this north Quebec region that under Section 22.4.2 of the agreement, all development and activities on Category I lands, lands owned exclusively by the Cree and Inuit, are still required to meet all applicable provincial and federal environmental regulations and all applicable local government environmental and social and land-use regulations (JBNQA, 1975).

The agreement also establishes an Environmental and Social Impact Review Committee, a joint indigenous/provincial body, to make recommendations regarding development projects in the territory that fall under provincial jurisdiction and an Environmental and Social Impact Review Panel with a similar composition and mandate, but with federal representation, for those projects falling under federal jurisdiction. The review committee or the review panel is mandated to receive input from the communities and recommend to the director of the Environmental Protection Agency, in the case of the province, or the designated official (usually the Minister of the Environment) in the case of Canada, whether or not the development should proceed and, if so, under what terms and conditions. The

committees can also put forward to the proponent via the appropriate government any recommendations for preventive or remedial measures and whether the development should be subject to further assessment and review and, if so, what data or information is required (JBNQA, 1975).

It must be acknowledged that while the JBNQA was a landmark achievement, the implementation of the agreement did not always live up to the spirit of the agreement, or in some cases, the legal obligations. After several decades of dispute, recrimination and law suits by the Cree, a new agreement was struck with Quebec in 2010, nicknamed "la paix des braves," which resolved many of the contentious issues around compensation and opportunity in return for the Cree suspending all legal action against the province. As this was considered by both parties a "government-to-government" arrangement, a further discussion of "la paix des braves" will be undertaken further along under the section on provincial initiatives.

ii. The Nunavut Act

The Nunavut Act of 1993 created the Territory of Nunavut and prescribes the lands north of the 60th parallel that would constitute its borders, including the islands in Hudson Bay, James Bay and Ungava Bay that were not already part of Ontario, Quebec or Manitoba. The legislation implements the provisions of the Nunavut Land Claims Agreement (NLCA) wherein Inuit exchanged Aboriginal title to all their traditional land in the Nunavut Settlement Area (NSA) for the rights and benefits set out in the agreement. The act awarded to Nunavut the right to the "beneficial use" and proceeds of those lands designated by the act and confirmed the new territory's right to establish its own legislature, create its own laws and administer its own internal affairs—powers similar to those enjoyed by the Northwest Territories and Yukon. It also transferred to Nunavut ownership of approximately 18 per cent of the new territory, known as Inuit Owned Land (IOL) and provided for certain Inuit rights on Crown lands, including rights related to mining and petroleum. A new agency, Nunavut Tunngavik Incorporated (NTI), was established to coordinate and manage the Inuit responsibilities set out in the NLCA and to ensure the federal and territorial governments fulfill their obligations.

Under the Nunavut Land Claims Agreement, several boards, committees and tribunals were established to ensure Inuit a voice in the management of this new territory. The following represent those agencies created under the NLCA that are most directly relevant to the environmental governance of Hudson Bay.

ii(a) The Nunavut Impact Review Board (NIRB)

Comprised of nine members chosen by the Canada, Nunavut and the designated Inuit organizations, The Board is mandated to assess the potential impacts of proposed development in the Nunavut Settlement Area prior to approval by other project authorities or the granting of licenses. Using both traditional knowledge and recognized scientific methods, NIRB assesses the biophysical and socioeconomic impact of proposals and makes recommendations to the responsible Federal or Territorial Minister about which

projects should proceed as well as on the granting of licenses. The Board may also choose to monitor the impacts of projects that have been reviewed and approved to proceed.

ii(b) Nunavut Planning Commission (NPC)

The NPC is mandated under the Nunavut Land Claims Agreement to work with the people of Nunavut, the Hunter and Trappers Organizations and other community-based groups, government, industry and other stakeholders to develop land-use plans that guide and direct resource use and development in Nunavut. The NPC recommends land-use plans to the Federal Department of Aboriginal Affairs and Northern Development and the Nunuvut Department of Sustainable Development. Members are appointed by Nunavut Tunngavik, the three Regional Inuit Associations, the Government of Canada and the Government of Nunavut. The territory was originally divided into 6 regions, each mandated to develop a separate land-use plan, however a decision has since been taken to undertake one comprehensive plan for the territory, a process currently in process. That being said, both Keewatin region and North Baffin region have approved plans completed, the Keewatin Plan being of most direct relevance to governance of the Hudson Bay ecosystem.

ii(c) The Nunavut Water Board (NWB)

The NWB is composed of nine members, four appointed from nominations submitted by the Inuit, four from government, and a Chairperson appointed from nominations provided by the NWB. The Board has responsibilities and powers over the use, management and regulation of inland water in Nunavut. Its objective is to provide for the conservation and utilization of all waters in Nunavut - except those in national parks - in a manner that will provide the optimum benefits for the residents of Nunavut in particular and Canadians in general. As such, it is the responsible authority for the issuing and administration of all water licenses in Nunavut.

ii(d) Nunavut Surface Rights Tribunal (NSRT)

The Nunavut Surface Rights Tribunal is a ecosystem-approach body that is mandated to intervene when parties cannot agree on access to the surface of the land in the Nunavut territory or on compensation for wildlife. The Tribunal's role is as an arbitrator of disputes. It is a quasi-judicial body, independent of the influence of any party, including government, Inuit organizations or industry.

ii(e)Nunavut Wildlife Management Board (NWMB)

The NWMB is mandated to ensure and protect the Inuit's right to the beneficial use of wildlife for and by the beneficiaries of the Nunavut Land Claims Agreement as well as other residents of Nunavut, to manage wildlife according to the principles of conservation and sustainability and to ensure the integrity Arctic ecosystem. The Board coordinates its functions and activities with the Regional Wildlife Organizations and

the Hunters and Trappers Organizations to ensure communication and cooperation with the many communities of the NSA. It also seeks to identify, develop and bring to bear the best information and expertise in the formulation of its decisions. The Board recognizes the role and legitimacy of various sources of information and expertise, including but not limited to, resource users, community elders, traditional knowledge and modern science.

iii. Northern Flood Agreement

As with the Quebec Cree and Inuit, the catalyst for action on treaty rights in Manitoba was the province's intent to flood great swaths of territory through the diversion of the Churchill River that would enable the construction of a series of massive hydro dams. The Northern Flood Agreement (NFA) was signed in 1977 by Canada, Manitoba, Manitoba Hydro and the Northern Flood Committee representing the five First Nations (Nelson House, Norway House, Cross Lake, Split Lake and York Factory) whose reserve lands were to be implicated in this development and promised compensation to First Nations in a ratio of 4:1 for every acre of their territory flooded, the expansion and protection of wildlife harvesting rights, \$5 million paid over five years to support economic development projects on reserves and a guarantee of employment opportunities. The agreement also promised an arbitration process for the resolution of any adverse effects to the lands, pursuits, activities and lifestyles of reserve residents. The five First Nations were also ensured a role in future resource development as well as in wildlife management and environmental protection. Certain water level guarantees were made and Manitoba Hydro accepted responsibility in advance for any negative consequences that might emanate from the flooding. In return, Manitoba Hydro obtained the right to flood reserve lands as part of the Churchill Diversion Project.

The NFA, although a landmark agreement at the time, proved very hard to implement and was the subject of much recrimination and dispute between the parties throughout the 1980s. In 1986 the alliance of First Nations known as the Northern Flood Committee Inc. proposed that a further comprehensive implementation agreement be developed and four-party global negotiations followed. Four years later, those all-party negotiations produced a Proposed Basis of Settlement (PBS) that set out revised implementation terms that included increased amounts of land and money and a variety of new institutional arrangements, most of them under First Nations' control. Over the next few years, Tataskweyak Cree Nation, York Factory Cree Nation, Nisichawayasihk Cree Nation and Norway House Cree Nation signed Comprehensive Implementation Agreements (CIAs), which in the case of Norway House is known as a Master Implementation Agreement (MIA). These agreements were signed with Canada, Manitoba and Manitoba Hydro and clarified the obligations of each party, providing substantial economic development funds to the communities as well as significantly more land than the original NFA. Despite this progress, the implementation of this latter agreement and the NFA remain the subject of much recrimination and dispute within Manitoba to this day.

In the broader context of land claims and aboriginal justice in Manitoba, May 29, 1997, saw 19 of the province's First Nations sign the Manitoba Treaty Land Entitlement Framework Agreement. Under this agreement, 445,754 hectares of land (1.2 million acres) was to be transferred to First Nation reserves to make up for historic shortfalls that occurred at the time the reserves were created. This process first required the transfer of unoccupied provincial lands back to the Federal government, land that had originally been transferred from the Crown to the province in 1930 through the Manitoba Natural Resources Transfer Agreement (NRTA). According to that act, all of the federal Crown lands and resources lying within the Manitoba borders, with the exception of National Parks, were transferred to Manitoba from Canada but were subject to a legal requirement to provide unoccupied lands to Canada to enable it to meet any future obligations under treaties with First Nations. This stipulation proved to be prophetic when the signing of the framework agreement required the federal government to exercise that provision. Given the complexity of such transactions, the process of this three-way land transfer continues to this day, some 15 years after the framework agreement was signed, and is still a point of contention with many of the First Nations affected.

iv. Nunavik Inuit Land Claim Agreement (NILCA)

Negotiations between the Inuit of Northern Quebec, the Province of Quebec and the Government of Canada began in earnest in 2002 and on December 5, 2007, the three parties signed an agreement in principle to create a new regional government in Nunavik. The NILCA provides for ownership of 80 per cent of the islands in the Nunavik Marine Region, and overlap agreements between the Inuit of Nunavik and the Inuit of Nunavut, the Crees of Eeyou Istchee and the Inuit of Nunatsiavut. It is important to note that like Nunavut, the governance regime being created through this agreement will not be exclusively Inuit but rather public, representing all the citizens of Nunavik whether Aboriginal or not. The agreement provides for an elected assembly of at least 21 representatives from each of the 14 communities as well as a five-member executive council, including a government leader elected by the general population. The implementation of this agreement is currently in the transition phase and amalgamation or coordination with existing board and committees established under the JBNQLCA are not yet complete. The first assembly is scheduled to be convened in 2013.

In anticipation of the implementation of the agreement, several boards are to be established that will be of direct relevance to the governance of Hudson Bay. These are:

iv(a)The Nunavik Marine Region Wildlife Board (NMRWB)

The NMRWB will be the main instrument of wildlife management in the Nunavik Marine Region and is comprised of seven members—three members to be appointed by Makivik Corporation and one member each by the federal Minster of Fisheries and Oceans, the federal Minister of the Environment and the Government of Nunavut, with a chairperson to be nominated by the board members and approved by

the Federal Minster of Fisheries and Oceans. The majority of NMRWB members will be Inuit living in Nunavik and Nunavut. Under the agreement, the board has been granted far-reaching powers regarding the levels of total allowable take for a species, stock or population of wildlife, to ensure the habitat of fish and other species are protected; to establish protected areas; to make recommendations to the proposed Nunavik Marine Region Planning Commission with respect to planning in those areas; and to approve designation of rare, threatened and endangered species.¹²

The NMRWB cooperates with other groups and authorities, especially regarding marine species of animals that move between two or more jurisdictions, such as polar bears, playing an active role in groups such as the Polar Bear Administrative Committee and the National Shrimp Advisory Committee. The board's participation in these groups ensures that the voices of Nunavik hunters are heard when making interjurisdictional or national wildlife conservation and management decisions.

iv(b) Nunavik Marine Region Impact Review Board (NMRIRB)

The NMRIRB was established in 2008 by the NLCA to determine whether a review of environmental, social or economic impacts is required for projects being proposed for the Nunavik territory. Following an assessment, the board can make recommendations as to whether a proposal is to move forward and under what terms and conditions. The Minister of Aboriginal Affairs and Northern Development has the overriding authority to approve or reject projects it feels are in the national or regional interests.

The board will consist of five members, including a chair. Three members and the chair are to be appointed by the Government of Canada and the Government of Nunavut appoints one member. The chair is appointed in consultation with the Government of Nunavut, from among candidates nominated by the board.

iv(c) Nunavik Marine Region Planning Commission (NMRPC)

The commission (NMRPC) was established to guide the development of land-management policies, priorities and objectives in the Nunavik Marine Region. The NMRPC is made up of five members—two nominated by Makivik, and one each recommended by the Government of Nunavut and the Government of Canada, plus a chairperson appointed by the Minister of Aboriginal Affairs on the recommendation of the committee. The commission's mandate is to establish broad planning policies, objectives and goals for the NMR in conjunction with government and develop land-use plans that will guide and direct resource use and development in the NMR (Nunavik Inuit Land Claims Agreement, 2008).

v. The Eeyou Marine Region Land Claims Agreement

¹² For more information on the Nunavik Marine Region Wildlife Board, see http://nmrwb.ca

The most recently announced agreement over territories within Hudson Bay and its watershed is between the Cree of Eeyou Istchee and the Government of Canada. The agreement covers an area of approximately 61,270 square km off the Quebec shore in the eastern James Bay and southern Hudson Bay and settles outstanding land and resource rights over the islands and marine waters of this area. Of the 1,650 square km of land mass represented within this agreement, 1,050 square km will be owned exclusively by the Cree and another 400 square km represented by islands in southern Hudson Bay will be jointly owned by the Cree and the Nunavik Inuit. As part of the arrangement, the Cree and Inuit will have rights to the land and subsurface resources. The federal government will retain ownership over some islands representing approximately 200 square km of land mass in the area as well as ownership over the marine waters and the seabed. The agreement confirms the right of the Cree and Cree and Inuit in the overlap areas to harvesting of fish and wildlife and to navigation of the waters.

Under the terms of this agreement, several new agencies will be created to ensure the active participation of all stakeholders in planning, land use and environmental impact assessment processes.

v(a) The Eeyou Marine Region Planning Commission (EMRPC)

The EMRPC has been established to identify, in conjunction with government, goals, objectives and planning policies for the EMR and to develop land-use plans that will guide and direct resource use and development. The committee shall have one representative nominated by the Minister of AANDC and one by the Government of Nunavut. Other representatives shall be nominated by the Grand Council of the Cree and committee size may vary. All recommendations of the commission will be made to the Minister of Aboriginal Affairs and Northern Development and the Minister responsible for Renewable Resources in Nunavut.

v(b) The Eeyou Marine Region Wildlife Board (EMRWB)

The EMRWB will consist of seven members, three appointed by the Grand Council of the Cree (Eeyou Istchee), one each by the federal minister responsible for fish and marine mammals and the federal minister responsible for the Canadian Wildlife Service, and one by the Government of Nunavut minister responsible for wildlife. A member to serve as Chair shall be drawn from nominations of all the parties and agreed to by consensus and, if necessary, by majority vote. The EMRWB is intended to be the main instrument of wildlife management in the EMR and the main regulator of access to wildlife. As such, it will establish, modify or remove levels of total allowable take (TOT) for a species, stock or population, establish conservation areas and collaborate with other stakeholders in the region regarding the management of migratory species. The research required to fulfill these responsibilities will be financed through a \$5 million trust fund established by the federal government for that purpose (Indian and Northern Affairs Canada, 2011).

