



**THE FAST-CHANGING ARCTIC:
RETHINKING ARCTIC SECURITY
FOR A WARMER WORLD**
Edited by Barry Scott Zellen

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5. Cooperation or Conflict in a Changing Arctic? Opportunities for Maritime Cooperation in Arctic National Strategies¹

Ian G. Brosnan, Thomas M. Leschine, and Edward L. Miles

Introduction

“Arctic neighbors draw up battle lines.” – *BBC News*, August 11, 2007²

This vivid hook used by the BBC is representative of countless headlines and a fair number of academic papers published since 2007 regarding relations in the Arctic Ocean.³ Concerns that the Arctic will be the scene of international conflict are the result of several converging circumstances, including the dramatic retreat of summer sea-ice that has historically been a major barrier to accessing shorter shipping routes and Arctic natural resources, long-standing unresolved Arctic maritime boundaries, and approaching deadlines for several of the Arctic states to submit information respecting the outer limit of their continental shelf beyond 200 nautical miles to the United Nations.

Although many of the arguments for Arctic conflict found in the popular press are built on oversimplifications of complex multidimensional issues, conflict in the region seems possible. However, the possibility of conflict is also a possibility for cooperation and examination of the opportunities for cooperation in the Arctic is needed. The United States, Canada, Russia, Norway, and Denmark have recently published new or updated Arctic strategies and policies (henceforth referred to collectively as strategy statements). Here, we examine these strategies and identify common issues that can serve as avenues for cooperation between the Arctic states. A more complete exploration of the opportunities and potential character of cooperation between the Arctic powers can be found in Brosnan, Leschine, and Miles, "Cooperation or Conflict in the Arctic?" *Ocean Development and International Law* 42 (2011): 173–210.

Our focus on the so-called "Arctic Five," the United States, Canada, Denmark, Norway, and Russia, merits some explanation. Our article is the result of a report prepared for the National Assembly of Korea and the Korea Maritime Institute. A combination of littoral geography and geopolitical and economic circumstances, as well as our interpretation of our funder's interests and the short time-line to produce our report, led us to focus on the "Arctic Five." As the list of signatories to the recent Arctic Search and Rescue Agreement, the Arctic Council's first legally binding instrument, attests, there are more concerned Arctic parties than just the United States, Canada, Denmark, Norway and Russia. Sweden, Finland, and Iceland are also signatories to the agreement and Arctic Council members. They participate, to varying degrees, in other international Arctic fora such as the International Maritime Organization bodies concerned with Arctic shipping. A growing number of countries and international bodies, including, *inter alia*, Britain, the EU, China, and India, are requesting to join the Arctic Council as observers. Many of the themes identified below are as applicable to the Arctic Council members, observers, and permanent participants as they are to the "Arctic Five." Our focus on the "Arctic Five" should not detract from the fundamental message that there are numerous avenues for cooperation in the Arctic; conflict is not inevitable.

Five Arctic Strategies

The United States updated its Arctic Region Policy (U.S. ARP) on January 9, 2009, apparently in response to geopolitical and environmental changes.⁴ It was released during the final days of President George W. Bush's administration, which raised questions about its merit as a guide to future U.S. policy. However, the contents seem to have been carefully crafted to serve as a flexible, long-term policy for U.S. activities in a changing region rather than a partisan move to influence long-term U.S. Arctic conduct. There was no indication during President Obama's first term that the policy would be updated,⁵ nor has it been a focus of the 2012 presidential election campaign. Barring significant new developments in the region, we anticipate that the current policy will remain in place for some time. The U.S. ARP identifies U.S. interests in seven topical areas and lays out implementing steps. U.S. interests include: 1) Arctic national and homeland security; 2) international governance; 3) extended continental shelf and boundary issues; 4) international scientific cooperation; 5) maritime transportation; 6) economic and energy issues; and 7) environmental protection and conservation of living marine resources.

