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SUSTAINABLE DEVELOPMENT LAW & POLICY



EXPLORING HOW TODAY'S DEVELOPMENT AFFECTS FUTURE GENERATIONS AROUND THE GLOBE

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EDITORS' NOTE

Currently we are in an International Polar Year (“IPY”) and the timing could not be better. The Polar Regions are taking the first and hardest hit from anthropogenic climate change. Almost all predictions for climate stability in the Polar Regions have recently been shattered. Temperature increases have exceeded expectations, the tree line has pushed farther north than expected, and ice is melting faster than anticipated. As a result of this IPY and the immediate needs of Polar people, ecosystems, and environment, *Sustainable Development Law & Policy* (“SDLP”) felt it was necessary to have this issue.

Environmental change is happening, and the Polar Regions are among the least equipped to handle the new stresses. Due to wind patterns and ocean currents across the globe, the Polar Regions are acting as repositories for soot and many hazardous chemicals. This soot is darker than the ice and snow and attracts heat, thus increasing the speed at which the poles are thawing. The chemicals funneled to the Arctic are being accumulated over time in various species; these concentrations of chemicals would normally qualify as hazardous waste under Environmental Protection Agency regulations. Furthermore, changes in the Polar Regions may speed up global warming and cause abrupt climate change events as a result of ice melt raising sea levels or permafrost disappearing and releasing in massive methane emissions.

In this issue we hope to provide information and publicity to important polar issues. Articles include the effects of climate change on indigenous populations, possibilities for the creation of an Arctic treaty system, the global complications of efforts by Australia to fight whaling, species issues, and growing resource extraction and shipping in the Arctic. With this issue we hope SDLP can assist the IPY to move beyond research and debate to encourage actions that will protect our planet for all future generations.



Marcel De Armas
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OVERVIEW: RADICAL ENVIRONMENTAL CHANGE IN THE POLAR REGIONS

IS THE GLOBE'S WAKE-UP CALL

By William J. Snape, III*

One need only to look at a comparison of summer Arctic ice extent from 1979 to 2007 to understand something significant is happening. In the span of a generation, the millennia-old Arctic has shrunk by roughly two-thirds and could easily be ice free in the summer within a decade. Or if that is not enough, consider that in the winter of 2008, a massive chunk of ice broke off from the Antarctic Peninsula, and another ice sheet the size of Northern Ireland (or Connecticut, if you prefer) hangs on by a thread. Over the past fifty years, the Arctic and Antarctic have warmed by around 3 degrees Celsius, roughly double the rest of the world. The goal, simply put, is to prevent this harbinger.

While there are still a few oil industry funded naysayers, all scientific experts now agree that global warming is here and

impacting our planet. The impacts are occurring far faster than we thought just over a decade ago, when the Kyoto Protocol to the Framework Climate Convention was ratified by most world governments except those such as the United States, Iraq, Afghanistan, and Zimbabwe. Coastal communities, island nation-states, high-altitude ecosystems, and arid regions are already feeling the impacts of global warming. But it is on and near our globe's two poles that change is occurring most acutely.

Why should we care? There are many reasons. While much of the polar ice that has melted thus far has rested upon the ocean already, an increasing proportion of melting ice will come from land (e.g., Greenland ice caps or the Antarctic continent), meaning that ocean levels could soon rapidly rise to disastrous levels; this would impact at least hundreds of millions of coastal-dwelling human beings throughout the world. Flooding, erosion, and contamination of freshwater drinking supplies would vastly increase from Miami to Shanghai and many places in between. Further, invasive pests are now proliferating due to global warming and global warming's causes, negatively affecting forests, farms, rangelands, and pollination cycles across the globe. Canada's great boreal forest, the lungs of North America that includes part of the Arctic, is in clear decline.

The poles' snow and ice also form a protective cooling layer for the rest of the Earth. When the poles melt, particularly in the Arctic, the rest of the planet absorbs more sunlight and gets hotter. This warming trend, in turn, increases the intense weather variability events that the entire globe has already experienced over the past decade or so. Aside from the direct destruction these storms engender, sectors as diverse as agriculture, transportation, and services suffer billions, if not trillions, of dollars of losses annually from nature's increased unpredictability. As just one of many examples, a recent study on a warming Arctic predicted that wheat farming in Kansas would be devastated as winter planting that needs freezing temperatures and summer soil that needs moisture would both dissipate without Arctic ice.

Biological diversity in the wild is also taking a potentially permanent hit around our poles. Despite unconscionable foot dragging by the Bush Administration that has forced repeated litigation in federal courts, the United States will eventually list the polar bear under the Endangered Species Act ("ESA") because of accelerated global warming, triggering a concerted effort to save this great iconic beast. However, even the ESA apparently cannot stop the proliferation of oil and gas projects

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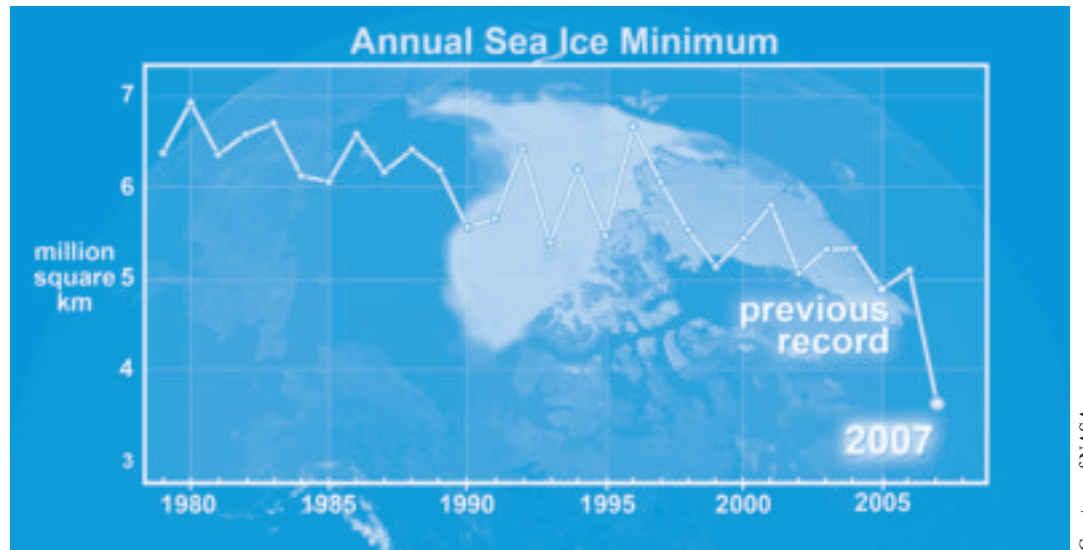
pending or ongoing throughout the Arctic. Unfortunately, the polar bear is not alone. Many other species, from whales and walrus to seals and migratory birds, are losing their homes, prey, or breeding grounds to global warming. In the Antarctic, as a result of a petition by the Center for Biological Diversity, federal scientists acknowledge the perilous plight of many species of penguin but this Administration, again, does nothing. As the now cliché goes, the patter of “happy feet” grows dimmer.

Our polar ecosystems are in literal collapse.

The good news is that all three remaining U.S. presidential candidates (from both major parties) acknowledge the threat and challenge of global warming. The Arctic Council—made up of the United States, Canada, Russia, Iceland, native groups, and the Scandinavian countries—is beginning to focus on the myriad threats facing the North Pole and its surrounding ecosystem. To the south, the Antarctic Treaty, an effective relic of the Cold War, could become a basis to address global warming. Yet, we are really only at the starting line of our effort.

The bevy of articles in this edition of SDLP recognizes the legal and policy opportunities for positive change. This is exciting. Today’s law students, particularly those with a public interest bent like many at the Washington College of Law, have a true chance to “save the world.” Thus, the varied international and domestic legal strategies available to combat global warming and its impacts are far more than an academic exercise. For many, the ideas contained in this edition are quite directly about life and death.

How, then, to summarize the road map available to us in our complex and inter-connected world? First, most clearly, we need a binding multi-lateral agreement on reducing greenhouse gas emissions that includes all nations, including the United States, China, and India. The capital and technologies exist to make our energy transition a smooth and constructive one, but we lack political will. Second, to the extent recalcitrant governments and corporations do want to play ball on global warming, lawyers should and will do what they have done for years: sue them. And this is happening in the United States under novel statutory and common law theories that will grace future legal text books.¹ Finally, we need creative lawyers to use existing international



Courtesy of NASA.

tools under agreements such as the Convention on the Law of the Sea, the Convention on Biological Diversity, various human rights conventions, the Polar Bear Treaty, and even the World Trade Organization (historically a bit hostile toward the environment) to tilt the playing field back in favor of conservation, equity, and the sustainable use of our limited natural resources.

As I tell my athletes before a big competition, the choice is ours: we can prepare diligently and rise to the challenge, or we can take the easy way out through apathy or fear. The difference, of course, is that amateur athletic competition is but practice for the real world. If the Arctic and Antarctic are indeed the “canaries in the coal mine” for the rest of the world that scientific experts tell us they are, we may soon lose luxuries we have deluded ourselves into thinking are necessities. Clean air, available water, healthy landscapes and public health are all diminishing from many factors, and global warming is the most powerful common denominator.²

We can do better. We need political conservatives to remember that Biblical (or Koran-like) change to our natural heritage is not conservative but mere cow-towing to Big Oil. We need political liberals to more aggressively identify the available solutions without fear of appearing “regulatory” (ending massive subsidies to carbon pollution activities would be a great start). We need independent entrepreneurs to be empowered to find energy solutions that work in the short term market-place, as well as the long-term sustainable health of the planet. We need the developing world to recognize there are real opportunities to think in new ways that do not repeat past mistakes. We need the developed world to pony up its wealth, if not for altruism then because it will maintain prosperity in the long term. No one is left off Team Planet. We are truly all in this together.

Endnotes: Radical Environmental Change in the Polar Regions Is the Globe’s Wake-up Call

¹ See, e.g., David Hunter & James Salzman, *Negligence in the Air: The Duty of Care in Climate Change Litigation*, 155 U. Pa. L. Rev. 1741 (2007).

² See, e.g., Donald Burke, et al., *Under the Weather: Climate, Ecosystems, and Infectious Disease*, National Research Council (Washington, DC), June 2001.

INTERNATIONAL POLAR YEAR AS A CATALYST FOR SUSTAINING ARCTIC RESEARCH

by Karen Kraft Sloan & David Hik*

INTRODUCTION

The Arctic covers an area of more than thirty million km², and is home to a population of about four million, including over thirty different indigenous peoples. The Arctic is also a region experiencing rapid environmental, economic, social, and political change. The health and well-being of northern people and their environments, the sustainability of northern communities, and the future development of northern resources, will increasingly define global issues in this century.¹ The success and sustainability of an Arctic-focused agenda requires meaningful and sustained engagement, and leadership from indigenous and non-indigenous northern peoples, governments and institutions, in partnership with a wide variety of national and international interests. This concept has been affirmed, although not always embraced, by indigenous organizations, many regional and national governments, the Arctic Council, and other intergovernmental bodies.²

One important role of science and research is to assist governments in effectively discharging their responsibilities and mandates.³ In the Arctic, these mandates are necessarily far reaching, diverse and include a broad range of disciplines, from the natural sciences, the human behavioral, social and historical sciences, medical sciences, engineering and applied sciences, and research in the managerial, economic, and legal fields. This research is characterized by an abundance of cross-cutting issues that require interdisciplinary or multidisciplinary approaches, and the knowledge provided by research must address questions on a wide range of scales from local to global, and from immediate to long-term. It is also recognized that advanced technological knowledge and fundamental or theoretical research must be combined with the holistic observations and knowledge of indigenous northern peoples.⁴

Some of the most compelling examples of scientific cooperation in the Arctic have been the diverse scientific activities conducted under the banner of the International Polar Year (“IPY”) on four occasions during the past 125 years.⁵ The present International Polar Year runs from March 2007 to March 2009, and involves approximately fifty thousand participants from over sixty nations, engaged in about two hundred international research projects in the Arctic and Antarctic regions. The major objectives of IPY include efforts to obtain a ‘snapshot’ of the state of the Polar Regions, to explore new frontiers of science, and to promote scientific cooperation, training, and outreach.⁶

Recently, there has been increased discussion of the legacy of this IPY,⁷ and promotion of the notion that IPY will be

a “catalyst” for sustaining future Arctic and Antarctic research efforts. History would suggest this outcome is possible, but what efforts are required to secure a legacy of sustained interest and investment in Arctic research?

LESSONS FROM THE INTERNATIONAL GEOPHYSICAL YEAR

The scientific outcomes of the International Geophysical Year (“IGY”) of 1957–1958 (which began as the third IPY) are remarkable and have been summarized elsewhere.⁸ But IGY catalyzed more than just innovative research. Halfway through the IGY, Dr. Laurence M. Gould, while delivering the American Geographical Society Bowman lecture, declared: “The IGY may turn out to be a brilliant new approach toward international understanding and organization.”⁹ Indeed, a few days after Gould delivered his address, the Special Committee on Antarctic Research (“SCAR”) was officially organized in The Hague and became a permanent committee of the International Council for Science. SCAR then prepared a plan of Antarctic research that went beyond the original IGY program.

Subsequently, the United Kingdom, followed by other governments, expressed interest in finding an international solution to competing Antarctic territorial claims. This quest led to the creation of the Antarctic Treaty in 1959.¹⁰ The Treaty is a remarkable document. It was signed by the twelve nations active in Antarctica at the time, all of which participated in IGY and nine of which had made territorial claims in Antarctica or reserved the right to do so. At the present time, 46 countries are signatories to this treaty.¹¹ In a preamble and fourteen short articles, the signatories agreed, among other considerations, that Antarctica should be used “exclusively for peaceful purposes;”¹² to “promote international cooperation in scientific investigation in Antarctica;”¹³ and to “the establishment of a firm foundation for the continuation and development of such cooperation . . . as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind.”¹⁴

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All of this was agreed to in the shadow of the Cold War “in a remarkably short time, by disparate, thinly acquainted, mutually wary cultures—military, scientific, and diplomatic,”¹⁵ and in the language of the preamble, “shall continue forever.”¹⁶ In 1958, Gould hypothesized that the IGY approach “could provide a pattern that will move over into other areas and result in further working together of all nations.”¹⁷ The Treaty proves him prescient, by serving as an apt example of how the IGY’s legacy was both broadened and sustained beyond the immediate scientific program. By inspiring a multinational diplomatic conversation about the future of a continent, and the security for scientific activity conducted within its borders, the IGY continues to influence the world.¹⁸

TOWARD AN ARCTIC TREATY?

Given this, what promise does the current International Polar Year hold for formalizing international support for Arctic science cooperation? What kind of practical measures are needed to ensure this? Many of the relevant issues have already been clearly articulated, including reviews of the options that should be considered to develop a comprehensive Arctic legal regime.¹⁹

More recently, a 2006 editorial in *Nature* argued for G8 leaders to commit to improving links between Arctic research communities, “on the model that has been tried and tested in the Antarctic.”²⁰ The editorial underlined the value of IPY, noting that it too provides an opportunity for a case to be made for a “more concerted, international effort” to support research in the Arctic. The authors asserted that “scientists working in the Arctic are well connected with each other,” and goes on to say that while an Antarctic treaty exists that “obliges its signatories to collaborate in scientific research,” no formal or political framework exists for collaboration on Arctic science.

Nevertheless, what worked in the context of the Antarctic is not directly applicable to the Arctic. The physical, political, economic, ecological, and historical realities of the poles and their occupation and traditional use by indigenous peoples and national governments are very different. Gould reminded us in 1958 that the poles “are distinguished by their dissimilarities rather than by any common characteristics.”²¹ In a recent issue of *Foreign Affairs*, Scott Borgeson agreed: “Although it is tempting to look to the past for solutions to the Arctic conundrum, no perfect analogy exists. The 1959 Antarctic Treaty . . . provides some lessons, but it concerns a continent rather than an ocean.”²² He goes on to say, “there is simply no comparable historical example of a saltwater space with such ambiguous ownership, such a dramatically mutating seascape, and such extraordinary economic promise.”²³ In this context, it is unsur-

prising that there is so much attention on the seabed mapping and claims process laid out under the United Nations Convention on the Law of the Sea, whereby nations bordering the Arctic Ocean may be able to extend their sovereignty beyond the usual 200-nautical mile limit recognized in international law, if the seabed is an extension of the continental shelf.²⁴

Given the unique contexts of the two poles, a different institutional arrangement to support international Arctic science cooperation is needed. It should be pointed out that the Circumpolar North is not without efforts to increase international cooperation. In fact, there has been a “recent proliferation of efforts to enhance international cooperation,”²⁵ reflecting the mix of

institutions and organizations in the region. However, solutions that will be acceptable to most stakeholders, especially Arctic nations, and that will strengthen and support research and monitoring, regulatory arrangements, and adaptation to rapid climate change will require ingenuity and commitment over the long-term.

Along with regional efforts to provide opportunities for bi-lateral and multi-lateral cooperation, is the maze of global multi-national environmental agreements (“MEAs”)

that affect the Arctic. Attempts have been made to better understand how various global agreements impact the region. Oran Young suggested that due consideration should be given to how “nesting of regional arrangements” could fit with existing global MEAs; for example the programs of the Arctic Council’s Working Group on the Conservation of Arctic Flora and Fauna could operate within the larger framework provided by the Convention on Biological Diversity.²⁶ There has also been discussion of establishing the Arctic Ocean as a Marine Protected Area.²⁷

IPY has added to this mix by promoting a Circumpolar Biodiversity Monitoring Program.²⁸ Other international conservation non-governmental organizations, like the World Wildlife Fund have also called for a “new approach, which includes thinking about a solid Arctic Treaty and a multilateral governance body.”²⁹ And last year an editorial in the *New Scientist* concluded, “What more fitting conclusion could there be to this event [IPY] than for scientists to call for the same protection in the north—for an Arctic Treaty? Or have scientists lost the nerve to make such grand demands?”³⁰

In 2006, United Nations Environment Program (“UNEP”)/Global Resource International Database-Arendal and the Standing Committee for Parliamentarians of the Arctic Regions sponsored a seminar to investigate the implications of global MEAs for the Arctic in order to better understand the “fit” of current circumpolar-arctic initiatives with these global agreements. Key recommendations include the need to: undertake an audit of the

Given the unique contexts of the two poles, a different institutional arrangement to support international Arctic science cooperation is needed.

effectiveness and relevance of current MEAs; identify gaps in coverage; evaluate whether or not a unified legal regime, such as a treaty or a framework convention would be appropriate for the Arctic region; and explore mechanisms to enhance institutional cooperation such as a permanent Arctic secretariat, Arctic MEA implementation strategy.³¹ The seminar report and its recommendations were submitted to the UNEP, the Arctic Parliamentarians, the Arctic Council, the Nordic Council of Ministers, and the governing bodies and secretariats of MEAs, along with being distributed to Arctic stakeholders.

Despite this discussion and activity, the idea of an Arctic Treaty may be unattainable.

Timo Koivurova has recently warned that there are potential down-sides to negotiating an Arctic treaty, including lengthy and costly preparatory and negotiation processes, the risk of legalizing lowest common denominator standards, and contributing another layer of complexity to the already fragmented array of multilateral environmental agreements.³² There is also a growing recognition that indigenous peoples organizations, such as the Inuit Circumpolar Council, have legitimate interests in these discussions that have not been fully recognized.³³ However, all of the recent attempts to provide for greater cooperation in the Circumpolar region bode well for enhancing international support for Arctic science and research. Countless individuals from many polar and non-polar nations have exerted tremendous energy in securing scientific, political, and financial support for IPY. But since these are not easily garnered, the question remains—how will activity be sustained in the long-term?

A ROADMAP FOR SUSTAINING ARCTIC SCIENCE AND RESEARCH?

The Arctic research community and northern residents cannot act alone. Governments have significant responsibilities for improving international Arctic science cooperation, and therefore the support of governments is required. The Arctic Council has most notably advanced cooperation for broader collaboration in the Circumpolar North. Within the Arctic Council, indigenous peoples of the Arctic have representation as Permanent Participants, for active engagement, and full consultation on Council activities. Under the leadership of the Arctic Council, seminal work has been produced including the Arctic Climate Impact Assessment³⁴ and the Arctic Human Development Report.³⁵ Both featured excellent research work, including traditional and local knowledge and peer-reviewed science.³⁶ A high level of international cooperation and a commitment to extend this work continues.

More recently, emphasis has been placed on the need for a well coordinated and sustained Arctic Observing Network that

meets scientific and societal needs.³⁷ In November 2006, Arctic Council Ministers urged all member nations to maintain and extend long-term monitoring of change in the Arctic, with a view to building a lasting legacy of the International Polar Year.³⁸

The success and sustainability of an Arctic-focused agenda requires meaningful and sustained engagement, and leadership.

There is a strong consensus that scientific understanding of the changing Arctic system and its global connections and consequences requires improved Arctic observing capabilities that are linked to global observing activities. Numerous observing sites, systems, and networks already exist in the Arctic, and more are being initiated during IPY. In order to maximize the likelihood that these disparate activities can be integrated into a sustained network for long-

term observation that will support the scientific study of Arctic system change in a global context, there is, among other things, a vital need to:

- Improve *coordination* to avoid repetition, duplication and overlap, and promote synergies;
- Assess user needs, and identify and fill *gaps in spatial, temporal and disciplinary coverage* to achieve a circum-Arctic observing network;
- Guarantee *access to data and information* in an easy, free, open and timely fashion, and in standard, internationally accepted formats, to the broadest possible community of users;
- Ensure *sustainability* through long-term funding and commitments; and
- Establish *links to global observing* activities, networks, and systems.

Additionally, many non-Arctic nations have strong Arctic science programs and interests, yet are restricted from full membership within the Arctic Council. Capturing the enthusiasm and interest of these nations could contribute greatly to strengthening international collaboration on Arctic science. Indeed, this is the intended role of the International Arctic Science Committee.³⁹

THE LEGACY OF IPY 2007

Some of the legacies of IPY 2007–2008 may transpire regardless of whether efforts are made to secure them, and some may only come about with some exertion. Collectively, however, they would undoubtedly result in a significant, broad, and far-reaching impact for IPY, for example:

- Establish permanent observation and monitoring networks;
- Improve the link between observation and monitoring to modelling;
- Manage the explosion of data that IPY will create, and ensure access to it;
- Raise the public profile of the polar regions;

- Link science and policy more effectively;
- Improve opportunities for northerners by increasing linkages to higher education;
- Ensure that there is a “critical mass” of northerners in the next generation of Arctic science researchers; and
- Share logistical information more broadly and more efficiently.

There is still a need to define and pursue the next steps in securing a broad legacy for IPY, as envisioned by so many of the scientific and governmental participants. These efforts to secure the IPY legacy could include:

1. Making the IPY legacy part of the IPY process itself, like the efforts to secure Sustained Arctic Observing Networks.⁴⁰
2. Identifying partners in order to link with and build upon other efforts, through Arctic Council and other organizations, including national governments.
3. Learning from other efforts to formalise international polar science cooperation, especially from the implementation of the Antarctic Treaty System and from the first fifteen years of the evolution of the Arctic Council.
4. Being opportunistic and identifying fora to engage governments and other potential partners and supporters.
5. Identifying champions and providing them with resources to promote the global and local value of enhancing Arctic science, research, and knowledge capacity.

In many ways, IPY has already succeeded in inspiring a discussion about the future of Arctic research. The Arctic research agenda has been dynamic and full over the past couple of years, with a number of parallel processes occurring that collectively have provided space for exploring the future of science and research in the Circumpolar North. We are well into the fourth IPY; we must ensure that the opportunity IPY provides as a catalyst to sustain international cooperation for Arctic science and research is not lost. In doing so, we should remember that those of us calling to formalize international support for Arctic science are not the first to do so. That honor belongs to Karl Weyprecht and his contemporaries in the challenge they made to convene the first polar year of 1882.⁴¹

We should be mindful that like its predecessors, International Polar Year 2007–2008 can serve to advance science, and to focus the attention of the world on the Polar Regions. IPY honors the dedication and affirms the contribution to polar research of so many, past and present. If we are diligent and act to use the opportunity that International Polar Year provides by demonstrating to humanity how international science can create broader societal benefits, then as Dr. Gould put it, competing interests can be addressed “by the friendliest kind of cooperation from all of the nations involved.”⁴²



Endnotes: International Polar Year

¹ Welcome to ACIA, Arctic Climate Impact Assessment website, <http://www.acia.uaf.edu/> (last visited Apr. 25, 2008) [hereinafter Arctic Climate Impact Assessment]. Arctic Climate Impact Assessment evaluated and synthesized knowledge on climate variability, climate change, and increased ultraviolet radiation and their consequences. The aim was to provide useful and reliable information to the governments, organizations, and peoples of the Arctic on policy options to meet such changes.

² See generally Arctic Council website, http://arctic-council.org/section/the_arctic_council (last visited Apr. 17, 2008); Mich elle Jean, Governor General, Canada, 2007 Speech from the Throne (Oct. 16, 2007), available at <http://www.sft-ddt.gc.ca/grfx/docs/sftddt-e.pdf> (last visited Mar. 23, 2008); YUKON GOV'T ET AL., NORTHERN VISION: A STRONGER NORTH AND A BETTER CANADA (2007), available at http://www.anorthernvision.ca/photogallery_0526.html (last visited Mar. 24, 2008). In the 2007 Northern Vision document, the territorial leaders in Canada called for partners to aid in developing healthy, viable communities of self-reliant individuals, in a context where Aboriginal rights have been successfully negotiated and implemented, and where northerners are the primary beneficiaries of northern resource development. These goals are similar to those articulated by the federal government, which has placed priority on (1) strengthening Canada's sovereignty and protecting Canada's environmental heritage; (2) promoting economic and social development; and (3) improving and devolving governance so that northerners have greater control over their destinies.

³ CANADIAN CENTRE FOR MANAGEMENT DEVELOPMENT, Action-Research Roundtable on Science and Public Policy, CREATING COMMON PURPOSE: THE INTEGRATION OF SCIENCE AND POLICY IN CANADA'S PUBLIC SERVICE (2002), available at http://www.cspse-efpc.gc.ca/Research/publications/pdfs/create_e.pdf (last visited Mar. 20, 2008).

⁴ See E. F. Roots, *Environmental Research in Arctic Canada: Bringing Global and Local Science Together*, 51:7 MEMOIRS OF THE NATIONAL INSTITUTE OF

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SNOW, SAND, ICE, AND SUN: CLIMATE CHANGE AND EQUITY IN THE ARCTIC AND SMALL ISLAND DEVELOPING STATES

by John Crump*

The crisis consists precisely in the fact that the old is dying and the new cannot be born.

—Antonio Gramsci¹

When we unite for a moral purpose that is manifestly good and true, the spiritual energy unleashed can transform us.

—Al Gore²

INTRODUCTION

United Nations (“UN”) Secretary General Ban Ki-moon has called climate change “the moral challenge of our generation.” At the plenary session of the United Nations Framework Convention on Climate Change (“UNFCCC”) Conference of the Parties (“COP”) XIII meeting in Bali, Ban told assembled delegates that “the situation is so desperately serious that any delay could push us past the tipping point, beyond which the ecological, financial, and human costs would increase dramatically.”³

Ban Ki-moon, Al Gore, and many others argue that unless the world embraces this moral challenge, the burden of climate change will fall on the most vulnerable regions: areas like the Arctic and Small Island Developing States (“SIDS”). Their call for moral clarity echoes what people in some of the world’s most vulnerable regions have been saying for some time, that there needs to be a recognition that the impacts of climate change are being felt by parts of the world that currently lack the resources to cope with the rapid change they are experiencing.

This Article explores some of the similarities between the Arctic and SIDS as they confront the challenge of climate change. Both regions have been identified as among the most vulnerable to climate change effects yet they have contributed least to global greenhouse gas (“GHG”) emissions. Responses to the effects of climate change in these regions raise important questions of equity. The Article examines how this issue of equity is being addressed, both legally and politically, through an example of a human rights challenge in the Arctic and the development of an alliance between the Arctic and SIDS called Many Strong Voices (“MSV”).

LINKS BETWEEN THE ARCTIC AND SMALL ISLAND DEVELOPING STATES

At first glance, the Arctic and SIDS appear to have little in common. One is cold, the other is mostly hot. One is seen as an empty and pristine wilderness, untouched by human activities or, alternatively, as a storehouse for vast mineral wealth, ripe for exploitation. The other is portrayed in vacation posters as a gentle, tropical paradise where the living is easy, the sun always shines, and the beaches are endless.

But look more closely and you find some interesting similarities. Both regions are homelands to a diverse number of Indigenous Peoples who, to varying degrees, have been colonized over the last several centuries. People in both regions

continue to rely on natural resources—animals, fish, and plants—and the environment. In both regions, traditional knowledge continues to inform decision-making and many people retain a connection to the environment through a body of traditional knowledge developed over the centuries.

Another more unfortunate similarity is that the effects of climate change are greater and more noticeable in the Arctic and SIDS

than elsewhere around the globe. The 2005 Arctic Climate Impact Assessment (“ACIA”) predicted that the Arctic will feel the effects of climate change sooner and more severely than other regions of the earth.⁴ It also emphasized the relationship between Arctic climate change and Arctic biophysical processes to global climate. The 2007 Report of the Intergovernmental Panel on Climate Change (“IPCC”) echoed and amplified the ACIA findings:

Arctic human communities are already adapting to climate change, but both external and internal stressors challenge their adaptive capacities. Despite the

The effects of climate change are greater and more noticeable in the Arctic and SIDS than elsewhere around the globe.

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resilience shown historically by Arctic indigenous communities, some traditional ways of life are being threatened and substantial investments are needed to adapt or re-locate physical structures and communities.⁵

The report also identified similar effects on small islands:

Small islands, whether located in the tropics or higher latitudes, have characteristics which make them especially vulnerable to the effects of climate change, sea-level rise and extreme events. Sea-level rise is expected to exacerbate inundation, storm surge, erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihood of island communities.⁶

In the SIDS, the adverse effects of sea level rise and continued climate change seriously threaten sustainable development. Many small islands are already confronting risks from environmental hazards including coastal flooding, cyclones, and storm surges.

VOICES FROM VULNERABLE REGIONS: OBSERVING CLIMATE CHANGE IN THE ARCTIC AND SIDS

While the scientific consensus on the impacts of climate change on vulnerable⁷ regions like the Arctic and SIDS has been building over the last few years, people who live there have long observed environmental changes.

In the Arctic, many of these observations are recorded in the groundbreaking study, “Voices from the Bay,” published by the Canadian Arctic Resources Committee and the Community of Sanikiluaq in 1996. That study looked at Inuit and Cree experiences in the huge watershed of Hudson Bay. It found that Indigenous Peoples had been noticing “highly variable” weather in the northwest corner of the bay since the 1940s.

There used to be more clear, calm days, winters were colder, and low temperatures persisted longer. By the early 1990s, weather changes were quick, unexpected, and difficult to predict. Blizzards, for example, would occur on clear days in the Chesterfield Inlet area, but on days when environmental indicators suggested a blizzard, it would not materialize.⁸

The dilemma of traditional knowledge failing in light of changing environmental conditions was summed up by Helen Atkinson from the Cree community of Chisasibi, Québec:

We cannot make predictions anymore. We don't know if the water is going to freeze or not. We used to know what was going to happen at certain seasons but, with all the changes in the climate and different qualities of water, we can't make those predictions anymore.⁹

SIDS have always been vulnerable to extreme weather events and other environmental disasters, however there has been increasing recognition of the threat posed by climate change.¹⁰ And like Arctic residents, people in the South Pacific know that climate change is not a future event but a present reality.

The effect of global warming is now being felt in every aspect of the lives of people who live in the Pacific.

Reliable statistics now show that the western Pacific is becoming progressively drier while the eastern Pacific is becoming progressively wetter. Where once we could expect steady rainfall throughout the year, we now receive most of our rainfall in a short period often resulting in floods. These floods, followed by droughts, ruin our food supplies and hurricanes leave us without crops for up to three months. They also cause sedimentation in our lagoons.¹¹

Ben Namakin is in his mid-20s, works for the Conservation Society of Pohnpei in Micronesia, and observes:

During my childhood days in Kiribati, we never experienced severe sea flooding. There were storms, but they weren't that bad. As the sea levels continue to rise in Kiribati, several king tides hit the island. Saltwater intrusion affects the quality of water in wells, floods taro patches, gardens, and puts stress on plants/trees which are very important to the life and culture of an I-Kiribati. . . . Serious storm surges cause coastal erosion, floods grave yards, and in 2006, led to the collapse of the beautiful Dai Nippon causeway. This incident bore huge costs on the people of Kiribati. They had to build new homes with their own finance, and dig up their deceased relatives from their graves and bury them further inland.¹²

This kind of local knowledge and observation is important to developing a complete picture of what is happening in vulnerable regions. The ACIA report, sponsored by the Arctic Council, is groundbreaking in two significant ways. First, it brought together the latest scientific research and analysis and looked at the implications of climate change on a single region of the Earth. Second, it incorporated the observations and traditional knowledge of the Arctic's Indigenous Peoples. The ACIA showed clearly that the rate of climate induced change in the Arctic was twice that of the rest of the world.¹³ While the Arctic has the lowest GHG emissions of just about anywhere in the world, the report indicated that the highest price will be paid by the Arctic's Indigenous Peoples, many of whose cultures are directly threatened by these rapid climatic changes.¹⁴

Indigenous Peoples' observations were systematically integrated into the ACIA, making it the first such study to recognize the value of indigenous knowledge. The report's authors ensured that local voices were heard and local information was incorporated in the final results. From northern Russia to Alaska to the Canadian Arctic, Greenland and Sapmi, where the indigenous Saami have traditionally herded reindeer throughout the northern parts of Norway, Sweden, Finland, and the Kola Peninsula in Russia, people were reporting changes that were affecting the very structure of their lives and threatening their economic and cultural survival. A reindeer herder talked about the uncertainty.

