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# Oil and Gas Development in the Arctic: Softening of Ice Demands Hardening of International Law

## ABSTRACT

*The melting of Arctic sea ice, caused by climate change, presents opportunities for access to new oil and gas reserves in the Arctic. With access comes the risk of damaging the unique and fragile Arctic environment and threatening already vulnerable Arctic communities and indigenous peoples. This article focuses primarily on the rights of Arctic coastal states to explore and exploit oil and gas on their continental shelves, their obligations in conducting such activities, and particular conditions under which exploration and exploitation of Arctic resources should be prohibited. According to the 2008 Ilulissat Declaration, the current position of Arctic coastal states is that there is no need to develop a new comprehensive international regime for the Arctic. However, the existing soft law arrangements for the Arctic and the international agreements and principles pertaining to the Arctic do not provide sufficient protection for the Arctic marine environment from the adverse impacts of new oil and gas exploration and exploitation. A better approach for the Arctic coastal states is to develop a regional legally binding agreement that regulates oil and gas development on the Arctic coastal states' continental shelves. The Arctic is facing a complete meltdown—new pressures demand a new agreement.*

## I. INTRODUCTION

If the Arctic coastal states have it their way, the Arctic Ocean will not only be free of ice in the coming years but also of new and additional governance and regulation. While Arctic sea ice rapidly melted in early summer of 2008, the five Arctic coastal states issued the Ilulissat Declaration, stating that there is “no need to develop a new comprehensive in-

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ternational legal regime to govern the Arctic Ocean.”<sup>1</sup> This decision to allow the Arctic Ocean to remain generally unregulated comes at a time when the meltdown presents lucrative opportunities for expanded access to new shipping routes, fisheries, and oil and gas resources. The Arctic area<sup>2</sup> comprises territory of eight states: Canada, Denmark, Finland, Iceland, Norway, Sweden, the Russian Federation (Russia), and the United States. The Arctic Ocean is a sea surrounded by five coastal states: Canada, Denmark (Greenland), Norway (Svalbard), Russia, and the United States (hereinafter “Arctic coastal states”).<sup>3</sup>

The burning of fossil fuels like oil, gas, and coal, has in effect created the conditions for the Arctic to be drillable, providing access to more oil and gas.<sup>4</sup> According to the U.S. Geological Survey, 25 percent of the world’s remaining oil and gas reserves may be in the Arctic.<sup>5</sup> In-

1. ARCTIC COUNCIL, THE ILULISSAT DECLARATION 2 (Ilulissat, Greenland, May 28, 2008), available at <http://arctic-council.org/filearchive/Ilulissat-declaration.pdf> [hereinafter THE ILULISSAT DECLARATION].

2. The Arctic is defined in many ways. In general, most definitions of the Arctic cover at least part of the sovereign land or marine territory of the eight Arctic states. PHILIPPE SANDS, PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW 534 (Cambridge University Press 2003) (1995). Rosemary Rayfuse explains that the definition of the Arctic depends on perspective, i.e., ecological, political, etc.:

The Arctic is usually referred to as comprising all areas lying north of the Arctic Circle, or 66°33' north latitude. Ecologically speaking, a more accurate defining criterion for the Arctic region may be the northern limit of the tree line, the existence of which is based on temperature. Alternately, the Arctic is also sometimes defined as a northern region where the average July temperature is under 10°C. Both of these ecological descriptions encompass an area considerably larger than that enveloped by the Arctic Circle. For political purposes, too, the definition of the Arctic varies depending on the subject matter under discussion and on the interests of the discussants. Definitions include all areas north of 60° north, or all areas north of the Arctic Circle but with an exception to include all of Iceland, or simply all areas north of the Arctic Circle.

Rosemary Rayfuse, *Melting Moments: The Future of Polar Oceans Governance in a Warming World*, 16 REV. OF EUR. COMMUNITY & ENVTL. INT’L L. 196, 197 (2007).

3. Travis Potts, *An Arctic Scramble? Opportunities and Threats in the (Formerly) Frozen North*, 23 INT’L J. MARINE & COASTAL L. 151, 151–52 (2008).

4. See Kate Galbraith, *A New Blog on Energy and the Environment*, N.Y. TIMES, Sept. 23, 2008, [http://www.nytimes.com/2008/09/24/business/businessspecial2/24blog.html?\\_r=1&scp=2&sq=kate=galbraith%2C==September=24%2c=2008&st=nyt](http://www.nytimes.com/2008/09/24/business/businessspecial2/24blog.html?_r=1&scp=2&sq=kate=galbraith%2C==September=24%2c=2008&st=nyt) (“The opening of the Arctic is a ‘perverse situation,’ according to Steven Signer, the head of the European climate and energy policy unit for the environmental group WWF, formerly the World Wildlife Fund. ‘The same resources which are burned—oil, gas and we should mention coal, as well’ are ‘the cause of the Arctic to be drillable and despoiled for oil and gas.’”).

5. Colin Woodard, *Who Resolves Arctic Oil Disputes?*, CHRISTIAN SCI. MONITOR, Aug. 20, 2007, <http://www.csmonitor.com/2007/0820/p01s02-woeu.html>. However, the accuracy of this statistic is not clear. See Potts, *supra* note 3, at 154 n.17 (“The statistical authority

creased oil extraction in the Arctic will boost economic activity, yet it could also cause severe environmental damage and exacerbate global climate change by increasing the availability of oil and gas to be consumed around the world, which in turn, will release more greenhouse pollutants into the atmosphere—an extraction positive feedback loop that could forever alter the Arctic marine environment.

Increased exploitation of fossil fuels is at odds with many efforts being made in international environmental law, in particular the United Nations Framework Convention on Climate Change (UNFCCC).<sup>6</sup> However, it should be noted that on its own, prohibiting the extraction of oil and gas in the Arctic will neither completely protect the Arctic ecosystem and marine biodiversity from the impacts of climate change nor solve the global climate crisis. Outside the scope of this article is the necessity for a comprehensive and aggressive climate agreement that will not only protect the Arctic but also slow the impact of climate change around the world. While the Arctic coastal states would benefit from a boom in oil and gas exploration and exploitation, the Arctic coastal states should at the very minimum agree to a legally binding regional Arctic marine environment agreement that regulates oil and gas development and ensures environmental protection. This will give the Arctic states the opportunity to explore and exploit<sup>7</sup> the natural resources available, but within reason and in accordance with international law, instead of with reckless abandon.

Under international law, Arctic coastal states have sovereignty, sovereign rights, and jurisdiction to explore and exploit oil and gas on their continental shelves, but there may also be legal limits to their actions and potential opportunities for regional cooperation to protect one of the world's final frontiers. In light of the fact that the Arctic environment is unique and its dependent communities and indigenous peoples are vulnerable,<sup>8</sup> the Arctic coastal states should retract the Ilulissat Decla-

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often cited to support this view is the United States Geological Survey's (USGS) 2000 estimate that the Arctic may hold as much as 25% of the world's undiscovered resources." Yet, "[i]t is notable that the USGS findings . . . does [sic] not, in fact, even make mention of the Arctic specifically." (citing <http://pubs.usgs.gov/fs/fs-062-03/FS-062-03.pdf>).

6. United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107 [hereinafter UNFCCC], available at [http://unfccc.int/essential\\_background/convention/items/2627.php](http://unfccc.int/essential_background/convention/items/2627.php). All of the Arctic states are a party to this Convention, which is aimed at the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." *Id.* art. 2.

7. For an explanation of what is meant by exploration and exploitation, see section II(B).

8. This article does not provide in-depth background on the Arctic environment, marine biodiversity, and the impacts of climate change on Arctic communities and peoples,

ration and move forward with a legally binding regional agreement to prevent unfettered oil and gas exploitation. Along with global efforts to reduce greenhouse gas emissions, such as the UNFCCC and the associated Kyoto Protocol,<sup>9</sup> the Arctic marine environment has a fighting chance to survive the current crisis if an Arctic marine agreement is included.

This article details the Arctic coastal states' rights to explore and exploit oil and gas reserves on their continental shelves and their obligations in conducting such activities. It analyzes existing arrangements that are applicable to the Arctic and proposes a new regime and mechanisms for Arctic cooperation that will provide greater protection. Section II highlights the impacts of climate change and oil and gas development. Section III provides background on the sources of international law, and then analyzes Arctic soft law arrangements in contrast with the hard law components of the Antarctic Treaty System. Section IV describes relevant provisions of existing bilateral and multilateral agreements pertaining to offshore oil and gas exploitation in the Arctic and the most relevant principles of international law. Section V critiques the current stance of the Arctic coastal states as announced in the Ilulissat Declaration, while section VI looks at options for expanding and improving the existing agreements that apply to the Arctic in the scenario where the Arctic coastal states do not agree to any further legal developments. Section VII recommends a new regime and mechanisms for a regional Arctic agreement if the Arctic coastal state leaders are persuaded to change their current po-

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but instead focuses on the existing and future legal framework for the Arctic. Paul Arthur Berkman and Oran R. Young recently wrote that the developments in the Arctic (i.e., the melting sea ice, which has and will expand access to new shipping routes, fisheries, and oil and gas reserves) "present the international community with a historic opportunity to integrate science and diplomacy." Paul Arthur Berkman & Oran R. Young, *Governance and Environmental Change in the Arctic*, 324 *Sci.* 339, 339 (2009). There are many scientific research endeavors regarding the Arctic environment and the impacts of climate change that are currently underway. See, e.g., Scott Polar Research Institute, <http://www.spri.cam.ac.uk/>; International Arctic Research Center, <http://www.iarc.uaf.edu/>; and Arctic Research Consortium of the U.S., <http://www.arcus.org/> (which also contains an extensive list of links to Arctic resources at <http://www.arcus.org/arcus/links/index.html>).

9. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 *I.L.M.* 22 (2005) [hereinafter Kyoto Protocol], available at [http://unfccc.int?kyoto\\_protocol/items/2830.php](http://unfccc.int?kyoto_protocol/items/2830.php). To date, 189 Parties of the Convention have ratified this Protocol, and of the Arctic coastal states, the United States is the only non-party. According to the UNFCCC, "[t]he Kyoto Protocol is generally seen as an important first step towards a truly global emission reduction regime that will stabilize [greenhouse gas] emissions, and provides the essential architecture for any future international agreement on climate change." The first commitment period of greenhouse gas (GHG) reductions comes to an end in 2012, and a new international framework must be negotiated and ratified to continue reducing global emissions. *Id.*

sition. The current Arctic crisis demands the development of a legally binding regional Arctic marine environment agreement that regulates oil and gas exploration and exploitation on the Arctic coastal states' continental shelves.

## II. THE IMPACTS OF CLIMATE CHANGE AND OIL AND GAS DEVELOPMENT IN THE ARCTIC

### A. Climate Change Impacts

The Arctic Ocean will be ice-free in the near future, permanently altering the marine environment and causing the global sea levels to rise. In 2007, the Intergovernmental Panel on Climate Change (IPCC)<sup>10</sup> presented its Fourth Assessment Report.<sup>11</sup> The IPCC found that the Arctic is especially vulnerable to impacts of climate change—average Arctic temperatures increased at almost twice the global average rate in the past 100 years.<sup>12</sup> According to the National Snow and Ice Data Center (NSIDC), in August 2008, “the Arctic Ocean lost more ice than any previous August in the satellite record,” and the September 2008 extent, a standard measure in the scientific study of Arctic sea ice, was 34 percent below the long-term average from 1979 to 2000. The result of the 2008 season “strongly reinforces the thirty-year downward trend in Arctic ice extent.”<sup>13</sup> While there is still a debate as to when the entire Arctic Ocean will be ice-free, a research scientist at NSIDC stated, “The consensus seems to be among sea ice scientists in the order of 2030.”<sup>14</sup> The impact of

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10. The IPCC is a scientific body established by the World Meteorological Organization and the United Nations Environment Programme to authoritatively assess the latest scientific, technical, and socio-economic literature. See IPCC, Intergovernmental Panel on Climate Change, Organization, <http://www.ipcc.ch/organization/organization.htm> (last visited Mar. 12, 2010).

11. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT (Cambridge University Press 2008), available at [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr\\_spm.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf). The full report consists of the publications of the three Working Groups of the IPCC, together with a Synthesis Report.

12. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE WORKING GROUP I, CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS—SUMMARY FOR POLICYMAKERS 7 (Cambridge University Press 2008), available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf> (defining “likelihood” page 3, note 6).

13. Press Release, National Snow and Ice Data Center, Arctic Sea Ice Down to Second-Lowest Extent; Likely Record-Low Volume (Oct. 2, 2008), available at [http://nsidc.org/news/press/20081002\\_seaice\\_pressrelease.html](http://nsidc.org/news/press/20081002_seaice_pressrelease.html).

14. Australian Broad. Corp. News, *Scientist Warns of Ice-Free Arctic this Generation*, Sept. 17, 2008, <http://www.abc.net.au/news/stories/2008/09/17/2367161.htm>.

climate change in the Arctic has also been documented by nongovernmental organizations (NGO)<sup>15</sup> and the Arctic states.<sup>16</sup>

In 2004, the Arctic Climate Impact Assessment (ACIA) report was released.<sup>17</sup> Three findings in the report<sup>18</sup> are particularly relevant to this article. The first is that the “Arctic climate is now warming rapidly and much larger changes are projected”; the second is that “Arctic warming and its consequences have worldwide implications.”<sup>19</sup> In particular, the melting of highly reflective snow and ice cover will lead to greater warming of the planet and increased glacial melt and river runoff, which will in turn contribute to rising sea levels and the slowing of the world’s ocean current circulation system.<sup>20</sup> The third finding is relevant to oil and gas development. ACIA stated that “[r]educed sea ice is very likely to increase marine transport and access to resources” and is “likely to allow increased offshore extraction of oil and gas, although increasing ice movement could hinder some operations.”<sup>21</sup> Thus, climate change has reduced and will continue to reduce Arctic ice-cover, opening up the sea to more and more development.

Climate change will also have substantial impacts on the Arctic environment and species. For example, in a controversial move, the U.S.

15. See WWF INTERNATIONAL ARCTIC PROGRAMME, ARCTIC CLIMATE IMPACT SCIENCE: AN UPDATE SINCE ACIA (Martin Sommerkorn & Neil Hamilton eds., 2008), available at [http://assets.panda.org/downloads/final\\_climateimpact\\_22apr08.pdf](http://assets.panda.org/downloads/final_climateimpact_22apr08.pdf). The author would like to recognize WWF’s extensive and valuable research and work on Arctic issues. In 1992, this NGO started its International Arctic Programme, which seeks to combat threats to the Arctic and preserve the Arctic’s rich biodiversity in a sustainable way. Over the past 16 years, WWF has developed and produced many credible reports. This article references several WWF reports. Unfortunately, there are not many other NGOs working specifically on Arctic issues. See generally WWF, The Arctic, <http://www.panda.org/arctic> (last visited Mar. 12, 2010).

16. See ACIA, EXECUTIVE SUMMARY, IMPACTS OF A WARMING ARCTIC: ARCTIC CLIMATE IMPACT ASSESSMENT (Cambridge University Press 2004) [hereinafter ACIA, EXECUTIVE SUMMARY], available at <http://www.amap.no/acia>.

17. See ACIA, Arctic Climate Impact Assessment, <http://www.acia.uaf.edu> (last visited Mar. 12, 2010).

18. The report, implemented by two Arctic Council working groups—Arctic Monitoring and Assessment Programme (AMAP) and Carbon Finance and Funds (CFF)—along with an NGO—the International Arctic Science Committee (IASC)—“is a comprehensively researched, fully referenced, and independently reviewed evaluation of arctic climate change and its impact for the region and for the world.” ACIA, EXECUTIVE SUMMARY, *supra* note 16, at Preface.

19. *Id.* at 10.

20. ROB HUEBERT & BROOKS B. YEAGER, WWF, A NEW SEA: THE NEED FOR A REGIONAL AGREEMENT ON MANAGEMENT AND CONSERVATION OF THE ARCTIC MARINE ENVIRONMENT 6 (2008), available at [http://assets.panda.org/downloads/a\\_new\\_sea\\_jan08\\_final\\_11jan08.pdf](http://assets.panda.org/downloads/a_new_sea_jan08_final_11jan08.pdf).