Canada's "Northern Strategy: Our North, Our Heritage, Our Future" was released on July 26, 2008, as a document and a website.⁶ The strategy is built on four pillars: 1) exercising Arctic sovereignty, which includes establishing and maintaining a physical presence in the Arctic and mapping of the continental margin to substantiate claims to an extended continental shelf; 2) protecting environmental heritage, including conducting scientific research and environmental protection; 3) promoting social and economic development through resource exploration, development and infrastructure improvements; and 4) improving and devolving northern governance, which involves streamlining regulatory processes in the three northern territories and transferring authorities over land and resources to territorial and indigenous governments. There is also a foreign policy component of Canada's "Northern Strategy" that identifies Canada's bilateral projects with its Arctic partners and describes the Arctic Council and other international fora in which Canada participates.

Norway's "High North Strategy" was signed on December 1, 2006.⁷ It clearly identifies Norway's interest in the sustainable development of Arctic energy and fisheries resources but is also notable for balancing development

with environmental management concerns and a strong focus on regional and international cooperation. It is also the oldest of the Arctic state strategy documents. However, despite its vintage, it remains relevant. The government that authored the Report remained in power through the 2009 elections and the new government has not replaced or updated the Strategy. In a 2010 address to the Norwegian Parliament, the Norwegian Foreign Minister affirmed many of its policies.⁸ Norway's "High North Strategy" is divided into nine subject areas: 1) foreign policy, including focus on energy and the environment, regional forums, and presence of Norwegian armed forces in the Arctic; 2) knowledge generation and competence building in marine, climate, and polar research, petroleum research and development, and environmental monitoring and emergency response; 3) indigenous peoples' issues; 4) people-to-people cooperation in the North through cultural exchange; 5) environmental issues related to climate change, long-range transboundary air pollution, and integrated management of northern seas; 6) management and utilization of marine resources; 7) petroleum activities; 8) marine transportation; and 9) business development.

The Russian Federation's "Arctic Strategy" was approved on September 18, 2008.⁹ It is built on five central objectives: 1) social and economic development, particularly natural resource development and expanded use of the Northern Sea Route; 2) military security and protection of the state borders; 3) environmental protection, including protection and preservation of the Arctic and management of anthropogenic development impacts; 4) scientific and technological research and development in areas of climate change, resource exploitation, and social issues; and 5) foreign affairs, including establishing or maintaining positive bilateral relationships and determining limits of the Russian continental shelf beyond 200 nautical miles. The strategy also describes the measures and mechanisms for achieving these objectives and three stages of implementation that are to be completed by 2020. The Statement makes it clear that Russia's priority is to secure its Arctic territory for use as a strategic resource pool.

Denmark's Arctic strategy is now contained in two documents. The first, "Arctic in a time of change"¹⁰ was released in May 2008 has two foci, fostering Greenlandic independence through economic development and Denmark's role as an Arctic nation.¹¹ The former receives greater emphasis throughout the Statement. "Arctic in a time of change" discusses eleven key issue areas: 1) Home Rule; 2) asserting sovereignty, including physical presence and

continental shelf mapping; 3) Arctic and Nordic cooperation; 4) indigenous peoples; 5) energy and minerals development; 6) protection and sustainable use of living natural resources; 7) the environment, including addressing climate change and pollution; 8) research, particularly into climate change and pollutant impacts; 9) shipping and aviation infrastructure development; 10) encouraging commerce and industry; and 11) cultural cooperation.

Details of a new Danish Arctic strategy, “Strategy for the Arctic 2011–2020,” were leaked shortly before its official publication in August 2011.¹² This new strategy document explicitly notes that the May 2008 strategy, “Arctic in a time of change,” continues to serve as a foundation for Danish activities in the Arctic whilst the new strategy focuses on the Kingdom of Denmark’s strategic priorities for the development of the Arctic through 2020.¹³ The new strategy is more focused but does not represent a significant departure from the 2008 strategy. Its publication in English indicates that it is a guide for external actors as well as domestic audiences. “Strategy for the Arctic 2011–2020” contains four principal sections. 1) “A Peaceful, Secure and Safe Arctic” covers sovereignty, surveillance, and maritime safety. 2) “Self-sustaining Growth and Development” discusses the use of energy, mineral, and natural resources, integration with global trade, social development, and efforts to improve Arctic health. 3) “Development with Respect for the Arctic’s Vulnerable Climate, Environment, and Nature” describes Denmark’s efforts to better understand the effects of climate change and implement protections for the environment and biodiversity. Finally, 4) “Close Cooperation with our International Partners” covers regional and global cooperation and the representation of Danish interests in the international arena.