Our income diminishes because of climate change, of course, and in a very drastic way. Even my wife has said that it would be time to forget the reindeer. But I tell her always: ‘Tamara, we depend on these reindeer.

If there are no reindeer, we have nothing to do here either.¹⁵

Uusaqqak Qujaukitsoq is a hunter in northern Greenland.

He described the changes in his region:

Sea-ice conditions have changed over the last five to six years. The ice is generally thinner and is slower to form off the smaller forelands. The appearance of *aakkarneq* (“ice thinned by sea currents”) happens earlier in the year than normal. Also, sea ice, which previously broke up gradually from the floe-edge towards land, now breaks off all at once. Glaciers are very notably receding and the place names are no longer consistent with the appearance of the land. For example, *Sermiarsussuaq* (“the smaller large glacier”), which previously stretched out to the sea, no longer exists.¹⁶

Since Inuit throughout the Arctic use winter ice for travel and hunting, the issue of thickness can be a matter of life and death. Most Canadian Arctic communities have lost hunters whose snow machines have crashed through thin ice where there always used to be thick ice. In the Canadian Arctic, a pilot project employing remote observation satellite technology is being used to supplement hunters’ environmental knowledge.¹⁷

ETHICAL CONSIDERATIONS

This question of imbalance between regional contribution and regional impact is supposed to be addressed in the UNFCCC, Article 3, which states that “[t]he Parties should protect the climate systems for the benefit of the present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.”¹⁸ However, current disparities are stark:

The imbalance of responsibility for global warming is striking when comparing across nations. Average global carbon emissions approximate one metric ton per year (tC/yr) per person. In 2004, U.S. per capita emissions neared 6 tC/yr (with Canada and Australia not far behind), and Japan and Western European countries range from 2 to 5 tC/yr per capita. Yet developing countries’ per capita emissions approximate 0.6 tC/yr, and more than 50 countries are below 0.2 tC/yr.¹⁹

Another dramatic example of the striking inequities between contributors and impact is highlighted in the 2007 United Nations Environment Programme report “Global Outlook for Ice and Snow” that looked at the relationship between melting ice and snow and its effects on the major rivers of the

Himalayas-Hindu Kush-Tian Shan-Tibet region and concluded that “1.3 billion people could be exposed to risk of increased water shortages.”²⁰

Because developing countries (and the Arctic) have had the lowest emissions, the fewest resources available to tackle the problems created by climate change, and are most vulnerable to impacts, Article 3 of the UNFCCC contains another important principle to guide global decision-making. It states that the “specific needs and special circumstances of developing coun-

try Parties, especially those that are particularly vulnerable to the adverse effects of climate change . . . should be given full consideration.”²¹

Professor John C. Dernbach echoes the views of many people in the SIDS and Arctic when he writes that “equity for developing and vulnerable countries would counsel for stabilizing and reducing atmospheric GHG levels as soon as

possible. That would, after all, reduce or avoid negative impacts to the most vulnerable (e.g. Inuit peoples [*sic*], Africa, small island states).”²²

There are questions of equity involved not only in the discussion of how the effects of climate change are distributed, but how responses and solutions will be developed. Not everyone will be affected equally and not everyone will have the same resources to manage effects and adapt.

If all humans were contributing equally to climate change, the emergence of winners and losers might be considered an inevitable outcome of human development. However, all humans are *not* contributing equally. The drivers of global environmental change—such as fossil fuel consumption, urban and coastal development, industrialization, deforestation, and other land use changes—are also inequitable and can be disproportionately attributed to some nations, regions, and social groups. In general, higher consumers of energy are making a more substantial contribution to climate change than are lower energy consumers. Moreover, all humans do not have an equal voice—or in some cases any form of representation—in key decisions about energy usage patterns, land use changes, industrial emissions, and so forth even though these decisions affect the integrity of the ecological systems on which all humans and all other species depend. Equity is thus at the heart of the climate change issue.²³

This question of equity is being addressed in several ways. Two of these ways, involving the Arctic and SIDS, are discussed below.

*The petition requested
“relief from human rights
violations resulting from
the impacts of global warming
and climate change caused
by acts and omissions of
the United States.”*

THE INUIT AND HUMAN RIGHTS

In 2005, sixty-two Inuit in the Canadian and Alaskan Arctic regions filed a petition with the Organization of American States Inter-American Commission on Human Rights. Led by Sheila Watt-Cloutier, the petition requested “relief from human rights violations resulting from the impacts of global warming and climate change caused by acts and omissions of the United States.”²⁴ Erroneously reported in the media as a lawsuit, the Inuit were not seeking financial compensation but wished to demonstrate the link between global warming and its impact on their human rights. The petition requested a hearing, which took place on March 1, 2007, and asked for the commission to make an “onsite visit to investigate and confirm the harms suffered” by the people it named. The petition singled out the United States, the world’s largest GHG emitter, because it has “repeatedly declined to take steps to regulate and reduce its emissions of the gases responsible for climate change.”²⁵

The petition argued that United States is in breach of both human rights law and its international environmental obligations. The impacts of climate change—“caused by acts and omissions”—by the United States

violate the Inuit’s fundamental human rights protected by the American Declaration of the Rights and Duties of Man and other international instruments. These include their rights to the benefits of culture, to property, to the preservation of health, life, physical integrity, security, and a means of subsistence, and to residence, movement, and inviolability of the home.²⁶

As redress, the Inuit requested that the Commission prepare a report “declaring that the United States of America is internationally responsible for violations of rights affirmed in the American Declaration of the Rights and Duties of Man and in other instruments of international law.”²⁷ They called for the United States to adopt “mandatory measures to limit its emissions of greenhouse gases”²⁸ and work towards global limits. The petition also called for the United States to “take into account” the impact on the Inuit “before approving all major government actions” and to work with the Inuit on “a plan to protect Inuit culture and resources.”²⁹ Finally, it called for “a plan to provide assistance necessary for Inuit to adapt to the impacts of climate change that cannot be avoided.”³⁰

To date, other than holding a hearing, the Commission has taken no action. However, the very fact that the Inuit filed a petition garnered enormous attention in the United States and around the world. As a tool to publicize the situation facing one of the world’s most vulnerable regions, the petition was a success.

More recently, lawyers for the Alaskan Native coastal village of Kivalina, which is being forced to relocate because of flooding caused by the changing Arctic climate, filed suit in U.S. federal court “arguing that 5 oil companies, 14 electric utilities and the country’s largest coal company were responsible for the village’s woes.”³¹

The human rights implications of climate change are being explored in a number of different fora outside the Arctic and SIDS context. In January 2007, the African Union issued a dec-

laration on climate change and development that called on the international community to meet its obligations to cut greenhouse gases and strengthen African institutions to help them address impacts and adaptation.³²

In November 2007, just prior to the UNFCCC meeting in Bali, members of the Association of Small Island States (“AOSIS”) meeting in the Maldives signed the Male’ Declaration on the Human Dimensions of Climate Change. The declaration calls for the UNFCCC to assess the human rights implications of climate change, asks the UN High Commissioner for Human Rights to “conduct a detailed study into the effects of climate change on the full enjoyment of human rights, which includes relevant conclusions and recommendations” and for the UN Human Rights Council to hold a special debate on climate change and human rights.³³

In March 2008, the Advisory Council of Jurists of the Asia Pacific Forum released a study that said climate change will have “catastrophic” effects on the physical and social landscape of the Asia Pacific” and recommended that “the right to a healthy environment be protected by human rights law.”³⁴

MANY STRONG VOICES – THE ARCTIC AND SMALL ISLAND DEVELOPING STATES WORKING TOGETHER

Our rights, our human rights that we share with all of you—to live as we do and to enjoy our unique culture as part of the globe’s cultural heritage, are at issue. The Arctic dimension and Inuit perspectives on global climate change need to be heard in the corridors of power.³⁵

There are voices always heard, and voices seldom heard, in the discussions about climate change. People in vulnerable regions are usually among the latter. However, as this Article has shown, there are ways for these voices to be heard—in the scientific research and in political lobbying. “Given the similar levels of impact, peoples of the Arctic are working together with people in the small islands of the South Pacific, Caribbean and elsewhere to cooperate on ensuring that the moral imperative of taking action on climate change is heard.”³⁶

In 2004, representatives of the Inuit Circumpolar Conference, SIDS, and UNEP/GRID-Arendal began discussing the need for a joint effort to raise awareness about the effects of Climate Change in the world’s most vulnerable regions. Although small in number, the people of the Arctic and SIDS had participated vigorously in a number of international negotiating processes, including the UNFCCC.

In August 2005, Premier Hans Enoksen of Greenland urged Environment Ministers from twenty-five countries meeting in Ilulissat to “bring vulnerable regions of the globe together so that we may learn from each other and work with each other internationally.”³⁷ Premier Enoksen went on to say that “the Arctic, the Small Island Developing States, low lying states, and sub-Saharan states in Africa need to help each other.”³⁸

These discussions led to the development of the Many Strong Voices programme.³⁹ With support from the government of Norway, the Walter and Duncan Gordon Foundation in Can-

ada, the UN Foundation, the U.S. National Science Foundation, and The Christensen Fund, the MSV programme focuses on the similar concerns and needs of the Arctic and SIDS. MSV is a consortium of Indigenous Peoples Organizations, researchers, policy-makers, and community organizations.⁴⁰ Over the next five years it will:

- Carry out comparative climate change vulnerability and adaptation research in the SIDS;
- Exchange knowledge to help develop regionally-appropriate climate change adaptation strategies;
- Produce communications, outreach, and education tools that will raise the profile of their regions, highlight their concerns, and enable communities to outline their own solutions; and
- Combine regional research, the design of adaptation strategies, and communications efforts to increase the visibility of these regions, enhance their influence on global dialogues on reducing greenhouse gas emissions, and facilitate the articulation of their adaptation needs.

An important focus of attention, though not the only one, is on negotiations leading to a post-2012 climate change accord to replace the Kyoto Protocol. Participants in the Many Strong Voices are working together to ensure that their voices are heard in discussions on emissions reduction and adaptation in the process outlined in the Bali Action Plan, which was produced at the December 2007 COP. MSV produced a common message and position for the last COP and called for:

- Agreement to achieve a peak in global GHG emissions by no later than 2020, and an eighty percent reduction in global emissions by 2050.
- Ways to ensure that indigenous and other people from vulnerable regions can provide meaningful input into the UNFCCC's ongoing work on adaptation.
- Adequate funding from major emitting nations to provide the resources necessary for adaptation at regional and local levels in vulnerable areas.

CONCLUSION

MSV participants agree with one of the key conclusions of the 2006 Stern Review: "An effective response to climate change will depend on creating the conditions for international collective action."⁴¹

This action must happen on a number of fronts. For vulnerable regions and peoples, it means lobbying at the UNFCCC negotiations, focusing on the equity and human rights implications of climate change. It means pushing for a post-Kyoto agreement that recognizes the special circumstances and needs of the people in the Arctic and SIDS. The Arctic Climate Impact Assessment was referring to the people of the Arctic, but the words can be applied to all vulnerable regions. For people "whose future is at stake, having the ability to make choices and changes is a matter of survival, to which all available resources must be applied."⁴²



Endnotes: Snow, Sand, Ice, and Sun

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⁴ SUSAN JOY HASSOL, IMPACTS OF A WARMING ARCTIC: ARCTIC CLIMATE IMPACT ASSESSMENT 24–31 (Cambridge Univ. Press 2004) [hereinafter ACIA].

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⁶ WORKING GROUP II, *id.*

⁷ Vulnerability is determined by the level of exposure to a risk, how sensitive the region is to it, and what capacity is available to adapt.

⁸ VOICES FROM THE BAY: TRADITIONAL ECOLOGICAL KNOWLEDGE OF THE INUIT AND CREE IN THE HUDSON BAY BIOREGION 29 (Canadian Arctic Resources Committee 1997) [hereinafter VOICES FROM THE BAY].

⁹ VOICES FROM THE BAY, *id.* at 28–29.

¹⁰ See UNEP, Programme of Action for the Sustainable Development of Small Island Developing States, A/CONF.167/9, part I, Annex I (1994), available at <http://islands.unep.ch/dsidspoa.htm#I.%20CLIMATE%20CHANGE%20AND%20SEALEVEL> (last visited Apr. 1, 2008).

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¹³ See Gordon McBean et al., *Arctic Climate: Past and Present*, in ARCTIC CLIMATE IMPACT ASSESSMENT 22 (Lelani Arris ed., Cambridge Univ. Press 2005).

¹⁴ Henry Huntington & Shari Fox, *The Changing Arctic: Indigenous Perspectives*, in ARCTIC CLIMATE IMPACT ASSESSMENT 61 (Lelani Arris ed., Cambridge Univ. Press 2005).

¹⁵ Huntington & Fox, *id.* at 90.

¹⁶ Huntington & Fox, *id.* at 84.

¹⁷ Polar View is part of the Global Monitoring for Environment and Security system of earth observation. It is supported by the European Space Agency and the European Commission with participation from the Canadian Space Agency. Polar View website, <http://www.polarview.org/> (last visited Apr. 1, 2008).

¹⁸ Jonathan A. Patz et al., *Climate Change and Global Health: Quantifying a Growing Ethical Crisis*, 4 ECOHEALTH 398 (2007).

¹⁹ Patz et al., *id.* at 398–99.

²⁰ UNITED NATIONS ENVIRONMENT PROGRAMME, GLOBAL OUTLOOK FOR ICE AND SNOW 131 (2007), available at http://www.unep.org/geo/geo_ice/ (last visited Apr. 1, 2008).

Endnotes: Snow, Sand, Ice, and Sun
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MANAGING ARCTIC FISH STOCKS

by Michael Distefano*

Humans depend on marine fish stocks for economic and nutritional purposes throughout the world. Consequently, commercial fleets and super-trawlers are nothing new and many countries have found ways to regulate fleet sizes and catch limits within their territorial waters. But something new is happening in the Arctic Circle. As sea ice begins to disappear during summer months, a previously inaccessible fishing ground is emerging, and like all fishing grounds, it will be susceptible to mismanagement and exploitation.

Those who understand the danger have already begun to take action. On August 3, 2007, Senator Ted Stevens (R-AK) introduced a joint resolution, Senate Joint Resolution 17, that calls on the United States to initiate international discussions and take necessary steps with other Arctic nations to negotiate an agreement for managing migratory and transboundary fish stocks.¹ The resolution passed the Senate on October 4, 2007 and is currently pending in the House.² The resolution is an attempt to meet the changing Arctic environment with an orderly and sustainable framework to manage regional fisheries.

Gradually warming ocean temperatures have caused many species of fish to migrate north in search of cold-water habitats. At the same time, changes in Arctic sea ice have made the northern seas increasingly more navigable. Last summer, for the first time since satellite measurements began, a fully navigable route opened between the Atlantic and Pacific.³ This “Northwest Passage” was widely covered in the media and some scientists predict that an iceless Arctic Ocean could be the norm by 2040.⁴


The concurrence of receding Arctic ice and north-bound fish stocks is already creating an environment favorable to commercial fishing, and Senator Stevens’ proposed legislation is an attempt to make sure this transition is handled in an effective and responsible way. The resolution calls for the creation of a new international fisheries management organization for the region and seeks a halt in the expansion of Arctic commercial fishing activities until this is achieved.⁵


Successful fishery management programs employ “science-based limits on harvest, timely and accurate reporting of catch data, equitable allocation and access systems, and effective monitoring and enforcement.”⁶ This approach protects not only fish species, but also billions of dollars in commerce and tens

of thousands of jobs. Iceland, for example, relies on commercial fishing for nearly seventy percent of its income.⁷ When a particular stock is overfished, smaller and immature fish make up a greater percentage of the catch, and the stock’s regenerative capabilities may be seriously undermined. The result is a reduction in overall fishing hauls and a negative ripple effect on the food chain. Simply put, all countries and all people have a marked interest in ensuring global fish stocks remain healthy and sustainable over the long term.

This is by no means the first attempt at regulating regional fish stocks. Successful catch-share programs are already employed in nations such as Iceland, New Zealand, and the United States. Observers hail Alaska as a world leader in managing commercial and recreational fish stocks—as the state harvests over fifty percent of U.S. seafood without overfishing any of its stocks.⁸ Alaska’s marine fisheries are managed by the North Pacific Fishery Management Council (“NPFMC”), a federally mandated council that is lending its support to S.J. Res. 17 and actually preempted the resolution by calling for a ban on Arctic fishing until a sustainable management scheme is developed.

Former chairman of the NPFMC, David Benton, points out that even the most competent fishery regulation will be unsuccessful without the support of other Arctic nations such as Canada, Norway, Denmark, Iceland, Russia, and the European Union.⁹ When nations perceive the opportunity to claim a strategic resource, they may end up in a scramble for the first foothold, or worse yet, attempt to gather as much of that resource as they can before others get the opportunity.

In the past, management schemes were afterthoughts—they developed around marine regions that were heavily fished, and in many cases, there was already damage that would take generations to mend.¹⁰ In this case, however, there is an opportunity to get things right at the beginning. Senator Stevens’ resolution is a welcome move, but it is merely a start. With any luck, the House will pass the resolution soon, and the real work can begin. 

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CLIMATE CHANGE AND BIODIVERSITY IN POLAR REGIONS

by Dr. Ahmed Djoghla^{*}

INTRODUCTION

Polar ecosystems are home to an array of plants and animals that survive in some of the most extreme conditions in the world. For example, the seas surrounding the Antarctic are rich in plankton, which support a rich marine food chain, while the Arctic itself supports many mammals and plays an important role in the annual cycle of migratory birds. The scientific studies carried out at the occasion of the celebration of the International Polar Year have provided additional evidence of the rich, unique nature of the marine Arctic environment. Indeed the biodiversity of the Arctic is fundamental to the livelihoods of Arctic peoples. However, the Millennium Ecosystem Assessment, along with recent reports from the Intergovernmental Panel on Climate Change, have made us aware that climate change negatively impacts existing ecosystems and is one of the main drivers of biodiversity loss.¹ Particular attention is now being paid to Polar Regions, where evidence of the impacts of climate change have been observed and widely reported. Indeed, Polar Regions are currently experiencing some of the most rapid and severe climate change on Earth, which will contribute to environmental and socio-economic changes, many of which have already begun. During the twentieth century, Arctic air temperatures increased by approximately five degrees Celsius, which is an increase that is ten times faster than the observed global-mean surface temperature.² An additional warming of about four to seven degrees Celsius in the Arctic is predicted over the next hundred years.³ Moreover, Polar Regions are particularly threatened by climate change since Polar species and societies have developed very specialized adaptations to the harsh conditions found at the poles, thus making them extremely vulnerable to dramatic changes in these conditions.

OBSERVED AND PROJECTED IMPACTS

Walrus, polar bears, seals, and other marine mammals that rely on sea ice for resting, feeding, hunting, and breeding are particularly threatened by climate change. For example, studies reveal that in 1980, the average weight of female polar bears in western Hudson Bay, Canada, was 650 pounds. While in 2004,

their average weight was only 507 pounds.⁴ It is believed that the progressively earlier breakup of the Arctic sea ice is responsible for the decrease in the polar bears' average weight,⁵ as this ice loss reduces their hunting season and food intake. Although for a different reason, reduced sea-ice extent is also believed to have

Polar Regions are currently experiencing some of the most rapid and severe climate change on Earth.

caused a fifty percent decline in emperor penguin populations in Terre Adélie.⁶ Populations of krill and other small organisms may also decline as ice recedes.⁷ Due to the high importance of krill in various food chains, the entire marine food web could be adversely affected.⁸

Climate change is already affecting the livelihood of indigenous peoples in the Arctic. Losses in biodiversity affect the traditional practices of

indigenous people, particularly fishing and hunting. For example, the Saami people have observed changes in reindeer grazing pastures, while the Inuit people of Canada have observed reductions in the ringed seal population, their single most important source of food.⁹

CLIMATE CHANGE AND INDIGENOUS AND LOCAL COMMUNITIES IN THE ARCTIC

Due to its unique nature, climate, and sensitivity to climate changes, the Arctic is an important early warning system as far as climate change is concerned. The findings of the Intergovernmental Panel on Climate Change show that eleven of the last twelve years (1995–2006) rank among the twelve warmest years in the instrumental record of global surface temperatures since 1850.¹⁰ In the past one hundred years, average temperatures in the Arctic increased by almost twice the global average rate.¹¹ Consequently, the annual average Arctic sea ice extent has shrunk by 2.1 to 3.1 percent per decade. Further, temperatures at the top of the permafrost layer have generally increased up to three degrees Celsius since the 1980s.¹² It is projected that higher temperatures will contribute to continuing snow contraction and widespread increases in thaw depth over permafrost regions. Also, the gradual melting of the Greenland ice sheet is

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projected to contribute to sea level rise, even beyond the year 2100.¹³

The consequences of climate change are becoming more visible in the Arctic, and are greatly influencing the environment, animals, and living conditions of humans, especially the indigenous peoples who strongly depend on the Arctic ecosystem and natural resources. The Arctic indigenous peoples, their life, culture, and traditional knowledge, are adapted to and largely dependent on the cold and extreme physical conditions of the region. Over the years, they have adapted to the challenges brought about by the Arctic geography and climate.

Although the Arctic climate has always undergone change, the ongoing changes in the climate are taking place at such an alarming speed that indigenous communities are having severe difficulties coping.

The Arctic Climate Impact Assessment (“ACIA”), commissioned by the Arctic Council,¹⁴ provides important insight into the impacts of climate change in the Arctic region.¹⁵ Over a period of five years, an international team of over three hundred scientists, others experts, and members of indigenous communities prepared this assessment. The ACIA Report identifies a range of climate change impacts including: rising temperatures in the Arctic with worldwide implications; shifts in Arctic vegetation zones; changes in animal species’ diversity, ranges, and distribution; and increased exposure to storms by coastal communities.¹⁶

The ACIA Report devotes a separate chapter to address matters concerning the changing Arctic from an indigenous perspective. Indigenous peoples have provided case studies addressing the situation in Kotzebue, the Aleutian and Pribilof Islands Region, the Yukon Territory, Denendeh, Nunavut, Greenland, Sápmi, and Kola. An important common theme or observation in the case studies is that the weather in the Arctic region has become more variable and less predictable by traditional means.¹⁷

The Arctic Climate Impact Assessment recognizes that further research is required to understand environmental changes occurring in the Arctic, as well as the ways in which people view these changes. It states that in both cases, there is a growing, but still insufficient, body of research to draw on, in particular in those Arctic areas where few or no current records of indigenous observations are available. The assessment concludes that further research needs to detect and interpret climate change, and to determine appropriate response strategies.

ADAPTATION OPTIONS

Through the adoption of biodiversity-friendly adaptive and mitigative strategies, the resilience of ecosystems to the impacts of climate change can be enhanced, and the risk of damage to

human and natural ecosystems reduced. Biodiversity is essential to the maintenance and delivery of many ecosystem services including the provision of food and fodder, nutrient cycling, and the maintenance of hydrological flows. As such, maintaining biodiversity is an important component of adaptation planning. Maintaining the ability of resilient species to adapt is critical because climate change will favour species that are better able to adapt to changing climatic conditions. In addition, the reduction of other stressors, such as permafrost degradation, chemical pollution, over-fishing, land-use changes (including unsustainable development), and habitat fragmentation could improve polar ecosystems’ resilience to climate change.

Adaptation activities can and should make use of local and indigenous knowledge, and include their full and effective participation. Indeed, indigenous peoples can contribute to the understanding of changes in the Arctic through their observations and perspectives on changes in biodiversity and ecosystem functioning.

For example, the Inuvialuit Hunters and Trappers in Canada’s High Arctic, along with the International Institute for Sustainable Development (“IISD”), initiated a year-long project to document Arctic climate change and communicate it to Canadian and international audiences. During the initiative, a video and several scientific journal articles were produced to communicate the negative impacts of climate change observed in the Arctic and to understand the adaptive strategies that local people are using in response.¹⁸

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THE PATH AHEAD

The Convention on Biological Diversity (“CBD”) establishes the international framework for biodiversity conservation, and very early on looked into the relationship between biodiversity and climate change. The CBD integrated climate change components within all of the programmes of work of the Convention, with the exception of technology transfer and cooperation. The Convention has also built synergies with the United Nations Framework Convention on Climate Change and convened an Ad Hoc Technical Expert Group on climate change and biodiversity. The Secretariat of the Convention has also initiated an exhibition of indigenous and local communities highly vulnerable to climate change, as well as calling for the “International Expert Meeting on Responses to Climate Change for Indigenous and Local Communities and the Impact on Their Traditional Knowledge related to Biological Diversity—The Arctic Region,” which was held in Helsinki, Finland, March 25–28, 2008.

There remains, however, a number of challenges and opportunities for the further development of interlinkages between biodiversity and climate change. These include capacity build-

Inuit people of Canada have observed reductions in the ringed seal population, their single most important source of food.

ing, mainstreaming, communication and awareness raising, and research and technology.


Indigenous and local communities' traditional knowledge, innovations, and practices are an inseparable part of their culture, social structures, economy, livelihoods, beliefs, traditions, customs, customary law, health, and relationship to the local environment. The totality of all such elements makes their knowledge, innovations, and practices vital in relation to biological diversity and sustainable development. Consequently, serious adverse climate change impacts on indigenous and local communities, in particular the multiple impacts, will also have adverse consequences on the elements that the Convention on Biological Diversity identifies as their "knowledge, innovations, and practices." Indeed, Article 8(j) of the Convention acknowledges the knowledge, innovation, and practices of indigenous and local communities, and promotes its wider application in the context of conservation and sustainable use of biological diversity. The Convention established specific obligations for State parties to respect, preserve, and maintain such knowledge, innovations, and practices, as far as this is possible, and as appropriate within the framework of their respective national legislation and subject to the approval of the knowledge holders.¹⁹ In light of the accelerated threats caused by climate change, it is necessary for Party States to adopt political, administrative, and legal measures to protect and maintain the knowledge, innovations, and practices of indigenous and local communities. Such measures should be developed with full and effective participation of the representatives of indigenous and local communities.

CONCLUSION

Recent scientific assessments have provided clear evidence of the impacts of climate change on the biodiversity of Polar Regions, and how this in turn affects indigenous and local communities. A number of reports also illustrate the contribution of biodiversity to adaptation to climate change. Therefore, through its various programmes and cross-cutting issues, the Conven-

tion seeks to address all threats to biodiversity and ecosystem services including threats from climate change through scientific assessments, the development of tools, incentives and processes, the transfer of technologies and good practices, and the full and active involvement of relevant partners including Governments, Parties, indigenous and local communities, youth, NGOs, and Women. It is also for this reason that the international community celebrated the International Day on Biological Diversity on May 22, 2007 under the theme "Biodiversity and Climate Change." In his message delivered for this occasion, the United Nations Secretary-General, Mr. Ban Ki-moon, reminded the international community that the conservation and sustainable use of biodiversity is an essential element of any strategy to adapt to climate change. He also stated:

Through the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change, the international community is committed to conserving biodiversity and combating climate change. The global response to these challenges needs to move much more rapidly, and with more determination at all levels—global, national and local. For the sake of current and future generations, we must achieve the goals of these landmark instruments.²⁰

Therefore, because every person on this planet, whether they know it or not, draws on biodiversity for their daily lives, and because climate change is a global problem, protecting the biodiversity of Polar Regions from the impacts of climate change requires a multi-layered web of intersecting initiatives involving all stakeholders and the Convention on Biological Diversity has to play a crucial role. The international community is called upon to redouble its effort to achieve the Johannesburg Biodiversity Target, which is aimed at substantially reducing the rate of biodiversity decline by 2010. The celebration in 2010 of the International Year on Biodiversity will offer a unique opportunity to keep the momentum generated by the International Polar Year going. 

Endnotes: Climate Change and Biodiversity in Polar Regions

¹ See Millennium Ecosystem Assessment, *Ecosystems and Human Well-being: Current State and Trends*, Vol. 1, 2005; see also INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *CLIMATE CHANGE 2007: SYNTHESIS REPORT*, 2007.

² Convention on Biological Diversity, Booklet for International Day for Biological Diversity, *Biodiversity and Climate Change*, 12 (2007), available at <http://www.cbd.int/doc/bioday/2007/ibd-2007-booklet-01-en.pdf> (last visited Apr. 13, 2008) [hereinafter CBD Booklet].

³ ARCTIC CLIMATE IMPACT ASSESSMENT [ACIA], *IMPACTS OF A WARMING ARCTIC: ARCTIC CLIMATE IMPACT ASSESSMENT* (Cambridge Univ. Press 2004).

⁴ NASA Goddard Space Flight Center, *Warming Climate May Put Chill on Arctic Polar Bear Population* (Sept. 13, 2006), available at http://www.nasa.gov/centers/goddard/news/topstory/2006/polar_bears.html (last visited Apr. 13, 2008).

⁵ NASA Goddard Space Flight Center, *id.*

⁶ Secretariat of the Convention on Biological Diversity, *CBD Technical Series No. 10, Interlinkages between biological diversity and climate change: Advice on the integration of biodiversity considerations into the implementation of the United Nations Framework Convention on Climate Change and its Kyoto protocol* (2003), available at <http://www.cbd.int/doc/publications/cbd-ts-10.pdf> (last visited Apr. 13, 2008).

⁷ U.N. Env't Program [UNEP], *How Will Global Warming Affect my World?* (2003).

⁸ See Virginia Gascón & Rodolfo Werner, *CCAMLR and Antarctic Krill: Ecosystem Management Around the Great White Continent*, *SUSTAINABLE DEV. L. & POL'Y*, Fall 2006, at 14.

⁹ CBD Booklet, *supra* note 2, at 13.

FALSE SANCTUARY: THE AUSTRALIAN ANTARCTIC WHALE SANCTUARY AND LONG-TERM STABILITY IN ANTARCTICA

by Donald K. Anton*

INTRODUCTION

The 1959 Antarctic Treaty¹ and the subsequent allied international legal agreements (and related measures) that comprise the Antarctic Treaty System (“ATS”),² is fast approaching its golden anniversary.³ From a contemporary perspective, it is hard to imagine Antarctica without some established form of legal governance—a non-judicial Antarctica. Like a number of other perceived essentials, it seems certain if the ATS did not exist, “it would have to be invented.”⁴ This is especially true today when global contact with Antarctica in terms of science, exploration, exploitation of marine resources, and tourism continues to expand and grow in importance.⁵ In these circumstances, the presence of effective regulation which serves as a driver of international cooperation is more and more imperative.

As attention to Antarctica has increased over the past forty-nine years, the ATS has been subject to periodic pressures and tensions, but especially so since the end of the 1970s. From at least 1975, differences (sometimes acrimonious) concerning Antarctic resources, access, and governance began to make themselves felt between and across groups of claimant and non-claimant states,⁶ parties and non-parties,⁷ and developed and developing states.⁸ The ATS, however, has proved remarkably resilient. As an early example of a “framework” treaty,⁹ it has withstood some formidable challenges to both its legitimacy and effectiveness.¹⁰ In contemporary international environmental law circles, the ATS is one of the two treaty regimes¹¹ most often cited as an example of success.¹² Its collective value is rightly viewed as much “greater than just the sum of its various parts.”¹³ Given the underlying stakes in Antarctica—including contentious issues tied to: (1) latent (but certainly not forgotten) territorial claims; (2) the exercise of jurisdiction; and (3) governance decision-making—the ability of the ATS to adapt and retain currency has been remarkable and holds a number of lessons in normativity and diplomacy.¹⁴

The ATS though, like everything else, has vulnerabilities.¹⁵ Given the right set of circumstances, the equilibrium of the ATS could be upset, with resulting turmoil within the system and increasing pressures from outside. Over the life of the ATS, dif-

ficult political circumstances have occasioned others to sound the alarm at times of increased tensions.¹⁶ It is not difficult to see why. It seems hard to argue that the failure of the ATS would be anything but bad; not least because there is no existing alternative

vehicle for international cooperation and governance in Antarctica.¹⁷ Among other things, the failure of the ATS would create international instability, uncertainty, and increased tensions in relation to Antarctic activities and resources. It would no doubt see the revival of competing, conflicting, and unrecognized claims that have been “frozen” for nearly fifty years.¹⁸ Today’s claims, however, would be pressed in a world where increasing popula-

tion and resource scarcity are much greater than when the claims were “frozen.” It is easy to imagine the heightened instability, competition, and tension this would create. Accordingly, threats to the ATS pose serious risks and ought to be avoided.

While the ATS is not near collapse, or even nearing crisis, the recent assertion of maritime jurisdiction by Australian courts over a Japanese whaling company for acts contrary to Australian law in the Antarctic Southern Ocean is alarming.¹⁹ The exercise of jurisdiction by Australia over non-nationals in this way makes its claim of territorial sovereignty in Antarctica real again. As Professor Bilder noted, “so long as jurisdictional rights are restricted [to nationals in Antarctica,] the issues of territorial claims remain largely theoretical.”²⁰ Once the genie is out of the bottle, it has the potential to excite in other states a new “territorial temptation”²¹ seaward in Antarctica, and with it, the potential for a fundamental destabilization of the ATS.