21. ACIA, EXECUTIVE SUMMARY, *supra* note 16, at 11.

Fish and Wildlife Service listed the polar bear as a threatened species under the Endangered Species Act because sea ice melt is causing a decline in the species range and habitat.<sup>22</sup> Overall, it is expected that vegetation zones will shift, causing ecosystem-scale changes to the Arctic affecting species migration, breeding behavior, and foraging ecology, and leading to the introduction of invasive species.<sup>23</sup>

Arctic coastal and indigenous communities are on the frontlines of climate change. There are approximately four million people living in the Arctic.<sup>24</sup> Climate change, which is causing the melting of permafrost and coastal erosion, may damage the infrastructure of this region. The health, water supply, and local economies will also be impacted.<sup>25</sup> Indigenous peoples, whose lives are closely connected with the Arctic environment, have called climate change a “crisis.”<sup>26</sup> Following an adaptation workshop organized by the Arctic Council (a high-level intergovernmental forum), the Council’s Indigenous Peoples Secretariat (representatives of Indigenous Peoples from across the Arctic) called on “[g]overnments to work with them in tackling the ‘catastrophic’ effects of Climate Change.”<sup>27</sup> Bill Erasmus, representing the Arctic Athabaskan Council in Canada, said, “[t]he permafrost is melting, homes are destroyed, rivers are rising, lakes are disappearing, migratory patterns are changing, [and] seasons are not the same anymore.”<sup>28</sup> Inaction by governments such as the United States is considered by some to be a violation of human rights.<sup>29</sup> It is clear that the impact of climate change on Arctic peoples and communities is devastating and threatening traditional ways of life.<sup>30</sup>

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22. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Polar Bear (*Ursus maritimus*) Throughout Its Range, 73 Fed. Reg. 28,212 (May 15, 2008) (to be codified at 50 C.F.R. pt. 17).

23. Potts, *supra* note 3, at 169.

24. ACIA, EXECUTIVE SUMMARY, *supra* note 16, at 6.

25. Potts, *supra* note 3, at 169.

26. See Arctic Peoples: Indigenous Peoples at the Arctic Council, Adaptation Workshop September 20–21, <http://ips.arcticportal.org/news/item/175-adaptation-workshop-september-20-21> (last visited Feb. 18, 2010).

27. *Id.*

28. *Id.*

29. See generally Randall S. Abate, *Climate Change, the United States, and the Impacts of Arctic Melting: A Case Study in the Need for Enforceable International Environmental Human Rights*, 26 STAN. ENVTL. L. J. 3, 7 (2007) (“On December 7, 2005, the Inuit Circumpolar Conference (ICC) filed a petition with the Inter-American Commission on Human Rights of the Organization of American States (OAS), accusing the U.S. government of violating their human rights by fueling global warming.”).

30. Patricia Cochran & Taito Nakalevu, *Stopping the Slow Wave of Destruction*, ARCTIC PEOPLES: INDIGENOUS PEOPLES AT THE ARCTIC COUNCIL, Dec. 6, 2007, <http://ips.arcticportal.org/news/item/161-stopping-the-slow-wave-of-destruction>.

The impacts of climate change on the Arctic will reverberate throughout the globe in the form of sea level rise. According to a recent U.S. government assessment, “[s]ustained warming of at least a few degrees (more than approximately 4° to 13°F above average 20th century values) is likely to be sufficient to cause the nearly complete, eventual disappearance of the Greenland ice sheet, which would raise sea level by several meters.”<sup>31</sup> Sea level rise will cause coastal flooding with the potential to adversely impact the lives of 600 million people living in low lying areas.<sup>32</sup> New oil and gas exploration and exploitation will further increase stress on the already fragile and damaged Arctic environment.

## B. Oil and Gas Exploration and Exploitation Impacts

The Arctic is in danger of being sacrificed to meet the insatiable global demand for oil and gas. Countries and oil companies are continually considering less-accessible supplies to meet increasing demand for oil and gas. The Arctic, with its potential abundance of those natural resources, now symbolizes, at least for the oil industry, “the final frontier for hydrocarbon development.”<sup>33</sup> Several major oil companies are already investing in the region. Statoil is preparing to implement its cold-weather technologies in the Barents Sea, while Royal Dutch Shell, ExxonMobil, and ConocoPhillips also have interests.<sup>34</sup> This economic boom will come at a potentially severe environmental cost to the Arctic.

There are four main stages of oil and gas development—geological and geophysical survey, exploration, development and production, and decommissioning<sup>35</sup>—and each stage involves various activities with associated environmental impacts.<sup>36</sup> The development and production

31. Press Release, U.S. Geological Survey, Glacier and Ice-Sheet Melting, Sea-Ice Retreat and Coastal Erosion Expected as a Result (Jan. 16, 2009), available at [http://www.usgs.gov/newsroom/article.asp?ID=2109&from=fss\\_home](http://www.usgs.gov/newsroom/article.asp?ID=2109&from=fss_home); see also, U.S. CLIMATE CHANGE SCIENCE PROGRAM & SUBCOMMITTEE ON GLOBAL CHANGE RESEARCH, PAST CLIMATE VARIABILITY AND CHANGE IN THE ARCTIC AND AT HIGH LATITUDES: FINAL REPORT, SYNTHESIS AND ASSESSMENT PRODUCT 1.2 (Jan. 16, 2009), available at <http://www.climatechange.gov/Library/sap/sap1-2/default.php>.

32. *Rising Sea Levels Set to Have Major Impacts Around the World*, Sci.DAILY (Mar. 11, 2009), <http://www.sciencedaily.com/releases/2009/03/090310104742.htm>.

33. WWF, *The Arctic, Threats*, <http://www.worldwildlife.org/what/wherewework/arctic/threats.html> (last visited Mar. 12, 2010) [hereinafter WWF Arctic].

34. Steve Hargreaves, *The Arctic: Oil's Last Frontier*, CNN MONEY, Oct. 25, 2006, [http://money.cnn.com/2006/09/27/news/economy/arctic\\_drilling/index.htm](http://money.cnn.com/2006/09/27/news/economy/arctic_drilling/index.htm).

35. STALISLAV PATIN, ENVIRONMENTAL IMPACT OF THE OFFSHORE OIL AND GAS INDUSTRY 53 (Elena Cascio trans., EcoMonitor Publishing NY 1999).

36. The stages are comprised of: (1) geological and geophysical survey (seismosurveys, test drilling, and so on); (2) exploration (rig emplacement, exploratory drilling, plugging the well, and others); (3) development and production (platform emplacement,

stage causes the “most intense and diverse environmental impacts.”<sup>37</sup> The associated impacts may include, among other things, physical disturbances, construction and operational discharges, interference with fisheries, accidental spillage, operational emissions, and disruption of marine birds and other organisms.<sup>38</sup> Power generation, flaring, well testing, leakage of volatile petroleum components, supply activities, and shuttle transportation emit gases into the air. The air emissions affect the climate, cause acidification on nearby land, and contribute to emissions of any number of hazardous substances.<sup>39</sup> Discharges of drill cuttings and muds<sup>40</sup> along with associated oil and chemicals used during the development and production phase have negative impacts on sea floor flora and fauna and reduce both their abundance and diversity.<sup>41</sup>

Oil spills and pollution can occur at any stage. Spills occur due to well blowouts during subsea exploration or production, acute or slow releases from sub-sea pipelines, releases from on-land storage tanks or pipelines that travel to water, or accidents involving oil transportation vessels or vessels carrying large quantities of fuel oil.<sup>42</sup> Because the changing sea ice conditions resulting from climate change create more opportunities for oil and gas exploration and production, there is an enhanced probability of oil spills occurring from offshore platforms, pipelines, storage tanks, and shipping activities.<sup>43</sup> Newly opened navigation routes will be exposed to oil spill risks for the first time. Existing routes will see an increase of vessel traffic over a longer navigational season, increasing the existing risk of oil spills.<sup>44</sup>

The Arctic’s unique climatic conditions—“dynamic ice cover, low temperatures, reduced visibility or complete darkness, high winds, and extreme storms”<sup>45</sup>—impact the effectiveness of spill response and

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pipe laying, and drilling; hydrocarbon extraction, separation, and transportation; well and pipeline maintenance; and so forth); and (4) decommissioning (disassembling, structural removal, well plugging, and others). *Id.* at 54.

37. *Id.* at 57.

38. *Id.* at 55 tbl.6.

39. ARCTIC COUNCIL, PROTECTION OF THE ARCTIC MARINE ENVIRONMENT (PAME), ARCTIC OFFSHORE OIL AND GAS GUIDELINES § 1.5 (Oct. 10, 2002) [hereinafter PAME Guidelines], available at <http://old.pame.is/sidur/uploads/ArcticGuidelines.pdf>.

40. PATIN, *supra* note 35, at 55 tbl.6.

41. *Id.* at 71.

42. *See id.* at 53–111.

43. NUKA RESEARCH AND PLANNING GROUP, WORLD WILDLIFE FUND, OIL SPILL RESPONSE CHALLENGES IN ARCTIC WATERS 7 (2008) [hereinafter WWF, OIL SPILL RESPONSE CHALLENGES], available at [http://assets.panda.org/downloads/nuka\\_oil\\_spill\\_response\\_report\\_final\\_jan\\_08.pdf](http://assets.panda.org/downloads/nuka_oil_spill_response_report_final_jan_08.pdf).

44. *Id.*

45. *Id.*

cleanup. Arctic marine waters have lower temperatures and lower salinity profiles, which inhibit the effectiveness of cleanup operations because oil may persist longer in these conditions as it evaporates slowly and can be trapped by sea ice.<sup>46</sup> An example of such lingering oil is seen after the 1989 Exxon Valdez disaster in Alaska's Prince William Sound; six years after the spill, "oil was found only slightly weathered under the beaches across the spill impact area."<sup>47</sup> Similar to oil, gas rigs and pipelines also leak, but gas spills are handled differently than oil because gas is likely to evaporate before containment or recovery is achieved.<sup>48</sup> Despite this difference in treatment, gas leaks still cause damage to the marine ecosystem.

Oil and gas development also has indirect impacts, such as the opening up of new areas to other types of development, further increasing environmental impacts. New infrastructure "dramatically lowers the barriers to entry for other kinds of resource exploitation."<sup>49</sup> The infrastructure may open up access to "logging of sensitive timberline forests, commercial fisheries, mining and other commercial use of wild species."

While oil and gas exploration and exploitation on the Arctic coastal states' continental shelves will occur far from local human populations, Arctic communities and peoples are nonetheless far from immune to the impacts caused by the exploration and exploitation. Positive impacts may include income from oil leasing royalties and oil industry-related employment opportunities filtering to local communities, thus improving living standards and access to essential services. However, exploration and exploitation may also adversely affect the lifestyles of indigenous peoples.<sup>50</sup> For example, indigenous peoples' right to marine resources, such as fisheries, may conflict with offshore oil and gas activities.<sup>51</sup> Discharges from offshore oil and gas activities and oil spills threaten the Arctic flora and fauna on which Arctic communities and indigenous peoples depend.<sup>52</sup> While this article primarily looks at the need for Arctic marine environmental protection, the importance of protecting Arctic communities and indigenous peoples from the negative side effects of oil and gas development should not be discounted.

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46. *Id.*

47. *Id.* at 8.

48. *Id.* at 5 n.1.

49. WWF Arctic, *supra* note 33.

50. PAME Guidelines, *supra* note 39, § 1.5.

51. Rune S. Fjellheim & John B. Henriksen, *Oil and Gas Exploitation on Arctic Indigenous Peoples' Territories: Human Rights, International Law and Corporate Social Responsibility*, 4 GÁLDU ËÁLA: J. INDIGENOUS PEOPLES RTS. 1, 31 (2006).

52. PAME Guidelines, *supra* note 39, § 3.1.

With full knowledge of the potential perilous impacts of oil and gas development and the current stress the Arctic environment is under due to climate change, the Arctic coastal states have declared that existing arrangements—some developed before anyone ever imagined that the Arctic Ocean would be ice-free—will sufficiently protect the Arctic environment and people. With the impacts of global climate change and new and expanded oil and gas development as a backdrop, this article now turns to the relevant laws applicable to the Arctic.

### III. ARCTIC SOFT LAW ARRANGEMENTS VS. ANTARCTIC HARD LAW REGIME

Each source of international law varies in its status, which in turn influences the rights and obligations of states.<sup>53</sup> The Arctic is primarily

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53. According to the Restatement (Third) of Foreign Relations Law, international law “consists of rules and principles of general application dealing with the conduct of states and of international organizations and with their relations inter se, as well as with some of their relations with persons, whether natural or juridical.” RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 101 (1987). Public International Law governs the activities of governments in relation to other governments. States and international and intergovernmental organizations create international law. *Id.* § 101 cmts. c–d. Article 38(1) of the Statute of the International Court of Justice is “generally regarded as a complete statement of the sources of international law.” IAN BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 5 (7th ed. 2008). Article 38 states:

(1) The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:

- (a) international conventions, whether general or particular, establishing rules expressly
- (b) recognized by the contesting states’
- (c) international custom, as evidence of a general practice accepted as law;
- (d) the general principles of law recognized by civilized nations
- (e) subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.

(2) This provision shall not prejudice the power of the Court to decide a case *ex aequo et bono*, if the parties agree thereto.

Statute of the International Court of Justice, art. 38(1), 59 Stat. 1031 (June 26, 1985). Thus, international conventions, agreements, treaties, customary law, general principles of law, and secondary sources, such as judicial decisions and teachings of the most highly qualified publicists, constitute international law. *See* BROWNLIE, *supra* note 53. Ian Brownlie explains that there are four elements of custom: (1) duration, (2) uniformity, (3) generality of the practice, and (4) *opinio juris necessitatis*. *Id.* at 7–8. The fourth element translates to mean that “nations believe that international law (rather than moral obligation) mandates the conduct or practice.” BLACK’S LAW DICTIONARY (8th ed. 2004). An example of a customary law is the duty to prevent transboundary harm (also known as the “no harm” principle). States are not allowed “to conduct or permit activities within their territories, or common spaces, without regard for the rights of other states or for the protection of the environ-

governed by soft law (not legally binding) arrangements, while its polar counterpart, the Antarctic, is governed by a hard law (legally binding) regime. There are many factors that contribute to this difference between the governance of the Arctic and Antarctic. The two factors that are of particular importance in this article are that the Arctic coastal states have sovereignty, sovereign rights, and jurisdiction to explore and exploit oil and gas on their continental shelves, and that the status of the Arctic coastal states' continental shelves is currently unknown (see section V). In contrast, no states can exercise jurisdiction and control in the Antarctic. Despite this critical difference, the Antarctic may provide valuable lessons for the development of governance in the Arctic.

### A. Arctic Soft Law Instruments

Legally binding international treaties to explicitly manage the Arctic have remained elusive because of the Arctic coastal states' insistence on maintaining their sovereignty and sovereign rights.<sup>54</sup> To date,

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ment." PATRICIA BIRNIE & ALAN BOYLE, *INTERNATIONAL LAW AND THE ENVIRONMENT* 104 (2d ed. 2002).

54. The reader should keep in mind the intricacies of the international law so as to understand why the existing instruments that apply to oil and gas exploration and exploitation on the Arctic coastal states' continental shelves will not sufficiently protect the Arctic marine environment. Treaties (a type of hard law) serve as the most frequent method of creating binding international environmental rules. BIRNIE & BOYLE, *supra* note 53, at 13. A treaty can be a written or oral agreement between states or between states and international organizations, governed by international law. The 1969 Vienna Convention on the Law of the Treaties codifies rules, such as entry into force, reservations, interpretation, and invalidity applicable to written treaties. Vienna Convention on the Law of Treaties, art. 31(1), Jan. 27, 1989, 1155 U.N.T.S. 331. The Convention is not universally ratified; e.g., the United States has not ratified the treaty. Yet, it is believed that the Convention codified the customary international law of treaties, thus applicable to both parties and non-parties. See *East Timor (Port. v. Austl.)*, 1995 I.C.J. 90, 214 (June 30, 1995). Fundamentally, treaties are consensual. ANDREW T. GUZMAN, *HOW INTERNATIONAL LAW WORKS* 183 (2008). Thus, treaties "do not ipso facto bind third states, unless the intention to do so is clearly expressed and the state concerned expressly accepts the benefits or obligations in question" in writing. BIRNIE & BOYLE, *supra* note 53, at 13. However, treaties may contain provisions which are in effect binding on all states not because of treaty status but because they restate what is already custom. *Id.* at 14. Also treaty provisions may provide for new rules, which could develop into customary international law over time through state practice and *opinio juris*. *Id.* Under international environmental law, treaties developed through multilateral processes "promote lawmaking insofar as the instruments they adopt become generally binding, are translated into customary international law, or evidence general principles of law." ALAN BOYLE & CHRISTINE CHINKIN, *THE MAKING OF INTERNATIONAL LAW* 210 (2007). However, not all treaties lay down strictly binding rules. A current trend in the environmental arena is to create "framework" treaties that provide for very general requirements for states "to take all measures" or enact "all practicable means" thus requiring states to take further action, such as the conclusion of more specific agreements, the

only a package of soft law mechanisms coordinates the states in regards to each state's treatment of the Arctic area.<sup>55</sup> In 1989, the Arctic states began to work together to combat threats to the Arctic ecosystem "which could not be addressed by each acting alone,"<sup>56</sup> resulting in the adoption of the Arctic Environmental Protection Strategy (AEPS). The objective of AEPS is "to ensure the protection of the Arctic environment and its sustainable and equitable development, while protecting the cultures of indigenous peoples."<sup>57</sup> As its name indicates, AEPS is not a legally binding instrument, yet it does contain commitments.