Common Themes

Six themes are common to the Arctic strategy statements: sovereignty; scientific research; resource development; shipping; environmental concerns; and governance. Each theme can be divided into several component issues (see Table 1).

1. Sovereignty

Under the theme of sovereignty, the coastal Arctic states contend with two issues, the determination of the extent of their extended continental shelves

and the projection of sovereign presence in the Arctic. With the exception of Norway, all the states emphasize the need to map and delimit the extent of their continental shelves.¹⁴

All five states address sovereign Arctic presence. Sovereign presence traditionally covers a range of activities such as establishing a fixed human presence, military exercises, or police activity.¹⁵ The latter, police activity to deter, detect, and interdict illegal activity receives emphasis in the various state strategy statements and is the more intuitive place to look for cooperation on issues of sovereign presence. The states vary in their specification of what illegal activity they are concerned with: all address illegal fishing; some smuggling and illegal migration; and only the United States and Russia address terrorism. However, the methodologies of deterrence and interdiction are sufficiently similar that they can be collapsed under the rubric of sovereign activity to deter, detect, and interdict illegal activities.

2. Scientific Research

Arctic scientific research can be synthesized into just two issues in all five strategies. The first is research to better inform national activities and priorities. There is individual variation across the nations as to which areas of research are highlighted, but generally they include socioeconomics, human health, impacts of anthropogenic activities on the environment, and resource assessments. The second common research issue is improved understanding and forecasting of Arctic climate change and its physical and biological impacts. This issue is a subset of the first but is highlighted because of the emphasis it receives across all the strategy statements.

3. Resource Development

Resource development is at the heart of the strategies of all five states, and issues of energy resources and fisheries are common to all. However, the United Nations Convention on the Law of the Sea (UNCLOS) already provides the states with sovereign jurisdiction over the vast majority of Arctic resources through the 200 nautical mile exclusive economic zone (EEZ) and rights to the resources of the continental shelf beyond 200 nautical miles.¹⁶ Where the states have sovereign control over resources, they can pursue their interests through independent decision-making. Consequently, the theme of resource development is applicable to cooperation where it applies to the resources

over which the coastal states may not enjoy complete sovereignty, specifically energy resources in areas of overlapping, unresolved territorial claims and transboundary fish stocks.¹⁷

4. Shipping

Arctic shipping appears in all five strategy statements through two overarching issues, governance and infrastructure/services. Both issues are clearly important to all states, although states vary in the level of detail they accord to the issues. For example, the United States identifies specific governance mechanisms and infrastructure needs, and Norway describes infrastructure needs, whereas Canada is relatively nondescript in its treatment of both. This is likely a function of the five states' different interests in Arctic shipping. Russia hopes to develop the Northern Sea Route as a shorter alternative to current global shipping routes. Canada sees ongoing environmental and political challenges to development of the Northwest Passage.¹⁸ The United States, Norway, and Denmark's concerns seem to stem from their position at the terminuses of both routes and possibility of increased shipping in their waters as a result of expanded use of both routes. The United States is also clearly concerned with the right of transit passage in the Northwest Passage and portions of the Northern Sea Route.

5. Environmental Concerns

Environmental issues described in the Arctic strategy statements can be divided into two categories. The first category includes "legacy" issues such as the long-range transport and impacts of pollutants, remediation of contaminated Cold-War military and industrial sites, and radioactive contamination from dumped nuclear material. As the categorization of these issues as "legacy" suggests, they have largely been addressed, although not necessarily solved, by international cooperation.¹⁹ There are opportunities for Arctic cooperation that center on the second category: addressing the environmental impacts of new or expanded anthropogenic activity and preservation of Arctic biodiversity.

Table 1. Common themes in the strategies of the five coastal Arctic states.