The failure of the ATS would create international instability, uncertainty, and increased tensions in relation to Antarctic activities and resources.

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THE HUMANE SOCIETY INTERNATIONAL LITIGATION²²

On January 15, 2008, the Federal Court of Australia issued declaratory relief and an injunction against Kyodo Senpaku Kaisha Ltd. (“Kyodo”), a Japanese whaling company operating in the Southern Ocean, including in the Australian Whale Sanctuary (“AWS”) within a claimed Exclusive Economic Zone (“EEZ”) off the Australian Antarctic Territory (“AAT”). The court declared that Kyodo had breached sections 229–232 and 238 of the Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (“EPBC Act”) by killing, treating, and possessing whales in the AWS in the EEZ adjacent to the AAT.²³ It also enjoined Kyodo from the further killing, injuring, taking, or interfering with any Antarctic minke whale, fin whale, or humpback whale in the AWS adjacent to the AAT.²⁴

APPLICATION FOR LEAVE TO SERVE PROCESS IN JAPAN

The case was brought in 2004 by Humane Society International (“HSI”), which sued Kyodo for alleged illegal whaling under Australian federal law, seeking the declaration and injunction ultimately granted.²⁵ The law giving rise to the action, including legal standing for HSI,²⁶ is found in the EPBC Act.²⁷ The AWS is established under section 225, Part 13, Division 3, Subdivision B of the Act. By virtue of sections 5(1), 5(4), and 5(5) of the EPBC Act, section 8 of the Australian Antarctic Territory Act 1954 (Cth), section 10 of the Seas and Submerged Lands Act 1973 (Cth) and the 1994 Proclamation of the EEZ adjacent to the AAT,²⁸ the AWS applies to the declared AAT EEZ. Sections 229 and 230 of the EPBC Act make it unlawful to kill, injure, take, interfere with, treat, or possess whales without an Australian permit, within the AWS.²⁹ The offence provisions expressly apply to both Australian nationals and non-nationals within the AWS, but only to non-nationals beyond the outer limits of the AWS.³⁰

One of the elements that the applicant had to satisfy in order to be granted leave to serve process in Japan was that the violation complained of took place “in the Commonwealth.”³¹ Such an investigation, while dictated by Australian law, is also necessary in determining the international legality of the exercise of Australian prescriptive and adjudicative jurisdiction in relation to the AAT EEZ. Initially, Justice Allsop was prepared to treat as conclusive the determination of the boundaries of the Commonwealth by the Executive Branch of government, including the EEZ.³²

Before denying the initial application for leave to serve process, Justice Allsop took the extraordinary step of inviting the *amicus curiae* intervention of the Attorney-General to provide the government’s views on the application of “legislation and treaties involved . . . in light of what might be seen to be Australia’s national interest, including . . . relations between Australia and Japan.”³³ The Attorney-General stated that “an assertion of jurisdiction by an Australian court over claims concerning rights and obligations in the [EEZ of the AAT] would or may provoke an international disagreement with Japan, undermine the status quo attending the Antarctic Treaty, and ‘be contrary to

Australia’s long term national interests.”³⁴ According to Justice Allsop, this view was based on the recognition of three realities by the government. First, Japan would regard enforcement of the EPBC Act against Japanese vessels and its nationals in the AAT EEZ as a breach of international law.³⁵ Second, the exercise of enforcement jurisdiction against foreigners generally in the AAT EEZ, based on the Australian territorial claim, would “prompt a significant adverse reaction from other Antarctic Treaty Parties.”³⁶ Third, the Australian government has not enforced the Australian law in Antarctica against the nationals of other state parties, except where there has been voluntary submission to Australian law.³⁷

In accepting that exercising jurisdiction might upset diplomatic concord under the Antarctic Treaty and be contrary to Australia’s national interest, Justice Allsop also stated that any injunctive relief granted would ultimately be futile because of “the difficulty, if not impossibility, of enforcement of any court order”³⁸ and could place the Federal Court “at the centre of an international dispute . . . between Australia and friendly foreign power.”³⁹ As a result, Allsop ruled that he “should not exercise a discretion to place the Court in such a position” and denied the application for leave to serve process in Japan.⁴⁰

Significantly, following the intervention of the Attorney-General, Allsop appeared prepared to return to consider the merits of the validity of the Australian claim to jurisdiction in the AAT EEZ as a predicate to granting or denying leave to serve process related to an event occurring “in the Commonwealth.” Allsop raised the issue of whether all “the area” of Southern Ocean south of 60° South Latitude, in which the AAT EEZ is claimed, is high seas (in which an EEZ may not exist) because Article VI of the Antarctic Treaty protects “the rights . . . of any State under international law with regard to the high seas within that area.”⁴¹ In fact, however, it seems that Allsop was really interested in how Article IV of the Antarctic Treaty and its prohibition on making any “new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica” might bear on the proclamation of Australia to an Antarctic EEZ in 1994.

In particular, Allsop noted the submission by the Attorney-General that there is a distinction between the “enlargement of an existing claim to territorial sovereignty” and the claim of Australia to an Antarctic EEZ:

it was submitted on behalf of the Attorney-General, [that] the claim of Australia to the Antarctic EEZ is not one of sovereignty in the full sense over the waters adjacent to the Antarctic Territory (except for the territorial sea), but of claims . . . to exercise the rights of exploitation, conservation, management and control, and enforcement thereof, given to coastal States by UNCLOS. . . . The recognition of the limitations (short of full claims to sovereignty) of Australia’s claims to the Antarctic EEZ becomes important in assessing whether . . . the acts of the respondent and the contraventions of the *EPBC Act* took place “in the Commonwealth.”⁴²

In the end, however, Allsop did not decide on the operative effect of Article IV of the Treaty in relation to the declared AAT

EEZ. Instead, he used the submission by the Attorney-General to contrast it with the contrary position of Japan (and most of the rest of the world). Allsop noted that “[a]s far as Japan is concerned, the Australian Antarctic EEZ is the high seas which is not subject to any legitimate control by Australia under UNCLOS and domestic legislation provided for thereby (such as the EPBC Act).”⁴³ The conflicting positions thus contrasted,

Allsop accepted the Attorney-General’s position that international discord that would follow by granting leave to serve process and it became “unnecessary to decide whether the Antarctic EEZ is, or can be seen as, ‘in the Commonwealth.’”⁴⁴

Significantly too, Allsop noted cultural differences with respect to whaling and hinted that the current stigma attached to whaling might signal a move away from conservation and sustainable utilization to a wish by some to preserve charismatic megafauna at all costs.⁴⁵ Allsop explained:

The whales being killed . . . are seen by some as not merely a natural resource that is important to conserve, but as living creatures of intelligence and of great importance not only for the animal world, but for humankind and that to slaughter them . . . is deeply wrong. These views are not shared by all. . . . They are views which, at an international level, are mediated through the Whaling Commission and its procedures, by reference to the Whaling Convention and the views of nation States. They are views . . . that contain a number of normative and judgmental premises . . . which do not arise in any simple application of domestic law, but which do, or may, arise in a wider international context.⁴⁶

THE APPEAL

On appeal, a Full Bench of the Federal Court reversed Justice Allsop. Taking a more dualistic, traditional approach to the underlying legal and international relations issues, none of the appellate judges gave any weight to the international political considerations raised by the Attorney-General. Even the dissent was in agreement on this point, stating that:

[c]ourts must be prepared to hear and determine matters whatever their political sensitivity either domestically or internationally. To approach the matter otherwise, is to compromise the role of the courts as a forum in which rights can be vindicated whatever the subject matter of the proceedings.⁴⁷

The majority held that the action was made clearly justiciable by the Australian Parliament under the EPBC Act and related authority. The court had clear jurisdiction. The applicant had clear standing. Accordingly, jurisdiction could be assumed by service or submission and questions of futility would arise, if at all, at the time of the issuance of injunctive or declaratory relief.

THE TRIAL

On remand, the matter was heard in September 2007. Kyodo, as expected, did not appear. Instead of relying on a default, HSI proceeded to prove the facts supporting its claim for declarative and injunctive relief. Following the guidance provided by the majority of the Full Federal Court on Appeal regarding public interest injunctions, Allsop granted the declaration and injunction sought by HSI. This, of course, raises the prospect of contempt proceedings in Australian courts if Kyodo does not comply with the injunction in future whaling seasons.⁴⁸ It also raises

the question of whether the Federal government is prepared to enforce the injunction in the event of violation by intercepting and seizing Kyodo ships operating in the AAT EEZ. Indeed, it has the potential to bring the unilateral exercise of Australia prescriptive, adjudicative, and enforcement jurisdiction to bear on ships and individuals in an area that almost all other states view as the high seas and, if they are correct, are thus subject to the exclusive jurisdiction of the flag state.⁴⁹

Expanding jurisdiction this dramatically is clearly inconsistent with uniform past Australian practice not to enforce Australian laws against non-nationals in Antarctica.⁵⁰ Yet, in the 2007 national election campaign, the newly elected Labor government pledged to “enforce Australian law banning the slaughter of whales in the Australian Whale Sanctuary.”⁵¹ Additionally, the Australian Government Solicitor wrote to Justice Allsop in December 2007 during the trial of the HSI case on instructions from the new Attorney-General. The letter stated that the court should not rely on the views of the Attorney-General of the previous government. Instead, the letter highlighted that the new “Government believes that the matter would best be considered by the Court without the Government expressing its view.”⁵²

During the 2007–2008 Southern Hemisphere summer whaling season that has just ended, the Australian government dispatched the *Oceanic Viking* to monitor whaling in the Southern Ocean, but it neither intercepted nor seized any Japanese whaler operating in the AAT EEZ. The government claimed that the *Oceanic Viking* was being used to collect evidence that might be used in international litigation challenging the lawfulness of Japanese whaling for “scientific purposes” under the Interna-

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tional Convention for the Regulation of Whaling.⁵³ But, given the current government's position, one is still left to wonder if it is only a matter of time before the Australian government will act against Japanese ships and Japanese nationals in the AAT EEZ. This makes it opportune, for the remainder of this Article, to consider the implications of such a possibility for stability in Antarctic governance.

IMPLICATIONS FOR ATS STABILITY

The HSI case establishes that the application and enforcement of the AWS provisions as applied to the AAT under the EPBC Act in a private action, against Australian non-nationals, by Australian courts, is not barred by Australian law.⁵⁴ From an international law perspective, this is unfortunate. It is even more so when one considers the ramifications for the stability of the ATS.

In thinking about the use of jurisdiction established under Antarctic claims to territory and maritime zones as a way to provide protection to whales in the Southern Ocean, it is necessary to consider the nature of that jurisdiction. In turn, this requires a consideration of the ways in which both sovereignty and jurisdiction have been addressed by the ATS. In relation to the sovereignty issue, it is important to recognize that Article IV of the Antarctic Treaty⁵⁵ has not solved the conflict so much as it has structured a form of words that allow all parties to ambiguously look past the issue of territorial claims in order to identify with each other on agreed objectives.⁵⁶ The admonition of Professor Watts is worth repeating here:

It does not overstate the case to say that Article IV is the cornerstone of the Antarctic Treaty and thus of the whole system that has grown up around it. The effectiveness of that article has . . . kept Antarctica free of the conflicts to which its complex territorial situation would have been most likely to lead and generally has removed it from the usual range of international political tensions.

Yet, however satisfactory the results of Article IV have been so far, there are certain limits to its operation and effectiveness. These limits are sometimes obscured by the very success that Article IV has so far had and the tendency to get around its complex drafting by summarizing its broad effect by some such phrase as that it "suspends sovereignty claims" in Antarctica or that it has put "sovereignty in abeyance."

What is important to always bear in mind is that the various national claims to and rights of sovereignty in Antarctica are still very much alive – as is equally the opposition to them of those states that do

not recognize them. The underlying differences of view remain. In that sense, Article IV has not "solved" the problem. What it has done is provide a basis on which conflicts arising out of those continuing differences can be avoided.

. . . Take Article IV away, and sovereignty rights and claims, and opposition to them, will immediately re-emerge, undiminished in vigor. In an extreme case, involving in some way the Antarctic Treaty or at least Article IV ceasing to be in force, the consequential possibility of a resurgence of conflicts over sovereignty is readily apparent.⁵⁷

It is precisely this situation that the HSI case threatens. Absent agreement of the parties to introduce positive rules

related to the exercise of jurisdiction in the Treaty Area over non-nationals,⁵⁸ it seems almost certain that Australia's assertion of maritime jurisdiction over non-nationals will at the least create conditions for dispute and discord. If other states were to follow Australia's lead, in a worst case scenario, it might mean the end of the ATS altogether and the revival of old claims and assertion of a host of new claims. As Gillian Triggs observed in 1985:

Were Australia or any other claimant state to give effect to their views of Article IV of [Antarctic] Convention by, for example, exercising the customary jurisdiction of a coastal state in relation to waters adjacent to its sectoral claim in Antarctica, it is likely that the Convention would break down.⁵⁹

It is important to note that the ATS does not seek to regulate Antarctica and its marine environment in its entirety. Indeed, whales are expressly excluded from the ATS in a number of places and it is important to bear in mind that there are existing multilateral agreements that are both consistent with the ATS and do apply to whales in the seas adjacent to Antarctica. The purpose of this Article is not to identify all of these agreements.⁶⁰ Rather, the argument here is that the contentious and almost entirely unrecognized exercise of jurisdiction within the ATS over non-nationals in waters adjacent to Antarctica for the purpose of regulating whaling is unsound. It is likely to lead to less overall environmental protection in Antarctica if it engenders conflict and competition.

The crux of the HSI dispute (and any progeny it brings forth) is whaling. The long-running battle between the anti-whaling forces and whalers is being played out in Australian courts because of the failure to address the issues within what is seen as a "dysfunctional" whaling regime.⁶¹ However, the Australian litigation involves what most other states will view as the unlawful exercise of Australian jurisdiction (based on its

The long-running battle between the anti-whaling forces and whalers is being played out in Australian courts.

Antarctic claim) in the Southern Ocean. This raises the very real prospect that the ongoing whaling dispute will have a detrimental “ripple effect” on the ATS (and perhaps even beyond).⁶²

Whaling is largely comprised of politics revolving around a single issue. The danger is that the issue of whales and whaling might distort and obscure the larger environmental picture in Antarctica. This is especially true when contemporary international negotiations on whales and whaling within the International Whaling Commission (“IWC”) often appear in many ways to be meant for consumption of domestic political constituencies.⁶³ Fundamental tensions will be created within the ATS if the battle over the whaling issue is brought within. By disrupting set patterns of jurisdiction that provide a fundamental cornerstone for the ATS, the whaling issue will reverberate, and not likely to the good, in the system.

I want to emphasize that most of my sympathy lies with the plaintiff’s reasonable objectives in the litigation we are considering.⁶⁴ It is certain that ensuring the perpetuation of whales in the Southern Ocean is important. However, this worthy goal is only a small part of the common interest of all humankind in the protection and sustainable use of the wider Antarctic environment (marine and terrestrial). Because of this broader common interest, I depart with HSI and its lawyers when we look at the means employed to reach the specific objective of perpetuation. My departure is not so much driven by HSI and its lawyers as it is by the legal tools put at their disposal by the Commonwealth Parliament of Australia in form of the Environment Protection Biodiversity Conservation Act of 1998.

Private litigation, based on an internationally disputed claim to sovereignty over Antarctic territory and a further contested claim to an EEZ appurtenant to that territory, ought not to serve as a proxy for cooperative (and hopefully effective) international management of the Antarctic environment. The negative incentives presented by such an extreme unilateral measure are just too dangerous. That is not to say other, less provocative unilateral measures need to be avoided. Indeed, in the appropriate circumstances unilateral measures can be viewed as international leadership.⁶⁵ Lower level, less contentious, unilateral measures might present a possible way forward in the establishment of effective international management.

Instead of a unilateral Australian approach, what is required is a more concerted multilateral attempt to address the issue of whales and whaling through the whaling regime established by the 1946 International Convention on the Regulation of Whaling. Even if such an attempt involves a difficult and long drawn out process, or even if the deadlock remains, a continuing interregnum of uncertainty and contest within the whaling regime⁶⁶ is better than destabilizing the ATS—an extremely important regime of broader scope and objective.

CONCLUSION

It is a truism that good faith cooperation between states is required to successfully tackle environmental and resource problems which are international in scope.⁶⁷ In the case of whale stocks, a *res nullius* common property resource,⁶⁸ cooperation is required on account of the externalities that have driven unsustainable exploitation.

It is well-known that over the past ten years or so, the struggle between the conservation and utilisation camps within the IWC has intensified as stocks (at least minke whale stocks) have apparently been gradually replenished since the whaling moratorium.⁶⁹ This increasingly acrimonious struggle seriously threatens the normative effectiveness of the Whaling Convention and the IWC. By comparison to the IWC, the ATS has been relatively stable since controversy raged around the issue of minerals exploration and exploitation in the 1980s.

The recent HSI case, and the broader context in which it arises, has the potential to dangerously destabilize the ATS. At the bottom, this potential is driven by the somewhat jaded, but I believe basically accurate perspective expressed by Wilbert Chapman in 1969. Chapman said:

The nature of [humans] abhors something of value not being owned by an individual, or by groups of individuals organized into states or business entities.⁷⁰

This acquisitive view of human nature frames, in large part, the centuries old argument about open and closed seas that all lawyers of the sea are familiar with. This acquisitive habit lies behind the capture and use of whales by the nationals of whaling states, just as much as lies behind claims to sovereign rights in natural resources in an EEZ off Antarctica. Indeed, the drive to acquisition applies to all common Antarctic marine biological resources and helps explain why states have entered into agreements that seek to frame principles for sharing these marine resources. More troubling though, is that in what appears to be coming times of increasing scarcity, this acquisitive habit will apply with equal force to oil and mineral resources (and even genetic material) found off-shore in Antarctica.⁷¹ For many, this explains why the 1991 Madrid Protocol contains the Article 25 “escape clause” built around disagreement concerning mineral resource activities.

This habit of acquisition, and the tendency to exclusive use of what is thus acquired, highlights the great failing of Australia’s unilateral approach to the protection of the Antarctic marine environment in this case; an approach predicated on a claim to exclusive sovereign rights and the projection of Australian prescriptive, adjudicative, and enforcement jurisdiction in the zone. The big danger is that if other states follow Australia’s lead in claiming sovereign rights and exercising attendant jurisdiction the chances of natural resource over-exploitation and environmental harm in the Antarctic is increased. It will, I believe, in the long run exacerbate the likelihood of a scramble for important, scarce and economically viable resources.

Endnotes: False Sanctuary *continued on page 61*

USING THE POLAR BEAR FRAMEWORK TO PROTECT THE ARCTIC HABITAT

by Tim P. Shields*

Listing the polar bear as a threatened species is the predominant manner in which protection and preservation of the Arctic habitat might be achieved. The U.S. Geological Survey issued a final report on the status of the polar bear on September 7, 2007.¹ The U.S. Fish and Wildlife Service, however, has missed its deadline to list the polar bear as a threatened animal.² As a result, three non-profit conservation groups sued the Bush Administration on March 10, 2008,³ requesting that the court require the agency to comply with the timeline for completing the listing process.⁴

If finally implemented, the protections granted to the polar bear could be used to initiate protection of Arctic habitat. Listing the polar bear would require the federal government to ensure that its actions and policies do not harm or jeopardize the bears. It would also prevent habitat modification where there is a showing of actual injury to wildlife. Further precautions protecting the polar bear would be the designation of a critical habitat zone and the preparation of a recovery plan.⁵

While the regulatory process could potentially provide much protection from future habitat loss and contamination, concentrating on the polar bear as the primary protection mechanism simplifies the situation and ignores major factors currently contributing to habitat loss. Among the most pertinent hazards facing the Arctic are global warming, traveling chemical pollution, and encroaching human activities.

Greenhouse gases in the Arctic have led to an annual temperature increase nearly twice that observed in other regions of the Earth.⁶ One major result of this increased temperature manifested itself further during the 2007 annual summer ice melt when the ice coverage reached a new low of 1.59 million square miles, which constituted a loss of nearly 460,000 square miles.⁷ The loss of ice compounds the problem by reducing the amount of light that is reflected from the Earth back into space, which results in a greater absorption of heat, contributing to further ice loss.⁸ The loss of ice has also led to an increase in coastal erosion throughout the region,⁹ which has even resulted in calling for the costly move of entire towns in Alaska.¹⁰ The ice loss is especially pertinent to polar bears, whose main habitat consists of coastal polar ice caps.¹¹ For the polar bear framework to stem global warming, the federal government would also have to effect a reduction of greenhouse gas emissions.

Global warming, however, is not the only threat to the region. In the 1950s, researchers first came to believe that a wide array of chemical pollutants, which originated outside the Arctic, arrived to the Arctic via several pathways, including air, water, ice, and migratory animals. While some of the pathways result in quick delivery to the Arctic, others take years and decades to transport the chemical pollutants to their destination.¹² The vari-



Photo Courtesy of U.S. Fish and Wildlife Service

Polar bear on whale carcass.

ous routes and protracted delay in chemicals arriving to the Arctic makes preventing contamination difficult in the short run.

The Arctic habitat is further threatened by human encroachment related to mineral exploration and development, logging, and rural expansion.¹³ Expansions in human activity led to further construction of roads, trails, pipelines, and other developments that fragment and isolate habitats.¹⁴ The continued reduction in ice coverage and increasing demand for oil has already begun to yield an increase in commercial exploration throughout the area,¹⁵ which could further exacerbate the diminishing polar habitat, depending on the expanse of the polar bear habitat.

The effects of global warming and human interaction combine to affect regional land ecosystems. Trees and shrubs are currently expanding into what was once the tundra at a rate that far exceeds previous predictions.¹⁶ This northward advancement of the forest results in both a trend in movement of animal species and an increased risk for other species that have not adapted as readily.¹⁷ Specifically, millions of migratory birds that use the tundra as a breeding ground are affected.¹⁸

While it is possible that listing the polar bear as a threatened species could result in protection of parts of the Arctic, the specific location of the polar bears' habitats could leave other areas of the Arctic open to further commercialization and to additional encroachment of human settlements, destroying habitat that is vital to polar bears and other species upon which it depends for sustenance. Working within the polar bear framework could provide for substantial protection to the entire Arctic if interpreted broadly enough; however, further protections would still be needed to truly protect the Arctic from both global warming and expanding trade routes in the area.



Endnotes: Using the Polar Bear Framework *continued on page 63*

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CAN CLIMATE CHANGE BE GOOD FOR GREENLAND?

AN ARCTIC ISLAND'S RESPONSE TO NEW DEVELOPMENT OPPORTUNITIES

by James Mitchell*

Worldwide, Greenland is viewed as an *indicator* of global climate change—like Earth's monitoring station. The world's largest island consists of eighty-one percent ice,¹ and its melting ice contributes to about twenty-eight percent of current global sea-level rise.² News coverage of Greenland centers upon the current melting rate of its ice sheets and scientists' predictions of how much global sea level would rise if all of the ice sheets were to melt. However, little is written about how climate change will affect those who live there.

Despite its location, Greenland shares some similarities with the global south. Many of its 60,000 inhabitants subsist at least in part on nature, and its governance status is akin to a colony of a European nation.³ The government has welcomed the opportunity to establish greater economic independence from Denmark by "developing" Greenland. However, given that black carbon, in the form of soot-laden snow, accounts for about a third of the warming in the Arctic regions,⁴ is heavy industry, most of which is foreign-owned, a viable development path?

Greenland has seen rising temperatures at a more accelerated pace than the global rate. From 1991 to 2003 average winter temperatures rose eleven degrees Fahrenheit.⁵ However, many in Greenland embrace rising temperatures, as it opens up new opportunities across the island. For now, tourism is receiving a boost due to "discoveries" of new islands, previously inaccessible because of the ice, and these islands are now becoming vacation sites for cruise liners.⁶ Because of the warming temperatures, farmers can now plant vegetables that a few decades ago would have never survived, and raise fatter livestock.⁷

The cod industry was once the greatest asset of Greenland, but in the 1960s it collapsed due to over-fishing and shifting sea currents. Now that the sea temperatures are the highest since the 1960s, the cod have returned, as evidenced by government inspectors, who in 2007 made a "biblical catch" of twenty-five tons of cod in one hour.⁸ Finally, the seasonal snowmelt continues to open up previously impassible areas.⁹

Of course, not all benefit from the rising temperatures. Climate change harms the Inuit peoples' way of life, particularly in the realm of hunting.¹⁰ The effects are devastating; "[r]etreat-

ing sea ice has exposed Inuit villages to the eroding forces of wind and waves, causing their homes to topple into the sea . . . Experienced hunters have fallen through ice that appeared safe,

resulting in injury and death. The [animals] upon which the Inuit depend . . . could go extinct before the end of this century."¹¹ Despite these negative impacts on Inuit culture, Greenland's Home Rule Government remains interested in attracting heavy industry to the region.

The sector most excited over Greenland's warming is also the one whose activities intensify climate change—

heavy industry. British-based

firm Angus & Ross ("Angus") used to operate the Black Angel Mine, a zinc and lead mine on Greenland's west coast. The mine had to be closed in 1990 due to declining global zinc prices and the difficulty of operating in an area often frozen over.¹² Now, with rising commodity prices and milder temperatures that have allowed for operators to work for eight months per year instead of only six,¹³ Angus is scheduled to re-open in late 2008, pending approval of its mining license from the Greenland government.¹⁴ Angus is not alone. By 2007, Greenland's Bureau of Minerals and Petroleum tripled the number of exploration licenses it had issued since 2002.¹⁵

U.S. firm Alcoa plans to create an aluminum smelting plant along the western coast, powered by a nearby hydroelectric power plant.¹⁶ Ironically, the hydroelectric power plant's "renewable," zero-greenhouse gas ("GHG") emissions source of energy is the melting ice and snow. The smelter's operations, however, would boost Greenland's GHG emissions by seventy-five percent from their current levels.¹⁷

Despite regional economic benefits from climate change, local inhabitants who live near these industries will have to pay the costs from the local pollution that results from heavy industry. A 1997 site assessment of the Black Angel mine revealed heavy metal contamination within a thirty-mile radius of the mine.¹⁸ There is no reason to expect better prospects once it is

The sector most excited over Greenland's warming is also the one whose activities intensify climate change— heavy industry.

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re-opened. Indeed, Alcoa has faced considerable controversy in Yarloop, Australia for seeking to double its aluminum smelting operations, despite allegations by locals that fumes are contributing to “nosebleeds . . . skin ulcers and rashes, nausea . . . impaired speech, blackouts and palpitations.”¹⁹

The challenge is how to establish greater economic sovereignty, now that climate change has introduced more opportunities.

The challenge is *how* to establish greater economic sovereignty, now that climate change has introduced more opportunities. Greenland stands at a crossroads. It can simply imitate the old model, or it can decide to be a model for other nations currently facing the moral dilemma of what to do when climate change actually presents *beneficial* development opportunities. Greenland should embrace the positive climate-induced changes of increased fish yields and better farming/grazing land, yet sustainably manage these resources. Otherwise, Greenland will yet again witness the effects of over-fishing its cod stocks, and the impacts of soil depletion and overgrazing. Instead of resorting to industry, there are excellent opportunities in further developing eco-tourism of Greenland; several tropical countries have seen the economic and ecologic value in preserving their biodiversity. Finally, Greenland should consult with its own inhabitants, and heed Rio Declaration’s Principle 22, which recognizes the value that indigenous peoples have in environmental management and development due to their unique knowledge.²⁰



Endnotes:

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- 3 Denmark handles Greenland’s foreign relations (e.g., Greenland’s greenhouse gas (“GHG”) emissions are part of Denmark under the Kyoto Protocol). Nonetheless, Denmark must consult with Greenland’s Home Rule Government, which handles domestic affairs. While most of Greenland supports either full independence or greater autonomy from Denmark, a full fifty percent of Greenland’s revenue are subsidies from Denmark. CIA website, *supra* note 1.
- 4 Mark G. Flanner, Charles S. Zender, James T. Randerson & Philip J. Rasch, *Present-day Climate Forcing and Response from Black Carbon in Snow*, 112 J. GEOPHYS. RES., D11202 (2007), available at <http://www.agu.org/pubs/crossref/2007/2006JD008003.shtml> (last visited Feb. 25, 2008).
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- 7 Struck, *supra* note 5.
- 8 Struck, *supra* note 5.
- 9 Moskwa, *supra* note 6.
- 10 Greenland’s Minister of Culture has written that: “The Inuit culture is the most pure hunting culture in existence,” given its “adapt[ation] to the extreme living conditions in the High Arctic . . . for at least four thousand years.” Henriette Rasmussen, Minister of Culture, Education, Science and Church of the Government of Greenland. *Sustainable Greenland and Indigenous Ideals, in TOWARD A SUSTAINABLE WORLD: THE EARTH CHARTER IN ACTION 106* (Royal Tropical Institute 2005), available at http://www.earthcharterinaction.org/eci_book.html (last visited Feb. 25, 2008).
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- 13 Thomas, *id.*
- 14 See Angus & Ross, PLC website, <http://www.angusandross.com> (last visited Apr. 22, 2008).
- 15 Thomas, *supra* note 12.
- 16 Alcoa website, Alcoa in Greenland, <http://www.alcoa.com/greenland/en/frames.asp> (last visited Apr. 22, 2008).
- 17 Moskwa, *supra* note 6.
- 18 UNITED NATIONS ENVIRONMENT PROGRAMME, *Marine and Coastal Areas, in GLOBAL ENVIRONMENT OUTLOOK (2000)*, available at <http://www.unep.org/GEO2000/english/0123.htm> (last visited Apr. 22, 2008).
- 19 Quentin McDermott, *Something in the Air*, ABC AUSTRALIA, Mar. 10, 2005, available at <http://www.abc.net.au/4corners/content/2005/s1471209.htm> (last visited Apr. 22, 2008). Alcoa denies causation and liability, and now owns and rents out most of the real estate near the refinery, where tenants are “gagged from complaining about . . . pollution by a clause in their lease agreements.” John Flint, *Alcoa Expands Despite Toxins*, PERTH NOW, Sept. 11, 2006, available at <http://www.news.com.au/perthnow/story/0,21598,20391434-2761,00.html> (last visited Feb. 25, 2008).
- 20 Rio Declaration on Environment and Development, June 13, 1992, available at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=78&ArticleID=1163> (last visited Feb. 25, 2008).

SUPPORTING ADAPTATION:

A PRIORITY FOR ACTION ON CLIMATE CHANGE FOR CANADIAN INUIT

by Dr. James D. Ford*

INTRODUCTION

Climate change is having profound impacts in the Canadian Arctic. Temperatures are increasing at twice the global average, recent years have witnessed a dramatic reduction in summer sea ice cover, and extreme weather conditions appear to be increasing in both magnitude and frequency.¹ Widely believed to be at least partially attributed to human emissions of greenhouse gases, climate change is having dramatic implications for Canada's Inuit population who are dependant on the biophysical environment and the resources it provides.² With future climate change projected to be greatest in the Arctic,³ communities, governments, and Inuit organizations have expressed concern. Inuit political leaders have even argued that climate change is a fundamental human rights issue, violating the ability of Inuit to practice and enjoy the benefits of their culture.⁴ Clearly, action on climate change is urgent for Arctic regions; failure to act could threaten the very existence of the Inuit way of life.

This Article reviews the evolution of climate change policy in an international context in general and Canada in particular. The review provides a basis for asking the question: what constitutes appropriate action on climate change for Inuit in the Canadian Arctic? The central argument is that while reducing greenhouse gas emissions is an important goal globally, adaptation to reduce vulnerability to climate change should be a priority for Inuit regions. The paper finishes by identifying key action areas at a Canadian and international level to help Inuit adapt. While this Article focuses specifically on the Canadian Inuit experience, the arguments developed are generally applicable for Inuit across the circumpolar north.

CANADA'S INUIT POPULATION

Inuit are indigenous peoples inhabiting Arctic and sub-Arctic regions of Canada, Alaska, Greenland, and Chukotka (Russia), numbering approximately 155,000 people. The 2001 Canadian census found 45,070 people who define themselves as being Inuit; 22,560 of whom live in Canada's newest territory of Nunavut—see the table and figure below. The other 22,510 live in three Inuit settlement regions: the Inuvialuit Settlement Region of the Northwest Territories, Nunavik in the province of Quebec, and Nunatsiavut in the province of Newfoundland & Labrador.⁵ Together, Inuit administered regions cover thirty percent of the Canadian landmass, and have a climate characterized by very cold, long winters, and short, cool summers.⁶ Sea ice is an integral part of Inuit life, providing a transportation

link between communities and a hunting platform for over seven months of the year in most areas.