Five years after Arctic states adopted AEPS, the Arctic Council, a high-level intergovernmental forum, was established to coordinate the Arctic states' activities in the region and the programs established under AEPS.<sup>58</sup> The Council's members include the eight Arctic states (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States), permanent participants (the indigenous peoples), and those with observer status (namely non-Arctic states, as well as global and regional intergovernmental, inter-parliamentary, and nongovernmental organizations).<sup>59</sup> The Arctic Council is required to make decisions by consensus of its members<sup>60</sup> and meets biennially at the ministerial level.<sup>61</sup> The Council Chair and Secretariat rotate every two years among the Arctic states.<sup>62</sup> The Council's work is subdivided into working groups, including the

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addition of protocols or annexes, or even the adoption of nonbinding guidelines or recommendations. BIRNIE & BOYLE, *supra* note 53, at 14. One other form of a treaty worth mentioning is a regulatory treaty. A regulatory treaty can take the same shape as an umbrella or framework and link to protocols that entail specific duties, e.g., the 1976 Barcelona Convention on the Protection of the Mediterranean Sea requires states to ratify at least one of the accompanying protocols, such as cooperation in combating oil spills or the dumping of wastes. *Id.* Thus, treaties may include both binding and nonbinding rules. Soft law, on the other hand, is nonbinding *per se*, but could potentially be law-making in the same way as treaties, by expressing already recognized customary law or general principles. BOYLE & CHINKIN, *supra* note 54, at 212. The term soft law is a "convenient description for a variety of non-legally binding instruments used in contemporary international relations," including, but not limited to, inter-state conference declarations (like the 1992 Rio Declaration on Environment and Development), United Nations General Assembly instruments, interpretative guidance by international institutions, codes of conduct, and especially important in this article, guidelines and recommendations by international organizations. *Id.* at 212-13.

55. See generally SANDS, *supra* note 2, at 534-36.

56. *Id.*

57. *Id.* (quoting the Arctic Environmental Protection Strategy (AEPS)).

58. *Id.* (citing Declaration on the Establishment of the Arctic Council, Sept. 19, 1996, 35 I.L.M. 1382 (1996)).

59. Declaration on the Establishment of the Arctic Council, cls. 2-3.

60. *Id.* cl. 7.

61. *Id.* cl. 4.

62. *Id.* cl. 5.

Arctic Monitoring and Assessment Programme (AMAP),<sup>63</sup> the Sustainable Development Working Group (SDWG),<sup>64</sup> and the Protection of the Arctic Marine Environment (PAME).<sup>65</sup>

In 2002, the PAME working group revised its Arctic Offshore Oil and Gas Guidelines. The starting point of the Guidelines is that "Arctic petroleum activities will be conducted in compliance with applicable international law."<sup>66</sup> The Guidelines' purposes are: to be of use to Arctic national authorities in conducting offshore oil and gas activities; to secure common policies and practices; to support industry when planning activities; and to inform the public about environmental impacts of oil and gas development.<sup>67</sup> The Guidelines are nonbinding and meant to encourage Arctic states to implement the highest standards available. Section 1.3 of the Guidelines lays out the general principles for Arctic offshore drilling, which include the precautionary principle, the polluter pays principle, and sustainable development principles. The Guidelines prescribe various procedures such as environmental impact assessments (EIA).<sup>68</sup> They also contain measures aimed at protecting Arctic communities and indigenous peoples, promoting sustainability and conservation of flora and fauna,<sup>69</sup> and providing for safety and environmental management,<sup>70</sup> monitoring,<sup>71</sup> operating practices,<sup>72</sup> emergencies procedures,<sup>73</sup> and decommissioning and site clearance.<sup>74</sup> The working group's efforts have generally been aimed at the study and survey of current activities relating to shipping and offshore oil and gas<sup>75</sup> rather than looking at future activities such as oil and gas drilling in formerly ice-covered areas on the Arctic coastal states' continental shelves.

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63. See Arctic Monitoring and Assessment Programme, <http://www.amap.no> (last visited June 11, 2008).

64. See Sustainable Development Working Group, The Arctic Council, <http://portal.sdwg.org> (last visited June 11, 2008).

65. See Protection of the Arctic Marine Environment (PAME), <http://arcticportal.org/en/pame> (last visited June 11, 2008).

66. PAME Guidelines, *supra* note 39, § 1.1.

67. *Id.* §1.2.

68. *Id.* § 2.

69. *Id.* § 3.

70. *Id.* § 4.

71. *Id.* § 5.

72. PAME Guidelines, *supra* note 39, § 6.

73. *Id.* § 7.

74. *Id.* § 8.

75. David VanderZwaag, Rob Huebert & Stacey Ferrara, *The Arctic Environmental Protection Strategy, Arctic Council and Multilateral Environmental Initiatives: Tinkering While the Arctic Marine Environment Totters*, 30 *DENV. J. INT'L L. & POL'Y* 131, 150 (2001).

Another example of regional Arctic cooperation based on non-binding agreements is the Barents Euro-Arctic Region, consisting of the Barents Euro-Arctic Council and Barents Regional Council. Since the Barents region was an area of military confrontation during the Cold War, the objective of the organization is to promote sustainable development through close cooperation to secure long-term stability and reduce potential tensions. Russia, as the Chair of the Barents Euro-Arctic Council from November 2007 through November 2009, was tasked with guiding Denmark, Finland, Iceland, Norway, Sweden, and the European Commission in achieving sustainable development in the region.<sup>76</sup>

AEPS, the Arctic Council and its associated working groups, and the Barents Euro-Arctic Region are based on nonbinding documents, not treaties.<sup>77</sup> The lack of coordination of these arrangements raises the question of whether the system currently in place is capable of responding to the challenges facing the Arctic.<sup>78</sup> Philippe Sands, an expert in the field of international law, wrote:

The adoption of the Arctic Environmental Protection Strategy provides a useful opportunity to develop new legal arrangements and institutions to govern an ecosystem which transcends national boundaries and requires international cooperation for its adequate protection to be assured. The soft law approach it currently envisages provides a first step; ultimately it will be necessary to *establish appropriate institutional arrangements and substantive rules*, perhaps similar to those applied in the Antarctic, to ensure agreed obligations are respected and enforced.<sup>79</sup>

Upon the adoption of AEPS in 1989, no one could foresee the extent of the melting of Arctic ice and the resulting opportunities for natural resource extraction. The loose Arctic arrangement made sense at the time because the Arctic was isolated, relatively inaccessible, and its wealth of natural resources was unknown. As the ice cover recedes and access to new resource becomes available, a hard law regime is necessary to protect the Arctic marine environment.

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76. Barents Euro-Arctic Region, Cooperation in the Barents Euro-Arctic Region, <http://www.beac.st/?Deptid=25866> (last visited Oct. 21, 2008).

77. See VanderZwaag, Huebert & Ferrara, *supra* note 75, at 142–43.

78. *Id.* at 142.

79. SANDS, *supra* note 2, at 731 (emphasis added).

## B. Antarctic Hard Law Regime

The Arctic soft law arrangements starkly contrast with the Antarctic hard law regime. The Antarctic Treaty System (ATS) comprises “tightly linked components” of hard law.<sup>80</sup> Unlike the Arctic, the Antarctic is “part of the global commons and not subject to the exclusive jurisdiction of any state.”<sup>81</sup> Yet, there are some components of the ATS worth describing because their mechanisms may provide the blueprints for designing a future Arctic regime containing rules to prevent the negative impacts of increased offshore oil and gas development.

Antarctica is the only continent and region managed by a single international regime<sup>82</sup>—the ATS—and has been described as a “world order miracle.”<sup>83</sup> The major components of the ATS are the 1959 Antarctic Treaty, the 1972 Antarctic Seals Convention, the 1980 Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), and the 1991 Protocol on Environmental Protection of the Antarctic Treaty (Protocol). Furthermore, the 1988 Convention on the Regulation of Antarctic Mineral Resources Activities (CRAMRA), while not in force due to strong and successful opposition by key governments and NGOs seeking complete protection of the Antarctic region, remains relevant because of its proposal to create an institutional body to oversee extractive activities in a sensitive polar ecosystem.

The Antarctic Treaty freezes national claims to sovereignty on the continent.<sup>84</sup> Facially, this treaty is not an environmental agreement, but it can be seen to have a positive effect on the environment.<sup>85</sup> Of the 45 participating states, 28 countries are consultative parties empowered with the right to vote. To become a consultative party, a state must “demon-

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80. ORAN R. YOUNG, INSTITUTE OF ARCTIC STUDIES, DARTMOUTH COLLEGE, ARCTIC GOVERNANCE: PREPARING FOR THE NEXT PHASE 5 (2002), available at [www.arcticparl.org/\\_res/site/File/images/conf5\\_spar20021.pdf](http://www.arcticparl.org/_res/site/File/images/conf5_spar20021.pdf) (commissioned by the Standing Committee of Parliamentarians of the Arctic Region in preparation for a discussion of the future of Arctic governance).

81. SANDS, *supra* note 2, at 710.

82. Linda Nowlan, *Arctic Legal Regime for Environmental Protection* 41 (IUCN Environmental Law Programme, Working Paper No. 44, 2001) (citing DONALD ROTHWELL, *THE POLAR REGIONS AND DEVELOPMENT OF INTERNATIONAL LAW* 7 (1996)).

83. Nowlan, *supra* note 82, at 41 (citing Richard Falk, *The Antarctic Treaty System: Are There Viable Alternatives?*, in *THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS* 399 (Arnfinn Jorgensen-Dahl & Willy Ostreng eds., 1991). According to Nowlan, “[c]ommentators are of the view that ATS represents a model for international environmental law.” *Id.* at 351 (citing ROTHWELL, *supra* note 82)).

84. SANDS, *supra* note 2, at 712.

85. *Id.* at 712–13.

strate a commitment to the Antarctic through the conduct of significant and qualified scientific research.”<sup>86</sup>

CRAMRA created the Antarctic Mineral Resources Commission. If the Convention had come into force, this Commission would have played an essential role in determining where extraction could take place, the regulation of such activities, the adoption of protective measures, and the facilitation of EIAs. It would have been given the ultimate authority to review security of the Antarctic environment *in the interest of all mankind*.<sup>87</sup> CRAMRA also would have required decisions on mineral resource extraction to be based on the availability of adequate information and on the precautionary principle. In addition, mineral resource extraction would have been prohibited unless it was “judged . . . that the activity in question would not cause environmental harm.”<sup>88</sup> Fortunately, for conservation purposes, the Antarctic Treaty parties rejected CRAMRA and instead supported a new broad-ranging set of environmental protection measures.

The 1991 Protocol bans all aspects of Antarctic mineral resource exploration and exploitation except for scientific purposes.<sup>89</sup> The Protocol created the Committee on Environmental Protection to implement the agreement, similar to CRAMRA’s Commission.<sup>90</sup> At the request of any Antarctic Treaty consultative party, a review conference can be held 50 years after the Protocol was entered in force.<sup>91</sup> Modifications and amendments to the Protocol can be adopted at the review conference as long as “a majority of the Parties [to the Protocol], including three quarters of the States which are Antarctic Treaty Consultative Parties at the time of adoption of this Protocol” agree.<sup>92</sup> Finally, any modification or amendment to the ban on mineral resource activities must include a “binding legal regime” that protects the interests of states under the Antarctic Treaty and defines “under which conditions, any such activities would be acceptable.”<sup>93</sup> Another relevant aspect of the Protocol is its extensive

86. British Antarctic Survey, Natural Environment Research Council, Antarctic Treaty, Frequently Asked Questions, [http://www.antarctica.ac.uk/about\\_antarctica/geopolitical/treaty/faq.php](http://www.antarctica.ac.uk/about_antarctica/geopolitical/treaty/faq.php) (last visited Feb. 19, 2010). Scientific Committee on Antarctic Research, The Antarctic Treaty, Article IX, [www.scar.org/treaty/at\\_text.html](http://www.scar.org/treaty/at_text.html) (last visited Feb. 19, 2010).

87. Convention on the Regulation of Antarctic Mineral Resources Activities, arts. 18, 21, June 2, 1988, 27 I.L.M. 859, available at [www.state.gov/documents/organization/15282](http://www.state.gov/documents/organization/15282). BIRNIE & BOYLE, *supra* note 53, at 214.

88. SANDS, *supra* note 2, at 717.

89. Protocol on Environmental Protection to the Antarctic Treaty, art. 7, Oct. 4, 1991, 30 I.L.M. 1455 [hereinafter 1991 Protocol].

90. *Id.* arts. 11–12.

91. *Id.* art. 25(2).

92. 1991 Protocol, *supra* note 89, art. 25(3).

93. *Id.* art. 25(5)(a).

EIA requirements under Annex I, which impose stringent standards on activities having more than a “minor or transitory impact.”<sup>94</sup>

While components of the ATS may provide the architects of a future Arctic regime with governance ideas particular to a polar setting, geopolitical differences between the Arctic and the Antarctic (see section V) prevent the crossing over of legal mechanisms. If the Arctic coastal states put aside their political and economic differences, a temporary ban on resource extraction such as the moratorium in the 1991 Protocol might be possible. Or, if a temporary ban is too far-reaching, then the states might consider forming a regulating body, such as the Antarctic Mineral Resource Commission created under CRAMRA, which would be tasked with overseeing responsible and cautious development of Arctic oil and gas resources. However, before broaching the subject of systemic changes to Arctic governance, the existing international agreements and principles pertaining to the Arctic are described below.

#### IV. EXISTING INTERNATIONAL AGREEMENTS AND PRINCIPLES PERTAINING TO THE ARCTIC

There are six relevant multilateral and bilateral instruments that currently regulate oil and gas exploration and exploitation on the continental shelves of the Arctic Ocean’s coastal states or contain provisions for the protection of the Arctic marine environment against harm caused by such activities. Discussed first are two of the existing agreements—the United Nations Convention on the Law of the Sea (UNCLOS) and the Convention for the Protection of the Marine Environment in the North-East Atlantic (OSPAR). These agreements are the most relevant because UNCLOS provides a general framework for governing the oceans and OSPAR is a protective and effective convention that covers some of the Arctic waters. Next, two widely ratified treaties—the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) and the International Convention on Oil Pollution Preparedness, Response, and Co-operation (OPRC)—are discussed. Following is a discussion of the remaining two agreements between two or more states—the 1983 Canada-Denmark Agreement for Cooperation Relating to the Marine Environment (1983 Agreement) and the 1993 Agreement Between Denmark, Finland, Iceland, Norway, and Sweden Concerning Cooperation Measures to Deal with Pollution of the Sea by Oil or Other Harmful Substances (1993 Agreement). Only the provisions of the agreements that are directly applicable to the oil and gas exploration and exploitation on the Arctic coastal states’ continental shelves are discussed. In addition to

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94. *Id.* Annex I, art. 1.

these explicit agreements, several principles of international law are relevant in analyzing Arctic governance. In their totality, the agreements, the principles of international law, and the Arctic soft law arrangements discussed in section III(A) represent the baseline protection for the Arctic marine environment against the impacts of oil and gas exploration and exploitation. Options for expanding and improving the existing agreements are presented in section VI.

## A. UNCLOS

UNCLOS was created as the “comprehensive constitution for the oceans”<sup>95</sup> because it provides the framework for most uses of the ocean,<sup>96</sup> including offshore oil and gas extraction. The primary functions of UNCLOS are: to define maritime zones that divide jurisdictional responsibilities amongst coastal, flag, and port states; to protect the marine environment; to preserve freedom of navigation; and to provide guidelines for the use of marine resources. There are 160 parties to UNCLOS and of the five Arctic coastal states, only the United States<sup>97</sup> has not acceded to the Convention. The Convention is organized by maritime zones (also referred to as regimes) and it details the rights and obligations within each maritime zone.<sup>98</sup> Oil and gas development on the continental shelf generally falls under the continental shelf regime and the exclusive economic zones (EEZ).