	United States	Canada
Environmental Concerns	Environmental protection and conservation of living marine resources	Arctic stewardship
		Environmental protection of northern lands and waters
Resource Development	Economic issues, including energy resource development	Social and economic development via resource exploration and development, and addressing critical infrastructure needs
Sovereignty	National and Homeland Security interests	Physical presence in the Arctic
	Map and define the continental margin	Map and submit extended continental shelf claim
Governance	Create or update appropriate international governance regimes	Engage international partners, and a strong Arctic Council
Scientific Research	Encourage international scientific cooperation, climate change monitoring and forecasting.	Conduct research and advance knowledge
		Ensure leadership in Arctic science
Shipping	Address Arctic marine transportation needs	Address critical infrastructure needs

Sources: Compiled from the strategy statements of the five coastal Arctic states. See notes 3, 5, 6, 8, 9, and 11.

Norway	Russia	Denmark / Greenland
Climate change, long-range transboundary pollution, integrated marine management, environmental monitoring and response	Protection/preservation of the Arctic environment, management of human development impacts	Protection and sustainable use of natural resources
Management and utilization of marine resources	Development of resources as a base for social and economic development; improved resource exploitation technology and infrastructure	Exploration, development of energy and minerals, industry investment in exploration
Petroleum development activities		Encouraging industrial growth
Resolve maritime boundaries, ensure presence of Norwegian armed forces in the Arctic	Military security and border protection improvements	Assertion of sovereignty through surveillance, military presence
	Delimitation of the continental shelf	Map/submit extended continental shelf claim
Create/sustain energy and environmental policies and regional forums	Establish and maintain good bilateral and regional relationships	Develop, maintain Arctic and Nordic cooperation, strengthen environmental governance
Conduct marine, climate, and polar, social, petroleum research	Develop Arctic technologies, understand and predict climate change, conduct indigenous research	Characterize climate change, social impacts strengthen climate research cooperation
		Conduct research to inform national activities (shipping, etc.)
Marine transportation, integrated management	Develop the Northern Sea Route	Develop infrastructure (ports, monitoring)

6. Governance

Governance, generally the formal and informal policies and processes that steer human activities in the Arctic, appears as a theme throughout all five strategy statements. It is woven into resource development, shipping, environmental issues, and scientific research. All five states also address the application of the law of the sea principles as the international legal regime for the Arctic. The U.S. ARP recognizes the value of accession to UNCLOS and seeks the advice and consent of the U.S. Senate, while the other states affirm their commitment to resolving Arctic legal issues through UNCLOS. In 2008 all five states affirmed their commitment to adhere to the law of the sea through the Illulissat Declaration.²⁰ The issue of the international legal regime governing the Arctic appears to have been settled; future cooperation on governance issues is likely to be tightly coupled to sectoral issues and can be examined in that context.

Avenues for Cooperation

Brosnan et al. (2011) provide an in-depth examination of specific avenues for cooperation between the Arctic states and the shape that such cooperation could assume. We briefly review the major findings here and highlight areas where cooperation is already occurring. (See Table 2.)

Mapping Margins and Projecting Sovereign Presence

Mapping continental margins is a technically challenging and expensive task. It typically requires the use of multiple techniques to map seafloor topography and sediment characteristics and can involve the employment of two ships, one to perform mapping activities and the other to provide icebreaking services.²¹ Similarly, efforts to deter, detect, and interdict illegal activities such as smuggling, terrorism, and illegal fishing, require combinations of enforcement vessels (aircraft and ships), trained personnel, and monitoring and surveillance capabilities.

Collaborative efforts can conceivably result in better outcomes. Nations that are engaged in mapping may find access to more ship-time through collaboration, comparative advantages in mapping equipment and ship

capabilities may be realized, and duplication of effort may be avoided. Ultimately, mapping, submission, and approval may proceed more quickly, leading to cost savings and political stability that companies investing in resource exploitation value.²² For enforcement, bilateral and multilateral efforts to deter, detect, and interdict illegal activities can serve as force multipliers, maximizing the use of limited resources. For example, when the police force of one party participates in a “ride-along” of another state’s maritime patrol, the authority and jurisdiction of two states can be projected at once from one vessel rather than two.²³ Comparative advantages in equipment and capability can also be realized if nations have invested in unique platforms for enforcement or surveillance, including satellite deployments. Such advantages need not be identified post-hoc; the Arctic states are reviewing their surveillance and operational capabilities and there are already cooperative mapping efforts underway.²⁴