FIGURE 1: INUIT REGIONS OF CANADA WITH LOCATIONS OF INUIT COMMUNITIES⁷

The majority of Inuit in the Canadian north live in small, remote coastal communities only accessible by air or winter ice roads, with economies composed of waged employment and subsistence hunting.⁸ Many Inuit retain a close relationship with the environment and a strong knowledge base of their regional surroundings, with traditional foods derived from hunting having social and cultural importance.⁹ Hunting also continues to supply the principal elements of the Inuit diet. In recent surveys in Nunavut, for instance, forty-one percent of Inuit respondents identified that more than half of the meat and fish they consumed was locally harvested.¹⁰ Other studies have demonstrated that the economic value of the traditional food sector is at least equal to the cost of food imports from Southern Canada.¹¹

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Table 1: Selected Characteristics of Inuit Regions of Canada

Inuit Region	Province/Territory	Relevant Land Claim	Inuit Population (% of total)	Average Community Size
Territory of Nunavut	Nunavut	Nunavut Land Claim Agreement (1993)	24,635 (84%)	1,063
Inuvialuit Settlement Region	Northwest Territories	Inuvialuit Final Agreement (1984)	3,115 (55%)	876
Nunavik	Québec	James Bay and Northern Quebec Agreement (1975)	9,565 (90%)	688
Nunatsiavut	Newfoundland & Labrador	Nunatsiavut Agreement (2005)	2,169 (89%)	1,767

Many Inuit communities in Canada are challenged by limited access to health services, low socio-economic status, high unemployment, crowded and poor-quality housing, and concerns regarding basic services such as drinking water quality.¹² Consequently, Inuit generally experience low indicators of well-being compared to the Canadian population in general. Inuit men, for example, can expect to live 64.4 years compared to a Canadian average of 77.0; the figures for women are 69.8 years and 82.0 years respectively.¹³ Moreover, Inuit have experienced sweeping socio-cultural changes in the second half of the twentieth century, as former semi-nomadic hunting groups moved to permanent settlements beginning in the 1950s. Inuit livelihoods were transformed in a matter of decades with the introduction of the waged economy, imposition of hunting regulations, compulsory schooling, rapid population growth, and imposition of Western governance and legal system.¹⁴

CLIMATE CHANGE AND INUIT: A HUMAN RIGHTS ISSUE?

As a hunting people dependent on sea ice and other environmental conditions, Canadian Inuit have been particularly susceptible to changing climatic conditions documented in the last decade.¹⁵ Unusual sea ice and weather conditions have disrupted livelihoods and households through the associated loss and damage to hunting equipment. Increasing danger of hunting and travel has forced some Inuit to avoid engaging in traditional activities all together, while life-threatening accidents are increasing because of rapid changes in ice, snow, and land. Weather and sea ice conditions are becoming more difficult to forecast using traditional knowledge, thereby affecting the credibility of elders among younger generations. There is also evidence that warming temperatures are affecting the quality of some traditional foods and animal skins.

With the impacts of climate change becoming increasingly apparent in Arctic regions, many Inuit political leaders have situated climate change as a fundamental human rights issue. For example, the Inuit Circumpolar Conference—on behalf of the Inuit population of Canada and the United States—lodged a “petition” at the Inter-American Commission on Human Rights in 2005 seeking relief from human rights violations resulting

from the impacts of climate change caused by acts and omissions of the United States with respect to greenhouse gas emissions.¹⁶ The petition appealed to aspects of international law established under the Organization of American States (“OAS”), arguing that subsistence culture is central to Inuit identity and is being damaged by climate change, thereby violating the right of Inuit to practice and enjoy the benefits of their culture, use and enjoy their traditional lands, enjoy personal property, lead healthy lives, and compromising intellectual property. While the petition was rejected without prejudice,¹⁷ it likely represents the first of many legal actions as nations and groups adversely affected by climate change seek legal redress for a problem they did not cause.

To date, Inuit have not lodged similar proceedings against the respective countries in which they live. However, legal grounds for such action exist. In Canada, climate change compromises the rights of Inuit—as Canadians—as stated in the Canadian Charter of Rights and Freedoms.¹⁸ Section 25(b) of the Charter states “any rights or freedoms that now exist by way of land claims agreements or may be so acquired,” are to be upheld.¹⁹ Several land claims have been signed between the Canadian government and Inuit: Nunavut Land Claim Agreement, Inuvialuit Final Agreement, James Bay and Northern Quebec Agreement, and the Nunatsiavut Agreement.²⁰ Key principles enshrined in these agreements include the rights of Inuit to use of the land and resources, harvesting rights, and the enhancement of cultural and social well-being. The ability to uphold these rights is being challenged by climate change, which compromises access to resources and traditional hunting locations.²¹ Moreover, climate change threatens to undermine the very traditional cultural practices that land claim agreements have sought to uphold.

CLIMATE CHANGE POLICY: INTERNATIONAL AND CANADIAN CONTEXT

If, as this Article argues, climate change is a fundamental human right, Inuit have recourse to international human rights law and legal obligations governing the citizen-state relationship. Moreover, all states with Inuit populations are parties to the United Nations Framework Convention on Climate Change (“UNFCCC”)²² which establishes legal obligations of parties

to take action on climate change. The UNFCCC outlines *two key areas* for climate policy, mitigation and adaptation, both of which have relevance to Canadian Inuit.

Firstly, the UNFCCC and its principal update, the Kyoto Protocol, legally obligate parties to “achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system;”²³ a policy option known as mitigation. The protocol legally binds Annex I (industrialized) countries to reduce greenhouse gas emissions by an average of five percent by the first commitment period (2008–2012) compared to the baseline of 1990. In Canada, a six percent reduction in emissions was negotiated by the federal government in Kyoto, although the government has indicated it will

not achieve these targets. Territorial and provincial governments in Canada have also established their own programs to reduce emissions. Mitigation is central to global efforts to tackle climate change: unless action is taken to reduce emissions, global temperatures are likely to exceed the threshold of 2°C warming above pre-industrial levels that scientists have indicated will result in “dangerous climate change.”²⁴ Such a scenario would cause irreversible change to globally important biophysical systems²⁵ and stress the ability of human systems to cope.

Secondly, adaptation, which seeks to develop measures to reduce or moderate the negative effects of climate change and take advantage of new opportunities, is an important component of the Framework Convention.²⁶ Article 4.1b, for example, commits parties to “formulate, implement . . . national and where appropriate, regional programmes containing measures to . . . facilitate adequate adaptation to climate change.”²⁷ Article 4e states that parties must “cooperate in preparing for adaptation to the impacts of climate change . . .”²⁸ Article 11 of the Kyoto Protocol also commits parties to promote and facilitate adaptation to address climate change.²⁹

As a response to climate change, adaptation has traditionally been overshadowed by mitigation, although this is beginning to change. The UNFCCC, for example, recently re-affirmed the importance of adaptation on the policy agenda, establishing several programs of support.³⁰ The Action Plan from the Conference of the Parties (“CoP”) to the UNFCCC meeting in Bali, December 2007, likewise calls for “enhanced action on adaptation,” including the provision of financial resources to support adaptation and assessment of adaptation needs.³¹ Adaptation is also being recognized as essential at the federal, provincial, and territorial levels in Canada.³² The Canadian position at the UNFCCC talks in Bonn, which occurred on May 16, 2006, for example, stated: “In Canada’s arctic region, the changes noted

by the Inuit community . . . has raised the need to address adaptation measures.”³³ Moreover, the federal government has made commitments to support adaptation, including the recent provision of C\$86 million to help Canadian communities deal with the effects of climate change. In Arctic Canada, policy makers have been proactive in pushing adaptation onto the agenda.³⁴ The federal department of Indian and Northern Affairs, for example,

made a commitment to develop an Impacts and Adaptation Strategy, and the Government of Nunavut is currently developing an adaptation plan.

MITIGATE WE MIGHT, ADAPT WE MUST

Stabilizing and reducing greenhouse gas emissions responsible for climate change should be a priority for Canadian and international efforts to tackle climate change. One could argue that dangerous cli-

mate change is already occurring in the Arctic, or will happen soon, thereby compelling parties to the UNFCCC to act immediately through mitigation to avoid “dangerous anthropogenic interference with the climate system.”³⁵ Inuit political leaders should continue to press for action on greenhouse gas emissions, as unabated or “runaway” climate change could prove disastrous for Inuit. However, this Article argues that adaptation should be the central focus of climate change policy in Inuit regions of Canada, and a priority for Inuit political negotiations both domestically and internationally. Legal obligations favor support to help Inuit adapt: the UNFCCC legally obligates parties to act on adaptation, the Canadian Charter establishes rights for Inuit vis-à-vis the state that can only be upheld through adaptation, and in many instances adaptation is required to help prevent internationally recognized human rights from being violated. Two further arguments in support of prioritizing adaptation are offered.

Firstly, it is now accepted that some degree of climate change is inevitable, even if atmospheric concentrations of greenhouse gases were dramatically curtailed.³⁶ Communities, regions, and economic sectors will therefore have to adapt to some degree of climate change. This is particularly pertinent in the Canadian Arctic, where even small changes in future climatic conditions could force social and physical systems to cross tipping points due to the significant changes in climate already experienced.³⁷ Moreover, it is widely recognized that climate change is already occurring in the Arctic and that Inuit populations are vulnerable. Adaptation can bring immediate benefits in the form of reduced sensitivity to climatic risks and increased adaptability.

Secondly, it can be argued that focusing on mitigation in Arctic climate change policy is misplaced on account of low populations, the absence of a sizable industrial base, and limited consumption levels in Northern Canada.³⁸ Reducing emissions

Forty-one percent of Inuit respondents identified that more than half of the meat and fish they consumed was locally harvested.

in Inuit regions, while symbolically important, will have limited impact on the speed, magnitude, or effects of climate change. Adaptation offers a tangible way in which the impacts of current and future climate change can be reduced.

PROMOTING ADAPTATION

This Article identifies key areas in which national and international climate policy can support Inuit adaptation. These policy opportunities are organized according to how they can serve to uphold internationally recognized human rights for Inuit within a changing climate.

THE RIGHT TO PRACTICE AND ENJOY THE BENEFITS OF ONE'S CULTURE

This Inuit right is violated as climate change reduces access to traditional hunting areas. Inuit are not passive in the face of such change, however. Across Northern Canada, hunters are adopting new technology to maintain access to hunting areas. More ice-free open water in the summer, for instance, is considered a benefit in many communities and Inuit are using boats to take advantage of the new hunting opportunities.³⁹ At other times of the year when the ice is unsafe, All Terrain Vehicles ("ATVs") are being used to bypass the frozen ocean. New trails which detour unsafe and impassable areas are also being developed to access hunting areas.⁴⁰ Such adaptations, involving changing resource use patterns in response to environmental circumstances, have defined the very nature of Inuit survival in the Arctic for millennia.⁴¹

In the modern world, however, such responses are not accessible to all Inuit. ATVs and boats are often too expensive for hunters, and the costs of having to travel further can not always be afforded. Support programs for harvesters are offered in all the Inuit regions of Canada by regional governments and land claim institutions and help hunters access climate adaptations. However, there are significant shortfalls in resources available and this will no doubt increase as the impacts of climate change become pronounced.⁴² Financial support for harvester programs, targeted at helping Inuit communities afford to adapt, is one way in which Canadian and international support can help Inuit maintain their ability to practice culturally important activities in a changing climate.

THE RIGHT TO HEALTH AND LIFE

Climate change violates this right by increasing the danger of using traditional lands. Inuit are responding to such risks by taking along safety equipment such as satellite phones, global positioning systems, emergency beacons, immersion suits, and are utilizing available weather and ice forecasts to assess safety of using the land at certain times of the year. Harvester support, similar to the programs noted above, is required to help Inuit access these important but expensive technologies, along with the provision of training to help local people make full use of these technologies. Improved hazard forecasting is also required: at present only four meteorologists cover Canada's Arctic region and are unable to provide regularly updated weather forecasts that hunters need in a changing climate.⁴³ Moreover, there is a

need to develop key traditional skills among younger generation Inuit. Across Inuit regions, research has noted that many of today's youth do not have the detailed knowledge of environmental conditions necessary for safe hunting and travel.⁴⁴ Climate change is exacerbating this trend, increasing the danger for young people and reducing opportunities for youth to engage in traditional activities. Addressing the erosion of traditional skills through the creation of cultural schools and land skills programs is a priority across the Canadian north, as land skills and knowledge become even more essential with climate change.⁴⁵

THE RIGHT TO ENJOY PERSONAL PROPERTY

Across Inuit regions of Canada, research has documented a trend of increasing damage and loss of expensive hunting equipment with climate change, violating the right to enjoy personal property.⁴⁶ For many Inuit, loss or damage to equipment means temporary or permanent loss of livelihood as many hunters do not have the financial means to repair or replace equipment. Furthermore, very few, if any, Inuit have insurance on their equipment due to cost and the fact that most Inuit do not have bank accounts. Regional governments offer disaster compensation in some instances but this is widely regarded as insufficient, and claims can expect to increase with climate change.⁴⁷ In the future, Inuit leaders will likely push for compensation for lost and damaged equipment from the Canadian government and internationally.

INVIOABILITY OF THE HOME

The majority of Inuit cultural sites (graveyards, hunting camps, etc.) and current settlements are located on the coast and/or on permanently frozen land (i.e. permafrost). Climate change threatens to violate Inuit rights to their homelands through sea level rise, coastal erosion, permafrost thaw, and more active slope processes. Physical interventions are being considered in vulnerable communities across the Arctic to protect infrastructure. These include moving buildings, raising buildings, and installing engineering structures to provide protection from wave action and permafrost thaw. Any engineering-based measures, however, will be costly. Recently-announced federal funding under the government's Building Canada long-term infrastructure fund will help climate proof key infrastructure, although cultural sites are not covered by this fund. Documenting cultural sites at risk with climate change, identifying adaptation options and needs, and establishing funds to help protect them should all be a priority to support Inuit adaptation and protect the inviolability of the home.

As all these points make clear, adaptation can help Inuit manage climate change. Many adaptations, however, are costly and exceed the financial abilities of Inuit households, regional governments, and land claims institutions. Establishing compensation funds and procedures accessible by Inuit and regional governments in advance of future climate change is essential to helping Inuit maintain their livelihoods and culture in a changing climate. Such action is supported by the human rights law, the Canadian Charter, and the UNFCCC, which commits parties to formulate policies to facilitate adequate adaptation.

DISCUSSION

The need and opportunities for adaptation support outlined above are by no means exhaustive or fully formulated. They are intended to outline—based on current understanding—key areas where support is required to help Inuit adapt to a changing climate. Moreover, they focus on policy needs to help Inuit cope with changes they are already experiencing and to which they may be vulnerable in the future. Future climate change brings the potential for conditions Inuit have not previously experienced, and these risks and response options need to be systematically assessed. Indeed, to address what some have called the “adaptation deficit” in Inuit regions,⁴⁸ further understanding of current and future vulnerability, needs assessment, and prioritization of actions is required. The UNFCCC establishes legal obligations for Canada to prepare for adaptation in this manner, an obligation recently reaffirmed in the Bali Action Plan to the Conference of the Parties.⁴⁹

It is clear that Inuit have legal recourse both in Canada and internationally for action to support adaptation. Despite this, formidable barriers exist to achieving support at a Canadian and international level. Firstly, as non-state actors, Inuit do not have recourse to international legal institutions that enforce international treaties. For example, only parties to the UNFCCC have recourse against other signatory states, and the Canadian government has been reluctant to press for significant action on climate change, despite the fact that Article 2 has, or will soon be, violated in Inuit regions of Canada.

Secondly, adaptation funds available through the UNFCCC are for developing countries only.⁵⁰ While socio-economic indicators in Inuit regions of Canada often mirror those in developing nations, as non-state actors Inuit cannot apply. As a party to the

UNFCCC, however, Canada is legally obliged to “cooperate in preparing for adaptation to the impacts of climate change”⁵¹ Notwithstanding, Budreau and McBean⁵² note that a state’s legal obligation to adaptation remains vague and is largely limited to publishing policy documents and official statements. Moreover, the very concept of adaptation in the UNFCCC as actions taken in response to climate change impacts resulting from anthropogenic emissions is a barrier to meaningful action.⁵³ Adaptive responses under the UNFCCC have to demonstrate that they address the marginal impacts of future climate change. Yet in many cases it is not possible to separate climate change impacts from social-economic drivers of climate change vulnerability.⁵⁴

CONCLUSION

It is now widely accepted that climate change is occurring in the Arctic and that dramatic changes can be expected in the future. For Inuit, climate change is a fundamental human rights issue. As such, it is essential to find a way to tackle climate change in Arctic regions. Inuit political leaders should continue to push for aggressive efforts globally to curb greenhouse gas emissions. However, mitigation can only offset the worst impacts of climate change and will not prevent climate change that is happening today and to which we are committed. Efforts to support Inuit adaptation are therefore of particular importance in helping maintain livelihoods and the fundamental right to culture. The majority of Canadian Inuit will be able to adapt to climate change only if support is provided to implement adaptation options. Examining how to support adaptation, identifying high risk areas, and establishing funds and procedures to facilitate adaptation at both a Canadian and international level, should be priorities for domestic and international climate policymakers.



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⁷ This figure was kindly provided by Meghan McKenna of Inuit Tapiriit Kanatami. The Inuit Tapiriit Kanatami website is available at <http://www.itk.ca/>.

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¹² Christopher Furgal & Jacinthe Seguin, *Climate Change, Health, and Vulnerability in Canadian Northern Aboriginal Communities*, 114 ENVTL. HEALTH PERSP. 1964 (2006).

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¹⁴ DAVID DAMAS, ARCTIC MIGRANTS/ARCTIC VILLAGERS: THE TRANSFORMATION OF INUIT SETTLEMENT IN THE CENTRAL ARCTIC 277 (McGill-Queen’s Univ. Press 2002).

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SEARCHING FOR A VOICE: THE INDIGENOUS PEOPLE IN POLAR REGIONS

by Eunjung Park*

Despite the perception of outsiders that it is a frozen land, the Arctic is home to over 3.5 million indigenous people, including the Inuits, the Saami, the Chukchi, and many more.¹ Interestingly, one of the main differences between the two Polar Regions is the absence of indigenous people in the Antarctic and the presence of them in the Arctic.

These indigenous people's lives are affected by environmental changes, including climate change, chemical contaminants from their diet of sea-mammals, and over-fishing.² Climate change, especially, has impacts on food accessibility, availability, and personal safety. Thawing of permafrost brings instability to the community infrastructure, and substantial investment will be required to adapt the community structure, or relocate the community. Coastal indigenous communities are threatened by erosion because of melting sea ice, and up to eighty percent of Alaskan communities, comprised mainly of indigenous peoples, are at risk of coastal erosion.³ Coastal erosion impacts the residents and structures, as waves eat away sea walls and barriers that the indigenous people have used to build their communities.⁴

Indigenous people in Arctic observe and experience climate change first-hand.⁵ They notice the change in weather and glaciers and notice the changes in the group size or migration routes of certain species affected by climate change. Indigenous people are also a source of traditional knowledge as they have responded to major climatic and environmental changes by altering group sizes, relocating, and being flexible with seasonal cycles in hunting or employment.⁶ For example, the Inuit hunters have proved to be capable of identifying the new travel routes of species such as geese and caribou as they shift their migration in response to the climate change.⁷ However, the indigenous people have very limited opportunity to effectively voice their opinions in international dialogue on environment.

The Arctic Council, since its establishment, has become a forum for "circum-Arctic co-operation" where indigenous people are able to contribute to the discussions and cooperation on sustainable development and environmental protection in the Arctic.⁸ In 1991, eight arctic states signed the Declaration on the Protection of the Arctic Environment and the Arctic Environmental Protection Strategy ("AEPS") to establish the Arctic Council in 1996.⁹ In addition to the member countries, the Arctic Council welcomes the equal participation of indigenous communities for full consultation with and participation of the

indigenous people who reside in the Arctic, yet do not have a voice otherwise. The Arctic Council is considered a soft-law organization essentially operating outside of international law, and the outcomes of the Council are not considered binding. Beyond the Arctic Council, however, indigenous peoples in the Arctic have no other opportunity to participate in the international community's decision-making process on environmental changes, which affects their daily lives.

The international community should recognize the need

for indigenous people in the Arctic to participate in international dialogue on environmental issues, like climate change, through means such as the United Nations Framework Convention on Climate Change.¹⁰ Indigenous people should be given a status equivalent to the United Nations Permanent Forum on Indigenous Issues as they have the mandate to "discuss indigenous issues within the mandate of the United Nations Economic and Social Council." Without the indigenous people to provide input, the Conference of Parties has taken adaptive and mitigating measure against climate change that have adverse impacts on the indigenous people in Polar regions and elsewhere.¹¹ Additionally, this lack of platform for the indigenous people results in disproportionate emphasis on certain issues. For example, protection of polar bears has been emphasized greatly, while preserving the long-standing Inuit culture and source of subsistence of hunting polar bears failed to receive sufficient attention.¹²

The Arctic states should also empower the indigenous people in the Arctic so that they can participate in international dialogue, and support them as they make efforts for economic development. Canada has granted a semi-autonomy plan for a mainly Inuit region of Quebec in 2007 in order to promote the socioeconomic development that meets the need of the Inuit.¹³ Canada also has designated a federal funding for the Canadian Arctic Indigenous Peoples Against POPs to assist the indigenous people to participate in the international dialogue.¹⁴ Actions taken to affirmatively support indigenous people in each Arctic state will contribute to the overall elevation of indigenous status in environmental dialogue in the Arctic.



Endnotes: Searching for a Voice *continued on page 64*

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PERSISTENT ORGANIC POLLUTANT ACCUMULATION IN THE ARCTIC

by Rachel T. Kirby*

The Arctic is one of the last regions of the world that remains seemingly untouched by modern human existence. A closer look, however, reveals the effects of pollutants on the human and animal populations in the Arctic. Persistent Organic Pollutants (“POPs”) are toxic chemicals such as pesticides and industrial by-products that break down very slowly in the environment.¹ POPs reach the Arctic from smokestacks and factories all over the world and then accumulate within the tissues of each animal in the food chain. The higher on the food chain, the higher the concentration of POPs in the animal.

The nature of the Arctic environment causes POPs to break down more slowly and accumulate in the food chain with more potency than they would in other environments.² POPs arrive in the Arctic via atmospheric and ocean circulation patterns which bring pollution from human sources to the Arctic.³ There, POPs typically enter the food chain through plankton in sea water. When the plankton is eaten by fish, POPs accumulate in the fish, which are then eaten by larger fish or mammals which accumulate more POPs in their fatty tissues. Each step in the food chain creates a more concentrated reservoir of POPs.⁴

The result of this cycle is that at the top of the food chain, humans, polar bears, and other large predators have chemical levels high enough to cause health effects⁵ even though the nearest source of contamination might be thousands of miles away.⁶ Reduced immune system function, reproductive effects, and behavior changes have been observed in many predators.⁷ The levels of POPs in some Inuit tribes in Greenland are so high that their breast milk and tissues could be classified as hazardous waste.⁸ As a consequence, their infants show altered brain development and suffer greater infection rates because of reduced immune system function.⁹

While the eight countries with territory in the Arctic have established an Arctic Council to provide a forum to discuss environmental and other issues,¹⁰ the very nature of pollution in the Arctic requires a worldwide solution. In 2001, countries around the world adopted the Stockholm Convention on Persistent Organic Pollutants¹¹ to reduce or eliminate twelve POPs (the “dirty dozen”), with provisions to include other substances in the future.¹² The Stockholm Convention, which the United States has yet to ratify,¹³ is a step towards a real reduction or elimination of toxic chemicals from the environment in the Arctic and elsewhere.¹⁴

The Convention follows the precautionary principle and allows parties to regulate additional chemicals even if complete scientific certainty of their adverse effects is lacking.¹⁵ Nonetheless, the positive effects of regulated POPs will not yield immediate positive effects in the Arctic due to the large reservoir of POPs remaining in the Arctic Ocean.

The Arctic environment is unique and serves as a warning sign of the pressures humans place on the natural world. The Arctic Council is a forum for discussing issues facing the Arctic as a whole, especially issues of environmental protection and sustainable development.¹⁶ The Stockholm Convention provides

a worldwide framework and channel for countries to limit the harmful affects from accumulating POPs in the Arctic.¹⁷ In order to provide the special protection that the Arctic requires, parties to the Stockholm Convention should be ultra “precautious” and add additional POPs to the banned “dirty dozen.” More chemicals should be added to the Stockholm Convention before accumulation of yet-to-be-banned POPs reaches dangerous levels in the Arctic.



Each step in the food chain creates a more concentrated reservoir of POPs.

Endnotes:

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Endnotes: Persistent Organic Pollutant Accumulation in the Arctic
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A TALE OF TWO POLES: A COMPARATIVE LOOK

AT THE LEGAL REGIMES IN THE ARCTIC AND THE ANTARCTIC *by Erika Lennon**

INTRODUCTION

The Polar Regions are often linked together due to their parallel physical location, frigid temperatures, and limited accessibility. However, when compared by environmental protections and governance, the Arctic and the Antarctic greatly differ. While the Antarctic has been protected by a binding legal regime since the mid-twentieth century, the Arctic has yet to receive the same treatment. Now, with global warming wreaking havoc on both regions, the need for environmental protections seems more imminent. The rapidly melting ice cap will likely have a dramatic effect on the world. A warming Arctic could result in changing global weather patterns, a rise in sea levels, and the extinction of both wildlife species and indigenous peoples. Thus, it is in the best interest of humanity to encourage action designed to prevent harm to the Arctic due to global warming.

Currently, the world is in the midst of the International Polar Year, a project to conduct research in the Polar Regions, which has increased focus on the poles.¹ Given the physical manifestations of climate change, for example melting glaciers and ice caps, it appears as though the Antarctic and the Arctic will continue to be regions of concentration and concern. While the Antarctic has a treaty in place to protect it, the Arctic remains vulnerable due to its lack of comprehensive laws to determine a uniform governance system and environmental protections. Moreover, in the Arctic, competition between nations in the race to stake claims for resources threatens to further harm the environment, as well as to overtake the debate on stewardship of the fragile environment. This Article examines the legal regimes in the Polar Regions in an effort to inform how existing regimes may aid in developing Arctic governance and environmental protections.

WORLDS APART: GEOGRAPHY

Geographically, the Antarctic and the Arctic differ greatly. Antarctica is a continent, a large, isolated land mass surrounded by water. In contrast, the Arctic is predominantly composed of the Arctic Ocean, which is surrounded by numerous countries, and covered with an ice cap. The Antarctic is more isolated both geographically and politically than the Arctic, which contains territories and pieces of land belonging to a number of differ-

ent sovereign countries. The Arctic's geographic make-up poses difficulties in trying to determine the law governing it, unlike in the Antarctic. Further, the isolated nature of the Antarctic has resulted in no permanent population, which is not true of the Arctic, an area home to various peoples, including entire indigenous communities.² The presence of a permanent population makes the Arctic dramatically different from the Antarctic since it means subsistence is an issue. So while the Antarctic has been deemed a "nature reserve," the Arctic is unlikely to be deemed as such due to both the need for the Arctic peoples to survive and function economically, as well as rights that nations currently holding interests in the Arctic are unlikely to relinquish.³

Despite these physical, legal, and political differences, both the Antarctic and the Arctic are areas highly vulnerable to the impacts of climate change and their reactions to this will drive changes in the rest of the world.⁴ Though separated by the rest of the world, the two Polar Regions are inextricably linked, and thus one may help serve as a governance model for the other.

LEGAL REGIMES

THE ANTARCTIC TREATY SYSTEM

The Antarctic Treaty System provides for the governance of Antarctica. At its core is the Antarctic Treaty, but it also includes the Protocol on Environmental Protection to the Antarctic Treaty ("Madrid Protocol"), the Convention for the Conservation of Antarctic Seals, and Convention of Antarctic Marine Living Resources. Further, the Antarctic Treaty System incorporates the decisions made at the Meetings of the Parties of the Antarctic Treaty, as well as other decisions adopted by various groups within it. Thus, the Antarctic Treaty System provides a legal regime with hard law, but it is also flexible and can adapt to change.

In the middle of the twentieth century, twelve nations, including countries from Europe, Asia, North America, and South America, created the Antarctic Treaty. Designed to promote peace and international cooperation in the region, the Ant-

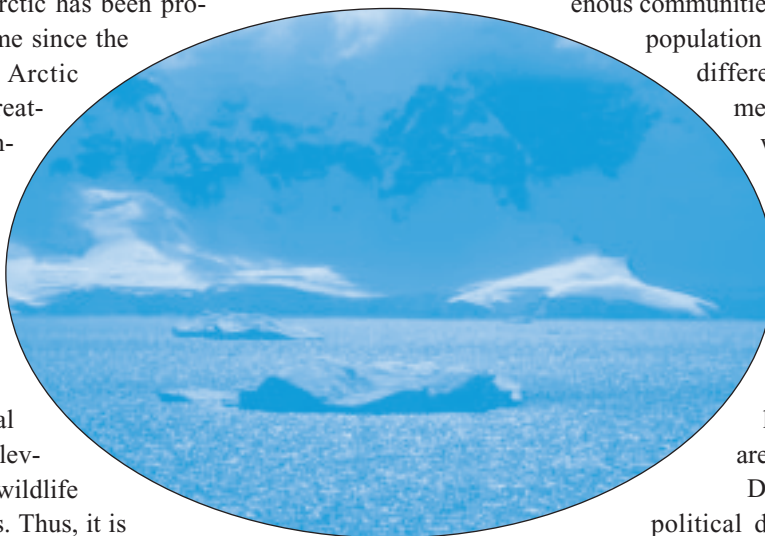


Photo Courtesy of Manuela Altube

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arctic Treaty provided a framework for internationalizing and demilitarizing the continent to protect it for future generations.⁵ Initially a preventative agreement to deflect conflict and the spread of a nuclear arms race, the Antarctic Treaty has adapted to protect the environment.⁶

In the scramble to increase their influence in the world, including sovereign control of Antarctica, seven nations staked their claims on land in Antarctica based on “discovery, exploration, or geographic propinquity,” and still more had engaged in exploration.⁷ However, the United States and the Soviet Union refused to recognize other countries’ claims, but still reserved their rights to claim land.⁸ At the time of the treaty negotiations, none of these claims resulted in violent conflicts, but uncertainty loomed. This instability was only increased by possibilities of natural resources existing on the frozen continent. These uncertainties and the potential for the movement of nuclear weapons to the southern polar region prompted international action and a group of nations came together to discuss the status and future of Antarctica.⁹

The Antarctic Treaty firstly declared that countries and people could use the continent for “peaceful purposes only,” thus demonstrating that arms limitation was a motivating factor in the treaty creation.¹⁰ However, the Treaty further allows for scientific investigation in the region, and encourages cooperation amongst the nations engaging in scientific research.¹¹ The negotiating countries wanted to promote scientific research, though did not want to allow the land grab to continue. Thus, the Treaty specifies that, while it is in force, no country shall claim sovereignty or attempt to create rights of sovereignty in Antarctica.¹² By preventing sovereign claims, the signatories ensured the continued existence of a peaceful Antarctic and also prevented future conflict over the control of potential resources. Further, the Treaty purports to cover the geographic region of Antarctica including ice shelves, but does not attempt to go beyond the limits of the land, therefore excluding the high seas from the Treaty.¹³

Thirty years after signing the Antarctic Treaty, parties adopted the Madrid Protocol.¹⁴ The Madrid Protocol expanded on the Antarctic Treaty by determining that, in addition to ensuring that Antarctica would be used for peaceful purposes and scientific research, the Antarctic’s ecosystem should be protected and so it designated the region as a “natural reserve.”¹⁵ This Protocol recognized that Antarctica occupied a unique position in the world, including prior designations of the region as a conservation area, to support its claims that protection of the Antarctic ecosystem served all mankind’s interests.¹⁶ Therefore, the Madrid Protocol designated the Antarctic, “a natural reserve, devoted to peace and science.”¹⁷ To ensure this, the Madrid Pro-

ocol contains specific goals to avoid harming the environment, including limiting adverse effects on climate patterns and air and water quality, and avoiding activities that would be detrimental to the environment, further endanger already threatened species, or significantly alter the environment of the region.¹⁸ Additionally, like the Antarctic Treaty, the Madrid Protocol calls for cooperation amongst the states to promote scientific research while maintaining the underlying goal of keeping Antarctica a neutral area with no single country having sovereignty.¹⁹

The Madrid Protocol highlighted the importance of the Antarctic ecosystem protection and transformed the Antarctic Treaty System from a Cold War era anti-arms race agreement to an environmental protection one. The Antarctic Treaty initially served to promote peace and prevent nations, primarily

the United States and the Soviet Union, from using the Antarctic as a place to stockpile weapons, and while trying to accomplish this, it created a protected area for research and exploration that was free from division because no country could claim sovereignty. This also meant that no country could completely exploit the resources of the region. Then, the Madrid Protocol used these goals, namely its freedom from sovereignty claims, to declare the area a nature reserve and to promote the environmental protection of Antarctica and its fragile ecosystem.

The Convention for the Conservation of Antarctic Seals and the Convention of Antarctic Marine Living Resources govern two very specific areas of importance in Antarctica. These two conventions were enacted under the Antarctic Treaty to help further protect Antarctica.

THE ARCTIC COUNCIL

In contrast to the legal regime in place in the Antarctic, the Arctic remains an area uncontrolled specifically by one international treaty. Currently, several treaties, such as the United Nations Convention on the Law of the Sea (“UNCLOS”),²⁰ the International Convention for the Prevention of Pollution from Ships (“MARPOL 73/78”),²¹ the Polar Bear Treaty,²² and various other bilateral and multilateral agreements govern certain aspects of activity in the Arctic. However, these treaties do not address all of the potential issues that are likely to arise in the Arctic, including which country will have sovereign control over some of the central most regions of the ocean or how to protect the environment specifically. Instead of a treaty system, there is the Arctic Council.