The Arctic coastal states’ rights and obligations to their continental shelves differ within its 200-nautical-mile (nm) zone and beyond this zone. Within the 200-nm zone, the continental shelf regime and the EEZ coexist.<sup>99</sup> A coastal state must claim a 200-nm EEZ.<sup>100</sup> Even if an EEZ is

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95. TOMMY T.B. KOH, PRESIDENT OF THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA, REMARKS, A CONSTITUTION FOR THE OCEANS 1 (Dec. 10, 1982), [http://www.un.org/Depts/los/convention\\_agreements/texts/koh\\_english.pdf](http://www.un.org/Depts/los/convention_agreements/texts/koh_english.pdf).

96. R.R. CHURCHILL & A.V. LOWE, *THE LAW OF THE SEA* 19 (2d ed. 1985).

97. United Nations, Table Recapitulating the Status of the Convention and of the Related Agreements, as at 1 January 2010, [http://www.un.org/Depts/los/reference\\_files/status2010.pdf](http://www.un.org/Depts/los/reference_files/status2010.pdf); see generally Andrew King, *Thawing a Frozen Treaty: Protecting United States Interests in the Arctic with a Congressional-Executive Agreement on the Law of the Sea*, 34 *HASTINGS CONST. L.Q.* 329, 334 (2007).

98. The zones comprise: territorial sea and contiguous zone (part II); straits used for international navigation (part III); archipelagic states (part IV); exclusive economic zone (EEZ) (part V); continental shelf (part VI); high seas (part VII); regime of islands (part VIII); enclosed or semi-enclosed seas (part IX); right of access of landlocked states to and from the sea and freedom of transit (part X); and the area (part XI). United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS], available at [www.un.org/Depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](http://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf).

99. CHURCHILL & LOWE, *supra* note 96, at 119.

100. *Id.* at 137.

not claimed, a state will still have rights to its continental shelf. These rights are limited to the exploration of the shelf and the exploitation of its natural resources because the continental shelf is “not regarded as part of the territory of the coastal state.”<sup>101</sup> Oil and gas are included in the definition of natural resources,<sup>102</sup> and the coastal states can construct and authorize drilling on their own continental shelf.<sup>103</sup> The rights are exclusive—a third-party state must gain the approval of the coastal state before embarking on any activity on the continental shelf.<sup>104</sup> Further, the coastal state may implement its own offshore oil and gas laws and regulations including licensing and permitting.<sup>105</sup> In places where oil and gas reserves overlap on the continental shelves of two or more states, arrangements can be made for joint regulation and exploitation of the cross-boundary resources.<sup>106</sup>

A coastal state may cause only limited interference with freedom of navigation when exercising its rights to explore or exploit the continental shelf.<sup>107</sup> Because articles 60 and 80 of UNCLOS expressly permit offshore drilling platforms, it can be inferred that the platforms themselves are not an “unjustifiable interference” to navigation or other rights and freedoms.<sup>108</sup> Safety zones of 500 meters around the platforms are also permitted.<sup>109</sup> However, these safety zones must not interfere with the “use of recognised sea lanes essential to international navigation.”<sup>110</sup> Once an oil and gas field is exhausted, at the very least, the structures need to be partially removed and due regard must be given to ensure safety in navigation, fishing, and protection of the marine environment. Also the depth, position, and dimensions of the remaining structures must be publicized.<sup>111</sup> As a framework convention of international law, UNCLOS directs states to take “into account any generally accepted international standards established in this regard by the competent international organization.” Thus, coastal states are to follow standards set by organizations, such as the International Maritime Organization (IMO),<sup>112</sup>

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101. *Id.* at 119.

102. UNCLOS, *supra* note 98, pt. VI, art. 77(4).

103. *Id.* pt. V, art. 60, pt. VI, arts. 80–81.

104. *Id.* pt. VI, art. 77(2).

105. CHURCHILL & LOWE, *supra* note 96, at 119–20.

106. *Id.* at 118.

107. UNCLOS, *supra* note 98, pt. VI, art. 78.

108. CHURCHILL & LOWE, *supra* note 96, at 153–54; UNCLOS, *supra* note 98, art. 78(2).

109. UNCLOS, *supra* note 98, art. 60.

110. *Id.* art. 60(7); CHURCHILL & LOWE, *supra* note 96, at 153–54.

111. UNCLOS, *supra* note 98, art. 60(3).

112. The IMO is the United Nations’ specialized agency responsible for improving maritime safety and preventing pollution from ships. See International Maritime Organization, <http://www.imo.org/> (last visited Nov. 22, 2008).

or other agreements that contain substantive provisions regulating oil and gas activities, such as MARPOL 73/78 (as discussed further in section IV).

A coastal state's rights to oil and gas exploration and exploitation are different beyond the 200-nm zone. Because these superadjacent waters are considered the high seas, only the continental shelf regime applies.<sup>113</sup> Sedentary minerals, including oil and gas, remain under the exclusive control of the coastal state; however, oil and gas extraction will be subject to additional regulations. After the first five years of exploitation, a coastal state must pay a proportion of the value or volume of production at the site through<sup>114</sup> the International Seabed Authority. The amount increases from 1 percent in the sixth year to 7 percent in the twelfth and following years. This money is to be given to developing states—particularly those least developed and landlocked—as “a kind of *quid pro quo* for the diminution of the resources of the International Sea Bed Area consequent upon allowing jurisdiction over the shelf beyond the 200-mile limit.”<sup>115</sup>

Although it is unclear, the provisions under part IX of UNCLOS (regarding enclosed or semi-enclosed seas) may apply to Arctic coastal states. It is a “vexed question of whether the Arctic Ocean is a semi-enclosed sea over which Arctic coastal States are vested with special rights and duties of cooperation, as provided for in Articles 122 and 123” of UNCLOS.<sup>116</sup> Assuming that it is ultimately found that semi-enclosed seas provisions do apply to the Arctic Ocean, article 123(b) would require the Arctic coastal states to endeavour, directly or through an appropriate regional organization, “to coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment.”<sup>117</sup> Arctic coastal states would then be obliged “to invite, as appropriate, . . . States or international organizations to cooperate with them in the furtherance” of protecting and preserving the marine environment.<sup>118</sup> The Arctic Council “might be seen as a precursor to a more formalized assertion of a collective jurisdictional claim over the entire Arctic Ocean by the Arctic States.”<sup>119</sup> These part IX UNCLOS provisions may implicate how the Arctic coastal states are to protect the marine environment, while also permitting oil and gas activities on their continental shelves.

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113. CHURCHILL & LOWE, *supra* note 96, at 156.

114. The word “through” was intentionally used. See UNCLOS, *supra* note 98, art. 82(4).

115. CHURCHILL & LOWE, *supra* note 96, at 157.

116. Rayfuse, *supra* note 2, at 210; Potts, *supra* note 3, at 151.

117. UNCLOS, *supra* note 98, art. 123(b).

118. *Id.* art. 123(d).

119. Rayfuse, *supra* note 2, at 210.

UNCLOS also contains provisions for marine environmental protection. Only article 234 is directly relevant to the future increase of activity in the Arctic region;<sup>120</sup> it provides coastal states the right to adopt and enforce non-discriminatory laws and regulations in ice-covered areas within their EEZ where the conditions present exceptional hazards to navigation, and where pollution would cause major harm to or irreversible disturbance of ecological balance. Such laws must have “due regard” for navigation and be based on the best available scientific evidence.<sup>121</sup> However, this provision only applies to vessels such as oil tankers, and not oil platforms themselves.

UNCLOS does provide a general framework for environmental protection under part XII, “Protection and Preservation of the Marine Environment,” which applies to all uses including oil and gas exploration and exploitation on continental shelves. States have the general obligation to “protect and preserve the marine environment.”<sup>122</sup> While UNCLOS explicitly provides states with the sovereign right to exploit their natural resources, states must: (1) ensure that activities undertaken and pollution originating in their jurisdiction do not cause transboundary harm;<sup>123</sup> (2) cooperate on a regional or global basis, or through competent international organizations, in “formulating and elaborating international rules, standards and recommended practices and procedures consistent with [UNCLOS], for the protection and preservation of the marine environment, taking into account characteristic regional features”;<sup>124</sup> (3) notify “competent international organizations” and other states that are likely to be affected by cases in which the “marine environment is in imminent danger of being damaged or has been damaged by pollution”;<sup>125</sup> (4) cooperate to the best of their ability in “eliminating the effects of pollution and preventing or minimizing the damage” when damage has been caused, and “jointly develop and promote contingency plans for responding to pollution incidents”;<sup>126</sup> (5) cooperate in conducting scientific research about pollution of the marine environment and “acquire knowledge for the assessment of the nature and extent of pollution, exposure to it, and its pathways, risks and remedies”;<sup>127</sup> (6) monitor activities which they permit or “in which they engage in order to determine whether these activities are likely to pollute the marine en-

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120. See Huebert & Yeager, *supra* note 20, at 21.

121. UNCLOS, *supra* note 98, art. 234.

122. *Id.* art. 192.

123. *Id.* arts. 194(2), 195.

124. *Id.* art. 197.

125. *Id.* art. 198.

126. *Id.* art. 199.

127. UNCLOS, *supra* note 98, art. 200.

vironment”;<sup>128</sup> and (7) assess the potential effects of such activities on the marine environment and communicate reports of the results of such assessments to “competent international organizations” when there are reasonable grounds to believe that planned activities under their jurisdiction or control may cause substantial pollution of, or significant and harmful changes to, the marine environment.<sup>129</sup> Thus, coastal states have significant obligations under part XII of UNCLOS for the protection and preservation of the Arctic marine environment, and these obligations would apply to new offshore oil and gas exploration and exploitation in the Arctic.

Similar to the Arctic coastal states’ rights to authorize or limit third parties from drilling on their continental shelves, UNCLOS also requires coastal states to adopt laws and regulations to protect the marine environment from seabed activities.<sup>130</sup> The laws must be equally or more effective “than international rules, standards and recommended practices and procedures,”<sup>131</sup> and states must “endeavour to harmonize their policies” at a regional level and among neighboring states.<sup>132</sup> It can be inferred from the Convention’s text that the Arctic coastal states that are parties to UNCLOS are required, by “acting especially through competent international organizations or diplomatic conference,” to “establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment,” and that these rules are to be re-examined periodically.<sup>133</sup> This final provision is a clear example of UNCLOS serving as a framework from which parties are required to participate in international or regional agreements that provide for more substantive legal obligations.

## B. OSPAR

The Convention for the Protection of the Marine Environment in the North-East Atlantic (OSPAR) seeks “to prevent and eliminate marine pollution and to achieve sustainable management of the maritime area.”<sup>134</sup> There are 15 contracting parties to the Convention, as well as the

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128. *Id.* arts. 204(1)–(2).

129. *Id.* arts. 205–06.

130. *Id.* art. 208(1).

131. *Id.* art. 208(3).

132. *Id.* art. 208(4).

133. UNCLOS, *supra* note 98, art. 208(5).

134. Convention for the Protection of the Marine Environment of the North-East Atlantic, pmbl., Sept. 22, 1992, 32 I.L.M. 1072 [hereinafter OSPAR Convention], available at [http://www.ospar.org/html\\_documents/ospar/html/OSPAR\\_Convention\\_e\\_updated\\_text\\_2007.pdf#nameddest=annex3](http://www.ospar.org/html_documents/ospar/html/OSPAR_Convention_e_updated_text_2007.pdf#nameddest=annex3).

European Commission.<sup>135</sup> Of the Arctic Ocean coastal states, Denmark and Norway are parties, but Canada, Russia, and the United States are not. The OSPAR area is a mix of areas within and beyond national jurisdiction and includes “those parts of the Atlantic and Arctic Oceans and their dependent seas which lie north of 36° north latitude and between 42° west longitude and 51° east longitude.”<sup>136</sup> This area is divided into five regions. Region I, Arctic Waters, constitutes approximately 40 percent of the OSPAR maritime area, and is made up of Denmark, Finland, Iceland, Norway, and Sweden waters.<sup>137</sup> Thus, three Arctic states (Finland, Iceland, and Sweden) and two Arctic coastal states (Denmark and Norway) are members of OSPAR. “[A]ny . . . coastal state bordering the maritime area”<sup>138</sup> or “located upstream on watercourses reaching the maritime area”<sup>139</sup> may join the Convention. Also, “[c]ontracting parties may unanimously invite [other] States or regional economic integration organisations . . . to accede the Convention.”<sup>140</sup>

There are two unique features to OSPAR. First, it formed a regional body to supervise implementation—the OSPAR Commission.<sup>141</sup> The Commission is composed of representatives of the contracting parties<sup>142</sup> and has a full time Secretariat. It is empowered to adopt binding decisions, recommendations, and “programmes and measures for the prevention and elimination of pollution” by controlling activities “which may, directly and or indirectly, adversely affect the maritime area.”<sup>143</sup> Second, OSPAR’s contracting parties are obliged to apply the precautionary principle,<sup>144</sup> the polluter pays principle,<sup>145</sup> best available techniques, and best environmental practices principles in their programs and measures.<sup>146</sup> Also, the contracted parties are committed to following an ecosystem approach.<sup>147</sup>

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135. OSPAR Commission, Welcome to the OSPAR Commission, <http://www.ospar.org/eng/html/welcome.html> (last visited June 11, 2008).

136. OSPAR Convention, *supra* note 134, art. 1(a)(i).

137. OSPAR Commission, Region I—Arctic Waters, [http://www.ospar.org/content/content.asp?menu=00420211000000\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00420211000000_000000_000000) (last visited Oct. 18, 2008).

138. OSPAR Convention, *supra* note 134, art. 25(b).

139. *Id.* art. 25(c).

140. *Id.* art. 27(2).

141. BIRNIE & BOYLE, *supra* note 53, at 356.

142. OSPAR Convention, *supra* note 134, art. 10(1).

143. *Id.* arts. 10(2)–(3).

144. *Id.* art. 2 (2)(a).

145. *Id.* art. 2 (2)(b).

146. *Id.* art. 2 (3).

147. This is not explicitly stated in the Convention. According to the OSPAR Commission, for the purpose of the Convention, the ecosystem approach is defined as:

OSPAR contains five annexes, of which III and V are relevant to oil and gas exploration and exploitation. Annex III, the prevention of pollution from offshore sources, prohibits the dumping of wastes or other matter from offshore installations.<sup>148</sup> It requires contracting parties to use best available techniques and best environmental practices, including, where appropriate, “clean technology.”<sup>149</sup> Each contracting party is required to establish a competent authority that would authorize and regulate the use of, or the discharge or emission from, offshore sources or substances that would reach and affect the maritime area.<sup>150</sup> These national authorities are required to establish a system of monitoring and inspection to assess compliance with authorization or regulations.<sup>151</sup> The national authorities are also in charge of granting permits for allowing the disposal of offshore installations.<sup>152</sup> Annex III plainly states that “no such permit shall be issued if the disused offshore installation or disused offshore pipeline contains substances which result or are likely to result in hazards to human health, harm to living resources and marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.”<sup>153</sup> The Commission has already adopted mandatory measures limiting pollution from offshore installations.<sup>154</sup>

Annex V pertains to the protection and conservation of the ecosystems and biological diversity of the maritime area. The parties are to take “necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected, as well as their obligations under

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The comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity.

OSPAR Commission, Principles: Ecosystem Approach, [http://www.ospar.org/content/content.asp?menu=00430109150000\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00430109150000_000000_000000) (last visited Oct. 18, 2008) (emphasis omitted). However, Annex V, article 3(1)(b)(iv), states that it is the duty of the OSPAR Commission “to aim for the application of an integrated ecosystem approach” when drawing up “programmes and measures for the control of the human activities.” OSPAR Convention, *supra* note 134, Annex V, art. 3.

148. *Id.* Annex III, art. 3.

149. *Id.* Annex III, art. 2.

150. *Id.* Annex III, art. 4(1).

151. *Id.* Annex III, art. 4(2).

152. *Id.* Annex III, art. 5(1).