Scientific Research

Answering scientific questions begins with observations and data collection. Resulting data sets can be analyzed, synthesized, and used in scientific modeling. Many important research questions in the Arctic cannot be addressed solely with data collected within nationally controlled or high seas areas. Arctic ocean circulation, which affects sea ice extent and ecosystem function, is a prime example. There are strong incentives for all of the states to forgo unilateral research efforts related to understanding the Arctic and predicting changes in the regions and to cooperate. An Arctic monitoring network, which the United States specifically addresses, would provide more complete observations and data sets to researchers. These data sets can be used to establish baseline conditions, feed operational models, and detect subsequent changes.²⁵ Climate, weather, ocean circulation, and other operational models may generate more useful results from data sets that provide more complete understanding of the biological, physical, and chemical characteristics of the Arctic Ocean and atmosphere. Incomplete access to physical data from Russian Arctic waters, for example, has historically hindered Western scientists’ understanding of Arctic Ocean circulation.²⁶ Understanding emerging potential threats to the environment such as methane seeping from melting permafrost or released from warming marine gas hydrates requires that

research be conducted throughout the Arctic; no country can fully characterize such threats using only local research results.²⁷ Scientific understanding of the biology, health, and sustainable harvest levels of migratory species, such as marine mammals and transboundary/straddling fish stocks, would benefit from international cooperative research for the same reason.

There are other practical considerations beyond improving the science where cooperation may provide more optimal outcomes. The Arctic states' ice-capable research fleets are aging and ship-time is at a premium; cooperation may result in researchers having greater opportunities to conduct at-sea research or leveraging opportunities for multidisciplinary crises.²⁸ A similar principle applies to Arctic research satellites. Joint operation of future research satellites or deployment of complementary rather than duplicative equipment could result in significant cost savings and greater benefits to scientific understanding of the Arctic.

Oil, Gas, and Fish

Under the UNCLOS framework, resource development outcomes that may require cooperation in order to be realized include transboundary fish stocks and energy resources in areas of overlapping claims. These appear to be bilateral issues in the Arctic, so it is useful to consider the potential dilemmas of the Arctic states in the context of four regions: a Norwegian/Russian region (the Barents Sea area); a Canadian/Danish region that includes the Lincoln Sea and two small areas of overlapping claims; a Canadian/U.S. region in the Beaufort Sea that also includes an overlapping territorial claim; and a U.S./Russian region north of the Bering Strait.

In the first case, Russia and Norway have had a long, at times troubled, history of fisheries regimes to manage Barents Sea fish stocks. These agreements, such as the 1978 Grey Zone Agreement, governed the harvest limits, catch allocations, fishing gear, and division of enforcement authority in the Grey Zone.²⁹ On energy issues, Norwegian state-owned StatoilHydro and Russia's Gazprom have agreed in the past to work jointly to develop the Shtokman natural gas field.³⁰ In 2010, Russia and Norway settled their differences and signed a treaty on maritime delimitation and cooperation in the Barents Sea and the Arctic Ocean, effectively eliminating political uncertainty that has been one barrier to development of Barents Sea resources.³¹

In the remaining three regions, and in contrast to the Barents Sea region, the economic potential of oil, gas, and fisheries is promising, but still speculative, and the area of overlapping claims is small.³² However, as interest in Arctic resources grows, the positive aspects of the Norwegian/Russian history in the Barents Sea may serve as a model for cooperation in the development of resources where maritime boundaries have not been settled or resources are transboundary.

Ships and Shipping

There are ten general topics related to shipping that appear in the Arctic strategies; aids to navigation (ATON), Vessel Traffic Services (VTS), ports, weather and navigation services, iceberg and sea-ice reports, shipping monitoring, standards for Arctic ships, environmental response, and search and rescue. Port development, ATON placement, and weather/navigation services have traditionally been national activities, but there are incentives for cooperation on the remaining topics. There are successful models for joint vessel traffic and monitoring services and sea-ice and iceberg services, such as VTS Puget Sound and the International Ice Patrol, that provide unique benefits to cooperating nations and could be adapted to the Arctic as shipping develops.³³ On May 12, 2011, an Agreement on Cooperation on Aeronautical and Maritime Search and Rescue (SAR) in the Arctic was signed by Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, and Sweden.³⁴ A similar environmental response agreement could be useful as oil, gas, and shipping resources are developed.