The Arctic Council is a soft law regime that has no actual ability to make binding law, thus it serves as an advisory body. In 1991, the Arctic Environmental Protection Strategy (“AEPS”) came into being as one of the first agreements to address the importance of protecting the Arctic environment.²³ In developing the AEPS, the participating countries recognized the need to

It is in the best interest of humanity to encourage action designed to prevent harm to the Arctic due to global warming.

work together to protect the Arctic since environmental problems and impacts were neither caused, nor felt by, just one country.²⁴ The drafting nations, now the Arctic Council, acknowledged that the vulnerability of the ecosystem necessitated protection of the Arctic. Further, the AEPS created several of the working groups that have since been incorporated into the Arctic Council, which is tasked with implementing the AEPS.

Five years after creating the AEPS, in 1996, several states formed the Arctic Council.²⁵ Canada, Denmark (via Greenland), Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States of America, along with the permanent participants, which currently consists of six indigenous peoples groups, the Aleut International Association (“AIA”), the Arctic Athabaskan Council (“AAC”), Gwich’in Council International (“GCI”), Inuit Circumpolar Council (“ICC”), the Russian Association of Indigenous Peoples of the North (“Raipon”), and the Saami Council, comprise the Arctic Council.²⁶ These six groups, representing the indigenous people that live in the Arctic, have further banded together to form the Indigenous Peoples’ Secretariat to support the groups and ensure their role in the Arctic Council.²⁷ However, their role is limited because the indigenous peoples groups are not voting members. Additionally, the Arctic Council allows other non-Arctic nations, inter-governmental organizations, and non-governmental organizations (“NGOs”) to play a role in the Arctic Council, though with observer status rather than actual power.²⁸ These countries and groups can apply or be nominated to obtain Observer status.²⁹ Thus, though not fully inclusive the Arctic Council does allow for participation by non-Arctic countries.

The Arctic Council is a soft law regime created to address environmental protection and sustainable development³⁰ and includes countries with any land in the Arctic, though this is a larger group than those likely to be able to gain sovereignty over sea areas under UNCLOS.³¹ Additionally, unlike many treaties, the Arctic Council has a rotating Secretariat.³² Every two years, the new chair determines objectives and develops a plan to achieve them.³³ This presents a problem since it means that goals can change every couple years, which could hinder real work from getting done. However, Norway, the current chair, along with Denmark and Sweden, the next two chairs, realized that the ability to get things done required more than two years. In response, these countries created a plan with common objectives and priorities, which will help promote Arctic protection through the continuation of programs designed to fight climate change through the implementation of ACIA recommendations, integrated management of resources, and implementation of policies stemming from IPY research, and create stability over the course of six years.³⁴ Thus, the Arctic Council conducts research designed to enhance Arctic environmental protections, oversees activity in the Arctic, and works to protect it, but does so without creating any binding laws.

Further, the Arctic Council has six working groups each focusing on a various aspect of Arctic conservation. The working groups are the CAFF (the Conservation of Arctic Flora and Fauna working group), PAME (the Protection of the Arctic

Marine Environment working group), SDWG (the Sustainable Development Working Group), AMAP (the Arctic Monitoring and Assessment Program), ACAP (the Arctic Contaminants Action Program), and EPPR (the Emergency Prevention, Preparedness, and Response Working Group).³⁵ Each of these working groups functions as an individual entity with its own secretariat, own meetings, and own mechanisms for conducting scientific research and carrying out the plans of the Arctic Council.³⁶ The CAFF and the PAME primarily focus their efforts on protecting the Arctic ecosystem, while SDWG focuses on the protection of the economic well-being and overall health of the Arctic people while promoting their lifestyle and economic development in an environmentally sustainable way.³⁷ The newest working group, the ACAP, focuses on limiting and reducing the number of pollutants released into the environment.³⁸ Thus, by focusing research on specific areas of conservation, these working groups promote environmental protection of the Arctic, and help the Arctic Council implement the AEPS.³⁹

Each of these working groups has created environmental protection programs. For example, the CAFF created the Circumpolar Protected Area Network (“CPAN”), which is designed to promote biodiversity through the protection of a network of areas each of which has “a high probability of maintaining ecosystem health and dynamic biodiversity.”⁴⁰ Thus, the CPAN links areas, akin to nature reserves, and preserves them so as to ensure continued biodiversity. Other working groups have instituted projects as well. The AMAP, which monitors and reports on the effects of numerous pollutants, ozone depletion, and climate change on the Arctic, reports back to the Arctic Council in an effort to influence its policies.⁴¹ These two programs demonstrate how the working groups influence the Arctic Council and the diversity of programs they implement to protect the Arctic environment.

The Arctic Council can create policies, though cannot enforce them as binding law. For example, the Arctic Council established Arctic Environmental Impact Assessments (“EIA”) Guidelines to help create uniform policies to promote sustainable development.⁴² These Arctic EIA Guidelines were not designed to replace any national or international EIA guidelines, but rather to create specific guidelines for issues faced when implementing projects in the Arctic.⁴³ Further, the Arctic EIA Guidelines focus on cooperation, flexibility, and inclusiveness in an effort to ensure that all countries can participate and will work to ensure Arctic protection.⁴⁴ The primary focus of these guidelines is to point out that the Arctic environment is unique necessitating different threshold levels and sensitivity criteria.⁴⁵ Here, the Arctic Council has tried to create a uniform system for all countries to use when conducting Arctic area EIAs; however, countries do not need to follow them.

Through its working groups and draft guidelines for activities like EIAs, the Arctic Council works to govern activity in the Arctic. However, the Arctic Council remains disjointed since each working group has its own secretariat and its own home city, and the Arctic Council itself lacks a permanent secretariat. Additionally, as a soft law regime, the Arctic Council lacks the

power to create legally binding documents. Therefore, while the Arctic Council is a good start, it may be insufficient to protect the Arctic environment.

COMPARISON OF THE POLAR REGIONS

While the Antarctic and the Arctic are often linked together in discussions and projects such as the IPY, the two regions are far apart in legal protections. As the IPY framework document points out, the Polar Regions are “integral components of the Earth system” since they not only drive environmental changes around the world, but also respond to changes, such as global warming.⁴⁶ Thus, the IPY is designed to take a scientific and research approach to learning more about these regions. However, it seems that other new projects focused on implementation and not just research must be undertaken to ensure the protection of the Arctic environment.

The Antarctic has been accessible for exploration for longer than the Arctic has, given that much of the Arctic is an ocean covered in ice for large parts of the year, and therefore impassable by ships. However, the rapidly increasing melting ice indicates that soon the Arctic will be more accessible and navigable which will make natural resources more attainable. These environmental changes have created urgency to extend environmental protections and clarify political control of the Arctic. As the Norwegian Minister of Foreign Affairs, Jonas Støre stated in January 2008, “developments in our polar regions are both a serious warning and a call to action.”⁴⁷ This is less of a problem in the Antarctic, where the Antarctic Treaty System implements the treaty’s provision ensuring that the region would be used for peaceful, scientific purposes⁴⁸ and the Madrid Protocol ensuring that these activities do not harm the Antarctic environment.⁴⁹ In contrast, the Arctic does not have an overarching legal regime in place governing all activity, but rather is governed by many different sources of law, both domestic and international, as well as by proposed standards such as the Arctic EIA Guidelines.

Geographically, the sheer distance of the Antarctic from other countries diffuses the interests of any one nation, while the Arctic Ocean directly abuts the territory of individual nations and the Arctic region includes territories of several sovereign nations. Thus, treaties like UNCLOS, which governs much of the activity in the Arctic, do not play a large role in the Antarctic.⁵⁰ UNCLOS allows countries to claim sovereignty over an exclusive economic zone (“EEZ”), which is the area extending two hundred nautical miles from the coast. Therefore, the Arctic, almost completely surrounded by various countries, is subject to division by nations trying to assert control of the natural resources there by claiming that areas are within their EEZ.

Currently, though the Antarctic has more binding protections than the Arctic does, the increasing effects of global

warming might cause this to change. Forty years ago, when the Antarctic Treaty came into being, the Antarctic was the land with resources the world wanted. Now, the focus is on Arctic resources, and as the Antarctic did prior to the treaty negotiation, the Arctic lacks a binding regime not only to protect the environment, but also to determine which countries have control over the area.

Unlike in the Antarctic where, under the Antarctic Treaty, countries were prevented from making further claims of sovereignty over the region, the Arctic is now facing a potential land or seabed grab. In summer 2007, Russia planted its flag on the Lomonosov Ridge on the basis that it was a continuation of its continental shelf.⁵¹ While this has little legal impact, it demonstrates the potential conflicts that could arise. UNCLOS provides a mechanism for determining which country has sovereign control, but that mechanism requires scientific information about the ocean floor that is not easy to obtain.⁵² To date, the Commission on the Limits of the Continental Shelf has yet

Though separated by the rest of the world, the two Polar Regions are inextricably linked.

to approve either of the two proposals it has received involving regions in the Arctic.⁵³ Therefore, UNCLOS may not be the best mechanism for determining which country controls which part of the Arctic. Recently, an article by Scott Borgerson warned that the increased access to Arctic resources and lack of legal regime could cause the Arctic to “erupt in an armed mad dash for its resources.”⁵⁴ Thus, he recommended that the Arctic countries meet to create a treaty to address how to extract resources including an agreement on “how to carve up the region’s vast resource pie.”⁵⁵ Antarctica, on the other hand, does not face this conundrum because the Antarctic Treaty prevents countries from making sovereign claims over the region.⁵⁶

Additionally, without binding legal standards it is hard to ensure environmental protections. Each country has its own standards for shipping, air quality, and other similar environment related issues, however, no guarantee exists that these standards are the same across borders. While several treaties, including ones governing the law of the sea, the release of pollutants, and the protection of species, exist, none of these treaties specifically addresses Arctic environmental protection in and of itself. The Arctic Council works to protect the region; however, it lacks the enforcement mechanism and power to make the participating countries alter their actions. In contrast, the Antarctic is protected by the Madrid Protocol, a binding legal regime. Thus, the Antarctic really is an area of peaceful, scientific research as opposed to these goals being merely aspirational.

OPTIONS FOR THE FUTURE

Despite the urgency to act, the way to protect the Arctic is still unknown. The Antarctic Treaty System provides a very good model for environmental protection; however, the feasibility of a similar system working in the Arctic is unclear. The Ant-

arctic Treaty focuses on using Antarctica for peaceful, scientific purposes and preventing any country from making sovereign claims.⁵⁷ This works in Antarctica since it is an isolated, unpopulated land mass, unlike the Arctic, which is not as isolated and is populated. Thus, to some extent the Arctic resources will have to be used, however, this can be done sustainably. While the Antarctic is a natural reserve, political conflicts and the desire for natural resources might prevent the Arctic from being declared one as well. However, the Arctic Council has set up the CPAN to ensure the environmental protection of large portions of the Arctic.⁵⁸ Thus, the Antarctic Treaty System could inform a potential Arctic Treaty even if it cannot serve as a direct model.

In contrast, some view the Arctic not as an environment to protect for the good of the world, but rather as a potential battleground for nations wanting the hidden natural resources.⁵⁹ As melting ice increases access to the region, more countries are likely to lay claim over areas with natural resources, such as petroleum. While a treaty may be necessary to prevent fighting, this approach could overlook the necessity of creating environmental protections. Although, an Antarctic Treaty-like regime could come about to prevent the potential land grab. Regardless, the increased focus on the melting Arctic sea ice seems to indicate that a more binding legal regime than the Arctic Council needs to be created. In creating this regime though, a primary focus should be on environmental protections, rather than on natural resources harvesting, because the world as a whole needs to ensure that climate change will not wreak havoc on the Arctic environment, and consequently the rest of the worlds.'

CONCLUSION

While the Antarctic and the Arctic share similar attributes and are often referred to together, they differ in many respects. The Arctic lacks the comprehensive legal framework that has protected the Antarctic environment. Currently, the Arctic environment has become a focus of concern as climate change, and the rapid rate at which the ice cap is melting, becomes a more prominent issue. However, there is not this level of concern for the Antarctic. Thus, now might be time to create binding laws, similar to those that protect the Antarctic environment, to protect the Arctic environment, and consequently the rest of the world.

The Antarctic currently has relatively well-established protections, but the Arctic does not. Thus, as competition for emerging natural resources fuels new interest in the Arctic, and simultaneously climate change and IPY draw attention to environmental concerns in the region, there is a unique opportunity for both progress and peril. While environmental concerns could get lost in a battle for resources, it is also possible that the current political system will focus on pushing forward environmental agreements to prevent environmental change and protect the world. To not lose this battle, environmental protection plans must be developed and readied to be introduced in the international arena either on their own or as part of another agreement when the time comes to act in the Arctic.



Endnotes: A Tale of Two Poles *continued on page 65*

PREVENTING DISASTER AS THE ARCTIC SEAS OPEN FOR BUSINESS

by Michael W. Lore*

Vessels navigate freely in the port of Helsinki, Finland this winter as the usually busy icebreakers standby idle.¹ The retreating ice is creating the once-fabled Northwest Passage, allowing goods to travel between Western Europe and Eastern Asia with a 4,000-mile shortcut through the Canadian Arctic.² The Russian Northeast Passage is also becoming more accessible, creating a huge potential for increased shipping and fishing traffic throughout the entire Arctic region. As traffic increases, countries with jurisdiction over the Arctic should consider international agreements to protect against catastrophic oil or chemical spills in the region's fragile ecosystems.

A looming environmental concern is that to save time and fuel, irresponsible or inexperienced crews on vessels of unregulated countries could crash single hulled containers in the shallow Arctic waters and spill oil or hazardous chemicals into the fragile sea and land ecosystems. A huge oil or chemical spill, under existing circumstances, would be difficult to prevent and practically impossible to clean up. Moreover, Arctic wildlife consists of a few varieties of species that are found nowhere else on Earth.³ These species mainly breed in clustered groupings, which expose them to extremely high risks from potential oil or hazardous chemical spills.⁴

In anticipation of the melting ice, Russia has staked its claim to a huge area of the Arctic for oil and gas exploration,⁵ and Canada has asserted sovereignty over the Northwest Passage.⁶ However, the Arctic environment requires more protection than any individual state or existing international legal arrangements provide.⁷ Russia does not possess the capacity to clean up oil spills in temperate areas,⁸ let alone in the more difficult conditions that exist for oil clean-ups in the frigid Arctic waters.⁹ Canada is constructing three new ships to monitor the Arctic and has plans to lay a cable to detect passing vessels this summer, but these resources may not be adequate to monitor all vessels and will not greatly help in alleviating shipping accidents.¹⁰ Maps of the shallow Arctic seafloor are improving but they are far from adequate.¹¹ Furthermore, there are no international environmental agreements to set standards to safeguard against the rising threat of hazardous shipping disasters in the Arctic.

Unlike Antarctica, which the UN declared non-commercial international territory with an enforceable protocol, the Arctic does not have an international protected status.¹² The United

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Polar bear tracks found near the Kapitan Dranitsyn.

States has been actively pushing the international community to consider the Canadian Arctic waters an ‘international strait,’ permitting international commerce to pass through the Canadian waters freely under international law, while Canada argues that the environmental protection of the Arctic is better in their hands.¹³ International law defines an international strait with geographical and functional qualifications. The geographical standard is not so much in dispute as the functional qualification, which would require international travel between the Canadian straits.¹⁴ However, Canada does not currently have the resources to patrol the waters adequately to deter international usage.¹⁵ Therefore, Canada may lose sovereignty over the waters as usage increases with the melting ice and there are insufficient enforceable international standards to protect the Arctic waters.

The Ministers of Arctic countries in 1993 signed a ‘non-binding’ declaration in Nuuk, Greenland to address the “special role and responsibilities of the Arctic Countries with respect to the protection of the Arctic environment.”¹⁶ In the draft declaration, the United States emphasized the “Arctic uniqueness” in the effort to protect “the integrity of the aquatic, terrestrial, atmospheric and ice environments of the Arctic and their interdependent ecosystems as whole to the region itself and to the global environmental processes.”¹⁷ Swedish officials proposed an Arctic Sustainable Development Strategy and noted that the future of the Arctic environment requires that environmental pressures and emergencies be prevented rather than reacted to.¹⁸ This proposal was not adopted, however, and the actual Declaration on the Establishment of the Arctic Council dropped its connection with the environment and stated that the declaration

only “is directed to the unique aspects of the Arctic and the special relationship and contribution of indigenous people and their communities.”¹⁹ In order to prevent the foreseeable environmental pressures and emergencies stemming from the increasing traffic in the Arctic, Arctic countries should formulate binding multilateral environmental agreements.

The eminent increased human activity in the Arctic should spur Arctic countries to collectively create and monitor enforceable environmental regulations to mitigate the impending environmental pressures on the Arctic. Prevention of ecological disaster in the Arctic must be actively pursued. A reactionary response to an oil or chemical spill in the Arctic will amount to a frantic endeavor that will teach us how careless we must have been to allow the accident to occur in the first place. Failing to prevent this foreseeable environmental disaster would be international negligence.



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HYDROCARBON DEVELOPMENT AND MARITIME SHIPPING FOR THE CIRCUMPOLAR ARCTIC IN THE CONTEXT OF THE ARCTIC COUNCIL AND CLIMATE CHANGE

by Magdalena A K Muir*

INTRODUCTION

The Arctic sea ice cover is undergoing an unprecedented transformation—sea ice thinning, a reduction in extent, and a reduction in the area of multi-year ice in the central Arctic Ocean. The Arctic Climate Impact Assessment (“ACIA”) Scientific Report documents overall changes, and also provides sea ice projections for the next century, which show increasing ice-free areas in the coastal zones and increases in marine access throughout the Arctic Ocean.

One of the consequences of climate change for the Arctic is the greater opportunity for hydrocarbon development and maritime shipping.¹ This is in part due to climate change as a result of thinner ice and higher overall temperatures. Recent energy prices have increased political and commercial interest in exploiting these resources.² Increased economic activity in this region, together with the current retreat of Arctic sea ice facilitates developments such as the Northern Sea Route around Scandinavia, Russia, and Asia, and the Northwest Passage through the North American Arctic.³ Continued sea ice reductions will lengthen the navigation season in all regions and increase maritime access to the Arctic’s natural resources

CLIMATE CHANGE AND ARCTIC DEVELOPMENT

These changes represent both a challenge and an opportunity for governments and local Arctic communities as traditional ways of life and natural ecosystems have been partially protected by the remote and extreme Arctic environment. Opportunities for resource development and marine transportation are additional challenges. Climate change may increase the fragility and decrease the resilience of sensitive Arctic environments, as well as the adaptability of its residents and indigenous peoples.

Climate changes have been extensively documented in the ACIA Scientific Report, while the impacts of climate impacts on Arctic people are discussed in the Arctic Human Development Report, of both 2004. The ACIA Scientific Report is already

well known,⁴ and its results have been incorporated in the Intergovernmental Panel on Climate Change Fourth Assessment Report.⁵

The Arctic Human Development Report is the first overview of human well-being covering the entire Arctic region.⁶ Sponsored by the Arctic Council and published in 2004, the

report was mandated under the Arctic Council’s 2002 Ministerial Declaration as a priority project designed to provide the knowledge base for the sustainable development work of the Council.⁷ The report contains eleven substantive chapters, and offers a wide-ranging scientific assessment of achievements and challenges relating to human development in the Arctic.⁸ Arctic societies are resilient in response to change. Today they

are facing an unprecedented combination of rapid and stressful changes involving environmental forces like climate change and socioeconomic pressures associated with global and regional development. At the same time, this report recognizes that the Arctic has become a leader in the development of innovative political and legal arrangements, including co-management regimes governing the use of natural resources, collaborative arrangements designed to facilitate cooperation between public governments and indigenous peoples organizations, and transnational arrangements like the Northern Forum and the Arctic Council itself. These regimes will also apply to hydrocarbon development and maritime shipping.⁹

*Recent energy prices
have increased political
and commercial
interest in exploiting these
resources.*

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Circum-arctic assessments of hydrocarbon development and marine shipping are now occurring, which provide state of the art reviews of hydrocarbon development and marine shipping in the context of this climatic and socio-economic change. Two of these assessments, the Arctic Oil and Gas Assessment and the Arctic Marine Shipping Assessment (“AMSA”), will be completed for the end of 2008, and are briefly reviewed in this Article. All these documents and policy initiatives have occurred under the sponsorship of the Arctic Council, and the eight circum-arctic governments and six international indigenous organizations that make up this Council.

The member states of the Arctic Council are Canada, Denmark-Greenland-Faroe Islands,¹⁰ Finland, Iceland, Norway, Sweden, the Russian Federation, and the United States of America.¹¹ The Council also includes international indigenous organizations, which are also known as Permanent Participants. They are the Aleut International Association, the Arctic Athabaskan Council, Gwich’in Council International, the Inuit Circumpolar Conference, Raipon and the Saami Council.¹² The Arctic Council is a political organization but the scientific work of the Council, including the assessments discussed here, are carried out by six expert working groups that focus on issues such as monitoring, assessing, and preventing pollution in the Arctic, climate change, biodiversity conservation and sustainable use, emergency preparedness and prevention, and the living conditions of Arctic residents.¹³

ARCTIC OIL AND GAS ASSESSMENT

In 2002, Arctic Council Ministers requested its working groups collaborate on an assessment of hydrocarbon activities in the Arctic, with the Arctic Monitoring and Assessment Programme (“AMAP”) Working Group coordinating the work.¹⁴ The objective of the assessment is to present a holistic assessment of the environmental, social, economic, and human health impacts of current oil and gas activities in the Arctic, and to evaluate the likely course of development of Arctic oil and gas activities and their potential impacts in the near future. The assessment is intended to offer a balanced and reliable document for future management of oil and gas activities in the Arctic and is intended to be completed for 2008.

The hydrocarbon assessment includes chapters on oil and gas activities; socio-economic impacts; input and fate of hydrocarbons in the environment; toxicity and organism-level impacts, including impacts on human health; and ecosystem-level impacts. The final chapter provides an overall assessment and presents recommendations for scientific follow-up. Similarly to the ACIA Scientific Report, there is an overview report for policy-makers and the general public. Earlier documents and two draft chapters are present on the AMAP website.¹⁵

Key findings of the Arctic Oil and Gas Assessment are that extensive oil and gas activity has occurred in the Arctic, with much oil and gas produced and much remaining to be produced. Natural seeps are the major source of petroleum hydrocarbon contamination in the Arctic environment, and petroleum hydrocarbon concentrations are generally low. On land, physical dis-

turbance is the largest effect. In marine environments, oil spills are the largest threat. The impacts on individuals, communities, and governments can be both positive and negative. Human health can suffer from oil and gas pollution and social disruption, but revenues can improve health care and overall well-being. Technology and regulations can help reduce negative impacts, but responding to major oil spills remains a challenge in remote, icy environments. For the future, more oil and gas activity is expected, and many risks remain. However, planning and monitoring can help reduce risks and impacts.¹⁶

ARCTIC MARINE SHIPPING ASSESSMENT

The Arctic Marine Shipping Assessment arises from the Arctic Marine Strategic Plan, which was adopted in 2004 by the Arctic Council. At that time the Protection of the Arctic Marine Environment Working Group was requested to conduct the assessment. This assessment is ongoing, and will be presented to the Arctic Council at the end of 2008. The assessment reviews existing marine shipping and projected marine shipping for 2020 and 2050. The assessment will also include a discussion of the environmental, social and environmental impact on present maritime activity and will project future activity. Last, the assessment will provide analysis and recommendations. Additionally, there is a focus on AMSA datasets including datasets on shipping, traditional and indigenous marine and ice uses, accidents, and ice conditions. A variety of interim documents are present on the Protection of the Arctic Marine Environment website. The most recent discuss the future of navigation by the mid-century, and possible future scenarios for development, exploitation, and political stability.¹⁷ The combination of all these documents and datasets will facilitate a coherent approach to Arctic shipping and any development of regional or circum-arctic shipping, such as the Northeast or Northwest Passage.

CONCLUSION

This Article has very briefly reviewed assessments of hydrocarbon activity and marine shipping in the context of the Arctic Council and climate change. These assessments are part of an ongoing and extensive program of action of the Council, and will conclude by 2008. Like the Arctic Climate Impact Assessment Scientific Report, each assessment will conclude but also contain the seeds of their continuance. These assessments form the groundwork of integrated approaches to hydrocarbon development and maritime shipping that may be national, regional, circum-Arctic, or global. They also illustrate some of the unique approaches to resource management that are evolving in the Arctic. Parties interested in Arctic resource development and its management should follow these assessments, and related activities of the Arctic Council and its working groups through the websites and related news services and feeds.



Endnotes: Hydrocarbon Development and Maritime Shipping
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POLAR BEARS, OIL, AND THE CHUKCHI SEA:

THE FEDERAL GOVERNMENT SELLS MINERAL RIGHTS IN POLAR BEAR HABITAT IN ALASKA *by Matt Irwin**

Recent developments in the Chukchi Sea in the Arctic Circle have pitted environmentalists and indigenous peoples against the federal government and the oil industry. The Department of the Interior's Minerals Management Service ("MMS") has recently completed the lease sale of tracts of seabed located on Alaska's continental shelf in the Chukchi Sea.¹ The lease sale, which took place on February 6, 2008, evidenced an increased interest by the oil industry in the Chukchi Sea, with a record setting 667 bids on 488 blocks of seabed and \$2.6 billion in total high bids.² The MMS estimates that the area contains approximately 15 billions barrels of conventionally retrievable oil and 77 trillion cubic feet of conventionally retrievable natural gas.³

Drilling for oil and natural gas in the Chukchi Sea has numerous potential negative environmental effects. One of the most pressing environmental issues in light of the lease sale will be the plight of the polar bear.⁴ Oil extraction in the Chukchi Sea has a threefold impact on polar bear survival. First, because the Chukchi Sea area is home to approximately one-tenth of the world's polar bears, drilling for oil and natural gas in the Chukchi Sea poses potential harm to polar bear survival from threats like oil spills and damage to the local ecosystem from the oil and gas extraction.⁵ One environmentalist's estimate of the potential for an oil spill was as high as fifty percent.⁶ The second means by which oil extraction in the Chukchi impacts the survival of polar bears, and other Arctic wildlife, is perpetuating reliance on fossil fuels that contribute to climate change. Climate change poses perhaps the largest threat to polar bear survival because the break up of Arctic ice sheets due to higher temperatures in the Arctic diminishes the range for polar bears to hunt, decreases the ability of mothers to search for proper den sites, and reduces the availability of den sites.⁷ Finally, the amount of accessible oil and gas in the Chukchi Sea perpetuates the economic viability of the Trans-Alaska pipeline and forestalls the end of easy oil extraction in Alaska.⁸ The recent rise of oil prices has made investment in the difficult terrain of the Chukchi Sea and extending the lifetime of the Trans-Alaska pipeline attractive to oil companies and investors, despite fears and protests by environmental groups and Native Americans.⁹

By an interesting, if not suspicious, coincidence, the polar bear was to have the final decision of its listing under the Endangered Species Act ("ESA") publically released before the lease sale on January 8, 2008. However, the U.S. Fish and Wildlife Service ("FWS") declared on January 7, 2008 that it would postpone the release of the final decision for approximately thirty



Photo Courtesy of U.S. Fish and Wildlife Service

Polar bear with cub.

days.¹⁰ As of March 23, 2008, this decision has not been published. Listing polar bears as endangered or threatened under the ESA creates many difficulties in creating a recovery plan on the macro level due to the role of global climate change.¹¹ In regards to the potential listing of the polar bear under the ESA and the recent lease sale in the Chukchi Sea, the director of the FWS has stated that the oil companies that have bid on tracts in the Chukchi Sea will have to comply with the potential listing of the polar bear under the ESA.¹² The MMS has also stated that it will not allow oil exploration to take place within fifty miles (eighty kilometers) from shore to limit the potential harm to wildlife habitat in the Chukchi region.¹³

A group of plaintiffs, including Indigenous groups and local towns in the Chukchi region along with environmental advocacy groups, filed suit against the MMS and the FWS in the Federal District Court in Juneau, Alaska on January 31, 2008.¹⁴ The suit alleges, among other things, that the current environmental impact statement submitted by the MMS has failed to assess the impact of climate change and other potential impacts resulting from oil and gas extraction in the Chukchi region.¹⁵ The next few months and possibly years will no doubt see intense litigation and scientific inquiry as to the impact of mineral extraction in the Chukchi Sea on the survival of polar bears.

Endnotes: Polar Bears, Oil, and the Chukchi Sea
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MITIGATING BLACK CARBON AS A MECHANISM TO PROTECT THE ARCTIC AND PREVENT ABRUPT CLIMATE CHANGE

by Marcel De Armas & Maria Vanko*

INTRODUCTION

Climate change is impacting the Arctic earlier and more intensely than any other area of the planet. Winter temperatures have increased as much as three-to-four degrees Celsius in the past fifty years¹ and are projected to increase four-to-seven degrees Celsius over land areas and seven-to-ten degrees over the Arctic Ocean by the end of the century.² One industry that looks likely to benefit, at least in the short term, from the effects of the diminished Arctic sea ice is shipping.

As the region warms, there is an expectation of increased industrial development and resource extraction, as well as tourism, including the cruise industry.³ The opening of Arctic shipping lanes will reduce global shipping time and costs, shortening the journey between Japan and the United Kingdom by as much as five thousand miles.⁴

Over the past century, Arctic sea ice has diminished considerably and continues to decline, making shipping and increased resource development in the Arctic a reality. A direct human influence that decreases reflectivity of Arctic and other ice is the soot, or black carbon (“BC”), that is produced when fossil fuels are burned.⁵ BC emissions significantly contribute to the melting Arctic, and reducing such emissions may be “the most effective way we know to retard Arctic warming.”⁶

Because BC is relatively-short lived in the atmosphere, regulation of this pollutant is an important strategy to prevent abrupt climate change. BC produced from burning conventional fuels is largely unregulated and plays a significant role in climate change. As increased ship-

ping and industrial development in the Arctic becomes a reality, there is an urgency to include the shipping industry under a comprehensive global climate change agreement and to include BC in such an agreement. This Article explores the need to include reducing BC emissions and the shipping industry in a post-2012 comprehensive climate change regime.

THE ARCTIC THAW

In 2007, the Arctic summer sea ice extent reached a record minimum level, with coverage twenty-three percent lower than it was relative to the previous record set in 2005 and thirty-nine percent lower than the long term average from 1979 to 2000.⁷

NASA reports that perennial sea ice, the thicker, older ice that is less-prone to melting, steeply decreased over the 2008 winter season, despite cold temperatures.⁸ This perennial ice once covered as much of fifty percent of the Arctic, and now covers less than thirty percent.⁹ Sea ice researchers now believe that the Arctic summers could be completely ice free in as early as 2030, consequently opening both the Northwest and Northeast Passages.¹⁰

Arctic sea ice plays a particularly important role in global warming because its reflectivity helps reduce the absorption of solar radiation, thereby reducing atmospheric temperature.¹¹ The loss of sea ice results in greater heat absorption due to the decreased reflectivity of the surface. Humans influence the reflectivity of snow and ice by burning fuels—e.g., coal, oil,

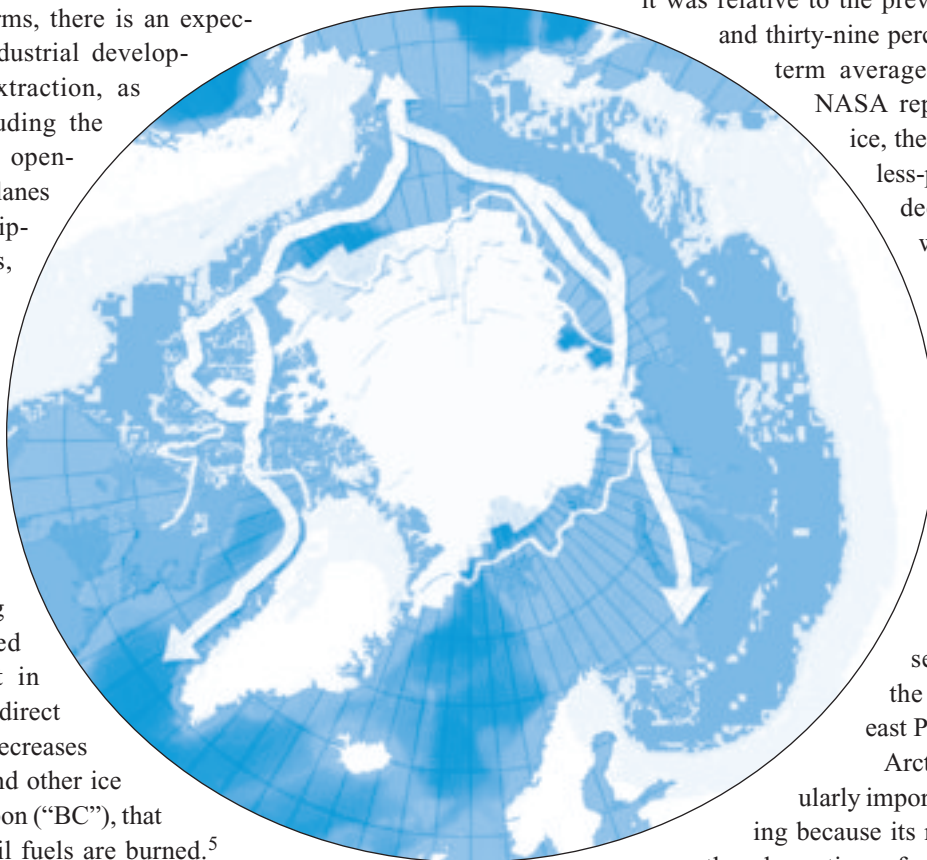


Image of the potential Northwest and Northeast Shipping Passages; photo courtesy of ACIA.