153. OSPAR Convention, *supra* note 134, Annex III, art. 5(2).

154. See OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations, available at <http://www.ospar.org/documents/DBASE/DECRECS/Decisions/od98-03e.doc>.

the Convention on Biological Diversity.”<sup>155</sup> The Annex also requires that the OSPAR Commission take an “integrated ecosystem approach.”<sup>156</sup> Under Annex V, contracting parties intend to create a network of marine protected areas (MPAs).<sup>157</sup> Each contracting party is asked to nominate areas within its jurisdiction that justify MPA status<sup>158</sup> and to report findings to the OSPAR Commission.<sup>159</sup> Once listed, the contracting party must develop a management plan<sup>160</sup> and regularly report on the status of the area.<sup>161</sup>

The OSPAR Commission has seven work areas. Two of the work areas are the offshore oil and gas industry and climate change. The Commission has produced the Offshore Oil and Gas Industry Strategy with the objective of preventing and eliminating pollution from offshore sources and to protect the OSPAR maritime area against the effects of such activities so as to safeguard human health, conserve the marine ecosystems, and, “[w]hen practical,” restore marine areas that have been adversely affected.<sup>162</sup> The Strategy covers all phases of offshore activities and sets out the development and implementation of programs and requires the OSPAR Commission “to collect information about threats to the marine environment; establish priorities for taking action; and develop and periodically review environmental goals.”<sup>163</sup> This work is implemented by OSPAR’s Offshore Industry Committee.<sup>164</sup> It is important to note that the Commission does not work in isolation but collaborates with other international organizations. For example, OSPAR contributes to “international efforts, including the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention, 1972) and efforts by the European Union, the most relevant being developments under the REACH [Registration, Evaluation, Authorisation and Restriction of Chemicals] Regulations (for Offshore Chemicals).”<sup>165</sup>

155. OSPAR Convention, *supra* note 134, Annex V, art. 2.

156. *Id.* Annex V, art. 3(1)(b)(iv).

157. See OSPAR Recommendation 2003/3 on a Network of Marine Protected Areas, available at <http://www.ospar.org/documents/dbase/decrecs/recommendations/or03-03e.doc>.

158. OSPAR Convention, *supra* note 134, Annex V, art. 3.1(a).

159. *Id.* Annex V, art. 3.1(b).

160. *Id.* Annex V, art. 3.3.

161. *Id.* Annex V, art. 5.

162. OSPAR Commission, Offshore Oil and Gas Industry, [http://www.ospar.org/content/content.asp?menu=00210305000000\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00210305000000_000000_000000) (last visited Oct. 18, 2008).

163. *Id.*

164. *Id.*

165. OSPAR Commission, Climate Change, [http://www.ospar.org/content/content.asp?menu=00230307000000\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00230307000000_000000_000000) (last visited Oct. 18, 2008).

Under the climate change work area, the OSPAR Commission works with contracting parties to ensure that climate change impacts are taken into consideration in implementing the OSPAR Convention. Specifically, at the 2007 meeting of the OSPAR Commission, contracting parties highlighted significant national activities considering the impact of climate change on the marine environment.<sup>166</sup> Currently, the Commission's Assessment and Monitoring Committee is working to establish ways in which to incorporate climate change impact considerations into future work. The OSPAR Commission produced a report analyzing "the main challenges for OSPAR to adapt current policies and objectives for the protection of the marine environment," and "assess[ing] the needs and options to mitigate climate change relevant for OSPAR's work to adapt to the consequences of climate change and how this will influence OSPAR's future work."<sup>167</sup> Already, a significant portion of the OSPAR maritime area is Arctic waters, and of all the existing agreements, OSPAR may be the most effective forum for expanded governance and regulation of the Arctic Ocean (see section VII).

### C. MARPOL 73/78

The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) seeks "the complete elimination of intentional pollution of the marine environment by oil and other harmful substances and the minimization of accidental discharge of such substances" from ships.<sup>168</sup> All of the Arctic coastal states are parties to MARPOL 73/78. The Convention contains six technical annexes and all parties are bound to Annexes I and II.<sup>169</sup> Oil and gas exploration and exploitation are regulated by this Convention because a ship is defined as "a vessel of any type whatsoever operating in the marine environment and includes . . . fixed or floating platforms."<sup>170</sup> The provisions for ships of 400 tons gross tonnage or greater also apply to offshore oil and gas rigs.<sup>171</sup> In general, the Convention's articles deal with "jurisdiction, powers of en-

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166. *Id.*

167. *Id.*; see also OSPAR COMMISSION, ASSESSMENT OF CLIMATE CHANGE MITIGATION AND ADAPTATION (2009), available at [http://www.ospar.org/documents/dbase/publications/p00464\\_climate%20change%20mitigation%20adaptation%20final.pdf](http://www.ospar.org/documents/dbase/publications/p00464_climate%20change%20mitigation%20adaptation%20final.pdf).

168. International Convention for the Prevention of Pollution from Ships, pmbl., Nov. 2, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), Feb. 17, 1978, 1340 U.N.T.S. 61 [hereinafter MARPOL 73/78].

169. BIRNIE & BOYLE, *supra* note 53, at 363.

170. MARPOL 73/78, *supra* note 168, art. 2(4).

171. *Id.* Annex I, reg. 21.

forcement, and inspection,” while its annexes deal with “anti-pollution regulations” that set technical limits for oil discharges.<sup>172</sup>

Parties can designate “special areas,”<sup>173</sup> also referred to as “particularly sensitive sea areas,” if such areas are considered vulnerable to pollution. Within the “special area,” discharges can be completely prohibited with minor and well-defined exceptions.<sup>174</sup> The Antarctic is a listed special area,<sup>175</sup> while the Arctic is not. Rigs operating in a special area are prohibited from discharging oil in that area “except when the oil content of the discharge without dilution does not exceed 15 parts per million.”<sup>176</sup> MARPOL 73/78 applies to oil and gas exploration and exploitation in the Arctic.

#### D. OPRC

The International Convention on Oil Pollution Preparedness, Response, and Co-operation (OPRC) requires parties to “prepare for and respond to an oil pollution incident”<sup>177</sup> “involving ships, offshore units, sea-ports and oil handling facilities.”<sup>178</sup> All of the Arctic states are parties to this Convention.<sup>179</sup> There are several state obligations under the OPRC Convention. Operators of offshore units under the jurisdiction of contracting parties are required to have oil pollution emergency plans or similar documentation.<sup>180</sup> Pollution incidents must be reported to coastal authorities.<sup>181</sup> Parties agree to provide assistance to others in the event of an oil pollution incident.<sup>182</sup> This treaty is relevant to the Arctic because it directly applies to offshore units and it takes into account the precautionary and polluter pays principles.<sup>183</sup> Similar to UNCLOS, the parties are responsible for ensuring compliance with the Convention’s provision.<sup>184</sup>

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172. BIRNIE & BOYLE, *supra* note 53, at 362–63.

173. MARPOL 73/78, *supra* note 168, Annex I, reg. 1(10).

174. *Id.* Annex I, reg. 1(10).

175. *See id.* Annexes I, V (as amended Mar. 17, 1992).

176. *Id.* Annex I, reg. 21(3).

177. International Convention on Oil Pollution Preparedness, Response and Cooperation, art. 1, Nov. 30, 1990, 1891 U.N.T.S. 78. [hereinafter OPRC].

178. *Id.* pmb1.

179. *See* International Maritime Organization, Status of Conventions by Countries, [http://www.imo.org/Conventions/mainframe.asp?topic\\_id=248](http://www.imo.org/Conventions/mainframe.asp?topic_id=248) (last visited Mar. 12, 2010).

180. OPRC, *supra* note 177, art. 3(2).

181. *Id.* art. 4(1)(a).

182. *Id.* art. 7.

183. *Id.* pmb1.

184. *Id.* art. 2(6).

Also, the International Maritime Organization<sup>185</sup> plays a supportive role in facilitating the adoption of regulations,<sup>186</sup> reporting,<sup>187</sup> cooperation and collaboration,<sup>188</sup> and compliance.<sup>189</sup>

### E. 1983 Canada-Denmark Agreement

The Canada-Denmark Agreement (1983 Agreement) is important because it demonstrates two Arctic coastal states taking steps to further their obligations under UNCLOS, in particular with the provisions concerning “ice-covered areas”<sup>190</sup> and the prevention, reduction, and control of pollution of the marine environment.<sup>191</sup> A unique duty in the Agreement is the requirement of prior notification by a contracting party of “any works or undertakings in its area of responsibility which may create a significant risk of pollution”<sup>192</sup> to another contracting party whose area may be affected. It further requires the parties to enter into consultations at the request of the other party on “any works or undertakings” that create a significant risk of pollution.<sup>193</sup> The consultations must be

185. The International Maritime Organization (IMO) is the United Nations’ specialized agency responsible for improving maritime safety and preventing pollution from ships. International Maritime Organization, General Objectives and Policies, <http://www.imo.org/> (last visited Nov. 22, 2008).

186. OPRC, *supra* note 177, art. 3(1)(a) (“Each Party shall require that ships entitled to fly its flag have on board a shipboard oil pollution emergency plan as required by and in accordance with the provisions adopted by the Organization for this purpose.”).

187. *Id.* art. 4(2) (“Reports under paragraph (1)(a)(i) shall be made in accordance with the requirements developed by the Organization and based on the guidelines and general principles adopted by the Organization. Reports under paragraph (1)(a)(ii), (b), (c) and (d) shall be made in accordance with the guidelines and general principles adopted by the Organization to the extent applicable.”); *id.* art. 5(4) (“Parties should use, in so far as practicable, the oil pollution reporting system developed by the Organization when exchanging information and communicating with other States and with the Organization.”).

188. *Id.* art. 8(1) (“Parties agree to co-operate directly or, as appropriate, through the Organization or relevant regional organizations or arrangements in the promotion and exchange of results of research and development programmes relating to the enhancement of the state-of-the-art of oil pollution preparedness and response, including technologies and techniques for surveillance, containment, recovery, dispersion, clean-up and otherwise minimizing or mitigating the effects of oil pollution, and for restoration.”).

189. *Id.* art. 12(2) (“In carrying out the activities specified in this article, the Organization shall endeavour to strengthen the ability of States individually or through regional arrangements to prepare for and combat oil pollution incidents, drawing upon the experience of States, regional agreements and industry arrangements and paying particular attention to the needs of developing countries.”).

190. 1983 Canada-Denmark Agreement for Cooperation Relating to the Marine Environment, *pmbL*, Aug. 26, 1983, 23 I.L.M. 269 [hereinafter 1983 Agreement].

191. *Id.* art. II.

192. *Id.* art. IV(1).

193. *Id.* art. IV(2).

conducted over a “reasonable period of time” and in the “best spirit of cooperation and good neighbourliness.” The Agreement also requires measures to be taken to ensure installations are “designed, constructed, placed, equipped, marked, operated and maintained in such a manner that the risk of pollution . . . is minimized.”<sup>194</sup> There is also a mandatory dispute settlement procedure that requires parties to resort to negotiation if a dispute arises from interpretation or application of the Agreement.<sup>195</sup> If a settlement is not reached in six months, then the dispute will be submitted to an *ad hoc* tribunal at the request of either party.<sup>196</sup> The procedures of prior notification and consultation may serve as a model for improving the existing Arctic legal regime.

#### F. 1993 Agreement between Denmark, Finland, Iceland, Norway, and Sweden

Another regional agreement that covers the Arctic area is the 1993 Agreement between Denmark, Finland, Iceland, Norway, and Sweden (1993 Agreement). The Agreement entered into force in 2003, yet very little has been written about it. The parties agreed to the general undertaking of “cooperat[ing] in the protection of the marine environment against pollution of the sea by oil or other harmful substances which present a grave and imminent danger to the material interests of one or more Parties.” This agreement applies to both vessels and offshore installations in the internal waters, territorial sea and other fishing grounds, EEZs, and continental shelves<sup>197</sup> of the contracting parties. Obligations include monitoring,<sup>198</sup> investigation,<sup>199</sup> reporting,<sup>200</sup> production of evidence,<sup>201</sup> abatement,<sup>202</sup> assistance,<sup>203</sup> and exchange of information.<sup>204</sup> Articles 9 to 11 deal with issues occurring and resulting from an oil spill. Similar to OPRC and the 1983 Agreement, the substantive obligations under this regional agreement could be useful in formulating an integrated Arctic regime.

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194. *Id.* art. V.

195. *Id.* art. XIII(1).

196. 1983 Agreement, *supra* note 190, art. XIII(2).

197. 1993 Agreement Between Denmark, Finland, Iceland, Norway and Sweden Concerning Cooperation in Measures to Deal with Pollution of the Sea by Oil or Other Harmful Substances, art. 2, Mar. 29, 2003, U.N.T.S. vol. 2084 I-36173 [hereinafter 1993 Agreement].

198. *Id.* art. 3.

199. *Id.* art. 4.

200. *Id.* art. 5.

201. *Id.* art. 6.

202. *Id.* art. 7.

203. 1993 Agreement, *supra* note 197, art. 8.

204. *Id.* art. 12.

### G. Relevant Principles of International Law

In addition to the agreements described above, general procedural principles, as well as substantive principles of international law are applicable to the Arctic. The procedural principles include the duties to cooperate,<sup>205</sup> assess risk,<sup>206</sup> notify and inform of risk,<sup>207</sup> and consult,<sup>208</sup> notify, and assist in emergencies.<sup>209</sup> These principles are also found in UNCLOS and in some of the above-mentioned agreements. Six substantive principles are particularly relevant to the Arctic situation: sovereignty, no harm, precautionary, sustainable development, polluter pays, and ecosystem-based management. Depending on a principle's status in international law (see section III), the principle may or may not be binding on the Arctic coastal states.

Sovereignty is the starting point for all international agreements.<sup>210</sup> The principle of sovereignty in international environmental law means that states have complete jurisdiction over their natural resources.<sup>211</sup> This is counterbalanced by the customary "no harm" principle, which is considered to be a basic obligation of international environmental law.<sup>212</sup> The "no harm" principle requires states to prevent transboundary harm caused by activities under their jurisdiction and control.<sup>213</sup> Both the sovereignty and "no harm" principles are binding on Arctic states that are parties to UNCLOS, as found in UNCLOS at article 193. The United States is also bound to the sovereignty principle because it represents "the basic constitutional doctrine of the law of nations."<sup>214</sup> The "no harm" principle is considered customary international law, and thus is binding on the United States.<sup>215</sup>

Closely related to "no harm," the precautionary principle or approach is an increasingly important principle of international environmental law. It requires that, where there are reasonable grounds for

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205. United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 14, 1992, Rio Declaration on Environment and Development, princ. 5, UNCED Doc. A/CONF.151.5, 31 I.L.M. 873 [hereinafter Rio Declaration].

206. *Id.* princ. 17.

207. *Id.* princ. 19.

208. *Id.*

209. *Id.* princ. 18.

210. Arie Trouwborst, Lecture on Nature Conservation, International Environmental Law Seminar, Mar. 20, 2008, Utrecht University; see generally ANTONIO CASSESE, INTERNATIONAL LAW 48–53 (Oxford University Press 2005) (2001).

211. SANDS, *supra* note 2, at 235.

212. *Id.* at 236.

213. UNCLOS, *supra* note 98, art. 194(2).

214. BROWNLIE, *supra* note 53, at 287.

215. SANDS, *supra* note 2, at 236.

concern that serious or irreversible damage might occur, effective and proportional measures should be taken to prevent environmental degradation even in the absence of scientific certainty.<sup>216</sup> The inclusion of the principle in the Rio Declaration on Environment and Development at the Earth Summit in 1992 firmly placed precaution on the global stage.<sup>217</sup> Under the principle, the benefit of the doubt goes to the environment (*in dubio pro natura*).<sup>218</sup> The Arctic Council's PAME working group Guidelines recommend that the precautionary approach be employed when considering offshore oil and gas activities in the Arctic. Further, OSPAR fully embraces the precautionary principle. These examples indicate that the precautionary principle is transforming into customary international law, thus becoming increasingly binding on all Arctic coastal states.<sup>219</sup> The principle of sustainable development seeks to balance economic development interests, especially those of poor countries, with environmental concerns.<sup>220</sup> The World Commission on Environment and Development states that sustainable development implies meeting the "needs of the present without compromising the ability of future generations to meet their own needs."<sup>221</sup> This meta-principle mainly guides policy makers and lawyers in creating, interpreting, and applying national and international law. The Arctic Environmental Protection Strategy embraced the principle of sustainable development by creating a formal Sustainable Development Working Group. Because of the acceptance of this principle by the Arctic Council, it appears that the principle is binding on all of the Arctic coastal states.