¹³ For specific details of the agreement, see http://www.aadnc-aandc.gc.ca/eng/1320437343375#chp8

vi. The Indian Act

No discussion of the role of the Department of Aboriginal Affairs and Northern Development would be complete without a mention of the Indian Act and books have been written analyzing its many deficiencies. While many bands in the Hudson Bay region have negotiated some form of self-government through the comprehensive land claim process, those that have not are still subject to the oversight of the Indian Act. Fundamentally, the act identifies which First Nations or Metis people have treaty or Indian status and maintains a register of these individuals. It sets out the rules for administering Indian reserves, considered Crown land, and includes all matters related to financial administration, land use and property rights. It defines how bands can be created and spells out the powers of "band councils." The act further describes the country's fiduciary responsibilities to Aboriginal Peoples with regard to health, education and taxation. After decades of analysis recognizing the paternalism and deficiencies inherent in this legislation, consecutive federal governments have failed to devise a means to repeal or replace it. The result is a legacy of poverty, unemployment and oppression on many Hudson Bay reserves, their plight most recently highlighted by the crisis at Attawapiskat.

vii. Oil and Gas

Aboriginal Affairs and Northern Development Canada also has responsibility for economic development in the far north and as such exercises powers such as the granting of licenses for oil exploration and development in the Arctic regions. While it is the mandate of the National Energy Board under the auspices of Natural Resources Canada to do the heavy lifting with regard to hearings regarding oil development, it is in fact AANDC who administers the licensing process. The principal focus of oil and gas development to date has been in the western Arctic where hearings over drilling in the Beaufort Sea and the recent approval of the Mackenzie Valley Pipeline have garnered the majority of attention but improvements in technology and access could see attention being focused on reserves in other regions of the Arctic, including the Hudson Bay region.

viii. Canadian Northern Economic Development Agency

In the 2008 budget speech, the Canadian government allocated \$50 million over five years to establish the Canadian Northern Economic Development Agency or CanNor. The agency is intended to provide business services north of 60, broaden the economic base of each territory, improve Northerners' ability to take advantage of economic opportunities and coordinate among various economic partners and programs. It will oversee the \$90 million Strategic Investments in Northern Development Program; manage the \$11.8 million in annual funding to support economic development in Northern aboriginal communities and among aboriginal businesses, as well as support entrepreneurs in the North; manage

investments made in the North through the Municipal-Rural Infrastructure Fund, the Canada Strategic Infrastructure Fund and Recreational Infrastructure Canada; and oversee the \$33 million allotment for the territories contained in the Community Adjustment Fund—a two-year program designed to help Northern communities create job opportunities and adjust to changing economic and market conditions.¹⁴

While this agency does not exercise any regulatory powers that would directly affect the governance of the Hudson Bay region, its creation and emphasis on developing economic opportunities in the North is emblematic of the increased interest in this region. Given the extent of its funding and its mandate, CanNor represents an important constituency and could potentially play an important role supporting and promoting legitimate development interests in the region.

Natural Resources Canada

The Ministry of Natural resources has four main areas of federal responsibility: earth sciences, energy, forests, and minerals and metals. While in many cases jurisdiction in these areas is shared with provincial or territorial governments, Natural Resources does play a substantial role in research and development of these industries in the North. Under its umbrella are agencies such as the Geological Survey of Canada and the National Energy Board, and it shares responsibility with Environment Canada for the administration of the Arctic Waters Pollution and Prevention Act, particularly with respect to challenges posed by contamination from fossil fuel spills, the most common threats associated with Arctic marine pollution.

Natural Resources also administers the Canadian Lands Survey Act, which pertains to Nunavut, Crown lands and all reserve lands, and the Forestry Act, which is primarily concerned with fostering research and education given most forestry activity falls within provincial jurisdiction. The Minerals and Metals Sector of the ministry is the federal government's primary source of scientific and technological knowledge and policy advice on Canada's mineral and metal resources. It is responsible for developing policies, providing technical knowledge and advice to governments and industry, and promoting the use and sustainable development of Canada's mineral and metal resources. ¹⁵ As previously mentioned, the ministry is also responsible for the National Energy Board, which holds hearings on oil and gas exploration and development and oversees the gas pipeline industry.

Industry Canada

Industry Canada plays no specific governance role in the North beyond its regular mandate of regulating and supporting small business and corporate interests, managing patents, etc. It is, however, the ministry responsible for Canada's Network of Centres of Excellence (NCE) program and, as such, the funding agency for ArcticNet, an independent not-for-profit organization housed at the Université Laval in Quebec City. In 2003 the network was awarded \$46 million dollars over seven years to undertake Arctic research, with

¹⁴ For further details see http://www.north.gc.ca/fcs-eng.asp

¹⁵ For more information, see http://www.nrcan.gc.ca/minerals-metals/policy/4298

a particular emphasis on climate change. This effort fit into a larger international effort, International Polar Year (2007/2008), aimed at proliferating research in both polar regions.

In September 2011, ArcticNet funding was renewed for another seven-year cycle, adding \$67.3 million to its research pot. Unquestionably, this investment and the decisions made by ArcticNet around where and what will be researched will have a dramatic effect on our understanding and the mapping of the Arctic ecosystem and profoundly affect future decisions with regard to its development. The board mandated to adjudicate research proposals is comprised of academic, industry and Inuit representatives and, to date, the majority of their endeavours have been directed at hard science projects in the high Arctic.

For the purpose of its research, ArcticNet has divided the Canadian Arctic into four separate Integrated Regional Impact Studies (IRIS). An Integrated Regional Impact Assessment (IRIA) will be produced for each region that is intended to inform public policy and be of use to other Arctic stakeholders. While ArcticNet has included the Hudson Bay and its immediate shoreline area within its geographic research territory, the Hudson Bay has been divided among three of the four IRIS, with its northwest corner captured by the last. This fragmentation makes an ecosystem-based approach to research on Hudson Bay difficult since projects are generally intended to fit within and inform a specific IRIA. Hudson Bay (formally IRIS 3) has also been the region that has attracted the least research attention, with the greater cache of the high Arctic and the federal government's focus on sovereignty and oil and gas development a greater draw for scientists. ArcticNet also supports a research vessel, the Amundsen, as a main focus of research operations and its usual location in the higher reaches of the Northwest passage does not encourage extensive research activity in the Hudson inland sea.

Nonetheless, the spectre of another seven years of ArcticNet funding provides an excellent opportunity to tinker with the existing model to create a coordinated and proactive research agenda for the Hudson Bay region. ArcticNet could also provide a platform from which to conduct specific research projects as well as play a role in the research and establishment of some overarching agency mandated to monitor the collective impacts of climate change and development on the entire Hudson Bay ecosystem.

Provincial Jurisdiction

The web of provincial jurisdiction over the watershed of Hudson Bay is significant and pervasive. It is the provinces that lead when it comes to issues of property rights, land management, mining, forestry, hydro and economic development. Although the major responsibility for aboriginal affairs lies with the federal government, the provinces play a significant role in the negotiation and resolution of outstanding specific and comprehensive land claims. Quebec has taken the most proactive role in terms of its relationship with indigenous peoples, with agreements there representing major drivers to development, while Ontario and Manitoba have been somewhat less successfully engaged.

The situation in Ontario is even less advanced. As headlines over the dire circumstances in Attawapiskat in December of 2011 illustrated, the circumstances of First Nations in the Hudson and James Bay regions

in Ontario are still very much dictated by the Indian Act, with no comprehensive land claim agreements in place. First Nations within the Ontario borders have not experienced the same political evolution as their counterparts in Quebec and Manitoba, perhaps in part due to their relatively small numbers and the fact that there has not been the same catalyst to political action as was posed by the mass flooding and hydro development that occurred in the neighbouring provinces. While current development pressures have resulted in new levels of engagement and economic opportunity in this region, the province has yet to participate with First Nations and Canada in the sort of comprehensive negotiations that have led to more progressive economic and governance arrangements.

To date, the provincial governments' greatest initiative has been the 2010 New Relationships Fund, which allocated \$60 million over four years to encourage meaningful consultations between First Nations with federal and provincial governments and private industry regarding land claims and resource issues.

Provincial Environmental Protection Legislation

Every province and territory has environmental impact assessment legislation that is triggered whenever projects are proposed within their respective boundaries or in any geographic part thereof. In cases where federal jurisdiction under CEAA is also implicated, the federal government is now proposing amendments to the existing CEAA legislation that would avoid "duplication" and help "streamline" the process, thus placing greater reliance on these provincial impact processes. Much like the Federal legislation, these provincial acts require proponents to submit an evaluation that indicates potential environmental impacts of the project, alternatives, mitigation measures and actions to be taken to ensure compliance with all waste, air and water quality requirements. Most assessments are "screenings" that entail limited public consultation and rely primarily on the developer to lay out their case. In situations where a project is highly controversial and implicates an ecologically sensitive area on the public radar, the provincial Minister of the Environment might call for a full-blown assessment. The resources and expertise of environmental non-governmental organizations can play a significant role in these exercises, coalescing the voice of civil society and providing an instrument through which the interests of the average citizen can be channelled and consolidated.

As with the federal government, efforts have been made recently to streamline the approvals process for certain categories and classes of projects. In Ontario, for example, a risk-based registry relying on self-disclosure has been implemented in lieu of a government approvals and certification process. New environmental legislation in that province, such as the interestingly named Open for Business Act, suggests a move on the part of government to improve the "efficiency" of the environmental approval process and limit the barriers such legislation might pose to industry. Likewise, the Canada-Ontario Agreement on Environmental Assessment Co-operation has paved the way for the undertaking of joint assessments between the federal government and the province on those occasions when a project

triggers a requirement from both jurisdictions. In the majority of these cases, the provinces will act as lead agency, but the requirements of all legislation must still be respected¹⁶.

Several major policy initiatives on the part of the three provinces that share territory around Hudson Bay have been announced in recent years, all intended to encourage and facilitate the increased activity in mining, forestry and other industries that are in this region.

Major Provincial Initiatives and Drivers Affecting Hudson Bay Development

'La paix des braves' - An Agreement Respecting a New Relationship Between the Cree Nation and the Government of Quebec

Despite the landmark success of the James Bay Agreement, the following decades saw the Cree become increasingly frustrated by the inefficacy of the implementation process and eventually with some of the terms of the agreement itself. The thinking on indigenous rights and land claims had progressed considerably in the years since 1975 and as time went on, it became apparent to the Cree that under the original terms of the James Bay Agreement, their compensation, royalties and guaranteed business and employment opportunities were inadequate. Their main form of redress was through the courts and decades of subsequent litigation effectively halted any further development of the North Quebec region, particularly with regard to the Eastmain 1A/Rupert power project.

In the early years of the new century and following the landmark Report of the Royal Commission on Aboriginal Peoples in the mid 1990s, the Cree and the government of Quebec agreed to suspend all legal proceedings and enter into negotiations on a new agreement, nicknamed *La Paix des Braves*. Completed in 2007, this agreement allows for a more equitable sharing of resource revenues, greater employment opportunities for Cree workers and companies and joint management by the Cree and the Quebec government of mining, forestry and hydroelectric projects being undertaken on traditional Cree territory. The deal also included financial compensation of \$1.6 billion dollars to aboriginal communities between 2011 and 2016, with \$80 million of that dedicated to manpower training (La Paix des Braves, 2002).

The agreement was seen as a "government-to-government" treaty between Quebec and the Cree and established a new working relationship between the parties. It also established several new agencies with governance responsibilities, specifically:

• Cree-Quebec Forestry Board – a joint Cree-Quebec committee tasked with oversight of all forestry activities in the region.

¹⁶ Canada-Ontario Agreement on Environmental Assessment Co-operation", http://www.ceaa.gc.ca/default.asp?lang=En&xml=818B0789-F944-42D4-B6C2-F80378C7758E//

- Joint Working Groups to be established in all communities affected by forestry. These groups
 are comprised of two community members and two members from the Quebec department of
 Natural Resources. Their recommendations are designed to inform both the Forestry Board and
 the ministry.
- Mineral Exploration Board made up primarily of Cree with a small Quebec government representation, the board will assist Cree in accessing mineral exploration opportunities.
- Cree Development Corporation joint Cree-Quebec Board mandated to promote community development, accelerate job creation and support Cree business development.¹⁷

The terms of the agreement allow Quebec to proceed with Eastmain 1A/Rupert Hydro project, which will have a further impact on James and Hudson Bay and removed any further obstacles to the government's ambitious economic plans for the north of the province.

Plan Nord

The most comprehensive and aggressive development plan to be contemplated for the North by any provincial government has to be the proposed Plan Nord announced in 2011 by the Charest Government. With La Paix des Braves accomplished, the province launched a massive \$81 billion economic initiative to be carried out over 25 years in the north of the province, most of which implicates the Hudson Bay watershed. Half the money is to be invested in energy projects already on the books, including the Eastmain 1A/Rupert project, with the remainder divided between government-financed infrastructure projects and investments in training, forestry and mining. Of special significance is \$821 million earmarked for road expansion in the province, including a road or rail link to Kuujjuak and the development of a deep-sea port at Kuujjuarapik—Whapmagoostui. Annually, \$1billion will be dedicated to supporting the mining industry in accessing untapped reserves of cobalt, zinc, iron, copper, gold, rare-earth metals, uranium, diamonds and other minerals and metals. Forestry will also be given significant financial support, with a special emphasis on establishing engineered wood products as well as a tip of the hat to the productions of green energy through wind turbine development and biogas.¹⁸

In order to facilitate and manage this initiative, Quebec will establish a new Crown corporation, Société du Plan Nord. To be included in the forthcoming framework legislation is a pledge to dedicate 50 per cent of the territory under the jurisdiction of the plan to non-industrial purposes, environmental protection

¹⁷ http://www.nationnews.ca/eeyou-istchees-most-powerful-business-entities-merged-into-the-cree-development-corporation/

¹⁸ See Plan Nord http://www.plannord.gouv.qc.ca/index.php

and safeguarding biodiversity by 2035, beginning with a network of protected areas representing 12 per cent of the territory by 2015. The plan also states that the "government is committed to ensuring that the projects are carried out in a spirit of respect for Québec environmental legislation and regulations and that they are subject to rigorous environmental analyses." To ensure the integrity of its environmental plan, the province has outlined the following as its guiding principles:

- Enable current generations to satisfy their needs and ensure that future generations will be able to satisfy their needs also.
- Assure all Quebecers now and in the future that the ecological services now provided by
 ecosystems and biodiversity in the territory that the Plan Nord covers will be maintained or
 even enhanced.
- Safeguard the natural state of certain areas through a dynamic approach to identify the territory that will be withdrawn from industrial activity in order to adapt to changing knowledge and social, economic and environmental conditions.
- Guarantee, through the implementation of information, consultation and eventual partnership mechanisms, that account is taken of the interests, needs and concerns voiced by aboriginal, regional and local communities and that they will participate in project implementation.

Notable by its absence from these foundational principles is any mention of monitoring the impact of this comprehensive development on territory outside of Quebec's provincial domain or proposal for collaboration with other provincial, territorial or federal partners to ensure that the shared waters are adequately monitored for collective impacts. This "silo" mentality is a natural outcome of a provincial and territorial system whose borders are based on political, rather than ecological, boundaries. The province, however, has been put on notice of the broader implications of at least some of its actions on the welfare of the bay. At the end of the environmental assessment process on Eastmain/Rupert in 2006, the Quebec ministry responsible for environmental affairs included in its certificate of authorization for the project a condition with respect to cumulative effects that reads as follows:

Condition 8.1: the evaluation of the cumulative impacts of the hydroelectric projects of James Bay and Hudson Bay, by reason of their scope, concerns several jurisdictions and goes beyond the responsibility of one single proponent. The analysis of the impacts cannot be done without setting up some large-scale research and follow-up program carried out by a consortium comprised mainly of government authorities concerned and including participation by academic circles and by all stakeholders responsible for this issue which devolves only partly on the proponent. The program should take into account traditional knowledge with a view to better defining the lines of research. (Developpement Durable, Environnement et Parcs Quebec, 2006, p. 28).

While a comprehensive analysis of the implications of this Plan for Hudson Bay is beyond the scope of this paper, it is obvious that the developments that are forecast within its framework will have a significant

¹⁹ Ibid

impact on the ecology of the Hudson and James Bay watershed. No better opportunity exists for the province to operationalize its own obligations with regard to the collective and cross-jurisdictional impacts of its activities than within the framework of this initiative and indeed, given the strong emphasis on environmental stewardship evident in the language of the Plan, the province might welcome some external leadership aimed at catalyzing this process.

Ontario's Plan for Northern Development

The Northern shores of Hudson and James Bay that fall within the provincial borders of Ontario have also experienced a surge of development over the past few decades, although the activity has primarily been centred on the James Bay lowlands and the boreal forests and does not include hydro development on the scale experienced by Quebec and Manitoba. A number of legislative initiatives have been passed in recent years to support and encourage sustainability. There is also evidence of slow but incremental progress by the province in recognizing the rights of First Nations to participate in land and forestry management plans and most recently, a legislative effort to involve aboriginal communities in some comanagement regimes.