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gas, waste, and wood—and creating BC that settles on the snow and ice.¹² BC darkens the surface of the ice which decreases reflectivity and increases the absorption of solar radiation, thus resulting in faster heating and melting.¹³ A thawing Arctic will in turn lead to additional greenhouse gas (“GHG”) emissions as carbon dioxide (“CO₂”) and methane that are stored in the permafrost are released as it melts.¹⁴

BLACK CARBON

A recent study has found that BC provides the second strongest contribution to current global warming, after CO₂ emissions.¹⁵ Fortunately, BC is short lived in the atmosphere, usually lasting a few days to a couple of weeks in the atmosphere compared to CO₂, which has a lifetime of one hundred or more years.¹⁶ Unfortunately, BC is a highly forcing agent of climate change,¹⁷ and has pernicious localized impacts that are not exclusive to the Arctic. BC exacerbates desertification and flooding,¹⁸ hastens melting of ice sheets and glaciers,¹⁹ perturbs monsoon season,²⁰ and contributes to hundreds of thousands of deaths a year and adverse health effects for many more.²¹ While most aerosols have a global cooling effect by reflecting sunlight, BC absorbs sunlight, thus heating the surrounding air and contributing to regional heating and climate change.²² Even though BC is not always emitted with other aerosols, it tends to intermingle with them, thus masking BC’s radiative forcing. Thus, a targeted effort to reduce BC would be important even if other aerosols continue to exist in atmospheric brown clouds.

The Intergovernmental Panel on Climate Change (“IPCC”) estimated BC’s global warming potential between 0.2 and 0.4 watts per square meter (“W/m²”).²³ However, recent studies suggest that this amount is underestimated and inaccurate. A recent study found climate forcing of BC is 0.9 W/m²; this “is as much as 55% of the CO₂ forcing and is larger than the forcing due to the other [greenhouse gases] such as CH₄, CFCs, N₂O or tropospheric ozone.”²⁴ The effects of BC have previously been underestimated because BC is emitted with other aerosols—e.g., sulfate particles.²⁵ These aerosols mixed with BC reflect sunlight; as a result they increase the probability that the light will be absorbed by soot particles nearby, hence they are reflecting the light to the BC.²⁶ Furthermore, when BC gets into the upper atmosphere, it absorbs light reflected by the surface—especially snow, glaciers, and ice sheets—and clouds, thus contributing to the warming of the planet.²⁷ This highlights BC’s warming potential because not only does it absorb heat from the sun, but it absorbs heat that was to be reflected back to outer space.

Historically North America and Western Europe were responsible for BC emissions, however, developing nations, particularly in Asia, are now the main source of BC emissions.²⁸ China and India alone account for twenty-five to thirty-five per-

cent of global BC emissions.²⁹ BC emissions and its effects vary by region. For example, the “majority of soot emission in South Asia is due to biofuel cooking, whereas in East Asia, coal combustion for residential and industrial uses plays a larger role.”³⁰ China highlights the rapid growth of BC emissions in developing countries; between 2000 and 2006 China doubled its BC emissions.³¹ In comparison, the United States emits about twenty-one

percent of the world’s CO₂, but only 6.1 percent of the world’s soot.³²

One reason for the reduced BC emissions in North America and Western Europe is air quality standards, technology standards, and restrictions on particulate emissions.³³ These standards are lacking in the shipping industry and typically in the developing world. Outside of the shipping and power generation industries, the major sources of BC include: (1) bio-

mass burning—burning of forests and savannas; (2) residential biofuels and coal—used for heating and cooking; (3) diesel engines—emits 25 to 400 times the amount of particulate matter than a gasoline engine.³⁴

BLACK CARBON CONTROLS MAY PREVENT ABRUPT CLIMATE CHANGE AND PROVIDE LOCALIZED PUBLIC HEALTH BENEFITS

By reducing BC emissions the world may buy some additional time before severe effects of climate change are felt, possibly allowing for the reduction in GHG emissions to a sustainable level. If unchecked, Arctic warming has the potential for catastrophic global impacts, such as sea-level rise; a complete melting of the Greenland ice sheet would raise ocean levels by seven meters.³⁵ Implementing controls to limit BC emissions may help prevent the climate system from passing the tipping points for abrupt climate changes, such as the disintegration of the Greenland and/or Antarctic ice sheets.³⁶ The quickest impact on reducing BC emissions and to provide climate benefits would be to focus on the shipping and power generation sectors in East Asia that have the potential for the BC to settle in the Arctic. Tackling the agricultural and residential sources will require addressing the underlying cause of poverty.

Tackling biomass burning, and residential cooking and heating may prove to be difficult, since sources involve thousands or millions of individuals with limited resources.³⁷ However, there is the possibility of increased financial and development assistance to otherwise reduce the emissions through technologies such as low-cost fuel-efficient stoves, and the development of electricity grids. Reducing BC emissions would also provide strong positive benefits for public health in developing nations. Exposure to BC from cooking over open fires has been linked to pneumonia in young children, chronic bronchitis in women, and increased blood pressure.³⁸ Switching to non-BC emitting cook-

A recent study has found that BC provides the second strongest contribution to current global warming, after CO₂ emissions.

ers, such as solar or bio- or natural gas may result in a seventy to eighty percent reduction in BC heating over South Asia; a twenty to forty percent reduction in East Asia; and potentially reduce 400,000 annual fatalities among women and children that are attributed to smoke inhalation.³⁹ These preventable deaths are in addition to the thousands of cardiopulmonary and lung cancer deaths attributed to particulate matter (“PM”), including BC, emissions from ships near the coastlines of Europe, East Asia, and South Asia, in 2002 estimated at 60,000.⁴⁰

THE GLOBAL CLIMATE TREATY REGIME, THE SHIPPING INDUSTRY, & BLACK CARBON

THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE AND KYOTO PROTOCOL

The United Nations Framework Convention on Climate Change (“UNFCCC”) was adopted in 1992 and entered into force in 1994 as a framework for action and cooperation on the issue of climate change.⁴¹ The Objective of the UNFCCC and any related legal instrument is the “stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”⁴² While the UNFCCC does not currently limit BC emissions or identify BC as a defined GHG, its framework sets forth principles and mechanisms that enable it to address BC emissions, even as the science underpinning BC and its contribution to climate change is refined. Furthermore, the Kyoto Protocol does not regulate the shipping industry, thus undermining its goal of emission reductions while allowing a large emitter to keep emitting.

The Kyoto Protocol is a product of the UNFCCC and sets binding limits of CO₂ and other greenhouse gases for developed country parties for the period of 2008–2012.⁴³ Under the Kyoto Protocol, developing nations do not have to reduce their emissions, but can participate in the Clean Development Mechanism (“CDM”), which enables the developed member countries to invest in emission-reductions in developing countries, resulting in credits, that can count toward their emission goals.⁴⁴ BC emissions are not regulated under the Kyoto Protocol,⁴⁵ thus developing country reduction activities will not qualify for CDM credits. However, some CDM projects have incidental BC emission reductions so long as they also qualify for CO₂ credits.⁴⁶

With its limited time frame and participation, the Kyoto Protocol was meant as only a first step to solving the climate problem.⁴⁷ With the Kyoto Protocol set to expire in 2012, it is important to consider controlling global BC emission, as well as recognize the role of the shipping industry, as the Conference of Parties (“COP”) to the UNFCCC crafts a post-2012 climate agreement is written.

INCORPORATING BC INTO A POST-2012 CLIMATE TREATY UNDER THE UNFCCC

Currently, BC is not included in the UNFCCC framework, but with the new research surrounding BC, it is imperative that it is included in the post-Kyoto framework. This may include amending the UNFCCC to include BC as a GHG. BC reductions can provide important climate insurance, particularly with

respect to slowing the melting of the Arctic. As a framework agreement, the UNFCCC is the institutional framework for successive protocols and amendments. The UNFCCC sets forth a series of principles to guide successor agreements, which will be revised as time and science progresses. One of the overarching principles to the UNFCCC is the precautionary principle, which urges parties to take precautionary measures to “anticipate, prevent, or minimize the causes of climate change and prevent its adverse effects.”⁴⁸ The principle provides that where there are “threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures.”⁴⁹ The growing scientific knowledge surrounding BC’s contribution to anthropogenic interference with the climate system combined with the precautionary principle embodied in the UNFCCC is grounds to incorporate BC regulations into the successor-Kyoto agreement.

Addressing BC emissions under the Kyoto Protocol is also salable under the common-but-differentiated responsibilities principle embodied in the UNFCCC. The UNFCCC requires parties to be guided “on the basis of equity and in accordance to their common but differentiated responsibilities and respective capabilities.”⁵⁰ Accordingly, under the UNFCCC, full consideration is to be given to the specific needs and circumstances of developing country parties.

Under the common-but-differentiated responsibility principle, as implemented in the Kyoto Protocol, developing country Parties do not have to make any binding emission reductions. This approach would not necessarily be successful for controlling global emissions of BC. In particular, the developed (Annex I) Parties to the Kyoto Protocol generally have already implemented strategies to reduce PM emissions, through domestic statutes like the U.S. Clean Air Act. Since the bulk of BC emissions comes from the developing world and economically viable and tested technology already exist to reduce BC emissions from stationary sources, both developed and developing countries should take steps to reduce BC emissions and hopefully prevent abrupt climate change events.

There is the ability to control BC emissions from the developing country Parties available through the mechanisms that bind all Parties, developed and developing, to the UNFCCC. The UNFCCC provides that all Parties will, inter alia, implement national plans that include measures to mitigate climate change⁵¹ and promote and cooperate in technology transfer.⁵² The framework also provides that the extent to which developing country Parties will implement their commitments is linked to developed country’s commitment of financial resources and technology transfer, taking into account that social development and poverty eradication are the paramount priorities of the developing country Parties.⁵³

The Bali Action Plan, agreed upon by the 13th Conference of Parties to the UNFCCC, encourages the development and transfer of technology to developing country Parties in order to promote access to affordable environmentally sound technologies.⁵⁴ The process should recognize the climate benefits and poverty eradication, social development, and health co-benefits

of providing technology assistance to developing country Parties to limit their BC emissions. Such environmentally sound technologies may include lower-BC emitting stoves for heating and cooking, scrubber technology for power plants, and better fuel refining technology. This may open a viable mechanism to promote technology transfer of cooking stoves to address the climate impacts, as well as the health and development benefits of the world's poor.

THE SHIPPING INDUSTRY

As mentioned earlier the Kyoto Protocol does not set limitations on BC emissions, nor does it set any limitations on the global shipping industry. Ocean going vessels are instead regulated under the International Maritime Organization ("IMO"), which has been slow to place any GHG measurement, monitoring, or limitations on the industry. Indeed, there is no current, comprehensible and reliable data on global GHG emissions from international shipping.⁵⁵ However, reports indicate GHG emissions from the shipping industry are not insubstantial. For example, one study estimates GHG emissions from ocean-going vessels are at least three percent of the world's total,⁵⁶ an aggregate total higher than many of the developed-country Parties to the Kyoto Protocol. The study suggests that amount may be underreported as the estimates are based upon sales of bunker fuel, which is suspected to be underreported.⁵⁷ Indeed, that suggestion seems to have validation in a report that was leaked to the press from the International Association of Independent Tanker Owners ("INTERTANKO"). INTERTANKO's report suggests that emissions are twice what previously believed, and may total 1.2 billion tons per year, or as much as six percent of the world's total.⁵⁸

In fact, these reports and estimates are worse than they appear, because ship emissions are usually released in clean environments.⁵⁹ Some of these environments suffer disproportionately from shipping's emissions, such as the Arctic ecosystem with its ice and snow loss. As the Arctic loses ice-cover, even small amounts of emitted and deposited BC will further exacerbate Arctic melting.

The few GHG regulations on the shipping industry that the IMO has proposed are still in its nascent stages, particularly for BC. The IMO International Correspondence Group on Greenhouse Gas Related Issues noted the high Global Warming Potential ("GWP") of BC, however, deferred to the ongoing revision of MARPOL Annex VI to address this issue. Unfortunately, the revised MARPOL Annex VI does not as of yet address BC. The revised proposal, which can be adopted by member governments in October 2008 and entered into force by 2010, would cap the sulfur content of marine fuels by 0.5 percent world wide by 2020; limitations would fall in stages to 3.5 percent by 2012, currently sulfur limit is 4.5 percent.⁶¹ This is clearly insufficient

and counterproductive to all the efforts the global community has put into reducing acid rain and GHG emissions. Moreover, it avoids the issue of PM, including BC, which kills thousands of individuals annually and would be one of the most destructive forces aiding global warming in the Arctic, if the shipping

industry increases its presence in the Polar Regions. The Arctic would be the more susceptible of the two poles because of the interest in the Northwest and Northeast Passage shipping routes.

Either through the IMO, the post-Kyoto framework, or at the very least at the national level the shipping industry should be required to implement some easy and practicable steps to reduce

BC emissions. The simple installation of scrubbers on ships or reducing to an ultra-low sulfur fuel would be a step in the right direction to reduce ships' BC emissions.⁶² Additionally, even without technology changes, shipping companies could require their fleets to reduce their speed—ships that slow down by ten percent use twenty-five percent less fuel.⁶³ Ports should encourage (or require) ships to reduce their engine use as they approach the shore and the port, and once the ship is at the port, the port should require ships to rely on shore power instead of their engines—relying on shore power will reduce particulate emissions because of regulations in many industrialized countries and will eliminate carbon and particulate emissions if shore power is generated by renewable sources, such as wind or solar.⁶⁴

Moreover, countries and the shipping industry need to keep innovating ways to reduce emissions and copy successful approaches by other companies. Two items shipping industry should keep an eye on to reduce emissions and fuel costs is the use of high tech kites to harness the winds, thus reducing fuel consumption,⁶⁵ and the possibility of switching to alternative fuels for short routes or for routes that can quickly develop the infrastructure to supply alternative fuels.⁶⁶

CONCLUSION

With the increasingly ice free Arctic and the increase in under-regulated shipping undermining the efforts of many countries to reduce emissions, there needs to be a change in the approach taken to regulate shipping. It seems as if the industry is unwilling to regulate itself, and its regulatory body, the IMO, is moving to slow and ignoring global action on climate change. In addition, we are rapidly learning about BC's threat to our climate and planet, luckily we can do something about it now. BC is proving to have negative effects on human health and fragile ecosystems, such as the Arctic. Yet industrialized countries have been reducing their BC emissions for many years and should encourage and assist developing countries to do the same.

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change are felt.*

The concern for the Arctic is particularly acute, because climate change's impacts are disproportionately felt at the poles and because of the large amounts of sea ice loss. This ice loss implicates shipping due to its interest in the Northwest Passage and the Northeast Passage. Ships without appropriate control technology would emit large amounts of BC that would rest on the Arctic ice, speed up ice and snow melting, and reduce surface albedo; this would speed up the cycle of Arctic melting and global warming overall.⁶⁷ Because BC can have such

a disastrous effect on the Arctic, and predictions that it is the second or third largest warming agent, behind CO₂ and methane, it is necessary for the IMO or any post-Kyoto framework to include shipping and BC, because every reduction helps. Currently the technology exists to reduce BC emission from industry and shipping, which would create an immediate benefit for the global fight against climate change due to its short atmospheric lifespan. The question remains, however, if the political will to require some changes is available.

Endnotes: Mitigating Black Carbon

¹ JIM BERNER ET AL., ARCTIC CLIMATE IMPACT ASSESSMENT (Cambridge Univ., 2004), available at <http://amap.no/acia/> (last visited Apr. 25, 2008) [hereinafter ARCTIC CLIMATE IMPACT ASSESSMENT].

² ARCTIC CLIMATE IMPACT ASSESSMENT, *id.* at 28.

³ See Sewart et al., *Sea ice in Canada's Arctic: implications for cruise tourism*, 60 ARCTIC 341, 370 (2007).

⁴ Oliver Burkeman, *A very cold war indeed*, GUARDIAN, Apr. 5, 2008, at 16.

⁵ ARCTIC CLIMATE IMPACT ASSESSMENT, *supra* note 1, at 28.

⁶ Charles Zender, Testimony for the Hearing on Black Carbon and Climate Change, U.S. House Committee on Oversight and Government Reform 6 (Oct. 18, 2007), available at <http://oversight.house.gov/story.asp?ID=1550> (last visited Apr. 28, 2008) ("Reducing Arctic BC concentrations sooner rather than later is the most efficient way to mitigate Arctic warming that we know of.").

⁷ J. Richter-Menge et al., *Sea Ice Cover*, in NOAA ARCTIC REPORT CARD 2007, available at <http://www.arctic.noaa.gov/reportcard/seaice.html> (last visited Apr. 25, 2008).

⁸ Marc Kauffman, *Perennial Ice Cover Diminishing, Officials Say*, WASH. POST, Mar. 19, 2008, at A3, available at <http://www.washingtonpost.com/wp-dyn/content/article/2008/03/18/AR2008031802903.html?hpid%3Dmore-headlines%E2%8A%82=AR> (last visited Apr. 25, 2008).

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¹⁰ Press Release, National Ice and Snow Data Center, Arctic Sea Ice Shatters All Previous Record Lows (Oct. 1, 2007), available at http://nsidc.org/news/press/2007_seaiceminimum/20071001_pressrelease.html (last visited Apr. 25, 2008).

¹¹ ARCTIC CLIMATE IMPACT ASSESSMENT, *supra* note 1, at 30.

¹² ARCTIC CLIMATE IMPACT ASSESSMENT, *supra* note 1, at 35.

¹³ ARCTIC CLIMATE IMPACT ASSESSMENT, *supra* note 1, at 35.

¹⁴ ARCTIC CLIMATE IMPACT ASSESSMENT, *supra* note 1, at 38.

¹⁵ V. Ramanathan & G. Carmichael, *Global and regional climate changes due to black carbon*, J. NATURE GEOSCIENCE, Mar. 23, 2008, at 221, available at <http://www.nature.com/ngeo/journal/v1/n4/full/ngeo156.html> (last visited Apr. 18, 2008) ("... emissions of black carbon are the second strongest contribution to current global warming, after carbon dioxide emissions."); see Tami C. Bond & Haolin Sun, *Can Reducing Black Carbon Emissions Counteract Global Warming*, ENVIRON. SCI. TECH. (2005), at 5921 ("BC is the second or third largest individual warming agent, following carbon dioxide and methane."); James Hansen, *A Brighter Future*, 53 CLIMATE CHANGE 435 (2002), available at http://pubs.giss.nasa.gov/docs/2002/2002_Hansen_1.pdf (last visited May 1, 2008).

¹⁶ Ramanathan & Carmichael, *id.* at 226.

¹⁷ Ramanathan & Carmichael, *id.* at 226.

¹⁸ Surabi Menon et al., *Climate Effects of Black Carbon Aerosols in China and India*, 297 SCI. 2250 (Sept. 27, 2002), available at http://pubs.giss.nasa.gov/docs/2002/2002_Menon_etal_2.pdf (last visited Apr. 18, 2008); NASA, *Black Carbon Contributes to Drought and Floods in China*, Sept. 26, 2002, available at <http://www.giss.nasa.gov/research/news/20020926/> (last visited Apr. 18, 2008).

¹⁹ Rob Guro, *Black and White: Soot on Ice*, NASA, Mar. 23, 2005, available at http://www.nasa.gov/vision/earth/environment/arctic_soot.html (last visited Apr. 18, 2008); Ramanathan & Carmichael, *supra* note 15, at 224; NASA, *Soot Affects Polar Ice*, EARTH OBSERVATORY, available at http://earthobservatory.nasa.gov/Newsroom/NewImages/images.php3?img_id=16860 (last visited Apr. 18, 2008).

²⁰ Ramanathan & Carmichael, *supra* note 15, at 224.

²¹ Ramanathan & Carmichael, *supra* note 15, at 226; Lindsay Beck, *Ship emissions seen causing 60,000 deaths a year*, ENN, Nov. 7, 2007, <http://www.enr.com/pollution/article/24325> (last visited Apr. 18, 2008).

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²⁴ Ramanathan & Carmichael, *supra* note 15, at 222.

²⁵ Service, *supra* note 23, at 1745. This Article provides only a light overview of the scientific explanation on Black Carbon's global and regional warming potential. For further in depth explanations see Ramanathan & Carmichael, *supra* note 15.

²⁶ Ramanathan & Carmichael, *supra* note 15.

²⁷ Ramanathan & Carmichael, *supra* note 15, at 222–23.

²⁸ Ramanathan & Carmichael, *supra* note 15, at 221 (stating that until the 1950s North American and Western Europe produced the majority of soot emissions).

²⁹ Ramanathan & Carmichael, *supra* note 15, at 226.

³⁰ Ramanathan & Carmichael, *supra* note 15, at 226.

³¹ Ramanathan & Carmichael, *supra* note 15, at 226.

³² Ramanathan & Carmichael, *supra* note 15, at 4.

³³ R. McConnell et al., *Twentieth Century Industrial Black Carbon Altered Arctic Climate Forcing*, SCI., Sept. 2007, 1381–84.

³⁴ Service, *supra* note 23.

³⁵ ARCTIC CLIMATE IMPACT ASSESSMENT, *supra* note 1, at 41–42.

³⁶ Timothy Lenton, Hermann Held, Elmar Krieger, Jim Hall, Wolfgang Lucht, Stefan Rahmstorf, & Hans Joachim Schellnhuber, *Tipping elements in the Earth's climate system*, 105 PROC. NAT'L ACAD. SCI. 6 (Feb. 12, 2008) ("The greatest threats are tipping the Arctic sea-ice and the Greenland ice sheet. . ."); James Hansen, *Climate Catastrophe*, NEW SCIENTIST (July 28, 2007) ("... the primary issue is whether global warming will reach a level such that ice sheets begin to disintegrate in a rapid, non-linear fashion on West Antarctica, Greenland or both.").

THE FORGOTTEN NORTH: PEOPLES AND LANDS IN PERIL

By Ursula Kazarian*

INTRODUCTION

Arctic indigenous peoples are extremely susceptible to the immediate impacts of climate change. While many indigenous groups face serious battles over rights to land and resources, the Arctic groups face the impending, compounding factor of some of the most drastic impacts from climate change. Their dependence on the integrity of local ecosystems for their survival as autonomous groups makes them even more vulnerable to the melting of ice and permafrost and to the decline of local animal and fish species.¹ This Article provides a broad overview of Arctic countries' legal relationship to their respective indigenous groups and discusses legal tools available to Arctic indigenous groups to protect their traditional existence from the impacts of climate change in light of competing national interests.

DEFINING INDIGENOUS ENVIRONMENTAL RIGHTS IN THE ARCTIC IN THE CLIMATE CHANGE CONTEXT

The preservation of indigenous culture and traditional knowledge in the Arctic is both directly and indirectly threatened by the rapid and dramatic environmental changes occurring in the region. According to the Intergovernmental Panel on Climate Change ("IPCC"), warmer temperatures and unpredictable weather patterns have already caused increased incidences of non-fatal heart attacks and respiratory diseases. In addition, the residual effect of climate change—such as a reduction in traditional sources of food—has led to a shift to western diets and, consequently, to an increase in diet-related diseases including diabetes and obesity.² Therefore, beyond encouraging environmental protection in the Arctic solely for its own intrinsic value, it is important to recognize the distinct challenges that climate change and the warming Arctic have created, and will continue to create, for the indigenous peoples whose survival as such is so intricately tied to the environmental integrity and health of the region.

While the right to self-determination of peoples was clearly codified in 1984,³ the details of the "group rights" that fall under this rubric vary depending on the structure of national legal systems and the integrity of national enforcement mechanisms. There are international legal tools for the protection of minority groups against ethnocide,⁴ for individuals against cruel treatment, and for indigenous peoples.⁵

The United Nations Special Rapporteur to the Sub-Commission on Prevention of Discrimination and Protection of Minorities, Indigenous Groups defines communities, peoples and nations as

... those which having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of societies now prevailing in those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop, and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal systems.⁶

This definition, or a closely related variation of it, has been used in numerous legal contexts as human rights law develops.

The continued traditions and cultural fabric of the Arctic indigenous peoples are clearly distinct from the cultures of the nation-states in which they reside. These peoples are generally not integrated into the cultural fabric of the rest of the nation-state, at least in part, because of the extreme physical conditions that have led to geographic isolation of the groups and less physical intrusion by foreign populations. Their livelihoods depend on the ecosystems that surround them. Thus, if the preservation of their culture and traditions is recognized by relevant national legislation, according to international legal principles, an obligation exists to respect the natural systems upon which those peoples survive.

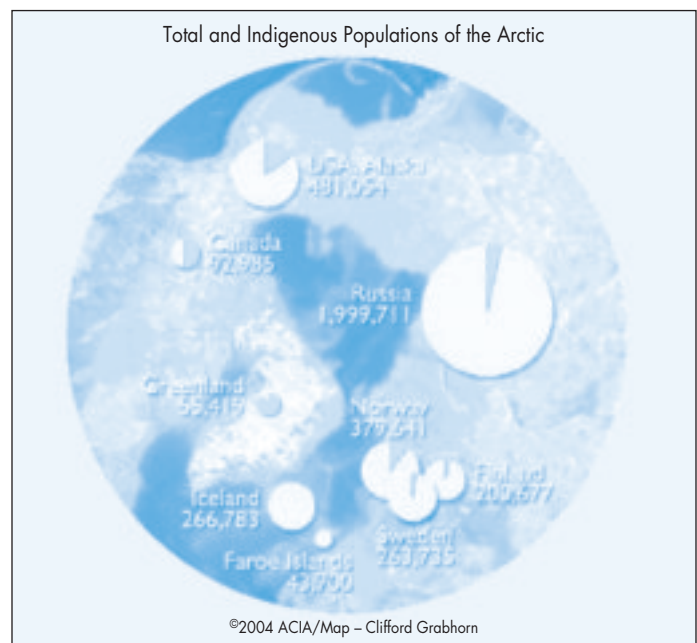


FIGURE 1: ESTIMATE OF ARCTIC POPULATION, 1990.

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Nonetheless, creating consensus to solve the climate change crisis has proven a formidable task. Competing interests include *inter alia* countries' right to development,⁷ fair trade principles,⁸ and indigenous rights. Climate change litigation invites the additional difficulty of proving causation for recoverable harms. While filing individual claims in national and international courts certainly increases attention to a subject, if the causation is impossible to pinpoint, then the resulting precedent would not be particularly useful in repairing the harms caused by global warming. It will thus take the adoption of new attitudes in the courts of Arctic countries to enforce the laws already in place to protect their indigenous groups, as well as the continued development of new legal regimes

in the region, to create the case for compensating—and just as importantly, for preventing—those harms that are either a direct or indirect result of climate change.

While courts and committees battle over how to address the global impacts of climate change on local levels, the very nature of the problem is progressing more quickly than had been anticipated. Ice sheets in Antarctica and Greenland are melting faster than predicted, and in the latter case, the topographical nature of the glaciers may result in the ice sheet sliding into the North Atlantic Ocean, with devastating consequences.⁹ While scientists have debated the cumulative impacts of the disintegrating ice sheet in western Antarctica and the apparent thickness of the ice on the eastern side of the continent,¹⁰ the landless Arctic is clearly disappearing at an alarming rate. Scientists predict that the summer presence of the Arctic ice cap will completely disappear by 2050, if not sooner.¹¹ Along with the changing physical landscape, the growing geopolitical significance of the Arctic and its resources is unequivocally clear.¹² National governments are well aware of the accelerated melting rates in the Arctic and thus the increased access to previously inaccessible hydrocarbon reserves, and they may be preparing to exploit the rapid change in environmental conditions for energy stores and economic gain. Thus, national and international climate change law must progress to prevent irreparable harm to the region and the people who live there, as well as address any grievances related to climate change, when, not if, they occur.

ADDRESSING THE EFFECTS OF CLIMATE CHANGE IN THE ARCTIC

INDIGENOUS RIGHTS: CURRENT NATIONAL LEGISLATION AND CASE LAW

Every Arctic country has a different legal and custodial relationship with its respective indigenous peoples. However, it is clear that defending indigenous rights in light of climate change

will be directly linked either to past national precedent or else by international cooperation. Given the frequent and obvious conflict between protecting indigenous rights and the national right

to development, it is no wonder that the greatest hope to preserve indigenous rights lies generally through international mechanisms.

Thus, a brief overview of each Arctic country's relevant legal systems and the historical development of opportunities for indigenous peoples on a national level is helpful.

Norway

According to Scott Forrest of the University of Northern British Columbia, Norway has adopted the most "assimilationist" policy towards its

indigenous peoples out of all of the Nordic countries. He writes,

Whereas Sweden-Finland made a legal distinction between land uses based on herding and those of agriculture, originating with the establishment of taxlands . . . Norway acknowledged no such difference. Norway's attitude toward the Sami is evidenced in a 1902 law, which granted land ownership only to Norwegian speakers. The effects of Norwegian legislators' negative attitudes towards the Sami way of life are seen in the various statutes designed to regulate the practice.

The Reindeer Herding Acts (RHA) of 1854 and 1933 were not designed to protect reindeer herding and the Sami way of life, but to ensure that herding did not interfere in the development of other 'culturally and economically superior' land uses such as farming and forestry.¹³

Forrest therefore views Norwegian policy as putting the country's right to development ahead of indigenous rights.

Sweden

According to Forrest, Sweden has taken progressive steps with regard to Sami rights, but only when they are in alignment with protecting the rights of non-Sami Swedes:

Swedish law makers took a narrow interpretation of Sami ethnicity based almost exclusively on economic activity. Those that participated in a 'traditional Sami' livelihood (primarily reindeer herding) were classified as Sami. Likewise, Sami that pursued agriculture were considered Swedes or Finns. Paternalism thus only applied to reindeer herders, while Sami who chose other activities were legally and culturally assimilated.

The Reindeer Herding Act ("RHA") of 1886 embodied this philosophy as it granted hunting and fishing rights on designated lands only to herding Sami. These activities were considered as supplemental to the

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primary Sami activity of reindeer herding. Non-herders who previously had once enjoyed land use for subsistence purposes were now prevented from doing so. The long term effect of these instruments has been to cause factionalism among the Sami between herders and non-herders. The 1886 and 1898 RHAs also specified that the Sami's right to the land was usufruct (right of use), not ownership.

Worse was to come in the 1928 RHA, which created a Lapp sheriff administration to regulate Sami reindeer herding. This marked a new era in state-Sami relations in Sweden. The motivation for herding legislation in this period was not the protection of herding, but of the new agricultural settlements that were developing in the north. A policy of segregation was thought to be the best approach to minimize herder-settler conflicts.¹⁴

Forrest, while critical, concedes that Sweden has, in fact, been cognizant of the Sami's right to herd reindeer, an activity that is critical to their cultural survival. In the 1988 case, *Kitok v. Sweden*, the UN Human Rights Committee considered a Swedish decision to uphold a Sami village's denial of letting a member back into the village after he had left his work in reindeer husbandry.¹⁵ Under Swedish law, a Sami who undertakes another occupation for three years loses membership rights to herd reindeer, unless the village votes to return membership status to that person. In this case, the village denied Ivan Kutok that privilege after he had abandoned reindeer husbandry due to economic misfortune and then later wished to return. The Committee held that Sweden did not violate Kitok's rights under Article 27¹⁶ of the United Nations International Covenant on Civil and Political Rights. The Committee further upheld the reasoning from a Canadian case, *Lovelace v. Canada*,¹⁷ that collective survival for an indigenous group may take priority over the individual rights of a single member. This may not build a clear or direct foundation for future climate change cases, but the deference given to Sami self-governance may play a factor when considering arguments to preserve the Sami way of life through environmental protection.

Finland

Unlike Norway and Sweden, reindeer herding is not legally reserved as a Sami right. One of the first significant changes to reindeer herding in Finland was the transformation of the traditional *siida* system into government defined reindeer districts under Russian rule in 1898.¹⁸ Under this arrangement, herders were required to be registered in one of these districts, and the state had the right to limit the number of reindeer in each district. As in Norway and Sweden, the objective of this administrative restructuring of Sami territory was to provide a system of compensation for damage done by reindeer.¹⁹ This system had the unintended effect of allowing the herds to safely wander throughout the district for much of the year without attention. This encouraged many non-Sami farmers to adopt reindeer herding either as a secondary or primary economic activity.²⁰ The 1948 Reindeer Husbandry Act granted every Finnish citizen the

right to breed reindeer in an appropriate district, and the Sami lost what rights to the land they had occupied under the *siida* system. Now, reindeer herding in Finland is flourishing, but the Sami are now a minority among herders and must seek legal means to exercise their claim to their land.²¹

In addition to allowing all Finnish citizens to compete with the Sami in the field of reindeer herding, the Finnish government has encroached upon Sami territory through logging and mineral exploitation. In *Landsman v. Finland*, the UN Human Rights Committee did not find a violation of Article 27 under a self-determination analysis, although it noted that an increase in such activities would merit a reconsideration.²² In the precedent case, *Lubicon Lake Band v. Canada*, the Committee had found similar activities to violate cultural integrity guarantees under Article 27.²³ As a result, the Finnish government has come under criticism for violating the Samis' rights.