The polluter pays principle is an "economic policy for allocating the costs of pollution or environmental damage borne by public authori-

216. *Id.*

217. Principle 15 of the Rio Declaration states: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." Rio Declaration, *supra* note 205, princ. 15.

218. Trouwborst, *supra* note 210, at 187.

219. *Id.* at 187-88. The principle is solidified in more than 60 multilateral treaties and is embedded in several domestic systems. It was also recognized by the International Tribunal for the Law of the Sea in the *Southern Blue Fin Tuna* cases and in the *MOX Plant* case, and by the WTO Appellate Body in the 1998 *Beef Hormones* case. See SANDS, *supra* note 2, at 273-76.

220. D. BARSTOW MAGRAW & L.D. HAWKE, *Sustainable Development*, in THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW 614-16 (Daniel Bodansky, Jutta Brunnee & Ellen Hey eds., Oxford University Press 2007).

221. Report of the World Commission on Environment and Development, G.A. Res. 42/187, U.N. Doc. A/RES/42/187 (Dec. 11, 1987).

ties” rather than an international legal principle.<sup>222</sup> However, it has been used in international and national environmental laws to prescribe liability. PAME’s Guidelines recommend that the polluter pays principle should be employed<sup>223</sup> and OSPAR fully endorses the application of this principle. Because the principle serves merely as a recommendation, it does not appear to be binding on all of the Arctic coastal states.

The ecosystem-based management principle is an “emerging paradigm” that shifts management efforts from focusing on particular uses to a systems approach where ecological processes and interactions are taken into account in achieving the goals of a management plan.<sup>224</sup> This new and evolving paradigm, while rapidly gaining support and acceptance, has not yet achieved the status of customary international law, partially because the concept has not been implemented, thus it is not binding on all of the Arctic coastal states. One of the numerous examples of its growing acceptance, however, is Annex V, article 3(1)(b)(iv) of OSPAR, which requires an integrated ecosystem approach to be taken by the parties. The above-mentioned procedural and substantive principles should be taken into account in designing a governance and regulatory regime for the Arctic.

In sum, the existing agreements and the principles of international law do not adequately address all of the issues arising from oil and gas exploration and exploitation on the Arctic coastal states’ continental shelves. UNCLOS provides a general framework, while OSPAR lays out substantive provisions for a portion of Arctic waters. MARPOL and OPRC provide general guidelines for conducting oil and gas activities. The 1983 Canada-Denmark Agreement and the 1993 Agreement demonstrate cooperative action among Arctic coastal states and the other Arctic states. The principles of international law provide guidance rather than a regulatory basis for state conduct. The agreements and principles in total provide a thin layer of protection for the sensitive Arctic ecosystem and communities, but fail to establish the coordinated legal framework needed to meet the challenges of new oil and gas exploration in the Arctic. Sections VI and VII further examine these agreements and recommend ways in which the agreements could be improved so as to provide greater protection; however, these recommendations must be viewed in light of Arctic politics.

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222. BIRNIE & BOYLE, *supra* note 53, at 92.

223. PAME Guidelines, *supra* note 39, § 1.3.

224. STEPHEN BOYLE ET AL., U.N. ENV’T PROGRAMME & THE GLOBAL PROGRAMME OF ACTION FOR THE PROT. OF THE MARINE ENV’T FROM LAND-BASED ACTIVITIES, ECOSYSTEM-BASED MANAGEMENT: MARKERS FOR ASSESSING PROGRESS 5 (2006), available at [http://www.gpa.unep.org/documents/ecosystem-based\\_management\\_english.pdf](http://www.gpa.unep.org/documents/ecosystem-based_management_english.pdf).

## V. ARCTIC GEOPOLITICS: THE “DO NOTHING” ILULISSAT DECLARATION

On May 28, 2008, political representatives from the five Arctic coastal states (Canada, Denmark, Norway, Russia, and the United States) met in Ilulissat, Greenland.<sup>225</sup> Representatives from the three other Arctic states (Iceland, Finland, and Sweden) were not invited to participate.<sup>226</sup> As a result of this meeting, the representatives of the five Arctic coastal states issued the Ilulissat Declaration stating in clear terms that an existing extensive international legal framework already applies to the Arctic Ocean, and therefore, there is “no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.”<sup>227</sup> The Arctic coastal states asserted their respective sovereignty and jurisdictional control and their intention to avoid a comprehensive regional sea agreement in favor of sectoral cooperative initiatives, such as in the area of search and rescue.<sup>228</sup>

The Ilulissat Declaration strategically weaves together existing agreements and institutions giving the appearance that a comprehensive and coordinated Arctic framework already exists. At the core of the “framework” outlined in the Declaration is the principle that the coastal states, “[by] virtue of their sovereignty, sovereign rights and jurisdiction . . . are in a unique position to address these possibilities and challenges.”<sup>229</sup> The Arctic coastal states point to UNCLOS, the International Maritime Organization (IMO), the Barents Euro-Arctic Council, and the Arctic Council as proof of the existence of an international framework.

The Ilulissat Declaration states that the “law of the sea provides for important rights and obligations concerning the delineation of the outer limits of the continental shelf, the protection of the marine environment, including ice-covered areas, freedom of navigation, marine scientific research, and other uses of the sea.”<sup>230</sup> It is interesting to note that the Declaration does not specifically refer to UNCLOS but to the *law of the sea* in general. One possible reason for this is that the United States has not ratified UNCLOS. Further, the states unanimously announced that they

225. See THE ILULISSAT DECLARATION, *supra* note 1.

226. Indigenous Portal, *The Ilulissat Declaration from the Arctic Ocean Conference*, June 24, 2008, <http://www.indigenousportal.com/Politics/The-Ilulissat-declaration-from-the-Arctic-Ocean-Conference.html>.

227. *Id.*

228. T. Koivurova & D. VanderZwaag, *Canada, the European Union and Arctic Ocean Governance: A Tangled and Shifting Seascape and Future Directions*, 18 J. TRANSNAT'L L. & POL'Y (forthcoming 2010).

229. THE ILULISSAT DECLARATION, *supra* note 1.

230. *Id.*

“remain committed to this legal framework and to the orderly settlement of any possible overlapping claims.”<sup>231</sup> The states also declared that they will work with the IMO to “strengthen existing measures and [to] develop new measures to improve the safety of maritime navigation and [to] prevent or reduce the risk of ship-based pollution in the Arctic Ocean.”<sup>232</sup> The Declaration makes clear that the Arctic coastal states will support the efforts of the Barents Euro-Arctic Council and contribute actively to the Arctic Council.

The role of third-party states in the Arctic is not completely absent from the Declaration. First, the Arctic coastal states commit to take steps “in accordance with international law both nationally and in cooperation among the five states and other interested parties to ensure the protection and preservation of the fragile marine environment.”<sup>233</sup> The Arctic coastal states commit to work through bilateral and multilateral arrangements between and among relevant states to promote safety of life at sea in the Arctic Ocean. The framework described above coordinates management by the coastal states and “users” of the Arctic Ocean through “national implementation and application of relevant provisions.”<sup>234</sup> In general, the Declaration demonstrates that the Arctic coastal states will cooperate with each other and with interested parties in the “collection of scientific data concerning the continental shelf, the protection of the marine environment, and other scientific research” based on “mutual trust and transparency” and “through timely exchange of data analyses.”<sup>235</sup>

More interesting is what the Ilulissat Declaration does not disclose—the rising tensions concerning state jurisdiction over the outer continental shelf. The Declaration states that the nations are “committed . . . to the orderly settlement of any possible overlapping claims,”<sup>236</sup> and the purpose of the meeting, according to Denmark’s foreign minister, Per Stig Moeller, was to “sen[d] a signal to local populations and the rest of the world that [Arctic coastal states] will act responsibly. . . . Hopefully we will once and for all kill the myth that there’s a ‘race for the North Pole’ going on.”<sup>237</sup> Yet, it is questionable whether a simple Declaration can put these tensions to rest.

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231. *Id.*

232. *Id.*

233. *Id.*

234. *Id.*

235. THE ILULISSAT DECLARATION, *supra* note 1.

236. *Id.*

237. Deb Kelly, *Arctic Nations Pledge to Defuse Tensions*, OIL DAILY: ENERGY INTELLIGENCE GROUP, June 3, 2008, [http://www.accessmylibrary.com/coms2/summary\\_0286-34692562\\_ITM](http://www.accessmylibrary.com/coms2/summary_0286-34692562_ITM).

In August 2007, Russia planted a flag in a titanium canister on the seabed near the North Pole to reinforce its territorial and maritime jurisdictional claims over the region.<sup>238</sup> This move has been perceived as a “scramble,” “race,” or “land grab,” which may lead to a “gold rush”<sup>239</sup> in the Arctic. While the Ilulissat Declaration tries to put the perception of a “gold rush” to rest, the actions by Arctic states demonstrate their great interest in this previously inaccessible region. Canada plans to increase its military presence in the region and to establish a deep-water port in order to assert its sovereignty in the Northwest Passage (a formerly ice-locked area). According to Prime Minister Stephan Harper, six to eight patrol ships will guard what are believed to be Canadian waters.<sup>240</sup> On the policy front, Norwegian Foreign Minister Jonas Gahr Store told the media that “Norway must ‘strike a balance between achieving its overall climate policy goals and safeguarding Norwegian interests in the north.’”<sup>241</sup> Nonetheless, the planting of the Russian flag, along with these other state actions, signify that these countries are serious about asserting their “geopolitical weight” into the delimitation process.<sup>242</sup> Despite the threatening appearance of these actions, the states’ conduct has been “predominately in accordance with international law” and particularly in accordance with UNCLOS.<sup>243</sup>

The unknown status of the Arctic coastal states’ continental shelves is at the heart of these tensions. Under article 76 of UNCLOS, a coastal state is entitled to a continental shelf consisting of (1) the seabed reaching 200 nm from the baselines, and (2) subject to *Irish Formula* (established by reference to sediment) or *Hedberg Formula* (established by reference to fixed points from the foot of the continental slope), any area of physical continental margin beyond this outer limit.<sup>244</sup> A coastal state can established the outer limit beyond 200 nm by making a submission to the Commission on the Limits of the Continental Shelf (CLCS).<sup>245</sup> Russia made a submission pertaining to the limits of its continental shelf in

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238. Potts, *supra* note 3, at 151.

239. *Id.*

240. Associated Press, *Canada to Increase Arctic Military Presence*, USA TODAY, July, 9 2008, [http://www.usatoday.com/news/world/2007-07-09-canada-arctic\\_N.htm](http://www.usatoday.com/news/world/2007-07-09-canada-arctic_N.htm); Kelly, *supra* note 237.

241. Kelly, *supra* note 237.

242. Potts, *supra* note 3, at 158.

243. *Id.*

244. UNCLOS, *supra* note 98, arts. 76(1), 76(4)(a)(i)–(ii); CHURCHILL & LOWE, *supra* note 96, at 148–49.

245. CHURCHILL & LOWE, *supra* note 96, at 148–50. See UNCLOS, *supra* note 98, art. 76(7)–(9).

2001.<sup>246</sup> Norway made such a submission in 2006,<sup>247</sup> and other countries are expected to follow suit. The reason why article 76 is important to the “realpolitik of the modern Arctic great game” is that article 77 permits a coastal state to exercise sovereign rights over its continental shelf “for the purpose of exploring it and exploiting its resources.”<sup>248</sup> By making submissions to the CLCS, the Arctic coastal states are ensuring their ability to explore and exploit oil and gas in the coming years.

Researchers at the Durham University in the United Kingdom created a map of the Arctic depicting disputed maritime jurisdiction and boundaries in the Arctic region.<sup>249</sup> According to the map, there are nine claims and potential claims to continental shelves beyond 200 nm. These claims include Denmark’s, Iceland’s, Russia’s, and Norway’s existing claims, as well as the potential claims made by Canada, Denmark, and the United States. Interestingly, there are small areas of unclaimed or unclaimable continental shelf.<sup>250</sup> The map demonstrates the complexities of delimiting the continental shelves in the Arctic.

The Ilulissat Declaration will do nothing to change the Arctic situation. Through the Declaration, the Arctic coastal states exhibit a desire to freeze development of a comprehensive regional agreement for the Arctic Ocean area while the melting ice continues to open up opportunities to drill further and further out on the continental shelf. Assuming that the Arctic coastal states get their way, is there any hope for adequate protection for the fragile Arctic ecosystem and its vulnerable communities? The following two sections propose options for greater protection: section VI suggests ways to improve and expand upon the existing legal arrangements pertaining to the Arctic, and section VII proposes a legally binding regional Arctic agreement.

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246. United Nations, Division for Ocean Affairs and the Law of the Sea, Submissions to the Commission, [http://www.un.org/Depts/los/clcs\\_new/commission\\_submissions.htm](http://www.un.org/Depts/los/clcs_new/commission_submissions.htm) (last visited Mar. 12, 2010).

247. *Id.*

248. King, *supra* note 97, at 334 (quoting UNCLOS, *supra* note 98, art. 77(1)) (internal quotations omitted).

249. Press Release, Durham University Media Relations Office, Arctic Map Plots New “Gold Rush” (Aug. 6, 2008), available at <http://www.dur.ac.uk/news/newsitem/?itemno=6819&rehref=%2Fnews%2Farchive%2F&resubj=%20Headlines>.

250. See INTERNATIONAL BOUNDARIES RESEARCH UNIT, DURHAM UNIVERSITY, MARITIME JURISDICTION AND BOUNDARIES IN THE ARCTIC REGION (2008), available at <http://www.dur.ac.uk/resources/ibru/arctic.pdf>.

## VI. OPTION ONE: IMPROVING AND EXPANDING EXISTING AGREEMENTS

The Ilulissat Declaration demonstrates that Arctic coastal states prefer to rely on existing mechanisms and potentially developing sectoral initiatives that relate to specific activities,<sup>251</sup> rather than develop a new international regime to govern the Arctic Ocean. What if the current leaders of the Arctic coastal states have it their way and generally only the existing agreements apply? This section describes some of the shortcomings of the existing agreements described in sections III(A) and IV and provides recommendations for improvements that will support the protection and preservation of the Arctic marine environment. OSPAR, one of the existing mechanisms, is discussed in the following section because of its potential to develop into a meaningful regional regime for the Arctic marine area.

### A. Arctic Soft Law Instruments

The Arctic Council's efforts, such as PAME working group's Arctic Offshore Oil and Gas Guidelines, are inadequate because the mechanisms are nonbinding and existing technologies are not capable of cleaning up oil spills under icy Arctic conditions. First, the PAME Guidelines should be revised to recommend that Arctic coastal states adopt legislation in each of their states that mandates stringent (1) environmental impact assessments, (2) protections for Arctic communities, indigenous peoples, and flora and fauna, (3) safety and environmental management, (4) monitoring, (5) operating practices, (6) emergency measures, and (7) decommissioning and site clearance protocols. As it stands now, the Guidelines discuss each of these components, but fall short in recommending exactly what an Arctic state should do.<sup>252</sup>

Second, the Arctic states should cooperate through the Arctic Council to test and to improve spill response technologies. Leading Arctic experts at World Wildlife Fund (WWF) stated in a recent report that there is "simply no way to clean up a spill in icy waters, due to technological inadequacies, weather, poor light, and of course, ice."<sup>253</sup> The high level of sensitivity and low-level capacity to clean up spills contributes to what WWF has coined as the "response gap."<sup>254</sup> Until this gap is filled,

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251. See Koivurova & VanderZwaag, *supra* note 228, at 272.

252. See PAME Guidelines, *supra* note 39.

253. Neil Hamilton, *Oil—A Dark Future for the Arctic*, WWF ARCTIC BULLETIN (WWF Arctic Int'l Programme, Oslo, Nor.), Jan. 2008, at 3, available at <http://assets.panda.org/downloads/ab0108.pdf>.

254. *Id.*

the report urges the Arctic states to discontinue the expansion of oil and gas development in the Arctic.<sup>255</sup> Since the technologies are unproven and not market-ready,<sup>256</sup> the Arctic coastal states should refrain from permitting new oil and gas exploration and exploitation. Once the technologies are proven to effectively deal with spills, the Arctic states should update the Guidelines recommending best practices for Arctic conditions. The soft law nature of the existing Arctic arrangement could lead to unfettered oil and gas exploitation; therefore the Arctic coastal states have a tremendous responsibility to act with diligence before proceeding with developments.