With the defeat of the right-wing government of Mike Harris in the early 1990s, Ontario was left playing legislative catch-up in terms of both its efforts toward promoting sustainable practices and its relations with First Nations. One initial effort to move forward in this regard was the 1994 Crown Forest Sustainability Act, an act designed to deal with the ongoing problems identified with forestry management in the Ontario's boreal forests. The act's purpose was "to provide for the sustainability of Crown forests and...to manage Crown forests to meet social, economic and environmental needs of present and future generations" (Government of Ontario, 1994). This act also sought to enhance the effectiveness of the 1990 amendments to the province's Environmental Assessment Act which had made provisions for Class Environmental Assessments to be undertaken by the Ministry of Natural Resources, specifically for timber management on Crown land. The Class EA legislation called for forestry management plans for all areas to be logged and included a requirement for public and aboriginal consultations as a part of the environmental assessment process²⁰²¹. It also required the establishment of Local Citizens Committees (LCCs) to act in an advisory capacity in the development of these plans. While much of the territory covered by such legislation is boreal forest located well below the immediate shores of Hudson Bay, the implications of even distant forestry practices on the health of the bay cannot be dismissed, making forestry legislation of immediate relevance to any discussion of environmental governance and oversight of this region.

Of greater significance, however, was the introduction in 2010 of the Far North Act. Particularly notable in this new legislation was a significant shift in tone with regard to the role to be played by First Nations

²⁰ http://www.e-laws.gov.on.ca/html/source/statutes/english/2010/elaws src s10018 e.htm

in the management of the province's northern territory. While making no concessions to land claims or title, the act nonetheless sets out objectives that clearly recognize aboriginal communities as partners to the land management process and not simply another stakeholder or interest group. The legislation clearly states the "the purpose of this Act is to provide for community based land use planning in the Far North that.

- (a) sets out a joint planning process between the First Nations and Ontario;
- (b) supports the environmental, social and economic objectives for land use planning for the peoples of Ontario that are set out in section 5; and
- (c) is done in a manner that is consistent with the recognition and affirmation of existing Aboriginal and treaty rights in section 35 of the Constitution Act, 1982, including the duty to consult" (Government of Ontario, 2010).

The act was clearly an effort to bring the province into line with the spirit of co-management that had been established in neighbouring jurisdictions, specifically Nunavut and Quebec, and goes on to articulate its objectives for land-use planning in the far North as:

- 1. A significant role for First Nations in the planning.
- 2. The protection of areas of cultural value in the Far North and the protection of ecological systems in the Far North by including at least 225,000 square kilometres of the Far North in an interconnected network of protected areas designated in community-based land-use plans.
- 3. The maintenance of biological diversity, ecological processes and ecological functions, including the storage and sequestration of carbon in the Far North.
- 4. Enabling sustainable economic development that benefits the First Nations.

As significant, the act commits the province to setting aside 50 per cent of the northern territory, about 225,000 square km, as parkland, free of any development without the assent of Queen's Park. Its intent was likewise to "create certainty" for industry and provide clear guidelines for development" (Northern Ontario Business, 2010). This brought an immediate and unequivocal response from First Nations who, at the time of the announcement, held an emergency meeting of all chiefs to voice their concerns over the bill and express their outrage at what they saw as the government's complete disregard for their treaty rights. Nishnawbe Aski Nation Grand Chief Stan Beardy spoke on behalf of the chiefs, saying, "Our declaration of opposition is unanimous. It is supported by all 49 community chiefs and all our councils. If the bill is forced through, there will be conflict in the North (Dunick, 2010).

In many ways, the Far North Act was an attempt to redress some of the perceived deficiencies in the Government's earlier 2005 economic development plan for the North, a 25-year plan under Ontario's Places to Grow Act, that is jointly administered by the Ministry of Infrastructure, the Ministry of Northern Development and the Ministry of Mines and Forests. While the act laid out a comprehensive blueprint for future northern development in forestry, transportation, tourism and mining, its reasoned ambitions failed to sufficiently address the role of First Nations or adequately detail the provinces' plans for

conservation. And indeed, the scope of the legislation did not anticipate its agenda being suddenly overtaken by events. In 2009 the discovery a rich deposit of chromite, a mineral required for the manufacture of stainless steel, in a pristine region of the James Bay lowlands ignited a feeding frenzy among mining companies, leading to upwards of 32,000 mining claims being staked in a 5,120 square km area dubbed Ontario's "ring of fire."

Not surprisingly, the sudden boom in development in this remote region has not sat well with many First Nations communities as they watched their traditional lands being increasingly overrun with prospectors and mining companies, many of whom have shown relatively little consideration for the interests and rights of the local residents. In the winter of 2010, as predicted by the Grand Chief at the time of the Far North Act announcement, blockades were set up at two remote airstrips at McFaulds and Koper Lakes, cutting off mining companies from their only means of access to the region. The chiefs only agreed to end the protest two months later in January of 2011 when the Minister of Northern Development intervened to assure the communities that everyone would benefit and reaffirm government's role " to act as a facilitator between First Nations and companies" (Telega, 2010).

While the "ring of fire" region is again beyond the immediate shorelines of James and Hudson Bay, like the boreal forestry practices, any development of this scale occurring in the adjacent lowlands is likely to affect the integrity of the entire ecosystem. Should the mineral resources prove to be as extensive and profitable as anticipated, the pressure to stake and mine closer to the bay or to develop alternate northerly routes to facilitate transportation of the ore to foreign markets could not be ruled out.

Northern Development Strategy: Manitoba

Manitoba's Northern development strategy, although not packaged under a single initiative, will also have significant implications for Hudson Bay. The 200MW Wuskwatim Generating Station will come on line in 2012 and plans are already in place to build the 695 MW Keeyask and 1,485 MW Conawapa dams. All the major diversion and flooding proposed for this region have been completed, but the province continues to plan for increased capacity and hydro development well into the next decade.

Another major economic initiative from the Manitoba side is a bid to have the port of Churchill and its supporting transportation network designated by the federal government as an Arctic Gateway, thus adding a fourth, northern "Gateway" to the east, west and central corridors already established by national transportation program. The government of Manitoba and Canada and the Hudson Bay Railway Company have currently committed \$68 million in public and private-sector support for improvements to the Hudson Bay rail line and the Port of Churchill in a bid to improve the appeal of this initiative. The current government's commitment to do away with the Canadian Wheat Board will undoubtedly end Churchill's assurance of guaranteed grain traffic through the port but may inadvertently heighten the chances of achieving this Gateway designation. Should that occur, and with the forecast increase in ice-

free days on the bay due to climate change, an increase in shipping, tourism and economic activity in the areas surrounding the port could develop over the following decades, including the possibility of a new rail line to be constructed that would facilitate the transport of bitumen from the oil sands of Western Canada to the port of Churchill to be shipped elsewhere for processing.

The Manitoba government tax scheme has been designed to attract significant mining activity to the Northern Manitoba region, although no significant policy initiatives have been recently announced in this regard. While foreign and economic interest in the north of Manitoba has not yet matched the level of activity in Ontario's ring of fire or Quebec's Plan Nord, the expectation of increased mining activity in the north of the province is also likely.

Is There a Governance Gap?

Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.

—Garrett Hardin

The preceding survey of legislation and policies relevant to the Hudson Bay watershed would seem to suggest the presence of a wide range of mechanisms and legislation in place among federal, provincial, territorial and aboriginal governments, all aimed at addressing various aspects of environmental protection. Two questions remain. First, is there authority anywhere within this existing legislation to allow Hudson Bay to be monitored and protected as an integrated marine watershed? And second, how effective are the current arrangements in providing the objective, unbiased research necessary for evidence-based decision making and ecosystem management?

The answer to the first question is undeniably affirmative. Under the Oceans Act, the Government of Canada has both the responsibility and obligation to develop an integrated management plan for the Hudson Bay marine region. As previously noted, this obligation was acquired when the country became a signatory to, and ratified, the UN Convention on the Law of the Sea (UNCLOS) and was affirmed through the passage of the Oceans Act in 1996. Further to this, the Canadian Environmental Assessment Act (CEAA) under Subsection 16(1) requires the federal government to consider "any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out" (Canadian Environmental Assessment Agency, 2007). This broad provision for the government to assess collective impacts of any proposed project within federal jurisdiction (which includes inland seas such as Hudson Bay) grants it the legal authority to deny approval of those projects in the event that impacts are forecast to create too heavy a burden on the marine system as a whole. These two acts, properly implemented, provide all the legal authority necessary to create an integrated, ecosystem-based approach to the management of Hudson Bay, to undertake the necessary research and monitoring and under CEAA, to prevent the various parties to development from engaging in

unsustainable practices in advance of development. Indeed, it is precisely for this purpose that these acts were created.

The on-the-ground reality, however, represents a very different scenario. Fifteen years after the passage of the Oceans Act, the federal government has yet to follow through on its obligations with regard to the development of a plan for the integrated management of Hudson Bay, while at the same time showing little interest in its responsibilities to monitor the collective impacts of large projects on the bay, as required under CEAA. What emerges from this assessment is evidence of a significant gap between federal obligations and the reality of current governance, leaving the welfare of this inland sea subject to an outdated and largely discredited management model. The multi-jurisdictional, sectorial regime currently in place represents far too fragmented and decentralized a management structure to allow for the coordinated and effective planning, monitoring or management that would ensure the welfare of the bay. More critically, it reflects a pattern of governance that has led to the severe degradation of large marine systems throughout the world. Hudson Bay clearly lacks the overlay of a central, coordinating structure and an integrated management plan. Despite some genuine efforts at intergovernmental cooperation, the current governance structure is entirely out of step with international best practices and inappropriate to the effective stewardship of a large marine watershed.

This is not the first occasion when the need for some type of independent oversight and management has been noted. Both environmental impact assessment reports published in 2006 on the proposed Eastmain hydroelectric project drew similar attention to this gap. Recommendation 34 of the Canadian Environmental Assessment Act (CEAA) Report states:

The issue of cumulative effects affects several jurisdictions, including the federal government, the provinces of Quebec, Ontario and Manitoba, the territory of Nunavut as well as several government departments linked to these various levels of government. Assessing cumulative effects therefore goes far beyond the responsibility of a single proponent. Within this context, it would be imperative for the federal government to implement large scale research and monitoring programs for James Bay and Hudson Bay ecosystems. Such a program could be coordinated by an independent body whose structure is akin to that of the International Joint Commission. Such a structure could foster the pooling of efforts and resources of all concerned government agencies, as well as those of the academic community, which is already working on various problems related to cumulative effects in this sector. Whatever the chosen structure, it would be essential for the various Aboriginal communities affected to be stakeholders in this research and monitoring program, in order to integrate into it traditional knowledge and local expertise. ²²

As previously referenced, the Provincial Review Committee (COMEX) also highlighted the need for a cooperative, multistakeholder approach to research and monitor the cumulative effects of development in issuing its certificate of authorization to Hydro Quebec .

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²² Canadian Environmental Assessment Agency, 2007

This very same requirement for the creation of some cohesive structure or process to provide oversight on collective impacts on Hudson Bay had been articulated earlier in the 1990s by the leaders of the Northern communities on the west coast of Hudson Bay. As part of the consultations undertaken by DFO in their initial consultation on Hudson Bay by the Working Group, the department reported that Northerners agreed that collaborative decision-making processes should be part of the approach taken to develop a long-term management planning process for Hudson Bay. Community leaders expressed concern that there is no cohesive structure or process in place to facilitate management of the extremely complex Hudson Bay environment. As well, communities requested that they be given a meaningful role in the development of a management approach, and the opportunity to participate actively in the development of a mandate for further study of the Hudson Bay marine ecosystem. (Hudson Bay Ocean Working Group, n.d.)

As previously noted, CEAA holds responsibility for assessing the collective impacts of projects, and while this mandate clearly designates responsibility for this task to this department, given the current climate of fiscal restraint, it is unlikely Environment Canada will have the manpower, resources nor political license to actively monitor the long-term cumulative effects of every proposed project it screens. It is an unfortunate reality that, in the absence of any immediate or pervasive crisis in Hudson Bay that might draw public or political support to the cause, Environment Canada is likely to continue to place its reliance on the fragmented and decentralized system of oversight that is currently in place to satisfy this legal requirement.

The best hope for government action on this count remains the Department of Fisheries and Oceans. The department has a long history of research in freshwater and marine management, in particular through the work of the Freshwater Institute. The Hudson Bay Ocean Working Group described earlier in the paper, launched in 2000, was a logical outcome of this 1996 legislation. Regrettably, the momentum created by its early work and publications has not been maintained and appears to have been subsumed by other departmental priorities. In 2005, the Canadian government unveiled Canada's Oceans Action Plan, which reaffirmed the government's commitment to integrated management planning for Canada's oceans. It describes this approach as follows:

Integrated Management is at the heart of new, modern oceans governance and management. Integrated management is a comprehensive way of planning and managing human activities so that they do not conflict with one another and so that all factors are considered for the conservation and sustainable use of marine resources and shared use of oceans spaces. It is an open, collaborative and transparent process that is premised on an ecosystem-approach. It involves planning and management of natural systems rather than solely political or administrative arrangements, and is founded on sound science that can provide the basis for the establishment of ecosystem management objectives (DFO Canada, 2005, p. 13).

Within the context of its current action plan, DFO has designated five large ocean marine areas (LOMAs) off its west, north and east coasts, specifically, the Pacific North Coast, Beaufort Sea, Gulf of St. Lawrence,

Eastern Scotian Shelf and Placentia Bay/Grand Banks. The earlier work of the Hudson Bay Working Group notwithstanding, the development of such a plan for the Hudson Bay watershed is clearly no longer recognized as a priority and has not been included within this first phase of the national oceans program. Despite this, the implementation of Canada's Oceans Action Plan establishes an encouraging precedent. DFO is currently collaborating in the Beaufort Sea region with Inuvialuit organizations, industry and other government organizations to develop an integrated management plan for the coastal and marine waters of the Inuvialuit Settlement Region in the western Arctic. The first phase of this planning takes in the Mackenzie River estuary and outer delta and includes the Beaufort Sea Beluga Management Plan Zone 1A, which has been identified as an area of interest for marine protection. Through the marine Environment Quality Program, DFO is also working with the local communities to develop of a communitybased monitoring program called the Tariuq (Oceans) Monitoring Program.²³ While this initiative does not implicate the same range of governmental jurisdictions and indigenous peoples as would Hudson Bay, it does nonetheless indicate a willingness by DFO to work with a wide variety of stakeholders to achieve a common management regime and to actively involve local communities in the monitoring process. If nothing else, this example and the experience of the former working group represent a valuable resource of experience and possibly "lessons learned" that might inform the rekindling of a future initiative in the Hudson Bay region.

In terms of government leadership in addressing the oversight and monitoring deficit in the Hudson Bay region, the DFO Oceans Action Plan represents perhaps the best, if as yet unfulfilled, hope. That being said, limited budgets, more critical ocean and Arctic sovereignty issues, political will, and simply the complexity of the intergovernmental arrangements implicated in developing an ecosystems approach to managing the Hudson Bay region may all serve as deterrents to the timely inclusion of this marine area in the next phase of the Canadian Oceans Action Plan. Such barriers notwithstanding, as an offspring of UNCLOS subject to the legal obligations imposed by this convention, implementation of the Oceans Action Plan strategy would go far in addressing the need for coordination and monitoring that currently exist in the Hudson Bay biosphere. The legislation provides both the legal rationale and a framework through which proponents of an integrated management plan may wish to marshal their efforts and represents the best option for establishing a cross-jurisdictional, ecosystems-based approach to the monitoring of Hudson Bay within the annals of government.