Greenland and the Faeroe Islands (Denmark)

Despite a self-ruling Greenlandic government, the Queen of Denmark is still the head of state for both Greenland and the Faeroe Islands. Although the government of Denmark has put forward a strategy on protecting indigenous rights,²⁴ there has been very little information about the implementation of the strategy or the enforcement of any indigenous rights laws.

Russia

The Russian Federation lists forty-four distinct indigenous peoples with populations under 50,000 as having special rights and protections under the Constitution and federal laws and decrees.²⁵ Article 69 of the 1993 Constitution for the first time explicitly established the guaranteed rights of small indigenous peoples "in accordance with the generally accepted principles and standards of international law and international treaties of the Russian Federation."²⁶ The Constitution effectively overrides any regional or federal legislation that might endanger small indigenous groups; however, federal and regional legislation can be used to expand these rights.²⁷

A 1992 Presidential decree ordered the councils of ministers of the republics of the Russian Federation and all local and regional authorities to demarcate the territories inhabited and used by indigenous minorities for their traditional activities.²⁸ Additionally, the 1999 Law on Guarantee of Rights of Indigenous Minorities guarantees socio-economic and cultural development to all indigenous minorities of the Russian Federation, protection of nature in the traditional places they inhabit, their traditional way of life, economic activities, and occupations.²⁹ However, despite these laws, enforcement and implementation have been cited by numerous groups as the key problems to actually protecting indigenous rights. It is becoming ever more popular to take human rights cases to the European Court of Human Rights ("ECHR"), although Russia has not always adhered to the decisions ECHR has handed down to it.

Canada

Canada is home to many indigenous groups, with the Inuit covering the most territory. A significant achievement for the Inuit was the creation in 1999 of the territory of Nunavut, which

means “Our Land” in the Inuit language, Inuktitut. As land is considered a fundamental right to the preservation of culture and identity, it is important to note that aboriginal title in Canada can be extinguished in two ways: by constitutional amendment, and by agreement of the aboriginal people concerned.³⁰ Although the creation of Nunavut appears to be a victory in self-government, the Inuit have in fact ceded their aboriginal rights and title in exchange for a grant of rights from the Canadian government—something that could, in theory, open the door to a future constitutional amendment that would revoke the viability of Nunavut’s semi-autonomy.³¹ This is significant in that the Inuit must take great care as to how they proceed within Nunavut’s internal structure as well as with regard to Nunavut’s political relations with the Canadian federal government.

Finally, while the Inuit comprise the largest ethnic majority in the Canadian north, they are actually the smallest group of aboriginal people in Canada. Other northern indigenous peoples include the Tlingit, Innu, Cree, Gwich’in, and Metis, who inhabit and claim aboriginal titles to Northern Territories.³² There have been the usual conflicts over land rights, and the overlap between indigenous rights and environmental protection will surely be an increasingly pursued topic in Canadian courts.

United States

The United States has historically dealt with its Alaskan natives in a very different manner from the native tribes living in the continental United States. When the United States acquired the territory of Alaska from Russia in 1867, Alaskan natives had a functioning relationship with the Russian Empire. There were very few ethnic Russians living in Alaska at that time, and the few settlements they did inhabit were generally impermanent.³³ When the United States took possession of the vast territory, Alaskan natives were clearly able to see the strife that had plagued the natives of the continental United States since its inception and sought to avoid similar problems concerning title and rights to land and resources.

The 1884 Organic Act for the Territory of Alaska acknowledged the aboriginal right to possession of traditional territory until Congress passed such legislation as to specify the terms of future title acquisition.³⁴ The Supreme Court later found that the Organic Act did not recognize absolute aboriginal title but did acknowledge and preserve continuing aboriginal rights, subject to Congressional action.³⁵

Fearing legal entanglement that would lead to termination and thus non-recognition of their special status, native groups joined together to push forward the Alaska Native Claims Settlement Act (“ANCSA”) in 1971, through which Alaskan natives traded aboriginal claims to vast tracts of land for recognized title to smaller tracts of land and a total monetary compensation of \$962.5 million.³⁶ However, the passage of ANCSA caused ambiguity in the status of native hunting and fishing rights and was followed in 1980 by the 1980 Alaska National Interest Lands Conservation Act (“ANILCA”). ANILCA, in turn, included provisions for a preference for subsistence rights over commercial and sport interests on federal public lands in Alaska, although it did not limit the subsistence preference to natives.³⁷

Although ANILCA helped to clarify some of the concerns left by ANCSA, the fight to clarify native subsistence rights continues. For instance, in *Amoco Production v. Village of Gambell* the U.S. Supreme Court held that the outer continental shelf was outside the boundary of Alaska as defined by ANILCA and therefore was not subject to the subsistence provisions of ANILCA.³⁸ By this decision, the Court favored the interests of oil production over the competing indigenous hunting and fishing rights. This is a perhaps ominous indication of the difficulties the Alaskan natives will encounter in bringing climate change-related claims to U.S. federal court.

Thus, no established precedent has yet been set in any of these countries to directly link climate change, environmental protection, and indigenous rights to self-determination in the Arctic. However, the tide may be turning, as creative new uses of established legal tools are being developed to address the direct causal link between climate change and rights to cultural preservation.

THE USE OF THE U.S. ALIEN TORT CLAIMS ACT TO HOLD MULTINATIONAL CORPORATIONS ACCOUNTABLE

The use of Alien Torts Claims Act (“ATCA”)³⁹ against multinational corporations (“MNCs”) to address wrongs suffered by individuals or groups has become increasingly popular in U.S. courts in recent years. Long after its awakening in *Filartiga v. Pena-Irala*,⁴⁰ the ATCA has become a new tool to bring MNCs that abuse human rights to justice. In *Aguinda v. Texaco*, the New York federal court heard claims by citizens—mostly indigenous tribal leaders—of Ecuador’s rainforest region that Texaco’s operation of an oil pipeline through their lands caused environmental degradation that resulted in illness and destroyed their traditional way of life in the forest, and therefore destroyed their livelihood. Finding in favor of Texaco, the Court dismissed the claim under ATCA on the basis of *forum non conveniens*, allowing the case to go to the Ecuadorian court system.⁴¹ The Court did not, however, claim that the case should not have been held in the United States; it merely held that in that particular case, Ecuador was the proper jurisdiction. In fact, in 2003 the federal district court in New York looked to *Aguinda* when deciding to hold Talisman Energy, Inc. responsible in the United States under ATCA for human rights violations in Sudan, stating:

in deciding the *forum non conveniens* motion, the Second Circuit [in *Aguinda*] painstakingly weighed the various factors militating for and against trying the action in the United States. Such analysis would have been wholly superfluous if there was no subject matter jurisdiction to try the case in federal court in the first place. Thus, the recent *Aguinda* decision adds credence to the notion that corporations may be held liable for international law violations under the ATCA . . .

While the Second Circuit has not explicitly held that corporations are potentially liable for violations of the law of nations, it has . . . acknowledged that corporations are potentially liable for violations of the law of nations that ordinarily entail individual responsibility, including *jus cogens* violations.⁴²

The Court in *Talisman* thus helped to further the growing judicial consensus that MNCs can and will be tried in U.S. courts under ATCA for human rights violations.⁴³ Thus the ATCA is a potential tool for Arctic indigenous populations residing outside of the United States who are adversely impacted by U.S. MNCs violations.

THE USE OF THE PUBLIC NUISANCE DOCTRINE TO HOLD MULTINATIONAL CORPORATIONS ACCOUNTABLE

Since the ATCA cannot apply to U.S. citizens,⁴⁴ the indigenous peoples of Alaska would be unable to file a tort claim under ATCA. However, the Inupiat Eskimo tribe of Kivalina in northern Alaska recently filed a complaint under public and private nuisance law and conspiracy in District Court for the Northern District of California against several oil and gas companies. The village is suing the companies for their role in causing and denying global warming and thereby causing the massive ice melt that threatens their traditional existence and is forcing them to relocate their village.⁴⁵ A positive result for Kivalina could signal the emergence of a devastating trend for oil and gas companies in the United States.

Moreover, at least theoretically, the non-U.S. jurisdictional Arctic indigenous groups could file claims under ATCA against any number of corporations that are large emitters of greenhouse gases, for contributing to climate change and thus destroying their traditional ways by means of environmental degradation. The main issue would be to prove that actively contributing to climate change through sustained emissions is either in contradiction to a U.S. treaty, or is contrary to customary international law on the basis of *jus cogens*. At present, proving either of these claims would be extremely difficult if not impossible; however, it is one option to consider as jurisprudence regarding the impacts of climate change continues to develop. Finally, even if future case law acknowledges the causal link between climate change and self-determination rights of Arctic indigenous peoples, the focus may shift to the question of proper compensation.

In 1997, the Ninth Circuit Court of Appeals denied damages to Alaska natives from the Exxon Valdez oil spill, finding that although the natives were more severely affected by the oil spill than non-natives, the actual injury to their cultural, spiritual, and psychological benefits was no different than that of non-native Alaskans.⁴⁶ Whether such reasoning is applied to Kivalina's complaint may signal the legal trend for climate change-related damages. However, the policy question of enforcing corporate responsibility may support Kivalina's position. For instance, the payment for the relocation of a tribe, as the Kivalina village requests, may not be enough to promote a change in the policies of oil companies that would actually halt the environmental degradation from business activities; it would simply compensate the tribe for the displacement. Punitive damage awards may offer one possible method to help promote the change of corporate business ethics that impact global warming and climate change; however, how courts will respond to complaints such as that of Kivalina remains to be seen.

Aside from seeking a decision on the national level, and while regional instruments such as the Arctic Council⁴⁷ are under development, indigenous groups also have the option of utilizing more broadly based international mechanisms. The binding level of the decisions of international bodies, however, depends on whether a given country has agreed to supranational jurisdiction. For instance, Russia has not ratified several of the Protocols specifying particular types of human rights, and this has fueled widespread controversy in addition to existing criticism over its compliance with European Court of Human Rights decisions.⁴⁸ The vast expanse of Russia's northern territory, coupled with a marked deficiency in official information pertaining to the rights of indigenous peoples, results in extreme uncertainty as to how the rights of Russia's indigenous groups will be respected in the future.

Another example is the Inter-American Court of Human Rights ("IACHR"). Unlike the European human rights system, an individual cannot bring a claim directly into the system; he or she must first file the claim with the Commission, and upon its approval it may be forwarded to the Court. A substantial portion of the cases heard so far has been from indigenous groups, and the jurisprudence has leaned in favor of enforcing indigenous rights throughout the Americas.⁴⁹

However, the decisions are only binding in countries that have ratified the Convention and submitted to the contentious jurisdiction of the Court either on a blanket or individual case basis. The two Arctic countries in the Americas, Canada and the United States, have ratified the Convention, but they have not submitted to the Court's jurisdiction. In 2005 the Inuit Circumpolar Conference submitted a petition to the Commission that called for an investigation into the United States' contributions to global warming and for action to be taken.⁵⁰ It is an encouraging step forward in increasing awareness, but it is questionable whether it will encourage any change in U.S. activity. If the Court is to have any "teeth" in addressing Arctic indigenous claims regarding climate change, the jurisdiction of the Court over both of the Arctic countries presents a critical necessity.

In sum, securing jurisdiction over the countries of the Arctic, including Russia, the United States and Canada, remains a major hurdle for the two regional institutions. Until national level legislation opens itself to international influence, enforcement of any of the decisions of international courts is less likely. The same holds true for the International Court of Justice ("ICJ"): while it will not be able to hear a case unless a country submits to its jurisdiction, the Court can still give an Advisory Opinion which can serve the same purpose as the non-binding opinions of the regional human rights courts. It is thus up to the appropriate UN agencies to bring cases to the ICJ for such opinions.

The recently released IPCC report lists policies, instruments, and co-operative arrangements to mitigate the impacts of climate change worldwide.⁵¹ These recommendations are generally aimed at economic incentives and strategies at the nation-state level. While this is probably the most effective direction

to take at the international legal level, the best national-level mitigation strategy for the peoples whose lives are effectively outside of the nation-state system, remains a question. The patchwork of different fora for discussion of these issues offers promise that at least the Arctic's ecosystems and its peoples will not be ignored; however, the need for a streamlined approach for the region—cutting across Russia, Scandinavia, Canada, and the United States—is arguably apparent. Petitions to the IACHR for one set of tribes and to the ECHR for another set, with little to no recourse for groups in Russia, results in a dispersed and weakened minority group that threatens to be forgotten in the maelstrom of increasing state economic activity in the region.

CONCLUSION

International law is developing more quickly than domestic law in addressing the needs of indigenous peoples, particularly with respect to climate change. International legal institutions recognize the overlap between environment and human rights as a critical factor to protecting cultural and traditional integrity, as indigenous peoples are viewed as particularly vulnerable to eco-

logical degradation. The most dramatic effects of climate change are being seen in low-lying coastal areas in the tropics as well as in the polar regions, and especially in the Arctic. Not only are the ice melting and the ecosystem changing; countries are clamoring to stake their claims to exploration for oil and gas on the now navigable continental shelf. Such new industrial activity would bring even more change to the places Arctic indigenous peoples call home.

Though the dialogue on the international level may be more willing to acknowledge the moral responsibility to protect indigenous culture and tradition, the real implementation and enforcement of such principles must necessarily come from binding, national-level initiatives and legislation. International pressure to strengthen existing national laws or to create new ones that properly reflect the relationship between indigenous cultures and global warming induced environmental changes will certainly play an important role in the coming years; however, until national governments take the definitive step to expressly recognize and protect these rights, the future of these northernmost indigenous communities remains uncertain.



Endnotes: The Forgotten North

¹ See generally Henry Huntington & Shari Fox, *The Changing Arctic: Indigenous Perspectives*, in ARCTIC CLIMATE IMPACT ASSESSMENT 63 (Lelani Arris ed., Cambridge Univ. Press 2005), available at http://www.acia.uaf.edu/PDFs/ACIA_Science_Chapters_Final/ACIA_Ch03_Final.pdf (last visited Apr. 21, 2008).

² INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, FOURTH ASSESSMENT REPORT, CLIMATE CHANGE IMPACTS, ADAPTATION & VULNERABILITY 653, 671–72 (2007), available at <http://www.ipcc-wg2.org/> (follow “The Full Working Group II Contribution to the Fourth Assessment Report Available Here”); then follow “Chapter 15: Polar Regions (Arctic and Antarctic)” (last visited Apr. 4, 2008) [hereinafter IPCC].

³ United Nations International Covenant on Civil and Political Rights, Art. 1, General Comment 12, Mar. 23, 1976, 999 U.N.T.S. 171.

⁴ United Nations International Covenant on Civil and Political Rights, Art. 27, Mar. 23, 1976, 999 U.N.T.S. 171 [hereinafter Art. 27].

⁵ U.N. Declaration of the Rights of Indigenous Peoples, A/HRC/I/L.10, Annex (29 June 2006).

⁶ UNITED NATIONS, SUB-COMMISSION ON PREVENTION OF DISCRIMINATION AND PROTECTION OF MINORITIES, REPORT ON PREVENTION OF DISCRIMINATION AND PROTECTION OF MINORITIES, U.N. Doc. E/CN.4/Sub.2/1996/41 (1996), available at <http://www1.umn.edu/humanrts/demo/subcom96-toc.htm> (last visited Apr. 4, 2008).

⁷ See generally Jack Donnelly, *In Search of the Unicorn: The Jurisprudence of the Right to Development*, 15 CAL. W. INT'L L. J. 473 (1985).

⁸ Doug Struck, *Dispute over NW Passage Revived*, WASH. POST, Nov. 6, 2006, at A18, available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/11/05/AR2006110500286.html> (last visited Apr. 4, 2008).

⁹ John Roach, *Greenland Ice Sheet is Melting Faster, Study Says*, NAT'L GEOGRAPHIC NEWS, Aug. 10, 2006, available at <http://news.nationalgeographic.com/news/2006/08/060810-greenland.html> (last visited Apr. 4, 2008).

¹⁰ See BBC NEWS, *Antarctic buffers sea level rise*, May 22, 2005, available at <http://news.bbc.co.uk/2/hi/science/nature/4565935.stm> (last visited Apr. 5, 2008) (discussing the mitigating impacts of thickening ice sheets in the interior of Antarctica on global warming). But see Andrew J. Monaghan et al., *Insignificant Change in Antarctic Snowfall Since the International Geophysical Year*, 313 Sci. 827, 827–31 (Aug. 11, 1006) (presenting original research and

concluding that overall precipitation in Antarctica has not increased and that Antarctic ice sheets do not mitigate the negative impacts of global warming).

¹¹ CBS NEWS, *New Warning on Arctic Ice Cap Melting, Satellite Images Show Volume of Sea Ice At Summer's End Was Half That of 2003*, Dec. 13, 2007, available at http://www.cbsnews.com/stories/2007/12/13/tech/main3613698.shtml?source=RSSattr=HOME_3613698 (last visited Apr. 14, 2008).

¹² See IPCC, *supra* note 2.

¹³ Scott Forrest, *Territoriality and Sami-State Relations*, ARCTIC CIRCLE (1997), <http://arcticcircle.uconn.edu/HistoryCulture/Sami/samisf.html> (last visited Apr. 4, 2008).

¹⁴ Forrest, *id.*

¹⁵ Kitok v. Sweden, Communication No. 197/1985, U.N. Human Rights Committee, CCPR/C/33/D/197/1985.

¹⁶ See Art. 27, *supra* note 4.

¹⁷ See Sandra Lovelace v. Canada, Communication No. R.6/24, U.N. Doc. Supp. No. 40 (A/36/40) at 166 (1981), available at <http://www1.umn.edu/humanrts/undocs/session36/6-24.htm> (last visited Apr. 24, 2008).

¹⁸ Forrest, *supra* note 13.

¹⁹ Forrest, *supra* note 13.

²⁰ Forrest, *supra* note 13.

²¹ Forrest, *supra* note 13.

²² *Landsman v. Finland*, U.N. Communication, CCPR/C/58/D/671/1995.

²³ *Lubicon Lake Band v. Canada*, 1990 Annual Report of the Human Rights Committee, U.N. Doc. A/45/40, Vol. II, App. A (1990).

²⁴ See Danish Ministry of Foreign Affairs, *Support to Indigenous Peoples*, available at http://www.um.dk/NR/rdonlyres/05BBD684-3752-42C1-ADD2-E6DC93BBFA9C/0/strategy_for_danish_support_to_indigenous_peoples.pdf (last visited Apr. 4, 2008).

²⁵ Gail Osherenko, *Indigenous Peoples, the Environment, and the Law: An Anthology* 290 (Lawrence Watters, ed., Carolina Acad. Press 2004).

²⁶ Osherenko, *id.* at 292.

²⁷ Osherenko, *id.* at 294.

THE GREAT THAW: NATIONAL SECURITY AT THE TOP OF

A MELTING WORLD *by Matthew Padilla**

During the Cold War, the North Atlantic Treaty Organization (“NATO”) sought to contain the Soviet Union’s territorial expansion. After a period of calm, which culminated in the fall of the Soviet Union, the world is once again witness to national claims over disputed territory and resources.

In August of 2007, the Russian Federation became the first nation to literally place their flag on and claim the North Pole and the resources that are believed to exist underneath.¹ “The Arctic is Russian” said Artur Chilingarov, a Russian leader of the expedition returning from the thawing pole.² To which country the Arctic belongs to is at the heart of the current debate, and the contest has real national security implications which will have to be dealt with as the great thaw in the north continues.

Climate change has led to significant ice reduction in the Polar Regions.³ The resulting thaw has led to competition over what the U.S. Geological Survey estimates to be a quarter of the planet’s remaining energy reserves.⁴ In addition, newly opened shipping routes, specifically the Northwest Passage near Canada and the Northern Sea Route near Russia are adding to the complexity of claims between the nations.⁵

The five Arctic countries vying for recognition of their claims are the United States, Canada, Russia, Denmark, and Norway. The Law of the Sea Treaty allows for Arctic countries to map out their territorial claims within ten years of submission. The northern countries have been making their claims, but not without controversy over where the boundaries actually should lie because of the great latent wealth which may exist under the ocean floor.⁶ The United States, however, is at a disadvantage in regards to staking its economic claims because it not a party to the Law of the Sea Treaty. Despite support from a bipartisan majority of the Senate, President Bush, the Senate Foreign Relations Committee, and the U.S. Navy and Coast Guard, some Senate Republicans have continued to stall the United States’ ratification of the treaty because they believe that the treaty would hinder U.S. sovereignty.⁷

Many national security experts do not believe that this modern race for territorial acquisition will resort to military force.⁸ Scott Borgerson, a Fellow for the Council on Foreign Relations, believes that there are historical reasons for optimism and he cites the Antarctic treaty as an example in which despite a contentious time during Cold War, parties were able to negotiate territorial claims peacefully.⁹ Nonetheless, the report also notes that while “armed confrontation remains unlikely, tensions over

territorial waters hearken back to the kinds of border disputes that once led to interstate war.”¹⁰

The U.S. military has recognized the national security implications due to global warming. In a report commissioned by the U.S. Navy, titled “National Security and the Threat of

Climate Change,” eleven retired Admirals and Generals recognized that global climate change and national security are intertwined.¹¹ The report cited the Arctic as a “region of particular concern” because of the added operations which will be conducted as shipping increases and more resources are mined from

the ocean depths.¹² In addition, the report calls global warming a “threat multiplier for instability in some of the most volatile regions of the world.”¹³

The U.S. Coast Guard has been at the frontline of policing Arctic resources. Admiral Gene Brooks has called the Bering Strait the “new Strait of Malacca” because of an anticipated increase in shipping traffic between Europe and the Pacific as the northern passages open.¹⁴ The Strait of Malacca is the nautical passageway and chokepoint through which shipping passes from the Pacific Ocean to the Indian Ocean. Such increased traffic will add to the strain of missions already undertaken by U.S. vessels underway.¹⁵

It is important to view these events in the grand scheme of international order and balancing. Whichever country acquires the bulk of the Arctic resources will likely be at a strategic economic advantage over other national powers. Russia has already used its growing gas and oil resources to influence its neighbors and other countries in a manner contrary to U.S. security goals.¹⁶ Furthermore, the melting ice in the Arctic should be viewed as a symptom of the global disruptions which will occur worldwide due to increased temperatures, affecting regimes large and small and creating a host of new security problems for states.¹⁷ The United States in particular may be drawn into more “stability operations” such as those undertaken during Hurricane Katrina and the Asian Tsunami.¹⁸ The United States’ national security issues arising from melting Arctic ice can be ameliorated, but the first step is to engage the global community through treaties, such as the Law of the Sea, while making strides to reduce carbon emissions.¹⁹



Endnotes: The Great Thaw *continued on page 68*

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LITIGATION UPDATE

NEW JERSEY V. EPA

by Nathan Borgford-Parnell*

INTRODUCTION

On February 8, 2008 the U.S. Court of Appeals for the District of Columbia vacated two Environmental Protection Agency (“EPA”) actions, the first to delist mercury emitting coal and oil-fired electric utility steam generation units (“EGUs”) from section 112 of the Clean Air Act (“CAA”), and the second to limit mercury emissions, under the much less restrictive, CCA section 111 with the new Clean Air Mercury Rule (“CAMR”).¹ The suit was filed by the state of New Jersey, along with thirteen other states, environmental organizations, and industrial groups.²

LEGAL BACKGROUND AND ARGUMENTS

In 1970, Congress amended the Clean Air Act, adding section 112, requiring EPA to list and regulate hazardous air pollutants (“HAPs”) that “cause, or contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness.”³ In response to the EPA’s extremely slow application of section 112, Congress returned to the issue of HAPs in 1990 by strengthening section 112 to require EPA to list and regulate over one hundred specific HAPs. The amended section 112 required that EPA regulate all new and existing sources of HAPs to reflect the “maximum reduction in emissions which can be achieved by application of the best available control technology.”⁴ Additionally, section 112(c)(9) restricted EPA’s ability to delist a HAP source without first determining that “emissions from no source is the category or subcategory concerned . . . exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source.”⁵

In 2000, in response to an EPA study linking anthropogenic releases of mercury with methylmercury levels in fish, EPA Administrator announced as “appropriate and necessary”⁶ the listing of coal- and oil-fired EGUs as source categories for HAPs under section 112.⁷ Coal and oil EGUs are the largest anthropogenic source emitters of mercury in the United States. In 2004 EPA revisited its decision of listing coal- and oil-fired EGUs. After reviewing a number of alternatives EPA decided to delist coal- and oil-fired EGUs as HAP sources under section 112 and institute the less restrictive Clean Air Mercury Rule. Under the CAMR, EPA proposed to limit mercury emissions from new and existing coal and oil EGUs, and develop a voluntary cap-and-trade program to reduce mercury emissions.⁸

The petitioners in the case contended that EPA, in delisting coal and oil EGUs, violated the plain text and structure of section 112(c)(9) delisting requirements. During the trial the EPA admitted that it had not, and could not make the findings required under CCA Section 112(c)(9) for delisting a HAP source. However, EPA offered three arguments for the legitimacy of its decision, regardless of the section 112(c)(9).

First, EPA contended that its decision was justified through its interpretation of section 112(n)(1)(A) which requires EPA Administrator to conduct a study of each HAP listed in section 112. Following the study, EPA determines whether it is “necessary and appropriate,” to regulate EGU as HAP sources. EPA contended that section 112(n)(1)(A) does not restrict the agency from reviewing previous decisions of “necessary and appropri-

The court found no ambiguity in section 112 and held that the EPA’s argument “deploys the logic of the Queen of Hearts, substituting EPA’s desires for the plain text...”

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ate” listings of EGUs. If EPA finds that a listing of source EGUs had not in fact been “necessary and appropriate,” it contended that it could delist those sources without meeting the delisting requirements of section 112(c)(9). Secondly, EPA argued that the court should defer to the agency’s interpretation of section 112, stating that it is ambiguous and calls into question whether EGUs should be regulated at all. Finally, EPA pointed out that it has previously delisted HAP sources without satisfying the requirements of section 112(c)(9).

HOLDINGS

As for EPA’s first argument, the court agreed that typically agencies may reverse a previous “administrative determination or ruling where the agency has a principled basis for doing so.”⁹ However, Congress has the power to restrict an agency’s ability to reverse its self. The Court found that the delisting restriction in section 112(c)(9) represented an expressed limit on EPA’s discretion to delist HAP sources. Furthermore, the Court found that EPA’s position would nullify section 112(c)(9) and allow the agency to delist any source without regard for the statutory delisting process.¹⁰

In analyzing EPA’s request for judicial deference the court utilized the two-pronged test laid out in *Chevron*. Under the first prong of the test the court looked to determine if “Congress has directly spoken to the . . . issue.”¹¹ Looking at the plain language of the statute, the court pointed to section 112(c)(6) where Congress expressly discusses regulation of EGUs.¹² The court found no ambiguity in section 112 and held that the EPA’s argument “deploys the logic of the Queen of Hearts, substituting EPA’s desires for the plain text . . .”¹³ Finally, the court found EPA’s third argument unconvincing, pointing out that previous examples of statutory violations are not an excuse for current violations.¹⁴

Finding all three of EPAs arguments without merit, the court vacated the delisting of coal- and oil-fired EGUs. Under EPAs own interpretations, the mercury regulation under CAMR created within CCA section 111 cannot be used to regulate sources listed in section 112. With this in consideration, the Court also vacated CAMR and remanded it to EPA for reconsideration.

CONCLUSION

Environmental groups have hailed the Court’s ruling as a victory for the health of all Americans by invalidating an attempt by EPA to get around the much stricter standards required by CCA section 112 with a weak cap-and-trade program under CAMR.¹⁵ The petitioners contended that the cap-and-trade program would have done little to cap mercury in the short term and would have delayed any actual reductions by a decade or more.¹⁶ After the decision, one petitioner’s attorney stated, “We hope the administration will gain some new respect for the law in its last year and start working to protect Americans from pollution and stop working to shield polluters from their lawful cleanup obligations.”¹⁷



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BOOK REVIEW

BREAK THROUGH:

FROM THE DEATH OF ENVIRONMENTALISM TO THE POLITICS OF POSSIBILITY

by Ted Nordhaus & Michael Shellenberger

Reviewed by Emily Alves*

The environmental community is at a crossroads. After decades of advocating for safeguards for nature and conservation of resources, the entire movement has exhausted its traditional methods of achieving victories. The inability to implement a widely accepted system of capping global carbon emissions is an example of this dead end. If the movement is to continue on and make further progress, then it will need to break out of its interest group mode and seek alliances to advocate for ideas that environmentalism has been unfamiliar with thus far.

Nordhaus and Shellenberger caused a controversial stir with their 2004 article “The Death of Environmentalism.” *Break Through* seeks to expand upon those ideas, demonstrating how the environmental movement has fallen into the trap of becoming just another interest group, and outlining a path towards progressive, effective policy making. Nordhaus and Shellenberger state that their ultimate goal is to help the community reach its desired end.

The first half of the book, ‘The Politics of Limits,’ explains how for decades, the movement has been driven by concern for one issue and utilizing a single, unoriginal approach. Viewing their mission as the stewards of the environment, environmental advocates have sought to staunch human activity in the name of preserving our lands, water, and air. Advocates have acquired these goals by pushing through lawsuits and legislation, claiming that public support is on their side by citing poll after poll where a majority of Americans state that the environment is a top concern for them. Victories such as the Clean Water Act and the Clean Air Act have instilled in the environmental community the belief that these small-scale methods will continue to be effective against massive problems, such as global warming.

Nordhaus and Shellenberger argue that environmentalists are mistaken on several points, and are wasting valuable time and resources as a result. The authors argue that environmentalists are far off base regarding the human aspect of their cause. By championing the rights of nature over the rights of human progress, the community does not recognize the fact that the movement got its start as a ‘post-material need’ for humanity.

Having satisfied the minimal levels of need—food, shelter, and physical safety—citizens of the Western world have shifted their focus to post-material ones, such as self-fulfillment and a sense of belonging. These post-material instincts are what trigger the desire in people to invest in our natural surroundings. Humans have achieved this level of need due to the immense progress made in the last few centuries. Therefore, it is extremely counter-intuitive for most people when environmentalists proclaim that the only way to preserve nature is to halt the human progress that has brought them to a point where they are even able to consider nature as a priority.


The authors use a case study of Brazil to illustrate this point. Environmentalists are constantly trying (and failing) to stem the deforestation of the Amazon. The authors contrast these efforts with the millions of direly poor Brazilians living either in the overcrowded *favelas* of Rio de Janeiro and San Paulo or in the secluded villages of the Amazon. The message that nature is superior and in perfect harmony, and we humans must not disrupt this harmony, does not resonate with those seeking to make a living for themselves. Even in the United States, demanding that citizens curtail the very activities that have brought them security in the name of maintaining or restoring the damage inflicted on nature while we were evolving is counter-intuitive and difficult to sell. For all the small scoped victories environmentalists have achieved in the name of nature, tackling the global issues simply cannot be done with these overtones and tactics that are not winning over the hearts and minds of the majority of the population.

Nordhaus and Shellenberger then spend the second half of the book, “The Politics of Possibility,” proposing methods that the environmental community can still pursue in order to achieve their more lofty goals. As with all single interest groups, environmentalists must seek to expand their appeal. The best way to

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do this is to take up issues that will achieve environmental quality while allowing humans to do what they do best—innovate and progress. The doomsday scenarios of fatal weather patterns must be set aside, and replaced with promising predictions of the innovative future that will ameliorate these conditions. Alliances must be formed with groups traditionally unallied with the environmentalists, such as the United Auto Workers or the insurance industry, to advance fuel efficiency standards and increase public health awareness. Concessions will have to be made in order to meet the majority of the environmentalists' goals. The new path will have to entail engaging in progressive, market based

solutions that will allow citizens to feel that they are working to improve their standards of living.

The authors then suggest their plan for an Apollo project for clean energy, a proposal that would invest \$300 billion in energy technologies over the next ten years. This proposal would simultaneously generate an additional \$200 billion in private capital and add about three million new jobs to the market, all while discovering the most efficient environmentally friendly fuel technology. It is solutions such as these that will allow environmentalists to leave their single issue, superior politics in the past and embrace a multifaceted, progressive politics of the future. 