## B. UNCLOS

UNCLOS, as a framework convention, was not designed to provide substantive details regulating all aspects and uses of the sea; it also suffers from lack of full participation. The United States is currently not a party to UNCLOS—a fact that poses difficulties in fully addressing the delimitation of the outer limits of the Arctic coastal states' continental shelves. However, U.S. Senate "advice and consent," as required for treaty adoptions, may be close in sight. In 2007, President George W. Bush urged the Senate "to act favorably on U.S. accession."<sup>257</sup> Currently, President Barack Obama also supports the ratification of UNCLOS. According to Margaret Hayes, Director of the State Department's Office of Ocean and Polar Affairs, the Obama administration has "been in touch with the Senate Foreign Relations Committee"<sup>258</sup> and hopes the Senate will consider the treaty in 2009.<sup>259</sup> On August 7, 2009, the U.S. Coast Guard icebreaker *Healy* began a 41-day mission in cooperation with a Canadian icebreaker to "map unexplored portions of the Arctic seafloor to prepare for a future claim" under UNCLOS.<sup>260</sup> The United States should become a party to UNCLOS so that the CLCS can accurately assess claims to the outer continental shelves of the Arctic Ocean and ensure the jurisdictional rules in the maritime zones are respected.<sup>261</sup>

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255. See WWF, OIL SPILL RESPONSE CHALLENGES, *supra* note 43, at 27.

256. *Id.* at 3.

257. Press Release, U.S. White House, President's Statement on Advancing U.S. Interests in the World's Oceans (May 15, 2007), available at <http://georgewbush-whitehouse.archives.gov/news/releases/2007/05/20070515-2.html>.

258. Lauren Morello, *U.S. Pushes for Law of the Sea Ratification as New Arctic Mapping Project Begins*, NY TIMES, July 29, 2009, <http://www.nytimes.com/cwire/2009/07/29/29climatewire-us-pushes-for-law-of-the-sea-ratification-as-89174.html>.

259. *Id.*

260. *Id.*

261. See generally Mark Jarashow et al., *UNCLOS and the Arctic: The Path of Least Resistance*, 30 FORDHAM INT'L L.J. 1587 (2007).

Yet, the lack of U.S. participation in UNCLOS does not impede the formulation of implementation agreements among the current signatory states and nonsignatory states alike. For example, the 1995 United Nations Agreement on Straddling and Highly Migratory Fish Stocks,<sup>262</sup> which is “inextricably linked” to UNCLOS, “may be signed and ratified by a State whether or not it is a party to” UNCLOS.<sup>263</sup> A similar agreement that narrowly focuses on offshore oil and gas exploration and exploitation could be negotiated whether or not the United States joins UNCLOS. Within such an agreement, provisions could be included that pertain specifically to the Arctic.

### C. MARPOL 73/78

Due to the unique and hazardous conditions in the Arctic and the vulnerability of the fragile ecosystem, the “special area” status should be extended to the Arctic under Annex I of MARPOL 73/78 since the Arctic is currently not a designated area. Article 16 of MARPOL 73/78 details the amendment procedures. Amendments can be accomplished through consideration by the Organization<sup>264</sup> or at a meeting of the Conference of Parties. Under the rules pertaining to amendments after consideration by the Organization, an amendment to an annex would be accepted by the parties at the end of a period that is not less than 10 months, unless an objection is communicated to the Organization by at least one-third of the parties, or parties constituting at least 50 percent of the gross tonnage of the world’s merchant fleet.<sup>265</sup> Under the rules pertaining to amendments by a conference, upon the request of a party and supported by at least one-third of the other parties, the Organization will convene a conference. An amendment that receives the support of two-thirds of the majority present will be adopted.<sup>266</sup> Thus, through this amendment process it is possible to designate the Arctic Ocean area as a “special area” which in turn would prohibit any discharge from rigs without dilution exceeding 15 parts per million. By doing so, the Arctic coastal states

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262. Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, 6th Sess., U.N. Doc. A/ CONF 164/37 (1995), 34 I.L.M. 1542 (1995).

263. CHURCHILL & LOWE, *supra* note 96, at 157.

264. The “Organization” is the Inter-Governmental Maritime Consultative Organization. MARPOL 73/78, *supra* note 168, art. 2(7). Full text of the Treaty is available at <http://sedac.ciesin.columbia.edu/entri/texts/pollution.from.ships.1973.html> (last visited Mar. 12, 2010).

265. MARPOL 73/78, *supra* note 168, art. 16(2)(f)(iii).

266. *Id.* art. 16(3).

would categorize oil spills not meeting this standard as not in compliance with the Convention. Thus, MARPOL could provide added protection from the dangers of oil and gas activities in the Arctic.

#### **D. OPRC, 1983 Agreement, and 1993 Agreement**

The OPRC and the 1983 and 1993 Agreements contain substantive provisions that may be valuable to Arctic regulation. Since all of the Arctic coastal states, with the exception of Russia, are parties to the OPRC, it appears that there is general acceptance of the Convention's preparedness procedures. It would be beneficial for Russia to either join the Convention, or, in the alternative, that these safety measures be incorporated into a new legally binding regulatory regime.

The 1983 Canada-Denmark Agreement is limited in scope, yet it does establish a solid cooperative system for activities that create a significant risk of pollution. The provisions of this agreement should be extended to all Arctic coastal states. The prior notification and dispute settlement procedures are of particular importance because it is highly likely that issues will arise from oil and gas exploration and exploitation of nearby or straddling oil reserves on the continental shelves of two or more states.

Similar to the 1983 Agreement, the 1993 Agreement lacks full participation by all of the Arctic coastal states. Nonetheless, the provisions could serve as a model for one regional agreement that includes all the Arctic coastal states and addresses all aspects of offshore oil and gas activities in the Arctic.

While there are ways the existing agreements could be improved to provide greater protection for the Arctic marine environment, the opportunities for improvement are outweighed by the innate weaknesses presented—there is a lack of participation under the existing regimes, and there is no cohesion between the existing arrangements. In addition, the current obligations are not stringent enough to protect against the perils of drilling in the newly ice-free areas. Also, the instruments merely set up procedures to mitigate potential problems after an accident has occurred. The following section takes a fresh look at a possible design for a comprehensive regime that will provide true protection for the Arctic marine environment.

### **VII. OPTION TWO: A LEGALLY BINDING REGIONAL AGREEMENT**

Expanding and strengthening the existing Arctic arrangements may not provide adequate protection for the Arctic marine ecosystems and for the communities and indigenous peoples dependent on their sur-

vival. Therefore, Arctic coastal state leaders should consider alternative regimes (i.e., types of legal arrangements) and mechanisms for prescribing rights and obligations for the Arctic. What has emerged in the Arctic, and could remain under the current direction laid out in the Ilulissat Declaration, is an “unplanned institutional complex or collection of institutional arrangements applicable to the same region but not deliberately structured or integrated to form a coherent governance system.”<sup>267</sup> There is no consensus in the legal/academic community as to what the existing arrangements are and if they can provide sufficient protection for the Arctic. One scholar believes “[e]xisting arrangements are doing a creditable job of addressing some elements of the demand for governance in the far North.”<sup>268</sup> While Young recognizes that the status quo is not acceptable, there may be opportunities to improve the Arctic governance “without creating a counterpart to the Antarctic Treaty System.”<sup>269</sup> Another scholar states that many arguments have been made in regards to consolidating the existing agreements and creating one or more regional regimes.<sup>270</sup> Just recently, WWF commissioned a report that contains a proposal for a Legally Binding Instrument.<sup>271</sup> This section proposes that all the Arctic states join the OSPAR agreement; its framework potentially provides an acceptable forum under which the Arctic coastal states may cooperate. In addition, OSPAR’s mechanisms may be capable of providing a higher level of protection for the fragile Arctic marine environment.

The Arctic should not be governed under an “unplanned institutional complex”<sup>272</sup> because the Arctic is so precious and unique, and the current threats are urgent—climate change impacts are opening the Arctic to development of oil and gas in previously untouched areas. Following are recommendations for restructuring Arctic governance, based on

267. YOUNG, *supra* note 80, at 5.

268. *Id.* at 17.

269. *Id.* (“[T]here is no need to create such a system [referring to “an integrated governance system based on hard law instruments of the sort exemplified” by the ATS] in order to make progress in meeting the demand for governance in the Arctic. Existing arrangements are doing a creditable job of addressing some elements of the demand for governance in the far north.”) It should be noted that in a recent article, Paul Arthur Berkman and Oran R. Young suggest that “[b]efore sectoral activities accelerate with the diminished sea ice, the window of opportunity is open for all legitimate stakeholders to forever establish their common interests in the central Arctic Ocean as an international space dedicated to peaceful uses.” Berkman & Young, *supra* note 8, at 340.

270. Nowlan, *supra* note 82, at 57, 66.

271. See TIMO KOIVUROVA & ERIK J. MOLENAAR, WWF INTERNATIONAL ARCTIC PROGRAMME, INTERNATIONAL GOVERNANCE AND REGULATION OF THE MARINE ARCTIC: OVERVIEW AND GAP ANALYSIS (2009), available at <http://www.wwf.se/source.php/1223579/International%20Governance%20and%20Regulation%20of%20the%20Marine%20Arctic.pdf>.

272. YOUNG, *supra* note 80, at 5.

(1) the type of regime, and (2) mechanisms for protecting the Arctic marine environment from the impacts of oil and gas exploration and exploitation on the Arctic coastal states' continental shelves.

## A. Type of Regime

### 1. Legally Binding Agreement

There are four major rationales for transforming the existing soft law regime into a legally binding regional regime. The first rationale is that UNCLOS directs the Arctic states to formalize regional cooperation. For example, if it is determined that the Arctic Ocean is a semi-enclosed sea, UNCLOS requires that "states bordering . . . [a] semi-enclosed sea should cooperate with each other in the exercise of their rights and in the performance of their duties. . . . [T]o this end they shall endeavour, directly or through an appropriate regional organization" to "coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment."<sup>273</sup> By establishing a regional regime that covers the entire Arctic marine area, Arctic coastal states would be fulfilling their obligations under UNCLOS.

The second rationale for a legally binding commitment is that it will "produce higher levels of compliance or conformance than commitments that are not backed by the force of law."<sup>274</sup> The development of a legally binding agreement will codify the rules, including the existing legal agreements and principles of law that already apply to parts of the Arctic Ocean, and will ensure that such rules are explicitly applicable to the entire area. Through the codification process, inefficiencies and gaps in the existing "unambitious regime"<sup>275</sup> could be resolved. Without overriding the Arctic coastal states' sovereign rights to explore and exploit natural resources on their continental shelves, the states could "move forward on the difficult and emerging multilateral issues."<sup>276</sup> By consensually agreeing to the codification of the rules, the Arctic coastal states are committing to follow binding international law.

Third, a legally binding regime will prevent a race to the bottom. As one author explained:

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273. UNCLOS, *supra* note 98, art. 123. For background on the UNCLOS semi-enclosed seas provisions, see *supra* section IV(A).

274. ORAN R. YOUNG, THE STRUCTURE OF ARCTIC COOPERATION: SOLVING PROBLEMS/SEIZING OPPORTUNITIES 9 (2004), available at [http://arcticparl.org/\\_res/site/File/static/conf4\\_sac.pdf](http://arcticparl.org/_res/site/File/static/conf4_sac.pdf) (author states this proposition but argues against it in favor of improving the existing arrangements pertaining to the Arctic).

275. Potts, *supra* note 3, at 174 (quoting Nowlan, *supra* note 82, at 8).

276. Potts, *supra* note 3, at 174.

An agreed set of legally binding international standards . . . could help to prevent or at least slow, a race to the bottom, in which states compete in the granting of concessions, exchanging regulatory slackness for greater royalties or up-front licensing fees, or in times of oversupply, higher oil prices, simply to attract any business they can.<sup>277</sup>

Assuming that the Arctic does contain vast amounts of oil and gas, a regional agreement will ensure that this fragile environment and vulnerable Arctic communities and peoples will not be trampled for the economic benefit of a few states and corporations.

A primary argument against the formation of a legally binding regime is that creating a new treaty is not politically feasible. The Ilulissat Declaration demonstrates that at the current moment, Arctic coastal state leaders do not wish to proceed with formulating a new legally binding agreement. Also, opponents of the formation of a legally binding regime argue that efforts to address Arctic problems on a case-by-case basis would be hindered by a “grand but generally unrealistic vision of a comprehensive, region-wide governance system for the circumpolar world.”<sup>278</sup> Secondary arguments against formulating a legally binding treaty include: it is expensive and time consuming to formalize a new treaty; a treaty may even produce weaker commitments than a soft law regime; it is too soon to formalize cooperation in the region because the Arctic soft law mechanisms are relatively new; a formal organization would be expensive to operate; and there are already international treaties that apply to the Arctic, such as UNCLOS, under which the states can pursue specific goals.<sup>279</sup>

Some of these arguments are eliminated by narrowing the scope of a legally binding agreement to a regional regime regulating oil and gas development, thus using more of a case-by-case approach to the problem (see section V(A)(2)). Assuming that a legally binding agreement for the Arctic marine area is limited to regulating oil and gas exploration and exploitation, the benefits—cooperation, compliance, and preventing the race to the bottom—would outweigh the drawbacks—political uncertainty, distraction from the task at hand, negotiating costs and time, etc. Therefore, creating a legally binding regime that governs oil and gas development in the Arctic is necessary to prevent further and future harm.

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277. William V. Dunlap, *Regional and International Cooperation in the Regulation of Energy Resources in the Arctic*, in *BOUNDARIES AND ENERGY: PROBLEMS AND PROSPECTS* 301 (Gerald Blake et al. eds., Kluwer Law International 1998).

278. Nowlan, *supra* note 82 (citing YOUNG, *supra* note 274, at 15).

279. Nowlan, *supra* note 82, at 59–60.

## 2. Scope

A legally binding regime could take many different shapes, i.e., a framework or a regulatory treaty (see section III(A)), and the scope of membership could encompass only the Arctic coastal states, all of the Arctic states, or possibly a universal treaty open to all states. When negotiating a treaty, there is often a trade off between seeking a relatively strong set of substantive commitments and including a broad membership.<sup>280</sup> Yet, in the case of the Arctic, the coastal state leaders seem adverse to both binding commitments amongst themselves and broad membership that includes Arctic and non-Arctic states, because the Arctic coastal states wish to maintain ultimate sovereignty, sovereign rights, and jurisdiction. Yet, despite the current political climate, scope of membership is still an important factor to consider because, as explained below, issues facing the Arctic affect the interests of Arctic coastal states, Arctic states, and non-Arctic states.

Scope is an important question in international law because international law is consensual in nature.<sup>281</sup> Two options pertaining to scope include: (1) the more politically feasible option of a regional agreement among the Arctic coastal states, and (2) the more idealistic option of a universal treaty that regulates all of the potential uses of the newly ice-free Arctic marine environment.

If there was a significant shift in Arctic coastal states' attitudes, whether brought on by public outcry or change in leadership, then a regional agreement, either in the form of a framework or regulatory treaty, may be the most effective and politically palatable option for Arctic protection. The Arctic coastal states could establish a multilateral treaty amongst themselves that clearly defines the rights of each state to explore and exploit oil and gas on the continental shelf and their obligations in conducting such activities; however, a more streamlined option may be for all Arctic coastal states to join the existing OSPAR Convention.

OSPAR is an innovative and holistic approach to sustainable management of the maritime area, but under its current form, the Convention is not fully applicable to the Arctic Ocean; Canada, Russia, and the United States are not parties to it, and the OSPAR area does not cover all of the Arctic waters. However, there is a possibility of expanding both the membership of OSPAR and the maritime area.

According to the OSPAR Convention, Contracting Parties may unanimously invite states that are not bordering the OSPAR maritime

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280. GUZMAN, *supra* note 54, at 172.

281. *See supra* section III(A).

area to accede to the Convention. Such an accession would trigger the redefinition of the maritime area requiring a unanimous vote by the Contracting Parties.<sup>282</sup> Thus, Canada, Russia, and the United States could join OSPAR in order to create a unified regional regime that applies to all of the Arctic. It is important to note that Region I of OSPAR already covers some of the Arctic Waters.<sup>283</sup>

UNCLOS encourages regional and international agreements. For example, if it is determined that the Arctic Ocean is a semi-enclosed sea, as explained above, Arctic coastal states are required to coordinate the implementation of their rights and duties with respect to protection and preservation of the marine environment.<sup>284</sup> Even if these articles do not apply, part XII, Protection and Preservation of the Marine Environment, article 197 requires states to cooperate on a global basis directly or through a competent international organization in the formulation of international rules, standards, and recommended practices and procedures consistent with UNCLOS for the protection and preservation of the marine environment.<sup>285</sup> Further, article 208, regarding pollution from seabed activities subject to national jurisdiction, requires “[s]tates, acting especially through competent international organizations or diplomatic conference” to “establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment”<sup>286</sup> that arises “from or in connection with sea-bed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction.”<sup>287</sup> Thus the establishment of a regional regime covering the entire Arctic marine environment is in line with the Arctic coastal states’ duties under UNCLOS and is necessary because UNCLOS does not prescribe specific measures, but only requires cooperation in formulating rules.