Arctic Environment and Biodiversity

While there are already nascent coordination efforts and some long-standing global regimes applicable to the Arctic, e.g., the IMO Guidelines for ships intended for Polar service, the Arctic Council's guidelines for Arctic offshore oil and gas development, the 1995 UN Fish Stocks Agreement, and the Association of Arctic Expedition Cruise Operator's (AECO) voluntary environmental guidelines for Arctic tourism, there is opportunity for the Arctic states to strengthen coordination to address environmental concerns, either by adapting existing institutions or implementing Arctic specific

Table 2. Avenues for Arctic cooperation contained within the strategies of the United States, Canada, Russia, Norway, and Denmark.

Theme	Issues	Opportunities
Sovereignty	<ul style="list-style-type: none"> • Continental Shelf Mapping • Policing Illegal Activity 	<ul style="list-style-type: none"> • Engage in collaborative mapping efforts. • Leverage joint operations and comparative equipment advantages.
Scientific Research	<ul style="list-style-type: none"> • Informing Activities and Priorities • Climate Change 	<ul style="list-style-type: none"> • Conduct Arctic-scale data collection and analysis, collaborative ship-use, and complementary equipment deployments.
Resource Development	<ul style="list-style-type: none"> • Energy • Fisheries 	<ul style="list-style-type: none"> • Explore new bilateral development and management agreements where transboundary resources or unresolved claims exist.
Shipping	<ul style="list-style-type: none"> • Shipping Standards • Infrastructure and Services 	<ul style="list-style-type: none"> • Implement Vessel Traffic Services, sea-ice and navigation services, environmental and search & rescue agreements modeled on successful examples.
Environmental Concerns	<ul style="list-style-type: none"> • Anthropogenic Impacts • Biodiversity 	<ul style="list-style-type: none"> • Strengthen existing guidelines (energy, shipping, tourism) through binding agreements. Implement Arctic Climate Impact Assessment biodiversity recommendations.

agreements.³⁵ For example, the Arctic Council's guidelines for oil and gas development could be codified and made binding, as could the guidelines for ships operating in polar waters. Existing IMO conventions permit states to introduce ballast water standards that are stronger than existing international standards and define special areas where stronger pollution control methods may be mandated.³⁶ Standards for developing new Arctic fisheries, which could include temporary moratoriums as a standard to ensure that the fisheries and ecosystem studies precede commercial fishing, would strengthen existing measures. The geographic scope of the AECO Guidelines, currently limited to Greenland, Svalbard, and Jan Mayen, could be expanded to cover the remainder of the Arctic either through inclusion of the guidelines in regulation or government pressure for industry-voluntary adoption.

With regards to Arctic biodiversity, the Convention on Biological Diversity has been ratified by the United States, Canada, Denmark, Norway, and Russia; monitoring and recording of Arctic biodiversity is underway.³⁷ However, the Arctic Council's Conservation of Arctic Flora and Fauna (CAFF) Working Group is presently implementing only the first three of the 2004 Arctic Climate Impact Assessment's suite of biodiversity recommendations: documenting existing biodiversity; identifying changes; and recording changes.³⁸ The fourth, managing biodiversity requires attention and could be suitable for a unique multilateral Arctic agreement.

Conclusions

Common themes in the Arctic Strategies of the United States, Canada, Denmark, Norway, and Russia provide a high-level view of potential avenues for cooperation in the Arctic region and a useful counterpoint to claims of pending conflict; indeed, cooperation is already occurring on several of the themes identified in the strategies. It is also notable that incentives to cooperate in some thematic areas have not yet materialized because the issues are not yet salient. A lack of cooperation regarding Arctic resource development and related environmental issues has been a source of public concern because the alternatives are believed to be conflict. But if incentives to cooperate are largely linked to developments that remain emergent, then a lack of cooperation should not be alarming. After all, cooperation is occurring on some important issues, including resource development in the Barents Sea and creation of an Arctic-observing network. Additional cooperation is possible

as issues become increasingly salient. For example, the IMO Guidelines for ships operating in polar waters may be codified and made legally binding in the coming years.