Sample of Environmental Governance Initiatives

In most regions of the world, the dire environmental consequences of a fragmented approach to governance have already inspired more integrated management programs for large marine areas. There are likewise other creative, non-marine based environmental strategies and programs throughout the world that have proven effective and could provide some inspiration to these discussions. In the interest of time, only a brief overview of these examples will be presented, but hopefully with sufficient

²³ For more information on this program, see http://www.dfo-mpo.gc.ca/regions/central/oceans/index-eng.htm

information to provide fodder for a discussion of possible ways forward for the "Connecting the Bay" Engagement Series.

International Joint Commission (IJC)

In its report on the Eastmain-Rupert hydro development project previously quoted, the CEAA Review Panel suggested the establishment of a body somewhat akin to the IJC as a possible mechanism for oversight of Hudson Bay. This was an appropriate suggestion in that the IJC serves as one of the longest standing and most successful examples of inter-jurisdictional cooperation with regard to shared water resources.

Created in 1909 by the Boundary Waters Act, the commission's role was intended to prevent and resolve disputes involving the rivers and Great Lakes that flow along the shared U.S.-Canada border. Key to the commission's success has been a requirement that the three commissioners appointed by each country decide matters impartially, without regard to the interests of their respective nations. In fulfilling its mandate, the commission undertakes independent research, adjudicates disputes, regulates water use and waste output, manages programs to prevent and mitigate air and water pollution and the introduction of persistent toxins into the watershed, and it has generally acted as the principle steward of this expansive freshwater system.²⁴

Of particular note to this discussion is the creation in 1997 of the International Watersheds Initiative (IWI) which created watershed boards in five strategic regions under the jurisdiction of the IJC . These boards assist the various jurisdictions in developing harmonized transboundary watershed maps and geographic information system (GIS) data; model river and reservoir hydraulics; and expanded opportunities for education and outreach to the public.²⁵ The composition of the boards respects the geography of the watershed rather than adhering to sectorial or issue-specific interests.

While there are many lessons in multi-jurisdictional ecosystem management to be drawn from the extensive case studies in the commission's repertoire, the governance model is not a direct fit for the Hudson Bay project. While the concept of an overarching body to research, monitor and adjudicate is entirely appropriate, the bilateral nature of the organization introduces elements into its structure, politics and organization that implicate the commission in a larger international diplomatic framework and as such, go beyond the scope of the project at hand. Nonetheless, no discussion of water system management of a shared resource is complete without an acknowledgement of this international model as a standard of cooperative, intergovernmental administration, one that, despite its many challenges,

²⁴ For more about the role of the IJC, see http://www.ijc.org/en/Role of the Commission

²⁵ For more information on the mandate of the International Watersheds Initiative, see www.ijc.org/conseil-board/watershed/en/watershed mandate-mandat.htm

has persevered in its mandate to preserve the great lakes watershed and keep peace between neighbours for well over 100 years.

The Large Marine Ecosystem (LME) Project

The LME project was launched following the 1992 Earth Summit in Rio de Janeiro as a response to international concerns over the declining state of the world's oceans. This international, United Nationsled initiative represents a key global strategy to halt the deterioration and remediate coastal waters around the world through the development of an ecosystem-based management approach to governance and stewardship for the world's largest marine areas, or LMEs.²⁶ For the purpose of the program, LMEs are defined as "large areas of ocean space of approximately 200,000 km² or greater, adjacent to continents in coastal waters" (Large Marine Ecosystems of the World, n.d.). The primary objectives of the global program are as follows:

- Preventing, reducing and controlling the degradation of the marine environment.
- Developing and increasing the potential of marine living resources to meet human nutritional needs, as well as social, economic and development goals.
- Promoting the integrated management of coastal areas and the marine environment

The physical parameters of a LME and its boundaries are based on four linked ecological, rather than political or economic, criteria, allowing for an ecosystem-based management structure. These criteria are: (i) bathymetry, (ii) hydrography, (iii) productivity and (iv) trophic relationships. In all cases, the program acts to coordinate research, regulations and monitoring and mediate among all countries and/or jurisdictions bordering the LME and to engage all communities, industries and interest groups in discussions and joint action plans.

These action plans follow a standard five-module strategy for measuring the changing states of these ocean areas as well as for the planning of remedial actions to support the recovery and sustainability of degraded environments. The standard modules are:

- 1. Productivity module: considers the oceanic variability and its effect on the production of phyto and zooplankton.
- 2. Fish and fishery module: concerned with the sustainability of individual species and the maintenance of biodiversity.
- 3. Pollution and ecosystem health module: examines health indices, eutrophication, biotoxins, pathology and emerging diseases.
- 4. Socioeconomic module: integrates assessments of human factors and the long-term sustainability and associated socioeconomic benefits of various management measures.

²⁶ For more information about the LME project, see http://www.lme.noaa.gov/index.php?option=com_content&view=article&id=109:lme63&catid=41:briefs&Itemid=72

5. Governance module: involves adaptive management and stakeholder participation. ²⁷

Interestingly, of the 64 large marine ecosystems identified by the this international LME initiative, Hudson Bay is listed as the 63rd. There are currently 16 active international projects underway in Africa, Asia, Latin America and Eastern Europe, including a number within or adjacent to the geographic catchment of the circumpolar Arctic. These LME projects include the Baltic Sea, North-East Atlantic, Barents Sea, Celtic-Biscay Shelf, Faroe Plateau, East Greenland Shelf, Iberian Coastal, Iceland-Shelf, Norwegian Sea and North Sea.

The LME program operates largely under the auspices of the United Nations Environment Program (UNEP) and the Food and Agriculture Organization (FAO) through its fisheries mandate, and includes the participation of leading international and local NGOs, the countries bordering the marine region and industry stakeholders. This massive global initiative is responsible for establishing the ecosystem-based approach to marine management as the international standard. It encourages a multi-jurisdictional approach to marine management built upon principles of good governance such as science-based decision making, transparency, stakeholder participation and peaceful conflict resolution. It likewise ensures that the natural integrity of the LME is protected from overuse and pollution and that the collective pressures placed on the marine environment by the neighbouring countries are equitable and sustainable.

Bay of Bengal Large Marine Ecosystem (BOBLME)

The Bay of Bengal (BOB) covers more than 3.6 million square miles of the Indian Ocean and includes the Bay of Bengal, Andaman Sea and the Straits of Malacca²⁸. Its coasts are home to more than 450 million people who depend directly on the bay's waters for food, employment and transportation, with an aggregate population of 2 billion people in the eight adjacent countries. Severe overfishing and habitat degradation have led to concern over the long-term sustainability of this marine ecosystem, yet despite large numbers of international, regional and subregional agencies and organizations operating in the bay, none had the mandate, geographic scope or capacity to initiate a regional approach to addressing the pollution, overfishing and other issues of concern to coastal communities (Bay of Bengal LME, n.d.). In response to the impending crisis in this region, the coastal nations of Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand have come together under the umbrella of the international LME project to collaborate on the Bay of Bengal Large Marine Ecosystem (BOBLME) Project. The effort has been aided by the contribution of \$31 million over five years by the World Bank through the Global Environment Fund (GEF), and other United Nations organizations and country donors, and the leadership and facilitation of the United Nations Fisheries and Agriculture Organization (FAO). This

²⁷ Fish and Agriculture Organization (FAO), see www.FAO.org/Fishery/topic/3440/en

²⁸ Large Marine Ecosystems of the World, Bay of Bengal, LME #34, see: http://www.lme.noaa.gov/index.php?option=com_content&view=article&id=80:lme34&catid=41:briefs&Itemid=7 2, accessed April 5, 2012

international involvement addresses two of the barriers affecting the sustainable management of the BOB to date: specifically, the lack of resources of coastal countries to address these pressing issues and the lack of institutional capacity to undertake such a massive regional initiative.

Throughout the first four years of the five-year program (September 2009–August 2013) the BOBLME project has been engaged in the first two stages of the standard LME module program—specifically, the completion of a Transboundary Database Analysis (TDA) and the development of Strategic Action Plan (SAP) for region. Through the TDA process, the four main challenges in the BOB have been identified as sustaining shared fish resources; restoring and protecting mango groves, coral reefs and sea grass; reducing pollution; and preparing the coastal communities for the impact of climate change. The need to develop new governance structures that would enhance inter-regional dialogue, collaboration and information exchange; harmonize policies on transboundary issues; and facilitate community involvement in management and decision making (Bay of Bengal Large Marine Ecosystem Project, n.d.) was also recognized through this initial assessment process.

While the BOBLME appears to be on track to date, the enormous challenge of harmonizing the standards and practices of eight different developing nations, all of which exhibit varying degrees of institutional capacity, still lies ahead. That challenge notwithstanding, the LME strategy has provided this region with a framework, the funding and the tools to begin to address the collective management of the Bay of Bengal. Through the TDA process, governments have gained a new awareness of the concerns plaguing coastal communities and other stakeholders—an outcome that has been most highly valued by the participating nations. Numerous workshops and bilateral meetings designed to address specific subregional issues, such as mangrove restoration, are already fostering new initiatives and actions among communities. Despite the magnitude of both the populations and the issues involved, the BOBLME has achieved significant progress in the first years of its mandate and progress on the negotiated Strategic Action Plan (SAP)—the first real test of the collaborative robustness of the project—is on track. The next five years will require renewed funding, commitment and collaboration to realize the goals of the program, but with the experience of the first phase behind them, the BOBLME is well positioned to continue to build on its initial success.

Caribbean Large Marine Ecosystem Project (CLME)

The CLME Project represents one of the greatest governance challenges to the United Nations LME model in that the marine ecosystem touches the shores of no less than 45 countries, most of which are developing nations, while others remain the territory of France, the Netherlands, the United Kingdom and the United States. The marine area is a semi-enclosed tropical sea bounded by North America (South Florida), Central and South America and the Lesser Antilles chain of islands and is ecologically significant

for its extensive coral reefs, biodiversity and tropical ecosystems.²⁹ The governance task of engaging such a wide number of countries and stakeholders in one collaborative LME program is immense; however, with the support of the United Nations and the Global Environment Fund, the Caribbean Large Marine Ecosystem Project was launched in May 2009. To date, a Transboundary Database Analysis (TDA) for the region has been completed and a secretariat has been established in Columbia. While there have been previous regional initiatives in this region carried out under the auspices of organizations such as the Food and Agriculture Organization, the CLME represents the first attempt to create an ecosystem-based management plan for the entire Caribbean marine regions.

The CLME is intended to follow the standard five-module LME approach, however the complex geopolitical circumstances of this region make a focus on governance, and in particular the establishment of mechanisms for collaborative management of this region, a particular priority. Whereas the TDA is a technical and scientific, non-negotiated document, the next step, the Strategic Action Plan development process, will involve the joint identification and joint commitment of all participating countries toward the implementation of priority actions such as policy, legal and institutional reforms, as well as investments. Given the number of stakeholders to this process and the disparities in the participants' institutional capacities and resources , as well as the need to establish consensus among all parties, this next stage may well test the limits of ecosystems-based management model.

Chesapeake Bay 2000 Agreement

Originally crafted in 1987 and reaffirmed in 2000, the Chesapeake Bay Agreement represents an interesting and prescient example of government efforts to remediate damage and control future development of the inland sea that exists within the borders of a developed industrial nation. Although Chesapeake Bay and Hudson Bay are not directly analogous—one being located in a temperate region with a dense population and a high degree of industrial activity and the other being an Arctic sea with a very limited population and an economy based largely on the extraction of raw materials and hydro—there are nonetheless some similarities that make this case study worth exploring.

Chesapeake Bay is the largest estuary in the United States, with a drainage basin that covers 166,534 square km that touches on the District of Columbia and six states: New York, Pennsylvania, Delaware, Maryland, Virginia and West Virginia. More than 150 rivers and streams drain into the bay (Chesapeake 2000, n.d. b). In the 1970s, Chesapeake Bay had already experienced serious degradation and was discovered to contain one of the planet's first identified marine dead zones, resulting in massive fish kills. The degradation of the bay became so extreme by the early 80's, with the population having doubled

²⁹ Sustainable Management of the Shared Marine Resources of the Caribbean Large Marine Ecosystem and Adjacent Regions. See http://projects.csg.uwaterloo.ca/inweh/display.php?ID=5531

³⁰ Caribbean LME Project. See http://www.clmeproject.org/About CLME/Current Status.aspx.

since 1950 and industrial and agricultural activity growing apace, that immediate intervention was required if the marine system was to have any chance of recovery.

By the mid 1980s, intergovernmental negotiations led to the creation of the Chesapeake Bay Program (CBP), a multi-agency partnership led by the Department of Interior (DOI) and representation from the State of Maryland, the Commonwealths of Pennsylvania and Virginia, the District of Columbia, the Chesapeake Bay Commission and the U.S. Environmental Protection Agency. The U.S. Geological Survey (USGS) provided the unbiased scientific information necessary to develop restoration strategies in the bay and its watershed. Agreements signed in 1983 and 1987 set goals and milestones but failed to get the support of all industries and stakeholders, leading to only modest success.

With this less-than-successful history behind them and the majority of the CBP's previous strategies due to expire in the year 2000, the CPB Executive Council proposed that a new agreement be developed that was more in keeping with the emerging principles of ecosystem management. The drafting process for the new agreement opened the process to new contributors and experts not previously consulted under the old CBP. It was designed to be highly inclusive of all stakeholders. A committee of signatory representatives and key discipline experts was appointed to oversee the drafting process and to facilitate negotiations and draft policy positions. This committee actively sought out public input and was rewarded with ideas and suggestions from hundreds of individuals and organizations throughout the watershed (Chesapeake 2000, n.d.). On June 23, 2000, the six signatories signed a new agreement that included over one hundred commitments with clearly identified objectives. ³¹ These commitments were divided into six categories (Chesapeake 2000, 2000):

- 1. Living resource restoration
- 2. Vital habitat protection and restoration
- 3. Water quality protection and restoration
- 4. Sound land use
- 5. Stewardship and community engagement

Each of the many initiatives identified under these categories has been closely tracked and the progress recorded on the program's website, with a percentage beside every item indicating the level of progress. For example, the goal "By 2005, increase the number of designated water trails in the Chesapeake Bay region by 500 miles" indicates a success rate of 70 per cent (Chesapeake 2000, n.d. a).

This example of transparency and public accounting represents an excellent example of good governance practice and provides a very accessible means through which to assess the effectiveness of the agreement against its stated goals. It also allows all stakeholders to identify those areas of research or remediation that are not moving forward on pace and likewise identifies any jurisdictions or sectors that are not pulling their weight.

³¹ Chesapeake Bay Agreement, 2000

As an instrument of effective marine management, the 2000 Chesapeake Bay Agreement represents an ambitious effort to apply an ecosystem-based approach to a high-density region with diverse and competing interests and jurisdictions. It scores high marks for its emphasis on public input and involvement, in its efforts to track the progress of every one of its program goals and deadlines and in ensuring the transparency of those results. More than a decade after signing, however, despite significant progress on many fronts, the task of developing integrated management plans for multi-species or species at risk and for the bay's numerous watersheds has yet to be successfully accomplished, victim to the resistance of certain industry groups that have resisted the program's efforts to bring them on board.

Chesapeake Bay Foundation

In 2009 an organization called the Chesapeake Bay Foundation, along with some politicians, filed suit against the EPA under the citizen's suit provision of the Clean Water Act, contending that after years of promises and goal-setting, the Chesapeake Bay Agreement had again failed in its efforts to remediate the bay by 2010. The Chesapeake Bay Foundation provides an interesting counterpoint to the government-led agreements process. This citizen-based organization was created in 1964 when a group of Baltimore businessmen—all sailors, waterfowl hunters, and fishermen—met with the Congressman from Maryland's Eastern Shore to express their concerns over the deteriorating condition of Chesapeake Bay. The Congressman responded that they should "not expect government to fix all the Bay's problems...There is a great need for a private-sector organization that can represent the best interests of the Chesapeake Bay. It should build public concern and then encourage government and private citizens to deal with these problems together" (Chesapeake Bay Foundation, n.d.). Three years later, the group incorporated as the Chesapeake Bay Foundation, and with the motto of "Save the Bay" they began to take the welfare of the bay into their own hands.