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WORLD NEWS

by Sarah Melikian & Addie Haughey*

AFRICA

South Africa, Zambia, and Zimbabwe experienced major blackouts in early 2008.¹ In South Africa, the hardest hit country, the mining sector had to temporarily suspend operations, while industry, commerce, and telecommunications were affected in Zimbabwe.²

South African President Thabo Mbeki admitted that the government failed to plan for shortages after warnings several years ago.³ Recent economic growth has resulted in demand exceeding a capacity, which has not increased much in the last twenty years.⁴ South Africa is the continent's largest economy, and some regions of the country were dark for up to five hours a day, affecting all sectors of the economy.⁵ The country accounts for more than half of the electricity used in sub-Saharan Africa.⁶ Most of the electricity goes to manufacturing, mining, and commercial users, with about twenty percent used by households and five percent exported to neighboring countries.⁷ Major losses were felt in dairy and egg production, the wine crop, and tourism, especially the restaurant business.⁸ Neighboring countries that usually rely on South Africa for energy supply had to turn to other sources in the region.⁹

The most talked about casualty was the mining industry, the largest employer of South Africans. The sector employs almost a half million people and indirectly supports five million.¹⁰ Accounting for fifteen percent of South Africa's electricity demand, the largest gold, platinum, coal, and diamond producers halted operations for five days when electricity supply could not be guaranteed.¹¹

AMERICAS

Even within a single country the regional impact from climate change varies. Recent studies have found that the western states of the United States are facing more drastic and rapid warming than the rest of the country. Over a five year time span, the world climate warmed about one degree Fahrenheit,¹² but eleven western U.S. states warmed 1.7 degrees on average over the same time¹³ and in some parts of the west, the warming was as much as 2.2 degrees.¹⁴

Data suggests that this trend will not only continue, but it will also accelerate.¹⁵ Economic impacts on recreation, skiing, hunting, and fishing are already being felt and will only increase with higher temperatures.¹⁶ A total of \$2.7 billion in lost crops have also been attributed to the temperature increase.¹⁷

Unlikely supporters from western states are pushing for a federal climate bill with the teeth to slow these changes in climate as members of Congress from the West realize the dis-

parate impacts their states face.¹⁸ State governments are also responding by joining together to create a regional compact to curb emissions that aggravate climate change.¹⁹

ASIA

Biofuels, long considered a green alternative to oil, are being criticized for their environmental and social consequences. International environmental groups are claiming that biofuel production in Indonesia is leading to human rights abuses.²⁰ According to a report published by Friends of the Earth, LifeMosaic, and Sawit Watch, increased global demand for palm oil is resulting in the clearing of millions of hectares of forests, which in turn is threatening the livelihoods of sixty to ninety million indigenous people in Indonesia.²¹

More than eighty-five percent of the world's palm oil is produced in Indonesia and Malaysia.²² Studies recently released by researchers at Wetlands International and Delft Hydraulics note that Indonesia is now the world's third leading producer of carbon emissions.²³ Friends of the Earth also estimates that between 1985 and 2000, eighty-seven percent of the deforestation in Malaysia was due to new palm oil plantations and that in Indonesia, the land devoted to palm oil has more than doubled in the last eight years.²⁴ Scientists are also finding that biofuel production may create more harmful emissions than fossil fuels.²⁵ The concern has EU governments rolling back the once generous subsidies for biofuels.²⁶

AUSTRALIA

While the polar bear has become the furry spokesmen of the environmental movement when it comes to climate change, other animals are also feeling potentially devastating impacts from global warming. One example of such a creature is the koala bear. These Australian marsupials live off of eucalyptus leaves but their diet is in danger as nutrients in the leaves decrease because of carbon dioxide and other greenhouse gasses.²⁷

Professor Bill Foley of the Australian National University says that "the staple diet of these animals is being turned to leather."²⁸ As carbon dioxide increases, the amount of vital protein in the leaves decreases and the levels of toxins in the leaves can reach dangerous levels.²⁹

The koala's food chain is finely balanced and the decrease in nutrients and protein in the eucalyptus leaves requires them to eat more leaves.³⁰ This increase in consumption exacerbates the

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impacts of toxins in the leaves and also increases competition for food between the koala bears and other animals and insects that also feed off the eucalyptus.³¹

Other animals will be impacted by the change in the eucalyptus, but the Koala is particularly vulnerable. The name “koala” comes from an aboriginal word that means “doesn’t drink.”³² The bears get almost all of the moisture they require from their diet of leaves, making them even more dependent on the eucalyptus than other species.³³ There are currently fewer than 100,000 koalas living in the wild in Australia, and that small population is at great risk with increasing climate change.³⁴

EUROPE

The largest cod fishery on Earth, the Northeast Arctic cod, is facing a growing threat from illegal fishing.³⁵ The Norwegian government estimates that in 2005 over 100,000 tonnes of illegal cod were caught in the Barents Sea, a value of over \$350 mil-

lion.³⁶ Norwegian, Russian, and EU fishers take the majority of the Barents Sea catch, which then gets distributed globally, thus allowing efforts along the supply chain may help reduce illegal catches.³⁷ Unfortunately some EU member states are opposing the European Commission’s proposals to address illegal fishing.³⁸ Thus, the possibility of over fishing in conjunction with climate change may be to large of a stress on the fishery causing it to collapse like the North American cod fishery.³⁹

In response to illegal, unreported, and unregulated fishing several retailers are working to raise consumer awareness of sustainable seafood.⁴⁰ Some supermarkets are now providing fish that are certified by the Marine Stewardship Council, the global environmental standard for sustainable and well-managed fisheries.⁴¹ However, this is only the first step of many necessary along the entire seafood distribution chain to ensure that fisheries are available to feed us today and tomorrow.



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- ⁴ Reuters, *id.*
- ⁵ S.J. Res. 17.
- ⁶ S.J. Res. 17.
- ⁷ Allthingsarctic.com, *Overfishing in the Arctic*, available at <http://www.allthingsarctic.com/environment/overfishing.aspx> (last visited Feb. 18, 2008).
- ⁸ DON PHILLIPS, *OUR FRAGILE COASTAL FISHERIES 101* (2004); Press Release, Marine Conservation Alliance, *MCA Backs Resolution calling for Precautionary Approach given Climate Change* (Oct. 22, 2007), available at www.marine-conservationalliance.org/press/pr20071022.pdf (last visited Feb. 18, 2008).
- ⁹ David Benton, *Approach Arctic fishing with caution*, SEATTLE POST-INTELLIGENCER, Nov. 14, 2007, available at http://seattlepi.nwsource.com/opinion/339687_fisheries15.html (last visited Feb. 18, 2008).
- ¹⁰ 'New Ocean Ethic' is Recommended, N.Y. TIMES, July 29, 2003, at F2.

ENDNOTES: CLIMATE CHANGE AND BIODIVERSITY IN POLAR REGIONS *continued from page 16*

- ¹⁰ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], *Summary for Policymakers*, in CLIMATE CHANGE 2007 – THE PHYSICAL SCIENCE BASIS: WORKING GROUP I CONTRIBUTION TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, 4 (Susan Solomon et al. eds., 2007), available at http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_SPM.pdf (last visited Apr. 13, 2008) [hereinafter *IPCC Summary for Policymakers*].
- ¹¹ See Gordon McBean et al., *Arctic Climate: Past and Present*, in ARCTIC CLIMATE IMPACT ASSESSMENT 22 (Lelani Arris ed., Cambridge Univ. Press 2005).
- ¹² *IPCC Summary for Policymakers*, *supra* note 10, at 6.
- ¹³ *IPCC Summary for Policymakers*, *supra* note 10, at 12.
- ¹⁴ The Arctic Council is a high-level intergovernmental forum that provides a mechanism to address the common concerns and challenges faced by Arctic people and governments. It is comprised of the eight Arctic states (Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden, and the United States of America), six indigenous peoples organizations (Aleut International Association, Arctic Athabaskan Council, Gwich'in Council International, Inuit Circumpolar Conference, Russian Association of Indigenous peoples of the North, and Sámi Council) as permanent participants, and official observers (including France, Germany, the Netherlands, Poland, United Kingdom, non-governmental organizations, and scientific and other international bodies). About Arctic Council, Arctic Council website, <http://arctic-council.org/article/about> (last visited Apr. 13, 2008).
- ¹⁵ ACIA, IMPACTS OF A WARMING ARCTIC: ARCTIC CLIMATE IMPACT ASSESSMENT, *supra* note 3.
- ¹⁶ ACIA, POLICY DOCUMENT (Nov. 2004) (issued by the Fourth Arctic Council Ministerial Meeting, held in Reykjavik, Iceland), available at http://www.acia.uaf.edu/PDFs/ACIA_Policy_Document.pdf (last visited Apr. 13, 2008).
- ¹⁷ See Henry Huntington & Shari Fox, *The Changing Arctic: Indigenous Perspectives*, in ARCTIC CLIMATE IMPACT ASSESSMENT 22 (Lelani Arris ed., Cambridge Univ. Press 2005).
- ¹⁸ INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT [IISD], INUIT OBSERVATIONS ON CLIMATE CHANGE, available at <http://www.iisd.org/casl/projects/inuitobs.htm> (last visited Apr. 13, 2008).
- ¹⁹ Convention on Biological Diversity art. 8(j), June 5, 1992, 31 I.L.M. 818 (stating that “each contracting Party shall, as far as possible and as appropriate: Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.”).
- ²⁰ Press Release, Secretary General, Conservation, Sustainable Use of Biodiversity Essential for Adapting to Climate Change, Secretary-General Says in Message for International Day, SG/SM/10994 (May 14, 2007), available at <http://www.un.org/News/Press/docs/2007/sgsm10994.doc.htm> (last visited Apr. 13, 2008).

- ¹ The Antarctic Treaty, Dec. 10, 1959, 402 U.N.T.S. 71.
- ² See Protocol on Environmental Protection to the Antarctic Treaty, Oct. 4, 1991, 30 I.L.M. 1455 (entered into force Jan. 14, 1998) (explaining that the Antarctic Treaty System (“ATS”) is comprised of: (1) the Antarctic Treaty; (2) the more than 200 measures in effect under the Treaty; and (3) associated treaties, and their related measures, that are in force) [hereinafter Madrid Protocol].
- ³ See the International Polar Year website, <http://www.ipy.org/> (last visited Apr. 10, 2008) (stating that the current 2007–08 International Polar Year (IPY 07–08) represents the 50th Anniversary of the 1957–58 International Geophysical Year (IGY 57–58) that culminated in the 1959 Antarctic Treaty); see also Andrew C. Revkin, *2-Year Study of Polar Changes Set to Begin*, N.Y. TIMES, Feb. 26, 2007, at A4; Celebrating the Anniversaries of the International Polar Years and International Geophysical Year, 150 Cong. Rec. S. 11323, 108th Cong., 2d sess. (Oct. 11, 2004).
- ⁴ This phrase has been used frequently in the context of international organization, highlighting the importance of international cooperation through formalized structures. See, e.g., GEORG SCHWARZENBERGER, POWER POLITICS: A STUDY OF INTERNATIONAL SOCIETY 748 (1951) (on the need for the United Nations); JEAN MONNET, MEMOIRS 509 (1978) (on the need for European organization); Robert O. Keohane, *The Demand for International Regimes*, 36 INT’L ORGANIZATION 325, 355 (1982) (on the need for international regimes generally); M.H. Mendelson, *Flux and Reflux of the Law of the Sea*, 5 OXFORD J. LEGAL STUD. 285 (1985) (on the need for an international legal regime for the seas); John Garofano, *Power, Institutions and the ASEAN Regional Forum*, 42 ASIAN SURV. 502 (2002) (on the need for the ARF).
- ⁵ See generally REPORT OF THE U.S. ANTARCTIC PROGRAM EXTERNAL PANEL, THE UNITED STATES IN ANTARCTICA (National Science Foundation, 1997); U.S. House of Representatives, Hearings before the Committee on Science, 105th Cong., *The United States and Antarctica in the 21st Century*, 1st sess., Mar. 12, 1997, at 6–11 (Statement of Norman R. Augustine); Marcus Haward et al., *Australia’s Antarctic Agenda*, 60 AUSTRALIAN J. INT’L AFF. 439 (2006); see also HANDBOOK OF THE ANTARCTIC TREATY SYSTEM, U.S. Department of State (9th ed., 2002) (excluding a number of important Consultative Party recommendations, resolutions, decisions and measures).
- ⁶ See ARTHUR WATTS, INTERNATIONAL LAW AND THE ANTARCTIC TREATY SYSTEM 119–20 (1992). States purporting to exercise, assert or claim territorial sovereignty are generally known as “claimant” states despite clear distinctions between “exercise, assert or claim.” “Non-claimant” states are those that do not accept the validity of claims that have been made by other states and, in addition, neither advance a territorial claim themselves, nor (except for the United States and Russia) assert a historic basis for doing so.
- ⁷ See Revised Rules of Procedure (2005), ATCM Decision 3 (June 17, 2005), available at http://v3.ats.aq/documents/recatt/att264_e.pdf (last visited Apr. 10, 2008); see also F. M. Auburn, *Consultative Status Under the Antarctic Treaty*, 28 INT’L & COMP. L.Q. 514 (1979). This includes differences between the sub-groups of Antarctic Treaty Consultative Parties, with powers of participation and decision-making and Antarctic Treaty Non-Consultative Parties, without such powers.
- ⁸ See PETER BECK, THE INTERNATIONAL POLITICS OF ANTARCTICA, 270–319 (1986).
- ⁹ See CHRISTOPHER C. JOYNER, GOVERNING THE FROZEN COMMONS: THE ANTARCTIC REGIME AND ENVIRONMENTAL PROTECTION (1998) (explaining how the framework principles of peace and science established by the 1959 Antarctic Treaty have blossomed in subsequent regulation in the form of binding “recommendations” – now known as measures under XIX: Decision 1 (1995) – and the ATS conventions); WATTS, *supra* note 6; Gillian Triggs, *The Antarctic Treaty Regime: A Workable Compromise or a “Purgatory of Ambiguity?”*, 17 CASE W. RES. J. INT’L L. 195, 199–208 (1985).
- ¹⁰ See OLAV SCHRAM STOKKE & DAVOR VIDAS, GOVERNING THE ANTARCTIC: THE EFFECTIVENESS AND LEGITIMACY OF THE ANTARCTIC TREATY SYSTEM 35, 37–45 (1996) (demonstrating accounts and analysis of the continuing effectiveness and legitimacy of the ATS); ARNFINN JØRGENSEN-DAHL & WILLY ØSTRENG, THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS (1991) (discussing lessons to be taken from the ATS model).
- ¹¹ See, e.g., VED P. NANDA & GEORGE (ROCK) PRING, INTERNATIONAL ENVIRONMENTAL LAW FOR THE 21ST CENTURY 270 (2003) (pointing to regulating ozone depleting substances); DAVID HUNTER, JAMES SALZMAN & DURWOOD ZÄELKE, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 526 (2d ed., 2002) (stating that the ozone regime is “the most important precedent in international law for the management of global environmental harms”).
- ¹² See e.g., Donald R. Rothwell, *Environmental Protection in Antarctica and the Southern Ocean: A Post UNCED Perspective*, in OCEAN LAW AND POLICY IN THE POST-UNCED ERA: AUSTRALIAN AND CANADIAN PERSPECTIVES, 327 (Kriwoken, Haward, VanderZwaag & Davis, eds., 1996) (stating that ATS is “one of the most successful international law regimes in recent history”); Richard Falk, *The Antarctic Treaty System: Are There Viable Alternatives?*, in THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS 399 (Arnfinn Jørgensen-Dahl & Willy Østreng, eds., 1991) (stating that “governance of Antarctica . . . is the closest thing to ‘a world order miracle’ that the world has known”); Finn Sollie, *The Development of the Antarctic Treaty System: Trends and Issues*, in ANTARCTIC CHALLENGE: CONFLICTING INTERESTS, COOPERATION, ENVIRONMENTAL PROTECTION, ECONOMIC DEVELOPMENT 25 (Rüdiger Wolfrum, ed., 1984) (stating that ATS is “so effective . . . that today it is easy to forget the tension and the risks of political conflict and the dangers of military intervention that did exist before . . . the Antarctic Treaty”); Gillian D. Triggs, *The Antarctic Treaty System: Some Jurisdictional Problems*, in THE ANTARCTIC TREATY REGIME: LAW, ENVIRONMENT AND RESOURCES 88 (Gillian D. Triggs, ed., 1987) (stating that “the Antarctic Treaty regime has been a remarkably successful mechanism through which universal interests . . . have been protected and advanced”); see also John D. Negroponte, *The Success of the Antarctic Treaty*, 87 DEPT. STATE BULL. 29 (June 1987).
- ¹³ WATTS, *supra* note 6, at 291.
- ¹⁴ See, e.g., DONALD R. ROTHWELL, THE POLAR REGIONS AND THE DEVELOPMENT OF INTERNATIONAL LAW (1996); CHRISTOPHER C. JOYNER, GOVERNING THE FROZEN COMMONS: THE ANTARCTIC REGIME AND ENVIRONMENTAL PROTECTION (1998); ANTARCTIC TREATY SYSTEM: AN ASSESSMENT – PROCEEDINGS OF A WORKSHOP HELD AT BEARDMORE SOUTH FIELD CAMP, ANTARCTICA, Jan. 7–13, 1985 (Nat’l Acad. Press, 1986) (a compiled assessment of the ATS on the twenty-fifth anniversary of the Antarctic Treaty).
- ¹⁵ Robert D. Hayton, *The Antarctic Settlement of 1959*, 54 AM. J. INT’L L. 349, 367–371 (1960); M.W. Mouton, *The International Regime of the Polar Regions*, 107 REC. DES COURS 169, 269 (1962). See generally WILFRED JENKS, THE COMMON LAW OF MANKIND 366–71 (1958).
- ¹⁶ See, e.g., Hamzah Bin Amad, *Antarctica and the International Community: A Commentary*, in ANTARCTICA INTERNATIONAL AFFAIRS 4 (Hamzah Bin Amad, ed., 1987) (explaining that following developing country claims to Antarctica as common heritage, “the 1959 treaty system is fast becoming obsolete and no longer appropriate to deal with new expectations as well as developments in international relations”); Donald R. Rothwell, *The Antarctic Treaty System: Resource Development, Environmental Protections or Disintegration?*, 43 ARCTIC 284 (1990) (demonstrating that following the collapse of the Convention for the Regulation of Antarctic Mineral Resource Activities in 1989, “serious divisions exist among the treaty parties that could conceivably cause the disintegration of the regime . . .”).
- ¹⁷ DONALD R. ROTHWELL, THE POLAR REGIONS AND THE DEVELOPMENT OF INTERNATIONAL LAW 456 (1996); see John Warren Kindt, *A Regime for Ice-Covered Areas: The Antarctic and Issues Involving Resource Exploitation and the Environment*, in THE ANTARCTIC LEGAL REGIME 202 (Joyner & Chopra, eds., 1988) (stating that “dismantling of the Antarctic Treaty system would appear to be a step backwards into the diplomacy of the last Ice Age”).
- ¹⁸ The Conference on Antarctica, Department of State, Washington, (Oct. 15–Dec. 1, 1959) (Pub. No. 7060, Sept. 1960). This characterization originates in the letter of invitation sent by President Eisenhower to the original signatories to the 1959 Treaty. *Id.*, at 3–4 (“legal status quo in Antarctica would be frozen for the duration of the Treaty”).
- ¹⁹ *Humane Soc’y Int’l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2008] FCA 3 (Jan. 15, 2008).
- ²⁰ Richard B. Bilder, *Emerging Legal Problems of the Deep Seas and Polar Regions*, 61 U.S. NAVAL WAR C. INT’L L. STUD. 504, 511 (1980).

²¹ See Bernard H. Oxman, *The Territorial Temptation: A Siren Song*, 100 AM. J. INT'L L. 308 (2006) (supporting the concern over the dangers associated with Australia's exercise of jurisdiction against non-nationals in the Southern Ocean based on the seaward territorial temptation).

²² For the history of the case see *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2004] FCA 1510 (initial application for leave to serve originating process in Japan and invitation to Attorney-General to intervene) (unreported); *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2005] FCA 664 (May 27, 2005) (dismissal of application following AG intervention); *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, 154 FCR 425 (2006) (appeal order setting aside the dismissal and granting leave to serve process); *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2007] FCA 124 (Feb. 16, 2007) (order allowing substituted service of process) (unreported); *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2008] FCA 3 (Jan. 15, 2008) (final judgment issuing declaration and injunction); *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2008] FCA 36 (Jan. 18, 2008) (order granting leave for substituted service of the final judgment) (unreported); Environmental Law Publishing, *Japanese Whaling Case*, available at <http://www.envlaw.com.au/whale.html> (last visited Apr. 10, 2008). For case analysis see also Sam Blay & Karen Bubna-Litic, *The Interplay of International Law and Domestic Law: The Case of Australia's Efforts to Protect Whales*, 23 EPLJ 465 (2006); Ruth Davis, *Enforcing Australian Law in Antarctica: The HIS Litigation*, 8 MELB. J. INT'L L. 143 (2007); Chris McGrath, *The Japanese Whaling Case*, 22 EPLJ 250 (2005); Chris McGrath, *Japanese Whaling Case Appeal Succeeds*, 23 EPLJ 333 (2006); Joanna Mossop, *When is a Whale Sanctuary Not a Whale Sanctuary? Japanese Whaling in Australian Antarctic Maritime Zones*, 36 VIC. U. WEL-LINGTON L. REV. 757 (2005).

²³ *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2008] FCA 3 (Jan. 15, 2008).

²⁴ See *id.* (granting orders for substituted service of the declaratory and injunctive relief on January 18, 2008); see also *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2008] FCA 36 (Jan. 18, 2008) (demonstrating that personal service and service by mail has been effected, by email correspondence of February 4, 2008 to the author).

²⁵ It was alleged that Kyodo had illegally taken approximately 428 whales between 2001 and 2004 and evidence was presented that whaling would continue under an ongoing Japanese whale research program known as JAPARA. *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, Statement of Claim (Oct. 19, 2004), ¶ 7; Amended Statement of Claim (July 27, 2005), ¶ 14.

²⁶ See *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2004] FCA 1510, at [15]; Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) § 475(7)(b). Under § 475(7) of the Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act), Humane Society International (HSI) was determined to be an "interested person" for the purpose of standing, presumably on the basis that during the two years prior to the acts complained of HSI had engaged in activities related to the protection of whales in furtherance of its objects or purposes.

²⁷ The AWS is established under section 225, Part 13, Division 3, Subdivision B of the Act.

²⁸ *Seas and Submerged Lands Act 1973* Proclamation, COMMONWEALTH OF AUSTRALIA GAZETTE (SPECIAL), No. S 290, Friday, July 29, 1994 (1994).

²⁹ Under section 7 of the *EPBC Act*, Chapter 2 of the *Criminal Code* (Cth), with the exception of Part 2.5, applies to all offences against the Act.

³⁰ EPBC Act, §§ 224(2) & 5(3).

³¹ Order 8 rule 1(a), (b), (j), *Federal Court Rules*.

³² *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2004] FCA 1510, at [19]–[22], relying on *Petrotimor Companhia de Petroleos SARL v. Commonwealth of Australia* (2003) 126 FCR 354, 361–62.

³³ *Humane Soc'y Int'l Inc.*, [2004] FCA 1510, at [3].

³⁴ *Humane Soc'y Int'l Inc.*, [2005] FCA 664, at [14].

³⁵ Violation would arise presumably because either Australia does not have good title to Antarctic territory from which project an Exclusive Economic Zone ("EEZ") or even if that was so the extension of Australia's Antarctic claim to the EEZ is prohibited by Article IV of the *Antarctic Treaty*. I return to these issues below.

³⁶ *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, [2005] FCA 664, at [13].

³⁷ *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, Federal Court of Australia, Doc. NSD 1519 of 2004, *Outline of Submissions of the Attorney-General of the Commonwealth of Australia as Amicus Curiae*, available at http://www.hsi.org.au/news_library_events/images/Whale%20Case/Attorney-General's_submissions_25_January_2005.pdf. (last visited Apr. 10, 2008).

³⁸ *Humane Soc'y Int'l Inc.*, [2005] FCA 664, at [28].

³⁹ *Humane Soc'y Int'l Inc.*, *id.* at [35].

⁴⁰ *Humane Soc'y Int'l Inc.*, *id.* at [36].

⁴¹ *Humane Soc'y Int'l Inc.*, *id.* at [7].

⁴² *Humane Soc'y Int'l Inc.*, [2005] FCA 664, at [12].

⁴³ *Humane Soc'y Int'l Inc.*, *id.* at [12].

⁴⁴ *Humane Soc'y Int'l Inc.*, *id.* at [42]. Allsop did, however, indicate that the submission of the Attorney-General had great force.

⁴⁵ Even those opposed to lifting the moratorium on whaling recognize that objections based on threatened, depleted stocks have "a limited duration, as the reintroduction of commercial whaling under the [Revised Management Plan] can be scientifically justified. In time, the [International Whaling Commission] can be expected to authorize commercial whaling of Minke whales." Alexandre Gillespie, *The Ethical Question in the Whaling Dispute*, 9 GEO. INT'L ENV'T L. REV. 355, 358–59 (1997) (emphasis in original).

⁴⁶ *Humane Soc'y Int'l Inc.*, [2005] FCA 664, at [29].

⁴⁷ *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, 154 FCR 425, 435 (2006).

⁴⁸ Order 40, *Federal Court Rules; Federal Court Act 1976* (Cth), § 31. The injunction could not be enforced in Japan because Japan does not recognize Australian jurisdiction over the matter, is a non-monetary order, and against public policy under Japanese law. See generally Kenneth D. Helm, *Enforcing Foreign Civil Judgments in Japan*, 1 WILLAMETTE BULL. INT'L L. & POL'Y 71 (1993); Leif Gamertsfelder, *Cross Border Litigation: Exploring the Difficulties Associated with Enforcing Australian Money Judgments in Japan*, 17 AUSTRALIAN BAR REV. 161 (1998).

⁴⁹ United Nations Convention on the Law of the Sea, Art. 92(1), U.N. Doc. A/CONF.62/121 (1982), reprinted in 21 I.L.M. 1261 (1982).

⁵⁰ *Humane Soc'y Int'l Inc. v. Kyodo Senpaku Kaisha Ltd.*, Federal Court of Australia, Doc. NSD 1519 of 2004, *Outline of Submissions of the Attorney-General of the Commonwealth of Australia as Amicus Curiae*, available at http://www.hsi.org.au/news_library_events/images/Whale%20Case/Attorney-General's_submissions_25_January_2005.pdf (last visited Apr. 10, 2008). It is also inconsistent with the approach by Australian fisheries laws, which apply only to Australian nationals in Antarctica. See *Antarctic Marine Living Resources Conservation Act 1981* (Cth), § 5(2) (applies to non-nationals in with what is defined as the "Australian Fishing Zone" (AFZ). Since there is no AFZ appurtenant to the AAT, the Act only applies to nationals). See also *Fisheries Management Act 1991* (Cth), § 4 and Proclamation No s52, Commonwealth of Australia Gazette (Feb. 14, 1992).

⁵¹ *Federal Labor's Plan to Counter International Whaling*, Media Statement (May 19, 2007), available at <http://www.alp.org.au/media/0507/msenhlo0190.php> (last visited Apr. 10, 2008).

⁵² Letter from Tony Burslem, Senior Executive Lawyer, Australian Government Solicitor, to Ngaire Ballment, Associate to Justice Allsop, Dec. 12, 2007 (on file with author).

⁵³ Joint Media Release, the Minister for Foreign Affairs, the Honorable Stephen Smith MP and the Minister for the Environment, Heritage and the Arts, the Honorable Peter Garrett AM MP, and the Honourable Bob Debus MP, Minister for Home Affairs, (Jan. 7, 2008), available at <http://www.australia.or.jp/english/seifu/pressreleases/?pid=TK01/2008> (last visited Apr. 10, 2008).

⁵⁴ Nor will the doctrine of futility preclude such an action where it is clear that enforcement will be next to impossible, at least where public interest injunctions are concerned.

⁵⁵ The 1959 Antarctic Treaty, Dec. 10, 1959, 402 U.N.T.S. 71. Article IV provides in full:

Article IV

1. Nothing contained in the present Treaty shall be interpreted as:
 - a. a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;
 - b. a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which

it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;

- c. prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's rights of or claim or basis of claim to territorial sovereignty in Antarctica.
2. No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

For a definitive analysis of the ambiguities and inconsistencies embodied in Article IV, see WATTS, *supra* note 6, at 124–40; Triggs, *supra* note 9, at 199–204.

⁵⁶ Jon Bouknight, *Staking a Claim in the Antarctic Treaty: Style is Substance*, XVII LEGAL STUDIES FORUM 399, 400–01 (1994); Steven J. Burton, *New Stresses on the Antarctic Treaty: Toward International Legal Institutions Governing Antarctic Resources*, 65 VA. L. REV. 421, 473–75 (1979).

⁵⁷ Arthur D. Watts, *The Antarctic Treaty as a Conflict Resolution Mechanism*, in ANTARCTIC TREATY SYSTEM: AN ASSESSMENT – PROCEEDINGS OF A WORKSHOP HELD AT BEARDMORE SOUTH FIELD CAMP, ANTARCTICA, Jan. 7–13, 1985, 70–71 (Nat'l Acad. Press, 1986).

⁵⁸ That is, general jurisdictional rules beyond the limited provision of Article VIII of the Antarctic Treaty, 402 U.N.T.S. 71 (1961) (providing rules for observers, scientific personnel, and members of accompanying staffs).

⁵⁹ See Triggs, *supra* note 9, at 203; see also Marcus Haward et al., *Australia's Antarctic Agenda*, 60 AUSTRALIAN J. INT'L AFFAIRS 439, 443 (2006) (noting that the controversy surrounding Australian Antarctic maritime claims has only been resolved by Australian forbearance from jurisdictionally “enforcing territorial sea or exclusive economic zone rights”); JEFFREY D. MYHRE, *THE ANTARCTIC TREATY SYSTEM: POLITICS, LAW AND DIPLOMACY* 37 (1986) (recognizing it is fortunate that Antarctic Treaty parties have not exercised jurisdiction over non-nationals).

⁶⁰ See also Scott A. Hajost, *International Agreements Applicable to Antarctica: A Survey*, in ANTARCTIC CHALLENGE III: CONFLICTING INTERESTS, COOPERATION, ENVIRONMENTAL PROTECTION, ECONOMIC DEVELOPMENT 79 (Rüdiger Wolfrum, ed., 1988); Maria Clara Maffei, *The Protection of Whales in Antarctica*, in INTERNATIONAL LAW FOR ANTARCTICA 171 (Francioni & Scovazzi, eds, 1996).

⁶¹ See, e.g., William Aron, William Burke & Milton M.R. Freeman, *The Whaling Issue*, 24 MARINE POL'Y 179 (2000).

⁶² Orrego Vicuña, *The Antarctic Treaty System: A Viable Alternative for the Regulation of Resource-oriented Activities*, in THE ANTARCTIC TREATY REGIME:

LAW, ENVIRONMENT AND RESOURCES 71 (Triggs, ed., 1987) (stating that “all of the activities taking place in Antarctic are closely bound together because of their very nature, and all of them have an effect on the values protected by the [Antarctic] Treaty”).

⁶³ See Robert L. Friedheim, *Introduction: The IWC as a Contested Regime*, in TOWARD A SUSTAINABLE WHALING REGIME 3–28 (Friedheim, ed., 2001).

⁶⁴ In my view, both ends of the spectrum of the whaling debate (prohibition in perpetuity v. open commercial whaling) are unreasonable and wrong. That, however, is a matter for a different article.

⁶⁵ David A. Wirth & Douglas J. Caldwell, *Unilateral Trade-Based Measures for Protection of the Marine Environment*, in VALUES AT SEA: ETHICS FOR THE MARINE ENVIRONMENT, 147, 162–63, (Dallmeyer, ed., 2003).

⁶⁶ See David Victor, *Whale Sausage: Why the Whaling Regime Does Not Need to be Fixed*, in TOWARD A SUSTAINABLE WHALING REGIME 292, 304–05 (Friedheim, ed., 2001); Milton M.R. Freeman, *Is Money the Root of the Problem? Cultural Conflicts in the IWC*, in TOWARD A SUSTAINABLE WHALING REGIME 125 (Friedheim, ed., 2001).

⁶⁷ Charter of the United Nations, art. 1, para. 3; see also Declaration on Principles of International Law Concerning Friendly Relations and Cooperation Among States in Accordance with the Charter of the United Nations, G.A. Res. 2625 (XXV) (Oct. 24, 1970).

⁶⁸ See R. Quentin Grafton, Dale Squires & Kevin J. Fox, *Private Property and Economic Efficiency: A Study of a Common Pool Resource*, 43 J.L. & ECON. 679 (2000) (examining the British Columbia halibut fishery “common pool” resource).

⁶⁹ Karl-Hermann Kock, *Antarctic Marine Living Resources – exploitation and its management in the Southern Ocean*, 19 ANTARCTIC SCI. 231, 236 (2007) (explaining that it is possible to conduct sustainable commercial whaling of a number of minke whale stocks today).

⁷⁰ Wilbert McLeod Chapman, *Concerning Fishery Jurisdiction and the Regime of the Deep-sea Bed*, in TOWARDS A BETTER USE OF THE OCEAN: CONTEMPORARY LEGAL PROBLEMS IN OCEAN DEVELOPMENT 154, 155 (Burke, ed., 1969).

⁷¹ Energy Information Administration, *Antarctica – Fact Sheet* (Sept. 2000) available at <http://www.eia.doe.gov/emeu/cabs/antarctica2.html> (last visited Apr. 10, 2008). In 2000, the U.S. Energy Information Administration reported that “[t]he continental shelf of Antarctica is considered to hold the region’s greatest potential for oil exploration projects, and although estimates vary as to the abundance of oil in Antarctica, the Weddell and Ross Sea areas alone are expected to possess 50 billion barrels of oil—an amount roughly equivalent to that of Alaska’s known reserves.”

ENDNOTES: USING THE POLAR BEAR FRAMEWORK *continued from page 22*

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