Arctic Ocean conflict is not inevitable. Numerous avenues for cooperation exist and new options, alternative conceptualizations, and different perspectives can influence policy decisions.³⁹ Thus, in a dynamic, sometimes uncertain environment such as the Arctic, it is perhaps more useful to explore and illuminate the avenues for cooperation than to attempt to predict conflict.

Notes

- 1 Based on *Ocean Development and International Law* 42, no. 1–2 (2011): 173–210. Copyright 2011. Reproduced by permission of Taylor & Francis Group, LLC., <http://www.taylorandfrancis.com>. The authors gratefully acknowledge the Korea Maritime Institute’s support for this work. Their generous funding for research and publication at the School of Marine and Environmental Affairs made this chapter, and a larger work appearing in *Ocean Development and International Law* 42, no. 1 (2011): 173–210, possible.
- 2 Lee Carter, “Arctic Neighbors Draw Up Battle Lines,” Toronto: BBC News, August 11, 2007.
- 3 See Oran R. Young, “Whither the Arctic? Conflict or Cooperation in the Circumpolar North,” *Polar Record* 232 (2009): 73–82.
- 4 United States, *Arctic Region Policy*, 2009, 48 I.L.M. 374.
- 5 U.S. Arctic Policy Expert, *Interview*, 2009. Interviews were conducted in 2009.
- 6 Canada, *Canada’s Northern Strategy: Our North, Our Heritage, Our Future*, 2009; <http://publications.gc.ca/site/eng/330644/publication.html>.
- 7 Norwegian Ministry of Foreign Affairs, *The Norwegian Government’s High North Strategy*, 2006; <http://www.regjeringen.no/upload/UD/Vedlegg/strategien.pdf>.
- 8 See Norway, Minister of Foreign Affairs, J. G. Store, *Debate on High North/Arctic Strategies*, Oslo, 2010; http://www.regjeringen.no/en/dep/ud/Whats-new/Speeches-and-articles/speeches_foreign/2010/highnorth_debate.html?id=592606.
- 9 Russian Federation, *The Fundamentals of State Policy of the Russian Federation in the Arctic in the Period up to 2020 and Beyond (Osnovy Gosudarstvennoi Politiki Rossiiskoi Federatsii v Arktike Na Period do 2020 Goda i Dalneishuiu Perspektivu)*, 2008; <http://www.scrf.gov.ru/documents/98.html>, translated by Google Translator.
- 10 Denmark, *Arctic in a Time of Change. Proposed Strategy for Activities in the Arctic Area (Arktis i En Brydningstid. Forslag Til Strategi for Aktiviteter i Det Arktiske Område)*, 2008; http://www.um.dk/NR/rdonlyres/962AFDC2-30CE-412D-B7C7-070241C7D9D8/0/ARKTISK_STRATEGI.pdf, translated by Google Translator.
- 11 Denmark’s Arctic strategy is heavily focused on Greenland, which has historically had a colonial relationship with Denmark and is now seeking greater independence. Various authorities for activities in Greenland, and thus the Arctic, have been devolved to Greenland. In a referendum that