Since that time, the foundation has been consistently active in education and advocacy, as instigators, partners and proponents of the three Chesapeake Bay agreements, and as a non-governmental watchdog. Their conclusion in 2009 and the basis of the lawsuit was that the agreements had been a failed experiment and had not succeeded in preserving the environmental integrity of Chesapeake Bay. In an article in the *Washington Post*, journalist David Fahrenthold described how administrators of the CBP had overstated their progress in order to keep the more than \$6 billion USD earmarked for the program coming. Wrote Fahrenthold (2008):

The goal of rescuing North America's largest estuary was formally entrusted in 1983 to a group of federal, state and local authorities under the loose guidance of the U.S. Environmental Protection Agency. The task: controlling runoff from 4.8 million acres of farmland, installing upgrades at more than 400 sewage plants and managing the catch of more than 11,000 licensed watermen. But the agencies charged with the cleanup have never mustered enough legal muscle or political will to overcome opposition from the agricultural and fishing industries and other interests. Instead of strengthening their tactics, though, they tried to make the cleanup effort look less hopeless than it was.

While technicalities of language in the EPA's Clean Water Act, which demands only that management plans be developed and implementation begun (Taber, 2009), may make the lawsuit a long shot, the CFB's intent was essentially to bring the failure of the Chesapeake Bay Agreement to adequately protect and remediate the bay to the new EPA president's attention. What is needed to truly protect the bay, they conclude, is better legislation that gives regulatory agencies specific deadlines and goals and citizens the right to ensure that those goals are met (Taber, 2009).

There is much to be learned from the Chesapeake Bay experience and the story is still not closed on the fate of the program. What is clear is that voluntary standards and regulations are only effective if they have the support of all parties, that transparency—however laudable—can be manipulated and that, in the end, it is civil society that must ensure accountability is rendered at all levels. Government is a crucial player in any environmental regime, but government is not always well placed to provide leadership and, in some instances, may not be the most effective proponent. Hudson Bay does not share the same population or development pressures as Chesapeake Bay, but it does face the same multi-jurisdictional challenges and potential resistance to action by vested industry or other interest groups.

Northern Contaminants Program (NCP)

The NCP was created in 1991 in response to the need for further research into the impact on human health of the high levels of contaminants being found in wildlife species central to the diets of Northern Aboriginal Peoples. Early indications were that a large number of pollutants, many of which had no Arctic or Canadian source, were accumulating in the Arctic environment and could pose a significant health risk to northern populations, and in particular those whose diets were comprised mainly of "country food." Over the course of the next decade, the NCP worked closely with Northern communities to collect data and track the transboundary pathways of southern-generated toxins, providing much of the data and rationale that supported Canada's call for a ban on the twelve most persistent organic pollutants (POPs), nicknamed "the dirty dozen," and, most significantly, led to the signing of the Stockholm Treaty in 2001. Perhaps equally important, however, was the role NCP played in forging a new, more collaborative approach to research involving Northern indigenous peoples. The sad legacy of misguided southern policies on aboriginal health in the North, among them incidents where family members were tested for tuberculosis aboard government medical ships and if found to be positive, sent off without notice to facilities in Southern Canada where many of them died, resulted in many Inuit and northerners being highly sceptical about any government testing programs. Likewise, few of the many scientists that flew into Arctic communities over the years ever considered relaying their results back to the local residents and certainly did not consider the indigenous people as partners in their research. The approach of the NCP changed much of the mindset around Northern research and worked very hard to bring aboriginal organizations, leaders and communities into the research process as collaborators and partners. The result was a strong effort by Northern leaders, especially then President of the Inuit Circumpolar Conference (now Council), Sheila Watt Cloutier, to take this issue to the international stage and push for a complete ban on the production and use of these toxic pollutants. The resulting Stockholm Convention was a shared victory for both the indigenous peoples in the North and the NCP.

The NCP continues to address high-priority health issues in northern communities where exposure to contaminants raises concerns about human and ecological well-being. Its research mandate has been expanded to include heavy metals in addition to POPs and the program continues to monitor the levels of toxins in country food and to provide communities with appropriate dietary advice. Likewise the NCP ensures the government is in compliance with the Stockholm Convention and other international agreements on transboundary pollutants and continues to provide data and advice to departments on this important area of environmental protection. After more than 20 years, research, education and communications remain high priorities for the program as does its practice of consultation, collaboration and reporting in the North. The NCP is recognized as an unusually successful program by north and south alike and can be credited with forging a new approach to Arctic research that has changed forever the way science is conducted in the North.

Arctic Council

The Arctic Council is a high-level intergovernmental forum created in 1996 through the Ottawa Declaration that brings together high-level officials from the eight Arctic States—Canada, United States (Alaska), Denmark (Greenland), Iceland, Sweden, Norway, Finland and Russia. Unique to this institution is the inclusion of the six major circumpolar indigenous organizations as "Permanent Participants." The aboriginal representatives sit at the table with the state delegates and are party to all discussions, working groups and negotiations. The aim of the Arctic Council is to provide "co-operation, coordination and interaction among Arctic States" ³²and its primary focus is on issues of environmental protection and human security. Military security was expressly excluded from the Arctic Council mandate at the insistence of the United States, but more recently, its inclusion has been actively debated as member countries raise concerns that the issue will be taken up in other international forums where the Arctic States may not have as strong a voice and the aboriginal organizations may have none.

The Arctic Council runs on the basis of consensus and each project it undertakes must have the approval of all states. The work of the Council is carried out by six standing working groups:

- Arctic Contaminants Action Program (ACAP)
- Arctic Monitoring and Assessment Program(AMAP)
- Conservation of Arctic Flora and Fauna (CAFF)
- Emergency Prevention, Preparedness and Response (EPPR)
- Protection of the Arctic marine Environment (PAME)
- Sustainable Development Working Group (SDWG)

^{32 &}lt;a href="http://www.arctic-council.org/index.php/en/">http://www.arctic-council.org/index.php/en/

In addition, task forces have been established on Search and Rescue, Institutional Issues and Oil Spill Preparedness and Response as well as an Experts Group on Ecosystem-Based Management. Much of the work of the council builds on the Arctic Environment Protection Strategy (AEPS), a document produced in the early days of the council. The AEPS was largely made possible by research accomplished under the earlier incarnation of the Arctic Mapping and Assessment Programme (AMAP), an international working group that predated the existence of the council itself and was subsumed under its authority when the council came into being in 1996.

The chairmanship of the Arctic Council rotates every two years, a model that ensures each of the eight countries has the opportunity to lead the forum and prescribe its agenda at least once every two decades. This frequent change of leadership also prevents the major powers, such as Russia and the United States, from gaining too entrenched a grip on the council's agenda given their greater capacity and resources, and allows smaller states, such as Iceland, an opportunity to put forward their priorities with relative frequency. This rotation has also resulted in some unintended institutional weaknesses. The corporate identity (logos, letterhead, etc.) of the council changes with each chairmanship, resulting in some confusion among those outside the organization not familiar with the practice. Secretariat support has also moved biannually with the chair, resulting in less efficient management and a great deal of time lost to ramping up and down. Record-keeping and other institutional challenges have been common with this constant upheaval and the decision was recently taken by the council to locate a permanent secretariat in Oslo, Norway. The rotation of the schedule of chairs remains the same.

While the council has no regulatory authority and serves mainly to promote collaborative research, foster dialogue and provide science-based advice to circumpolar governments, a significant milestone was achieved in May 2010 with the signing of the Aeronautical and Maritime Search and Rescue (SAR) Agreement in Nuuk, Greenland. SAR represents the first legally binding agreement to be negotiated under the auspices of the Arctic Council and paves the way for future such initiatives to emanate from this body. Given the growing global interest in Arctic resources and the increased accessibility of this intergovernmental territory as a result of climate change, this breakthrough represents an important step for the council in terms of its influence and stature in the club of world affairs.

The opening up of the circumpolar North to greater resource development will present many issues to challenge the future deliberations of the council. It has been the practice of the council in the past to admit "Observers" and, until recently, this has accommodated a quiet and disparate group of non-Arctic states, NGOs and other intergovernmental organizations with an interest in Arctic affairs. According to the Ottawa Declarations, "Observers" must abide by the principles and values of the council, may fund and participate in the research of working groups, and may, with permission, speak or submit statements to the council meetings. More recently, major emerging powers such as China, India and Brazil have applied for Observer status at the council, as well as the European Union (EU), raising concerns that these additions will affect the balance of power within the council, likely to the detriment of the Permanent Participants. The application of these countries and the EU has also given rise to questions regarding

ideological differences between polar and non-polar states and whether these "Observers" would abide by the principles decreed in the Ottawa Declaration. In particular, the Canadian Permanent Participants have taken exception to the admission of the EU, arguing that the EU's ban on seal products is a direct violation of the rights of indigenous people to pursue their way of life and livelihood. Having arrived at no consensus with regard to the admission of these applicants, the Council referred the issue to its Task Force on Institutional Issues, which has since proposed a more comprehensive set of criteria and provided some options as to how this dilemma might best be resolved.

Other issues, including whether to include "security" within the Arctic Council mandate, will present many challenges to the council in the years ahead. Its first decade and a half has been highly constructive, indicating that consensus and the inclusion of indigenous representation in these high-level government forums are workable and effective. As the lure of Arctic resources and the opening up of marine routes draws more activity to the region, the challenge to the council will be to maintain its relevance and moral and scientific authority over the environmental protection of this fragile region in the face of powerful global economic interests.

Baltic Marine Environment Protection Commission (Helsinki Commission)

As the oldest collaborative, intergovernmental agency dedicated to the joint management of a large marine ecosystem, the Helsinki Commission serves as the elder statesman of LME management. The commission (HELCOM) has worked for more than 30 years to protect the marine environment of the Baltic Sea from all sources of pollution by fostering intergovernmental cooperation between the coastal nations of Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. More recently, the creation of the EU necessitated its inclusion in the commission as many of the participating nations become subject to its regulations and standards. HELCOM is the governing body for the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention) first signed in 1974 and later revised in 1992 to better reflect changes to the political makeup of the region as well as to environmental and maritime law. In 1988 a Ministerial Declaration prescribed a target of a 50 per cent reduction in nutrients being introduced into the sea in an effort to halt its extensive eutrophication, a target that was met through various programs and initiatives implemented by HELCOM over the following two decades.

Throughout the history of the Helsinki Convention, the Baltic Sea region has been subject to significant political change. Both the demise of the Russian federation and the creation of the EU have imposed new governance challenges, including a need to harmonize EU and non-EU policies and practices affecting the Baltic Sea. Likewise, ecological pressures on the resources of the Baltic Sea have continued to increase with growth in coastal populations and industrial and agricultural activities expanding significantly. The commission has nonetheless achieved some progress over this period, lowering the amount of nutrients entering the waters, improving monitoring, imposing restrictions on illegal discharges and instituting a

permit system for industry discharges into the sea. The commission has recently adopted a new "objectives-based" approach to joint marine management and has set very aggressive targets for the control of pollution.

The relatively modest achievements of the Helsinki Commission over the past three decades are perhaps a testament to the challenge of negotiating consensus among a group of powerful but ideologically and economically disparate nations. The health of the Baltic Sea remains threatened by the pressures of industrial and agricultural activities that take place around its shores and the difficulty in harmonizing the standards and practices of so many coastal nations. Nonetheless, as a pioneer of collaborative marine management, the Helsinki Commission has much to teach about the challenges of managing environmental protection amidst the onslaught of economic development.

Gulf of Alaska

The Gulf of Alaska is an arm of the Pacific Ocean that extends along the southeastern coastline of Alaska from the Alaska Peninsula to the Alexander Archipelago. Its coast is shared by the United States (Alaska) and Canada. To date, no large marine ecosystem-based management plan exists for the region, although numerous treaties and international fish-related commissions are preoccupied with the management of salmon and other fish stocks that are of commercial value in the area. Research has been largely restricted to monitoring the health and travels of these commercial stocks, with only ad hoc attention paid to the larger ecological aspects of the region.

While under the provisions of UNCLOS, Canada is obliged to develop an integrated management plan for its coastal regions. There appears to be little political will at present to focus the necessary resources and effort on this part of its northern British Columbia shoreline. The United States is not a signatory to UNCLOS and therefore bears no such obligation. The political consequences of the Exxon Valdez oil spill in Prince William Sound in 1989 did focus some American attention on the ecology of this region; however, the impetus created by that event has not extended to any long-term management initiatives, and there appears to be no effort at a bilateral dialogue beyond that already established over fish stocks.

Beaufort Sea Integrated Management Plan (BSIMP)

The Beaufort Sea is located north of the Northwest Territories, the Yukon and Alaska, west of Canada's Arctic islands. Named after hydrographer Sir Francis Beaufort, its main tributary is the Mackenzie River, which empties into the Canadian part of the sea west of Tuktoyaktuk, one of the few permanent settlements on the Beaufort Sea's shores. The Beaufort Sea is also contained within the Inuvialuit Settlement Region (ISR), a region established by the Inuvialuit Final Agreement (IFA, 1984).

The region has been of serious interest to both Canadian and multinational corporations for some decades, primarily due to the large oil and gas reserves that are known to exist beneath its waters. Most recently, permits to begin drilling off the Alaskan coast of the Beaufort Sea have raised concerns about the impact this industrial activity will have on the marine environment and the ability of indigenous populations to continue to hunt and fish as they have for centuries. It is likely for this reason that the Canadian government has chosen to undertake the first Arctic Integrated Oceans Management Plan in this area. The *Integrated Oceans Management Plan for the Beaufort Sea: 2009 and Beyond* (IOMP) process is supported by an extensive body of research, much of it predating this particular initiative, and the engagement of territorial and federal governments, aboriginal groups and northern coastal communities, non-governmental organizations, academia, industry and other interested parties who have agreed to collaborate in a decision-making process to jointly manage the ecological future of the Beaufort Sea region (Beaufort Sea Partnership, 2009). This alliance of stakeholders has been consecrated under the Beaufort Sea Partnership (BSP) and that body serves as the primary mechanism for stakeholder engagement in the BSIMP process.

The next step in the process involved developing a governance structure that would complement the federal interdepartmental and intergovernmental oceans governance processes already in place. This led to the formation of a Regional Coordination Committee (RCC) co-chaired by the Inuvialuit Regional Corporation, Inuvialuit Game Council and Fisheries and Oceans Canada. The RCC also includes in its membership representatives of Fisheries and Oceans Canada, Aboriginal Affairs and Northern Development Canada, Natural Resources Canada, Parks Canada, Transport Canada, Environment Canada, territorial governments of the Northwest Territories and Yukon, and the Fisheries Joint Management Committee, a co-management organization established under the Inuvialuit Final Agreement. The RCC provides coordinated decision-making, oversight and direction for the ongoing evolution and development of the IOMP (DFO, 2010). Working groups were also established to provide research and advice for the consideration of the BSP and the RCC.

With these mechanisms and structures in place, the next stage of the Beaufort Sea Plan saw the development of a joint vision statement. The 2007 statement negotiated among all parties and arrived at through consensus reads, "The Beaufort Sea ecology is healthy and supports sustainable communities and economies for the benefit of current and future generations" (DFO, 2010).

The Beaufort Plan has been organized around six thematic goals—governance, economic, cultural, social, traditional and local knowledge and ecosystem—and 24 objectives have been identified and responsibility for their implementation assigned to the appropriate members of the RCC for action. It is important to note that this plan relies heavily on the principles of integrated ecosystems management for its inspiration and is dedicated to the ideals of sustainable development. That being said, the agenda of the IOMP is ambitious, particularly in light of the fact that the RCC has no regulatory powers and as such, can at best hope to guide the policies and actions of its political masters. Nonetheless, the effort to create a plan for

the Beaufort and a governance system to facilitate collaborative management and foster dialogue among the many stakeholders in the region is a significant step forward. The challenges and successes of this endeavour will provide ample insight for any similar initiatives in the Hudson Bay and, as such, represents a valuable resource for best practices and lessons learned in a Canadian Arctic context.

Arctic Borderlands Ecological Knowledge Society (Borderlands Co-op)

The Borderlands Co-op was incorporated as a not-for-profit organization in 1996 to provide for the ongoing monitoring of the range of the Porcupine caribou, a species upon which the Gwitchin and Inuvialuit indigenous peoples of this sparsely populated but ecologically significant region of the Yukon, Northwest Territories and Alaska depend. As many as eight Arctic communities in the Yukon and Northwest Territories participated in the monitoring program at any one time, aided by researchers from several government and university departments and the program built on several co-management regimes already established by previous land claim agreements. Early in the program, it was agreed that the program would rely heavily on the indigenous knowledge of elders and hunters, who would have valuable longitudinal observations on the caribou's habitat and health, aided by the research of Western scientists who had also been active in this region for many years. The purpose of the co-op was strictly monitoring with no management or advocacy positions taken (Gordon et al., 2008, p. 7). Although Environment Canada (Yukon) offered overall coordination for the project, the organizational structure of the co-op was flat, meaning no hierarchal relationship existed among the participants, with decisions being made through consensus at annual gatherings (Gordon et al., 2008, p. 7).

The Borderlands Co-op represents an excellent synthesis of network, indigenous and ecological governance in action with a complete integration of indigenous and science-based knowledge. The very fact that it was able to carry out its monitoring activities over such a vast geographical region and expand its program to new communities over an 11-year period is a testament to the commitment of the participants and the viability of the model. The program, however, was not without its challenges. Many of these revolved around issues of "social capital," the intangible elements of intercultural and interpersonal dynamics that can often lead to great insights, such as recognition of "two ways of knowing," but also to significant discord. In the case of the Borderland Co-op, the program suffered from discrepancies between the indigenous and science-based results, creating tensions that made agreement on findings and reports difficult to achieve. Maintaining consistency among the Monitors in the different communities required vigilance. The indicators used were reviewed and modified annually to ensure relevance, which affected the continuity of the findings. Data management proved challenging, as did the need to keep things simple and focused on the needs of the communities (Eamer, 2004). Publication of an article on the Borderlands that included "lesson learned" revealed that the participants of the project were aware of its deficiencies and committed to working to overcome them.

There appears to be little account of why the monitoring program of the Borderlands Co-op ended in 2008. No doubt funding was a major issue and the "lessons learned" reported in 2004 suggests that perhaps the core group of advocates needed to maintain the momentum of the program might simply have run out of steam. Nonetheless, the reports of the Borderland Co-op provide a valuable window into the ecological health of this isolated region as well as an oral history of the lives and concerns of the indigenous peoples that live there and will serve as a rich cultural resource for future generations. The relationships forged between the participating communities and the awareness that was created by the program have no doubt enriched their lives, widened their perspectives and helped to bridge the gap between indigenous and non-indigenous knowledge and understanding. As such, the project has many successes to its credit and will likely serve as a foundation for other similar ecological initiatives.

Boreal Forestry Agreement

One of the most innovative environmental accords to be struck in recent years was not a product of government at all, but the result of an unprecedented alliance between nine Canadian environmental NGOs led by Greenpeace, the David Suzuki Foundation, the Nature Conservancy, the Canadian Parks and Wilderness Society (CPAWS) and 21 major multinational and national forestry companies, among them Cascades, Weyhaeuser and Abitibi Bowater. After decades of tense, polarized relations between industry and conservationist over forestry practices and habitat preservation in Canada, the two sides finally agreed to lay aside their history and attempt to work together toward a common objective: to conserve both the Canadian boreal forest and forestry sector jobs. The result of these unprecedented negotiations was the 2010 landmark Boreal Forestry Agreement, described by the proponents as "An Historic Agreement Signifying a New Era of Joint Leadership in the Boreal Forest" (The Canadian Boreal Forest Agreement, 2010). The agreement covers the geographic span of the Canadian boreal forest, a wide swath that extends from Newfoundland and Labrador to the Yukon. Its broad ambition is to ensure forestry practices in Canada are the most ethical and sustainable in the world, while preserving the livelihoods of the 604,300 workers directly or indirectly dependent on the industry and maintaining the more than \$54 billion it generates in revenues (Boychuk, 2011).

At its core, the agreement sets out six main goals (Boychuk, 2011, pp. 3–8):

- To pursue world-leading "on-the-ground" sustainable forest management practices based on the principles of ecosystem-based management, active adaptive management, and third-party verification;
- 2. The completion of a network of protected areas that, taken as a whole, represents the diversity of ecosystems within the Boreal region and serves to provide ecological benchmarks;
- 3. The recovery of species at risk within the Boreal Forest, including species such as Boreal caribou;
- 4. Reducing greenhouse gas emissions along the full life cycle from forest to end-of-product life;

- 5. Improved prosperity of the Canadian forest sector and the communities that depend on it; and
- 6. Recognition by the marketplace (e.g., customers, investors, consumers) of the Canadian Boreal Forest Agreement and its implementation in ways that demonstrably benefit FPAC Members and their products from the Boreal.

This recent entente between the two factions remains new and somewhat tenuous but reflects a softening of positions on both sides—after a decade of warring at home and abroad, environmentalists now recognize the legitimate economic interests of the forestry industry, and the forestry companies, for their part, acknowledge that they have to adapt their practices to protect as much habitat as possible. As two of its main proponents wrote in a *Toronto Star* editorial one year after signing:

The conservation groups understand the power of forest industry as partners in pursuing adequate protection of the forest and the forest industry understands the power of the conservation community in the pursuit of market advantage for their forest products. And everyone understands that figuring things out together is more practical than trying to resolve issues through shouting matches. (Lazar & Lourie, 2011)

What is perhaps most unique about this agreement is the total absence of government as a party to the accord. The wording of the agreement makes clear that this alliance is not intended to take the place of or usurp any existing or future government processes or powers that address similar issues, but to support and compliment these efforts. The agreement states:

Where there is overlap, work under the Agreement is intended to run parallel to and contribute in a positive manner to such processes. FPAC, FPAC Members, and ENGOs recognize that the legal responsibility and authority for land-use decisions and for conservation and resource management policy rests with governments, and that successful implementation of many aspects of the Agreement will require the support of and/or actions by governments and the support of a broad array of interests, including communities.³³

This parallel track approach may provide an interesting precedent in the context of the Hudson Bay discussions where it is obvious that the legal responsibility for the development of an integrated management plan and oversight of the bay rests with the federal government. The Boreal Forestry Agreement likewise overlays areas of provincial and federal government responsibility, but allows for industry and environmental NGOs to be proactive in areas that are not being adequately addressed and contribute directly to the monitoring and management process on a voluntary and extra-governmental basis. In other words, it imposes a level of governance on forestry management that is directly representative, through this entente, of industry and environmental interest groups working together to improve ecological management.

Significantly absent from the arrangement, however, is the input and affirmation of Aboriginal Peoples, whose ancestral territories comprise a large segment of the geographic scope covered under this

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³³ Op cit, pg 9

agreement. While on paper both industry and environmental NGO signatories have agreed to recognize constitutionally protected aboriginal and treaty rights and have pledged to respect aboriginal rights and title, the agreement was negotiated without First Nations consultation or participation, a move most bands view as disrespectful and a perpetuation of colonial thinking (Burlando, Smith, & Davidson-Hunt, 2011). The Assembly of First Nations has gone on record as being opposed to the agreement. Despite its goal to preserve caribou habitat, many First Nations fear that the lands to be preserved and made unavailable for future harvesting will be those to which bands hold hereditary title but unresolved land claims, thus limiting any future economic potential. Much of the criticism centres around process, with even the Indigenous Environmental Network kept in the dark about the environmental NGO-industry negotiations until they were made public. These concerns regarding the lack of transparency, the backroom dealings and the apparent disregard for aboriginal rights have been fuelled by the distrust of many First Nations of both the environmental movement and industry. Although a few indigenous leaders have adopted a more receptive, wait-and-see attitude to the agreement, it is clear that shutting out First Nations as a party to this agreement from the inception has created new tensions and resentments over the fate of boreal forest in Canada (Paley, 2011).

All parties to the Boreal Forestry Agreement understand that there will be many challenging days ahead. Success is not guaranteed and much of the current alliance rests on good faith and optimism—the real test will be in those areas of its application where interests close to the heart of either side will have to be compromised. Nonetheless, the agreement does represent an innovative approach to reconciling competing interests by carving out common goals and ground. It provides an interesting precedent for other environmental NGO/industry arrangements where government seems unable or unwilling to meet the expectations of external stakeholders and imposes a layer of oversight over the management of the Canadian boreal forest that represents a truly unique and novel instrument of civil society governance.

Options

The rule for effective governance is simple... When there is a problem, you fix it. That is the job you have been sent to do and you cannot wait for someone else to do it for you.

-Chris Christie, U.S. politician

Perhaps the greatest conclusion to be wrung from a survey of the governance of Hudson Bay is that, from a modern ecosystem management perspective, there is no governance at all. What does exist is a scenario not unlike the mythical Commons of Garrett Hardin's tragedy, a place where all legitimate parties to a resource write their own rules and seek to maximize their own interests with little regard to the impact of their actions on the whole. While there can be no doubt that legal authority to impose some coordination on the disparate governance of Hudson Bay falls squarely in the federal purview through the Oceans Act, efforts toward this objective—the Freshwater Institute's Hudson Bay Working Group notwithstanding—have been minimal, leaving this national treasure to the vagaries of slice and dice politics.

Also present in this regime is evidence of the three horsemen of the governance apocalypse—uncertainty, fragmentation and expediency. As previously discussed, all three pose significant barriers to responsible governance. The "uncertainty" issue surrounding Hudson Bay is twofold. While all TEK and scientific evidence confirm that climate change is significantly impacting this region, the seriousness of the threat surrounding this global issue has been significantly downgraded in official Canadian and, to some degree, international public policy circles. Canada's backtracking on the previous government's commitment to greenhouse gas emission reductions and its withdrawal from the Kyoto Accord, coupled with its aggressive diplomatic efforts to delay international action on climate change until at least 2015, would seem to indicate this government's "uncertainty" over the legitimacy and immediacy of the danger posed by this phenomenon. This has serious implications for the Arctic on many levels, not least of which is the level of political will that can be leveraged toward any climate change-related initiatives.

Fragmentation in the governance of this region is also endemic. While significant advances have been made in the realm of resource co-management with the federal and provincial governments, the Cree, and other First Nations and Inuit, the territories covered by these regimes remain geographically and, in some cases, culturally, fragmented. The co-management committees and working groups are likewise set up along sectorial lines and, whether it be forestry management, land use or environmental assessment, all have a specific territory and administrative purview that, with the exception of the monitoring of collective impacts under CEAA, does not include responsibility for the welfare of the Hudson Bay basin as a whole. This patchwork of federal, provincial, territorial and aboriginal jurisdictions and authorities, while all legitimate and well-intentioned in their own right, lack the overlay of a central agency or coordinating body able to bring some cohesion to the process, which makes the job of monitoring and facilitating remediation a challenging and largely ad hoc process.

The level of fragmentation evident in Hudson Bay inevitably leads to another in the trilogy of barriers to good governance—short-term vision. While democracy inevitably imposes a certain requirement for expediency in policy-making and delivery due to the demands of the electoral time clock, a fragmented multi-jurisdictional arrangement can result in a kaleidoscopic agenda, with new ideas and policy initiatives moving in and out of range in keeping with the constant flux of personnel and leadership at all levels. While strategies such as Plan Nord and the Far North Act, with their 25-year time frames, are excellent attempts to impose both certainty and a long-term vision on northern development, each of these can be dismantled, amended or repealed with the stroke of a pen. The first priority of any political victor is generally to replace or rebrand the policies and pillars of the previous regime to bring them in line with their own priorities. While certain vagaries of power are to be expected, these impacts are exacerbated in the sort of fragmented, multi-level jurisdictional, sectorial regime that currently exists around Hudson Bay, and represents a significant barrier to effective long-term planning and monitoring.

How then to protect the integrity of the Hudson Bay ecosystem given the political deficiencies and governance challenges that exist? What are the options available to the "Connecting the Bay" Engagement Series to move forward an agenda that would address some of the flaws in the current

governance structure? Many stakeholder groups that coalesce around a common concern begin by working toward a joint statement. The development of a declaration or charter for Hudson Bay might prove to be a logical and worthwhile first step. While not legally binding on any party, the exercise generally helps to define common ground among the various interests present and to establish a set of shared ideals or goals around which all parties can unite. This declaration or charter can also be an excellent communications instrument for garnering public or political support and media attention, raising the profile of an issue to a much higher status than could be achieved by a press release and communicating the signatories' intent to take collective action to protect Hudson Bay.

Should the ambitions of the "Connecting the Bay" Engagement Series move to the next stage, there are several options for action based on best practices and models of ecological governance in other sectors or marine regions that might provide some inspiration. The examples and options cited are not exhaustive. They may nonetheless present fodder for discussion and serve to illustrate some possible ways forward.

Option 1 - Pressure the federal government to include the Hudson Bay watershed in the Oceans Action Plan.

This option is essentially an exercise in advocacy that would be spearheaded by a coalition of stakeholders, preferably as inclusive and extensive as possible. This "group" would need to take on some formal structure, incorporate and be identifiable as a recognizable interest group for the purpose of this campaign. To be effective, the group members or member organizations should have sufficient numbers and political clout to engage the attention of the Federal government. At a minimum, it would need the involvement of First Nations and Inuit organizations, industry representatives and leading environmental NGOs and ideally some high-profile champion. It would require the development of a detailed communications strategy to direct a public awareness campaign, the use of the media and social media, as well as the guidance of an accomplished lobbyist. Partnerships with established environment-friendly outlets such as *Canadian Geographic* magazine or the CBC program *The Nature of Things* could also be instrumental in influencing public and political opinion.

Behind the scenes, meetings with high-ranking officials in the DFO would be a first step in determining where on the department's agenda an integrated management plan for Hudson Bay might sit. Unfortunately, DFO's legal obligation to create such a plan for all of Canada's oceans does not come with a deadline. There is no doubt that the department's strategic priorities, given limited resources, are determined largely by circumstance, with the Beaufort Sea being an obvious choice for first attention under the Oceans Action Plan given the imminent likelihood of oil drilling in this region. But governments do react to pressure. The very fact of having a body of stakeholders pressuring the department for action and engaging the media on this topic can be effective in influencing policy and timing. Advocacy is an art and, should this option be preferred, there are several means to ensuring an effective campaign. All of them require funding and, in the case of this initiative, the most likely source of that financing would be the group members themselves.

This option places a heavy reliance on government to live up to its legal obligations and to do so on a schedule that is satisfactory to the "Connecting the Bay" Engagement Series organizers. It is a logical approach, but one that may not, in the end, prove to be the most effective. The success of this approach inevitably depends upon the degree of political will that can be mustered. When it comes to environmental protection, such will appears to be in relatively short supply given current recessionary pressures, and, as such, may make the goading of government into action on Hudson Bay a significant uphill battle.

Option 2 - Create an independent non-governmental research institute, think tank or foundation.

This option would allow all partners and stakeholders to take action on the monitoring and management of Hudson Bay without the necessity of adhering to a government agenda or dependence on government financing. Roughly following the IJC model (although without the benefit of an international treaty or financing), this scenario provides for the greatest degree of scientific objectivity and independence. As a reservoir of bay-related knowledge, both traditional and academic, it would serve as a source of expertise for all partners and stakeholders, including industry and government, and provide the key oversight and monitoring of all aspects of the Hudson Bay ecosystem. A core group of personnel, complete with a secretariat, would likely be the bare minimum of staff required to administer programs, with specific expertise possibly contracted on an "as-needed" basis.