- went into effect on June 21, 2009, Greenland adopted Self-Government, a progression from Greenlandic Home Rule (adopted in 1979), wherein Greenland became an autonomous entity in the Kingdom of Denmark. The adoption of Self-Government by Greenland means new changes to the Denmark–Greenland relationship, including requiring the Danish government to consult with the Greenlandic government on all bills affecting the island, separating the economies and reducing subsidies provided by Denmark as natural resource revenues in Greenland expand, and permitting the Greenlandic government to enter into agreements and bilateral/multilateral relationships with other states. The *Act on Greenland Self-Government Act*, no. 473 (June 12, 2009), <http://uk.nanoq.gl/Emner//media/6CF403B6DD954B77B-C2C33E9F02E3947.ashx>, provides for the transfer of authority for security at sea, ship registration and maritime matters, charting, navigation aids, lighthouses, and pilotage areas, the marine environment, mineral resources, aviation, and radio-based maritime emergency and security services to the Greenland government. Greenland’s government is responsible for fishing, shipping, national and regional planning activities, infrastructure, transportation, hunting, and conservation and protection of the environment and nature out to three nautical miles from shore. The Danish government has jurisdiction for the area extending from three nautical miles out to the extent of the exclusive economic zone. See generally, Greenland-Danish Self-Government Commission, *Report on Self-Government in Greenland*, 2008; <http://uk.nanoq.gl/sitecore/content/Websites/uk,-d-,nanoq/Emner/Government//media/46185A4413C54A3D89D3D16F1D38F0D3.ashx>.
- 12 Denmark, *Strategy for the Arctic 2011–2020*, 2011; <http://uk.nanoq.gl//media/29cf0c2543b344ed901646a228c5bee8.ashx>; Christoffersen, J. “Denmark wants to claim the North Pole,” 2011; <http://www.information.dk/268404>, translated by Google Translator.
 - 13 Denmark, *Strategy for the Arctic 2011–2020*, 11.
 - 14 Norway submitted its information on the outer limits of the continental shelf to the Commission on the Limits of the Continental Shelf (a body created by UNCLOS, supra note 12, Annex II) on November 27, 2006, before it published the “High North Strategy.” The Commission has made its recommendations respecting Norway’s submission on March 27, 2009. *Summary of the Recommendations of the Commission on the Limits of the Continental Shelf in Regard to the Submission Made by Norway in Respect of Areas in the Arctic Ocean, the Barents Sea, and the Norwegian Sea on 27 November 2006*, 2009; http://www.un.org/Depts/los/clcs_new/submissions_files/nor06/nor_rec_summ.pdf. Russia also submitted its information to the Commission before publishing its latest Arctic strategy document but received a request from the Commission for more data. See United Nations, *Oceans and the Law of the Sea: Report of the Secretary General. A/57/57/Add.1*. 2002; http://www.un.org/Depts/los/general_assembly/general_assembly_reports.htm.
 - 15 Historical occupation has been used to defend territorial claims of ownership. Canadian domestic land claims acts are based on an extensive study of historical Inuit land use in the Canadian Arctic, and observers have suggested that Canadian claims to sovereignty over waters in the Arctic could also be so based. Barry Scott Zellen, *On Thin Ice: The Inuit, the State, and the Challenge of Arctic Sovereignty* (Lanham, MD: Lexington, 2009); T. Fenge, “Inuit and the Nunavut Land Claims Agreement: Supporting Canada’s Arctic Sovereignty,” *Policy Options* 29, no. 1 (2008): 84–88.
 - 16 United Nations Convention on the Law of the Sea, 1833 U.N.T.S. 397, Articles 55, 56, 76 and 77.
 - 17 Specifically, those stocks that are, or may become, commercially valuable.

- 18 Zellen, *On Thin Ice*, 2.
- 19 Examples include: the Stockholm Convention on Persistent Organic Pollutants, 2256 U.N.T.S. 119, and the Declaration among the Department of Defense of the United States of America, the Royal Ministry of Defence of the Kingdom of Norway, and the Ministry of Defence of the Russian Federation on Arctic Military Environmental Cooperation, 1996; <http://www.denix.osd.mil/international/upload/Declaration.pdf>.
- 20 The Ilulissat Declaration, Ilulissat, Greenland, 2008, 48 I. L.M. 362.
- 21 See United States Department of State, "Extended Continental Shelf Project," September 11, 2009; continentalshelf.gov/ and Elizabeth Riddell-Dixon, "Not for the Faint-Hearted: Mapping Canada's Arctic Continental Shelf," *Policy Options* 30, no. 4 (2009): 60–64.
- 22 See United States "Extended Continental Shelf Project"; Riddell-Dixon, "Not for the Faint-Hearted," 62; and Ron McNab, "Complications in Delimiting the Outer Continental Shelf" (PPT Slides), present at Changes in the Arctic and the Law of the Sea, Seward May 20–23, 2009; <http://www.virginia.edu/colp/pdf/Macnab-outer-c.s.pdf>.
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- 24 United States, "Extended Continental Shelf Project."
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