This research "hub" model also lends itself to pursuing a less grand agenda than the creation or administration of a fully integrated management plan and could serve simply as a centre of expertise and an information hub on all matters related to the ecology of the bay. It would likewise have the capacity to hold conferences and continue the "Connecting the Bay" Engagement Series process by creating an ongoing forum for discussion around topics critical to the welfare of the bay. This exercise of facilitating the ongoing dialogue among the many disparate partners active on the bay would help create and maintain the lines of communication among all communities, industries and governments that are dependent on the bay.

The main challenge to this option is funding. Some imagination would be required to ensure that sufficient resources were in place to finance its mission and enable the work required, preferably from a general fund administered by a Board of Directors, rather than through the direct financing of one interest group or stakeholder. A United Nations-style funding formula where members of the institute pledge a fixed amount on an annual basis is one possibility; the creation of an endowment is another; however, many creative approaches to sponsoring such agencies exist and would need to be explored.

Other variations exist under this "independent agency" model. One would be establishing an agency with a mandate to implement the LME program and develop a research agenda for Hudson Bay that would adhere to that program's modules and requirements. This has the benefit of following a prescriptive and

standard program that has been sanctioned by the United Nations and would offer Hudson Bay a place in the LME "club." The synergy and experience of working with other LMEs could be helpful and provide both support and resources. International financing under UNEP could potentially be secured should this direction be chosen, especially if approached through the interests of the aboriginal communities.

Another possibility is the establishment of a membership-driven foundation akin to that established in Chesapeake Bay area back in the 1960'. This would represent a more modest undertaking than a research institute, with an agenda primarily focused on advocacy and education. Foundations or other "friends" groups of this type nonetheless serve a very useful function in holding government and industry to account and fulfill the necessary role of public watchdog. Being outside the main research and administration program, such arms-length bodies can be very effective at identifying major issues, mobilizing public opinion and undertaking the education and social marketing necessary to ensure good stewardship practices are in place. These sorts of agencies can be prove useful in those instances where government(s) is (are) already engaged and providing oversight in the region by, in effect, watching the watchers to ensure that program objectives are being achieved in a timely and effective manner.

Option 3 – Establish an extra-governmental Hudson Bay Agreement

The third option suggests a model similar to the Boreal Forestry Agreement, where partners to the accord work together outside of government to manage and conserve the bay based on an agreed-upon set of principles and objectives. Any such agreement would most certainly have to include all Inuit and First Nations as founding partners and signatories, in addition to industry and environmental NGOs. Like the Boreal Forest Agreement, a Hudson Bay Agreement would not usurp any government's jurisdictional authority but would run parallel to government by developing strategies and practices that voluntarily support the responsible stewardship of the bay.

There could be many potential benefits to this approach. The first is that it would provide a forum for the many stakeholders around the bay to meet on a regular basis to articulate their concerns and work out their differences. This mediation function might help prevent many of the misunderstandings or blunders that lead to conflict as well as provide a mechanism for consensus building and adjudication. It allows competing interests to work out a middle ground based on scientific evidence and recognizes the legitimacy and interests of all parties. The development of a Hudson Bay Agreement would require a nongovernmental partner to act as sponsor, a role played by the Ivey Foundation in the Boreal Forest Agreement and, once established, would be sustained by the partners. Such an extra-governmental agreement would go a step beyond the think tank or foundation model and take on a quasi-diplomatic stature, with less emphasis on research as a whole perhaps and more attention paid to seeking solutions to specific areas of conflict and/or degradation and the promotion of awareness and best practices. This model also assumes a watchdog function, but places it in the context of the agreed-upon terms of reference, with a greater emphasis on proactive management.

Conclusion

Hudson Bay is a national treasure. There can be little question that the opportunity to explore or exploit the vast resources of Hudson Bay is a privilege, one that comes with a responsibility to preserve and protect this iconic region. Any action taken in this regard must be done with the knowledge that the vast majority of the lands and waters of this inland sea constitute the ancestral home of First Nations and Inuit and, as such, their interests, aspirations and expertise must to be respected. The governance of Hudson Bay has been arranged by history according to political boundaries and sectorial interests that do not easily allow for the holistic management of this natural commons. This presents many barriers to the practice of good governance and challenges the principles of transparency, fairness and accountability. It breaks down the management of Hudson Bay's resources into separate files and issues, making it difficult, if not impossible, to create a symphony from so many disparate legal and jurisdictional instruments. As the pressures on the bay increase over the forthcoming decades—whether it be as a result of climate change, development, or both—it seems clear that the many arms of government currently in play may not be adequate to the task of composing anything akin to a cohesive aria.

A survey of large ocean or inland watershed management initiatives around the world indicates that almost all have been inspired by an impending crisis—the massive die-off of reefs or species due to eutrophication, the degradation of water quality past the point of human tolerance or the overfishing of communal waters to the verge of depletion. Although concerns over the fate of the Hudson Bay polar bears have garnered some international attention, for the most part this valuable inland sea has been neglected, its ecological services taken for granted, and its future assumed intact by a largely southern, unengaged Canadian audience.

Yet everything in Hudson Bay is in transition—its climate, its ecology and its economy—and with that comes a choice: to be proactive and invest in managing the bay integrally and responsibly today while it still exhibits resilience, or leave that task of stewardship to another generation to address at the point when the welfare of the bay becomes a crisis. Although the failure of the Hudson Bay ecosystem cannot be seen as imminent, there are sufficient warning signs to warrant a call to action. The Hudson Bay Inland Sea Initiative is one initial response to that cry. There is no mystery in what needs to be done. What is required is leadership and commitment, the political will to address a concern before it becomes a crisis, and the resolve to cooperate in the collective management of this aquatic commons so that our children and grandchildren may bear witness to its triumph rather than its tragedy.

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Appendix A – Governance Case Study Summary

Organization	Legal Framework	Strengths	Weaknesses	Achievements	Challenges
International Joint Commission (IJC)	Boundary Waters Act (1909) International Watersheds Initiative (1997) "commissions" established for each country supported by boards of experts and secretariats	Provides ongoing structure for discussion and dispute resolution on U.S./Canada boundary water and water diversion issues; Helps to identify and resolve water management issues before they become cross-boundary disputes; Establishes common ecological principles and encourages actions to support them; Opens water management process to public input and consultation; Strong fact-finding, monitoring and reporting function; Provides science-based recommendations to governments that can inform public policy; Enjoys a sustained funding base from Canadian and U.S. governments; Through the establishment of five watershed "boards" has introduced and facilitated ecosystem-based watershed management approach in Great Lakes region.	Commission has no regulatory or law-making powers beyond water diversions; No enforcement capacity; IJC powers are limited to research, monitoring and recommending; Recommendations to governments can be rejected as a result of pressure from local and/or national interest groups, e.g. environmental NGOs vs. industry; Strong institutional structure is deceiving: IJC has limited scope and powers; Funding is susceptible to governments' spending interests and priorities.	Supported the peaceful resolution of transboundary water issues for more than a century; Record of more than a century of data on Great Lakes water quality; Supported the creation of the 1972 Great Lakes Water Quality Agreement (amended 1978) Managed water levels in Great Lakes for more than 100 years; Authorized all dams or diversions to ensure fairness and supply; International Watersheds Initiative strengthened the capacity of regional boards and introduced an ecosystems approach to watershed management.	To continue to protect and conserve the Great Lakes in the face of increased population, industry and economic pressure for water use; To improve and protect water quality in the absence of any regulatory or enforcement capacity; To remain relevant and influential within the larger U.S./Canada political and economic agenda; To adapt Great Lakes management to new approaches and best practices within its existing institutional structure and framework; To ensure stable funding in the face of competing government priorities and ideologies.
Large Marine Ecosystem (LME) Project	United Nations Convention on the Law of the Sea (UNCLOS) – coastal nations are responsible for marine conservation and management within their own coastal region; Exclusive Economic Zone (EEZ) – 200 miles out from their shores.	Offers a ready-made framework for the establishment of an ecosystems-based approach to the management of LMEs; Facilitates the establishment of regional and community-based forums and workshops to promote discussion and cooperation among LME countries and regions; Provides a standard, five-module formula for research, assessment and reporting; Provides access to funding and institutional support through international organizations and agencies (UNEP, FAO, UNIDO, NOAA, GEF, etc.) Allows exchange of best practices and "lessons learned" among all LME's; Establishes new governance structures to support collaboration and encourage all countries to adopt similar standards, quotas and practices.	Highly structured nature can be threatening to some countries; Historic rivalries and conflicts can poison a LME process based on cooperation and shared principles and goals; Dependent on stable and equal commitment of all participants; No guarantee of sustained funding by sponsors or ongoing financial commitment by countries, e.g., change of government; LME success can be affected by larger political or economic events and agendas; No capacity to enforce compliance; Requires coordination of standards, regulations and practices among participating countries and is dependent on their willingness to police and enforce these collective norms.	Creation of an international program that encourages the remediation and preservation of LMEs around the world; Development of a standard five-model approach applicable to any LME; The establishment of 16 LMEs in the first 10 years; Provides financial, technical and institutional support for developing coastal nations to fulfill their obligations under UNCLOS; Has introduced the concept of ecosystem-based management to many coastal countries and provides a project framework to support future action.	Maintaining interest and momentum among participating nations; Overcoming regional tensions and distrust and/or breakdown in relations among participants; Differences in participating countries' willingness to contribute personnel and resources; Coordination of standards and practices; Maintaining funding levels to support ongoing monitoring and remediation efforts.

Chesapeake Bay Program (CBP)	Chesapeake Bay Agreement 1983 (amended 1987 and 2000)	Enabled federal and interstate cooperation to address serious degradation and pollution in the Chesapeake Bay watershed; Provided an ongoing structure for discussion and action; Identified common goals and milestones; In 2000, established an ecosystems-based approach to management with specific goals and timelines; Strong transparency and reporting; Brought strong public focus to the issue.	Failed to accomplish many of the goals and milestones established; Failed to garner the necessary support of industry and other special interest groups; Lacked sufficient political will and "buy in"—states were reluctant to enact or enforce necessary regulatory standards in the face of industry opposition (jobs vs. the environment); Reporting was not always accurate: progress toward goals was often reported to access further funding when little had actually been accomplished; Process only appeared to be transparent — often reporting did not reflect true ecological status of the bay.	Some modest success at focusing political attention on the issue; Increased public awareness of the degradation of the bay; Supported some research, datacollection and monitoring; Programs lack of success in improving state of the bay inspired CBF lawsuit against the EPA resulting in EPA agreeing to take direct control of the program.	Ecological management of Chesapeake Bay has been taken over by the EPA under the terms of the settlement agreement terminating the existing CB program. EPA will run up against the same industry and special interest group resistance in trying to regulate pollution and water use; Pressure on ecology of the bay continues to increase as population and industry in the region grows.
Chesapeake Bay Foundation (CBF)	Incorporated as a not-for- profit corporation (1964)	Coalition of private citizens and organizations dedicated to the conservation and protection of Chesapeake Bay; Five decades of experience in public education and advocacy; Strong moral legitimacy; Supported by dedicated group of volunteers and sponsors.	Role is restricted to public education and advocacy; Must continually fundraise to support activities; Never exercise direct control over Chesapeake Bay Program—i.e., role is to encourage and critique; Largely dependent on volunteer support.	Brought attention to the deterioration of water quality in Chesapeake Bay in 1970s and successfully engaged government and public in the issue; Advocacy efforts resulted in creation of first multi-agency Chesapeake Bay Program (CBP, 1985); Watchdog efforts led to signing of the new CBP with specific goals and timelines, greater stakeholder involvement and transparency; Successfully sued EPA over failure to comply with Clean Water Act in Chesapeake Bay; Settlement agreement that legally binds the EPA to undertake measures to remediate and protect CB according to the provisions of the Clean Water Act.	Maintaining a consistent and ongoing watchdog function; Educated public and industry and advocating for environmental protection during difficult economic times; Maintaining a strong volunteer base and interest; Securing ongoing funding to support education and advocacy activities; Avoiding organizational "burnout" —volunteers can become exhausted by their "watchdog" function and the work needed push for greater protection for the ecology of the bay.
Bay of Bengal Large Marine Ecosystem Project (BOBLME Project)	FAO/GLOBAL ENVIRONMENT FACILITY PROJECT DOCUMENT (re-endorsed 2005–2007)	Provides a structure for regional and community discussion, consultation, planning, workshops, etc.;	Political and community leaders may be more focused on short-term economic goals and not fully commit	Successful in focusing political attention and initiating discussion, research and action on state of BOB;	Sustaining the momentum for action once five-year project has ended;

		Supports the development of a regional Strategic Action Programme (SAP) that would move countries away from ad hoc management policies and practices and toward a coordinated ecosystem management approach; Provides access to expertise and standard LME "template" to guide process; \$31 million in funding and the technical support of international agencies (research, workshops, governance, etc.); FAO as executing agency is a neutral body—i.e., honest broker; Introduces real potential for coordination of regulations and fishing practices around the bay; Creates vehicle for education and awareness among coastal communities; Consultations offer countries insight into concerns and issues of stakeholders; Provides data to support science-based decision making; Introduces mechanism for long-term planning.	to the sustainable management of the BOBLME; Countries may not commit the necessary resources and personnel for project implementation; Regionally based institutional and governance arrangements may be seen as inconsistent with some countries' national or economic interests; Countries may fail to reach consensus on solutions; New standards and practices may be seen as imposing unacceptable obligations or costs; Variable commitment among participants may undermine potential for collaborative action.	Created political will and momentum among coastal nations re: development of an ecosystem based management plan; Secured \$31 million in funding for first five years of initiative; Gained access to technical support and expertise of UNEP, FAO and other international agencies involved in LME projects; Initiated multiple regional and bilateral workshops, research projects and education initiatives tied to LME program; Completed a Transboundary Diagnosis Analysis (TDA) and identified the three major threats to BOB: Project participants identified greatest value in TDA consultations as identifying the many national issues and concerns of stakeholders.	Securing funding for Phase II of the project; Ensuring consistent and ongoing political and financial commitment to project among all participating nations; Adapting program to changing climate, economic and world circumstances; Overcoming short-term national self-interest in favour of maintaining long-term regional management approach; Achieving consensus on a Strategic Action Plan based on findings in TDA; Managing change among so many diverse countries; Developing workable regional governance structures among the participants to the project.
Arctic Council (AC)	Ottawa Declaration" (1996); Iqaluit Declaration (1998); Salekhard Declaration (2006); Tromso Declaration (2011); Nuuk Declaration (2011); Aeronautical and Maritime Search and Rescue (SAR) Agreement (2011).	Provides a high-level intergovernmental framework for discussion, cooperation and collaboration of all Arctic countries on issues affecting the circumpolar region; Strong indigenous voice represented—six major circumpolar indigenous organizations are Permanent Participants (PPs) of the Council; Able to sustain ongoing circumpolar coordination and collaboration through Working Groups on issues of common priority and concern; The exclusion of "security" from the council's mandate ensures that the focus remains on social and environmental issues; Very little posturing—emphasis is on consensus and science-based approach; Gives the circumpolar Arctic a collective and credible voice on the world stage;	PPs are underfunded and therefore not able to participate to their full potential; Exclusion of "security" from the AC mandate results in Arctic security being discussed in other intergovernmental meetings where Arctic countries and PPs don't have as strong a voice; No capacity to regulate or enforce—powers are limited to research, reporting and recommendations; Need for consensus among all eight countries on new AC projects can limit action; Success of the council depends on the political will of member countries to participate and support working groups—susceptible to changes in governments and/or government priorities;	Signing of the Aeronautical and Maritime Search and Rescue (SAR) Agreement (2011) represents the first legally binding agreement negotiated through the Arctic Council; Including indigenous peoples organizations as PPs at high-level intergovernmental meetings allows them a strong voice at the table and has not been achieved elsewhere; The Arctic Environmental Protection Strategy has been created and supported by AC research and reports; AC has supported discussion, cooperation and collaboration among Arctic countries and peoples and helped ensure peace in the region;	The establishment of a new agenda every two years when the chairmanship rotates creates problems of focus, continuity, funding, etc.; Securing adequate funding and resources for PPs; Achieving agreement on who should be given Observer status; Ensuring powerful Observers do not overpower the voices and interests of smaller member countries and PPs; Question of whether to add "security" to the mandate of the council; If security is not included, how to control this issue in other international assemblies;

		Ongoing research and monitoring allows countries to identify trends and issues of concern for Council attention—e.g., fishing.	Rotation of chair among countries every two years raises issues of continuity, communications, corporate identity, secretariat support, etc	A permanent secretariat has been negotiated and is to be established in Norway.	Maintaining peaceful collaboration in the face of increasingly divisive issues—e.g., sovereignty, drilling, fishing, marine traffic, etc.
Northern Contaminants Program (NCP)	Program was established and funded under Indian and Northern Affairs Canada (now Aboriginal and Northern Development Canada), and provided research and rationale for the creation of the Stockholm Convention on Persistent Organic Pollutants (POPs)	Program provided focus and funding for research on the impact of POPs and heavy metals on the health and well-being of northern peoples; Government agencies, universities, and researchers worked closely with northern communities and aboriginal groups and shared their findings directly with those implicated in the study; Provided excellent research and data on the dangers of POPs that supported the advocacy work of aboriginal leaders and others for international action on POPs.	Paternalism and bias of southern academics/governments toward indigenous peoples and distrust by indigenous peoples of government/academics had to be overcome; Lack of respect for indigenous knowledge and reluctance by academics and government to treat it as credible; Research findings created confusion and uncertainty about contamination levels of "country food"; Detection of high levels of contaminants in breast milk of northern mothers discouraged breast feeding; Program can merely inform—regulation or ban of chemicals require action at the political level and enforcement through other agencies; No advocacy capacity through NCP to counteract lobbying efforts of POPs-producing industries.	Research brought issue of POPs to world attention and coined the term "dirty dozen"; Contributed significantly to the work of the Arctic Monitoring and Assessment Program (AMAP, Arctic Council) with much of its research published in 1997; Research supported Canada's call for a ban on POPs and led to the signing of the international Stockholm Treaty (2001) banning the original "dirty dozen"; Was successful in establishing recognition and respect for indigenous knowledge; Established new standards and practices with regard to collaboration and communications between indigenous leaders to take their issues and concerns to the world stage and successfully advocate on behalf of Arctic peoples.	Maintaining priority and funding for program; Maintaining good working relationships between researchers and indigenous communities; Ensuring respect for traditional knowledge; Ensuring effective communications with population re: threats from POP's to health and wellbeing; Ensuring political will exists to support further bans on new POPs threats as research dictates.
Gulf of Mexico Large Marine Ecosystem (GOM- LME)	Transboundary Diagnosis Analysis (TDA) project document signed by United States, Mexico and Cuba (2005); Memoranda of understanding among national agencies on specific initiatives and projects	Program is designed to remove constraints and barriers, develop common mechanisms and tools, promote reforms and investment and set conditions for the application of the ecosystem approach in the management of the GOM-LME; National programs and standards will be replaced by ecosystem-based goals and practices; Will provide data and rationale for better management of fisheries and marine stocks as well as a Strategic Action Plan	Process is slow—program only launched four years after agreement was signed; Spillover of other issues and tensions between participating countries can affect relationship and trust among participants—e.g. American sanctions against Cuba; Differences in the wealth and resources of the participating partners can result in uneven implementation of program;	Succeeded in bringing Cuba into the GOM marine management process; TDA has been updated and the Strategic Action Plan (SAP) completed; Secured \$5 million in funding from GEF and \$97 million in co-financing (national participants) Established a permanent secretariat in 2010; Have identified ecological priorities and conducted numerous	Adjusting to ecological impact of Gulf oil spill; Maintaining positive collaboration and relations despite difficult political history among countries; Building trust and capacity; Ensuring Cuba participates as a full partner; Political challenges of identifying common objectives and establishing

		(SAP) to regulate resources and remediate pollution; Brings GOM into the larger LME family and implements five-module approach to LME management; Provides expertise and resources of the Global Environment Fund (GEF) with UNDP as implementing agency and UNIDO as executing agency.	Program does not address emergency management in the event of major ecological events—i.e. BP oil spill; Mandate is limited to research, educations, capacity building and advisory role.	workshops and meetings to further research and action; Established collaboration agreements among several national agencies; Have undertaken projects with schools and in upper watershed communities—i.e., education and outreach.	consistent regulations and practices among participants; Gaining the support of industries dependent on the resources of the Gulf—e.g., oil, fisheries, etc.; Managing impacts of major oil spill in GOM within the mandate of the LME program.
Helsinki Convention (HELCOM), Baltic Sea Regional Project (BSRP) and Baltic Sea Action Plan (BSAP)	Convention on the Protection of the Marine Environment of the Baltic Sea Area "Helsinki Convention" (1974 and 1992); Baltic Marine Environment Protection Commission or "Helsinki Commission" (HELCOM)) includes Denmark, Estonia, European Community, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden; Declaration on the Protection of the Environment of the Baltic Sea (1988); Baltic Sea Declaration —Ronneby Declaration (1990); Baltic Sea Environmental Declaration (1992); Declaration on Resource Mobilisation for the Baltic Sea Joint Comprehensive Environment Action Programme — Gdansk Declaration (1993); HELCOM Bremen Declaration (2003); HELCOM Moscow Ministerial Declaration.	HELCOM provides focus and a strong coordinating body to lead efforts on environmental management in the Baltic Sea; Over 25 -ear history of intergovernmental collaboration on Baltic Sea management; Five-year Baltic Sea Regional Project (BSRP) from 2002–2007 provided extensive research and data to support new ecosystem-based management approach; Action Plan includes both EU and non-EU countries resulting in coordination and collaboration throughout the Baltic Sea region; Complementary initiatives including Baltic Sea Science – Network of Funding Agencies (BONUS) and the Scientific Advice for Fisheries Management at Multiple Scales project (SAFMAMS) help support and fund ongoing BSAP research; BSAP includes all stakeholders in the process ensuring the process reflect their needs and concerns; New "objectives" approach to Baltic Sea management must address the most difficult last 50 per cent of reductions in pollution.	Number of countries (11) and stakeholders involved makes "buy-in" to project slow and challenging; Complicated governance—EU countries are tied to EU policies re: resources, shipping, etc., while non-EU countries have different standards and practices; Very process oriented; BSAP has developed a separate approach from the UN/GEF LME program and operates outside that framework; Tensions over other issues between participating countries can affect relationships and progress on BSAP; The introduction of a new "objectives" approach means many strategies and actions have not been tested; time, money and energy could be lost to trial and error.	During its five years, the first BSRP produced 3,000 pages of scientific and popular reports, 150 Power Point presentations and was a key driver in formulating the BSAP strategy; Since its creation, HELCOM has achieved 40 per cent reduction in nitrogen and phosphorus discharges, a 40 per cent decrease in nitrogen emissions and cut the total discharges of 50 hazardous substances in half; BSAP has developed an innovative approach to LME management based on a set of science-based ecological objectives such as clear water and an end to excessive algae blooms.	Baltic Sea is threatened by the continuing eutrophication of the Baltic Sea—easy measures to reduce pollution are already accomplished leaving the more challenging last 40–50 per cent reductions to be done; Keeping multiple countries and stakeholders in line with Action Plan "objectives"; Harmonizing EU policies and those of non-EU countries; Ensuring each country contributes personnel and funding required; Proving that innovative LME approach will work in achieving "objectives"; Ensuring outside factors such as economic recessions or changes in government priorities do not derail the action plan
Caribbean Large Marine Ecosystem Project (CLME)	Technical Data Analysis (TDA) for Caribbean LME	Secured the financial support and expertise of larger UN LME framework; Completed the Transboundary Diagnosis Analysis (TDA) that provides the scientific	Must coordinate action among 45 participating countries and 30+ regional organizations involved with marine resources as well as many other stakeholders;	45 countries in the Caribbean LME region have agreed to participate in the project; TDA has been successfully completed;	Achieving consensus on an SAP; Tensions between countries over other issues may influence the process;

		basis/rationale upon which to develop a Strategic Action Plan (SAP); Established a Project Co-ordination Unit (PCU) in IOC-UNESCO office in Columbia to provide secretariat support to Project; Established an integrated information management system to manage data and ensure transparency and access to all information; Developed case studies and pilot projects to test various management and governance approaches.	Participating countries do not have the same resources, interests and commitment to the program; Will require the establishment of similar standards and practices among the 25 countries, many of which have unstable governments and/or other internal security issues.	GEF/UN funding and a secretariat are established.	Differences in the commitment of personnel and resources among participating countries; Imposing, coordinating and/or enforcing standards and practices that might limit fishing, tourism and other economic drivers of the region—especially in poorer economies; Promoting education and awareness in 25 different countries.
Boreal Forestry Agreement (BFA)	Boreal Forestry Agreement (2010)	Creates an alliance among nine Canadian environmental non-governmental organizations (ENGOs) and 21 major national and international forestry companies; Establishes common goals and principles to govern forestry sector and a structure to support discussions and resolve issues and conflicts; Introduces consistent sustainable management goals and practices throughout the entire boreal forest of Canada while protecting jobs and resource-based communities; Runs parallel to government oversight and management and ensures goals of sustainable management are achieved through discussion, cooperation and collaboration; Allows for better habitat conservation through spatial planning and negotiation; Strong moral legitimacy—signatories to the agreement have committed to following BFA principles and sustainable practices.	Highly experimental—such an agreement has never been established before and will be subject to "growing pains"; First Nations were not brought into the negotiating process despite much of the Boreal forest territory being ancestral lands or the subject of unresolved land claims; Lack of transparency has created distrust among stakeholders and other ENGOs not involved in the agreement; The BFA has no enforcement capacity if the principles and practices in the agreement are not followed; Success of the agreement is heavily dependent on the trust and goodwill of all participants.	The signing of this ENGO-forestry industry agreement is the first such extra-governmental agreement between ENGOs and industry in the world; The agreement helps to ensure the sustainable management of an internationally significant forest resource and the preservation of critical caribou habitat; The agreement sets an example for the creation of similar initiatives between industry and ENGO's to better manage natural resources.	As a new approach to forestry management, the agreement will have to fulfill its promises to both sides if it is to succeed; Repairing the relationship with First Nations will be crucial to the agreement's success; Given the number of parties to the agreement on both sides, communications, trust and solidarity will be difficult to maintain; The agreement must prove to be an appropriate mechanism for conflict resolution and both sides must respect the process and outcome; The practicality of the agreement must be tested through action.
Gulf of Alaska	Pacific Salmon Treaty (Canada, USA, 1985); Convention for the Conservation Anadromous Stocks in the North Pacific Area	Provides for intergovernmental cooperation on management of critical fish stocks in the Gulf of Alaska;	No ecosystem-based management plan has been developed as yet for this region; Majority of research in region has been restricted to issues related to	Some success has been realized in the management of the fisheries in this region; Both countries have committed to the ecosystem-based management	Greatest challenge is to create support for the development of a comprehensive plan for an ecosystems-based approach

	(U.S., Canada and Japan, Russia, 1993); North Pacific Anadromous Fish	Established conventions and commissions that impose legally binding framework for fish stock management;	fishery management or fallout of Exxon Valdez spill; Data is spread among several	of its oceans despite the lack of a plan for the Gulf of Alaska.	to the management of the Gulf.
	Commission (NPAFC)(1993); International Pacific Halibut Commission (1923); Magnuson-Stevens Fishery Conservation and Management Act (1974); North Pacific Fishery Management Council (NPFMC, 1974); Alaska Marine Conservations Council; Arctic Environmental Protection Strategy (Arctic Council, 1991); Fisheries Act (Canada); Ocean Action Plan (USA, 2004); Oceans Act (Canada, 1996).	Provides some opportunity for input of local and regional stakeholders, NGOs, etc.; Both Canada and the United States have committed through Oceans Act and Ocean Action Plan to principles of ecosystembased management of ocean regions, including the Gulf of Alaska.	organizations, agencies and countries and no coordinating agency exists to carry out research, monitoring and reporting on the state of the Gulf.		
Beaufort Sea Integrate Oceans Management Plan (BSIMP)	9	Builds on the earlier work of the Inuvialuit Community Conservation Plans, the Beaufort Sea Strategic Regional Plan of Action (BSStRPA) and the Beaufort Sea Integrated Management Planning Initiative (BSIMPI); Established a Regional Coordinating Committee (RCC) as planning body, the Beaufort Sea Partnership (BSP) to involve communities and stakeholders as well as several working groups to direct research on specific topics; Has defined 24 objectives and identified which government or agency is responsible for implementing each one over the next three years; The plan is based on both traditional knowledge and scientific research.	Plan does not include Alaska; As first region addressed under the Northern Oceans Action Plan, the BSIMP will have few examples to draw on; DFO-led process may be overly-bureaucratic and subject to outside events and pressures—e.g. budget cuts; Differences in the capacity of the partners may lead to difficulties in balancing power and make developing trust and respect among participants challenging; Separation between RCC and BSP may lead to opposition and turf wars; Plan is independent of the larger international LME process and therefore does not benefit directly from that network and expertise; No mandate to address issues of climate change.	Succeeded in developing an integrated management plan for the Beaufort Sea; The involvement of all governments and indigenous community stakeholders together provides opportunities for discussion and reporting; The Beaufort plan has been "northern-driven" and addresses the concerns of northern peoples; The recognition of local indigenous knowledge as a valuable resource will complement the science-based research and help ensure Northern involvement and ownership of the program.	Securing the political will to implement BSIMP goals in the face of oil and gas development in the region; Accommodating differences in the capacity and resources of the different partners; Building trust between government, academics and communities; Resolving differences between Indigenous and science-based knowledge; Securing adequate funding to support all the goals and objectives; Education and outreach given the geographic territory; Ensuring results of improved management in the Canadian Beaufort are not offset by actions in the Alaska-controlled portion of the Beaufort.

Arctic	Borderlands	Incorporated as the Arctic	Co-op provided ongoing environmental	Difficulty in obtaining support and	The Borderlands Co-op has provided	Note: program ended in
Ecological I	Knowledge	Borderlands Ecological	monitoring of the range of the porcupine	funding;	monitoring of the porcupine caribou	2008.
Society (B	orderlands Co-	Knowledge Society, a not-for-	caribou herds and the adjacent marine and	Not all participants agreed on the	range between 1996 and 2007 and	Maintaining funding;
op)		profit corporation (1996)	coastal areas;	direction of the program or accepted	enabled the identification of	Keeping things simple and
			Provided a structure for discussion and	the results;	changes to the habitat, climate and	relevant to local needs;
			collaboration among researchers,	Balance of power and sense of	health of the herd;	Establishing a balance of
			governments, aboriginal leaders and	ownership among the communities,	Traditional knowledge and science-	power and trust between
			community members;	agencies and councils was difficult to	based knowledge were used	community leaders,
			Combined indigenous knowledge and	maintain;	together to achieve the objectives	government agencies,
			science-based knowledge to monitor the	The community-based monitoring	of the Borderlands Co-op;	academics, and local experts;
			health of the caribou habitat;	program had problems that were not	A large database of ecological	Resolving differences in
			Used a set of indicators agreed to by all	addressed early enough in the	information was gathered for use in	results between indigenous
			participants to track changes to the herd	program, negatively affecting results;	resource management and	knowledge and science-
			and habitat over time;	Tension between science and	advocacy work;	based research;
			Strong outreach and communications;	traditional knowledge continued	Strong community involvement in	Achieving agreement on
			Strong community involvement and	throughout the program;	the program ensured activities	reports;
			constant re-assessment of indicators and	The need for a core set of people	remained relevant to the needs and	Addressing issues of data
			objectives to ensure program meets its	dedicated to the program was not	concerns of local communities;	management and the
			goals and the needs of the communities.	always recognized and was required	Strong history of communication	interpretation of result;
				to ensure continuity and action;	and outreach;	Balancing the need for
				Adequate levels of communication	Program ran for 11 years providing	consistency and quality
				and outreach were difficult to	lessons learned that can aid future	control with the need for
				maintain.	initiatives.	local participation and
						ownership.

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