There are also strong arguments for expanding an Arctic regime so that it is universal in scope—meaning open to all nation-states. Calls for a universal treaty are best viewed in light of the other potential op-

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282. OSPAR Convention, *supra* note 134, art. 27(2).

283. OSPAR Commission, Region I—Arctic Waters, [http://www.ospar.org/content/content.asp?menu=00420211000000\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00420211000000_000000_000000) (last visited Mar. 12, 2010). The website describes Region I, Arctic Waters, as: “[T]he northern OSPAR region, characterized by harsh climate and ice coverage. Although there is a low population density, human activities such as fishing and offshore petroleum production are relatively important. The ecosystems in Region I are rich, in particular it is one of the most important seabird regions in the world.”

284. UNCLOS, *supra* note 98, art. 123(b).

285. UNCLOS, *supra* note 98, art. 197.

286. *Id.* art. 208(5).

287. *Id.* art. 208(1).

portunities and threats facing the region, namely shipping and fishing. As one author explained, new opportunities and threats facing the Arctic may potentially provide a backdrop for “a discussion based on the common good rather than national self-interest.”<sup>288</sup> Therefore, good reasons exist to support a universal-in-scope Arctic marine environmental treaty (AMET) that covers the entire Arctic marine area and all its uses, and is inclusive of all states involved or planning to be involved in Arctic affairs. An AMET could serve as a counterpart to the Antarctic Treaty System.

There are six primary arguments for a universal-in-scope AMET. First, non-Arctic states have substantial interests in the region. The interests of the Arctic coastal states are quite clear, namely their sovereignty and sovereign rights in conducting resource extraction.<sup>289</sup> The interests of non-Arctic states include the protection and preservation of the marine environment,<sup>290</sup> biodiversity,<sup>291</sup> sustainable development,<sup>292</sup> the application of the precautionary and polluter pays principles,<sup>293</sup> energy security,<sup>294</sup> and access to new shipping routes<sup>295</sup> and fisheries. Because non-Arctic states have significant interests, an argument could be made that an AMET is needed to balance the rights and duties of the Arctic coastal states with the interests of non-Arctic states.

Second, the Arctic is important to all states because of its intrinsic value.<sup>296</sup> As the “largest and least fragmented” inhabited region on Earth,

288. Potts, *supra* note 3, at 175.

289. See UNCLOS, *supra* note 98, arts. 77(1)–(4).

290. As evidenced by the wide adoption of UNCLOS, which contains part XII (Protection and Preservation of the Marine Environment).

291. As evidenced by the near universal adoption of the Convention on Biological Diversity. See Convention on Biological Diversity, List of Parties, <http://www.cbd.int/information/parties.shtml> (last visited June 10, 2008).

292. For example, the Arctic Council created a Sustainable Development Working Group.

293. For more information about these principles, see *supra* section IV(G).

294. PAPER FROM THE HIGH REPRESENTATIVE AND THE EUROPEAN COMMISSION TO THE EUROPEAN COUNCIL, CLIMATE CHANGE AND INTERNATIONAL SECURITY 9 (Mar. 14, 2008) [hereinafter CLIMATE CHANGE AND INTERNATIONAL SECURITY], available at [http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/reports/99387.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/reports/99387.pdf).

295. Jesper Hansen, *Increasing Non-Arctic Interest in the Arctic Council*, ARCTIC COUNCIL, Apr. 18, 2008, [http://arctic-council.org/article/2008/4/increasing\\_non-arctic\\_interest\\_in\\_the\\_arctic\\_council](http://arctic-council.org/article/2008/4/increasing_non-arctic_interest_in_the_arctic_council) (stating that the Arctic is becoming geopolitically important, therefore more and more states and non-state actors want to play a role in the council or industrial development; e.g., China was planning to send six representatives to an Arctic Council meeting in Norway).

296. See 1991 Protocol, *supra* note 89, art. III(1) (“The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of

the Arctic is home to over 30 distinct indigenous cultures<sup>297</sup> and comprises vast areas of “fjords and tundra, jagged peaks and frozen seas, glaciers and icebergs,” and is home to endangered polar bears, ringed seals, caribou, arctic foxes, beluga whales and narwhals, sea eagles, and snowy owls.<sup>298</sup>

Because these characteristics are endemic to the Arctic, non-Arctic states may wish to see them protected for their aesthetic and scientific values, as it would add to humanity’s understanding of the global environment. Beyond these characteristics, the protection of Arctic ice is important for all because large amounts of water are stored in ice caps. Scientists have found that the contraction of the Arctic ice cap is accelerating climate change, because when ice-cover melts, the earth absorbs more sunlight, which in turn increases temperatures.<sup>299</sup> Also, the melting of glaciers and land-based ice sheets contributes to sea level rise, impacting low-lying areas on a global scale.<sup>300</sup> While an AMET cannot mitigate the impacts of climate change, it could prevent damage from oil and gas development, which in turn may help to increase the resiliency of the Arctic marine environment so it can better cope with the impacts of climate change.

A third argument in favor of an AMET is that there is already evidence of international cooperation and non-Arctic state participation in Arctic affairs. As described in section III(B), non-Arctic states can obtain observer status on the Arctic Council. Currently, China, France, Germany, Italy, Poland, Spain, the Netherlands, and the United Kingdom are Arctic Council observers.<sup>301</sup> While these states cannot vote on the Council, they play an active role and seek to influence Arctic affairs by attending meetings, making statements at the discretion of the Council chair, and submitting documents.<sup>302</sup> If international treaty negotiations

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scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area”).

297. Arctic Council, About Arctic Council, <http://arctic-council.org/article/about> (last visited Mar. 12, 2010).

298. WWF Arctic, *supra* note 33.

299. Natural Res. Def. Counsel, Global Warming Puts Arctic on Thin Ice, <http://www.nrdc.org/globalwarming/qthinice.asp> (last visited Jan. 9, 2010).

300. *Id.*

301. *Non-Arctic Countries Want Membership in Arctic Council*, BARENTSOBSERVER, Mar. 10, 2008, <http://www.barentsobserver.com/non-arctic-countries-want-membership-in-arctic-council.4516094-16180.html>.

302. Arctic Council, Rules of Procedure, SAO Report (Iqaluit), Annex 1, as adopted by the Arctic Council at the First Arctic Council Ministerial Meeting, in Iqaluit, Can., at 38 (Sept. 17–18, 1998), available at <http://www.arctic-council.org/filearchive/official%20rules%20and%20procedures.pdf>.

were to begin, it is likely that these observers would participate in the development of a comprehensive international regime.

Another piece of evidence indicating non-Arctic state influence in the region is the European Union's Northern Dimension policy, which covers the European Arctic and sub-Arctic areas.<sup>303</sup> The policy aims at "providing a common framework for the promotion of dialogue and concrete cooperation, strengthening stability, wellbeing and intensified economic cooperation, promotion of economic integration and competitiveness and sustainable development in Northern Europe."<sup>304</sup> One of the priority sectors of the Northern Dimension is "environment, nuclear safety and natural resources, including . . . protection of the Arctic ecosystems."<sup>305</sup> Under this policy umbrella, non-Arctic European states work directly with Iceland, Norway, Russia, Denmark, Finland, and Sweden in the governance of the Arctic marine area.<sup>306</sup>

Fourth, there is a strong international security argument that the Arctic should be managed through a treaty system rather than at the whim of the five Arctic coastal states or the powerless Arctic Council. A paper from the High Representative of the European Commission to the European Council, *Climate Change and International Security*, highlights the growing geopolitical importance of the Arctic due to the rapid melting of the polar ice caps, which is resulting in new waterways and international trade, as well as large new reserves of hydrocarbons.<sup>307</sup> Dr. Joe Borg, Member of the European Commission, said that this "accessibility, in conjunction with territorial claims, is changing the geo-strategic dynamics of the region with potential consequences for international stability and for European security, trade and resource interests."<sup>308</sup> This new level of accessibility raises concerns for all nations and not just the Arctic coastal states. A universal AMET could lay down rules that would apply to all states, thus facilitating cooperation—rather than increasing tensions—in the development and protection of Arctic resources.<sup>309</sup>

303. European Union, Northern Dimension Policy Framework Document, at 1 (Nov. 24, 2006), available at [http://ec.europa.eu/external\\_relations/north\\_dim/docs/frame\\_pol\\_1106\\_en.pdf](http://ec.europa.eu/external_relations/north_dim/docs/frame_pol_1106_en.pdf).

304. *Id.* at 3(10).

305. European Union, Northern Dimension Policy Framework Document, *supra* note 303, at 5.

306. *Id.* at 1.

307. CLIMATE CHANGE AND INTERNATIONAL SECURITY, *supra* note 294, at 8.

308. Dr. Joe Borg, Member of the European Commission Responsible for Fisheries and Maritime Affairs, The Arctic: A Matter of Concern to Us All, Speech Before the Nordic Council of Ministers (Sept. 9, 2008) (transcript available at <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/08/415&format=HTML&aged=0&language=EN&guiLanguage=en>).

309. See CLIMATE CHANGE AND INTERNATIONAL SECURITY, *supra* note 294, at 9.

While somewhat semantic, a fifth, yet still valuable, argument for a universal AMET is that the fate of the Arctic is a *common concern* to all of humankind. It should be acknowledged that it is not realistic to make the Arctic purely a preserve, because the Arctic coastal states are unlikely to give up their undisputed sovereign rights to their continental shelves, and they are even more unlikely to give up their undisputed sovereignty, sovereign rights, and jurisdiction in the Arctic. However, similar to the opening line in the UNFCCC, which reads that the parties to the Convention acknowledge that “change in the Earth’s climate and its adverse effects are a common concern of humankind,”<sup>310</sup> the melting of Arctic ice causing sea-level rise around the world, the irreversible loss of the unique Arctic ecosystem, and the impacts on indigenous peoples and communities are common concerns of humankind. It is not a coincidence that the recent speech by Dr. Borg, to members of the European Commission, given at the conference of Arctic coastal states in Ilulissat, Greenland on September 9, 2008 was entitled, “The Arctic: A Matter of Concern to Us All.” Dr. Borg, by representing the European Union, was speaking on behalf of non-Arctic and Arctic states.<sup>311</sup> Because of his unique position, his speech was quite possibly intended to elicit cooperation between Arctic coastal states, Arctic states, and non-Arctic states.<sup>312</sup>

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310. UNFCCC, *supra* note 6, pmb1.

311. The European Union (EU) consists of 27 member states. Denmark, Finland, and Sweden are both EU members and Arctic States; however, Iceland is an Arctic state, but not an EU member. Canada, Norway, Russia, and the United States are not EU member states, but are Arctic coastal states. It should be noted that none of the current EU member states are Arctic Ocean coastal states. Koivurova & VanderZwaag, *supra* note 228, at 254. (“The fact that none of the current EU Member States are coastal states with respect to the Arctic Ocean (not even via the European Economic Area Agreement or via Greenland, which chose in the mid-1980s to withdraw from the then European Economic Community, and hence is not part of the European Communities or the EU) is clearly a major feature and constraint of EU policy regarding the Arctic Ocean.”).

312. Dr. Borg mentioned in his speech that the European Commission would be publishing a Communication on the Arctic later in 2008. Borg, *supra* note 308, at 3. On November 20, 2008, the Commission for the European Communities (the Commission) launched a communication regarding the EU’s relationship to the Arctic region. Also, the European Parliament adopted a resolution on Arctic Governance suggesting that the Commission:

[B]e prepared to pursue the opening of international negotiations designed to lead to the adoption of an international treaty for the protection of the Arctic, having as its inspiration the Antarctic Treaty, as supplemented by the Madrid Protocol signed in 1991, but respecting the fundamental difference represented by the populated nature of the Arctic and the consequent rights and needs of the peoples and nations of the Arctic region; believ[ing], however, that as a minimum starting-point such a treaty could at least cover the unpopulated and unclaimed area at the centre of the Arctic Ocean.

If complete Arctic marine environmental protection is the goal, one may try to argue that an AMET is “in the interest of mankind as a whole,” or even that the Arctic is part of the “common heritage of mankind.”<sup>313</sup> The 1991 Protocol to the Arctic Treaty used “in the interest of mankind” to suggest that all states have a duty of protection but not a “right” to resources.<sup>314</sup> This is different than the concept of the “common heritage of mankind” found in part XI of UNCLOS. That concept infers equitable sharing of benefits from the use of resources that are part of the “common heritage of mankind.”<sup>315</sup> The Arctic coastal states will not classify resources, such as oil and gas located on their continental shelves that they have sovereign rights to, as “common heritage.” Yet the former concept, “in the interest of mankind,” may be more palatable because it could allow for the Arctic coastal states to retain their sovereign rights while recognizing that the preservation and protection of the Arctic marine environment is a shared interest among Arctic and non-Arctic states. Declaring the fate of the Arctic marine environment as a “common concern” is less likely to offend the Arctic coastal states than “in the interest of mankind,” because it does not imply that third party states have a right to limit Arctic coastal states’ sovereign rights in the marine area, but merely that the Arctic is a matter of concern to all states.

A sixth argument in favor of a universal AMET is that climate change, which is causing severe impacts inside the Arctic, is a problem originating outside of the Arctic, thus all states have a responsibility to protect the Arctic marine environment. However, there is not much an AMET could do to stop the damage caused by climate change, because a treaty focusing on the Arctic marine environment could not prescribe rules for activities taking place outside of the area. Many rightfully argue that the best way (and probably only way) to prevent Arctic melt is to ensure the successful implementation of the international climate change agreement in tandem with a regional Arctic treaty aimed at protecting and preserving the marine environment. Because Arctic protection depends on slowing the growth of global greenhouse gas (GHG) emissions, Arctic coastal states should support the current GHG reduction targets established in the Kyoto Protocol to the UNFCCC, and demand that non-

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European Parliament Resolution of 9 October 2008 on Arctic Governance, PARL. EUR. DOC. at 15, available at <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2008-0474+0+OC+XML+V0//EN>.

313. *Id.*

314. GREG MAGGIO & OWEN J. LYNCH, CENTER FOR INTERNATIONAL ENVIRONMENTAL LAW, HUMAN RIGHTS, ENVIRONMENT, AND ECONOMIC DEVELOPMENT: EXISTING AND EMERGING STANDARDS IN INTERNATIONAL LAW AND GLOBAL SOCIETY, pt. IV (1997), <http://www.ciel.org/Publications/olp3iv2.html>.

315. *Id.*

Arctic states participate. Article 3 of the Kyoto Protocol requires developed states to reduce their overall GHG emissions “by at least 5 percent below 1990 levels in the commitment period 2008–2012.”<sup>316</sup> The parties to the UNFCCC and the Kyoto protocol are now considering post-2012 commitments.<sup>317</sup> The near universal-in-scope Kyoto Protocol is a far better forum for global cooperation to reduce GHGs than an AMET. It is critical that countries cooperate under this framework so as to protect the Arctic and other fragile environments and communities from the impacts of climate change.

The Arctic coastal states should create a legally binding regional agreement that lays down rules on when, how, and where these states can conduct oil and gas exploration and exploitation on their continental shelves. A legally binding agreement is necessary because UNCLOS requires the Arctic coastal states to cooperate and will ensure compliance while preventing a race to the bottom. While a universal-in-scope AMET that regulates all uses of the Arctic marine environment would be ideal in some respects, a regional-in-scope Arctic agreement that regulates oil and gas exploration and exploitation in the newly ice-free areas is more politically palatable.

## B. Mechanisms

### 1. Purpose

Just as OSPAR could expand membership to include all of the Arctic coastal states, the Convention’s purpose could cover the challenges facing the Arctic. The purpose of an expanded OSPAR Convention would remain the same: “to prevent and eliminate marine pollution and to achieve sustainable management of the marine area.”<sup>318</sup> As in the original Convention, the parties to an expanded OSPAR could adopt binding decisions, recommendations, programs, and measures that could alter the sovereign rights of Arctic coastal states in conducting oil and gas exploration and exploitation on their continental shelves.

### 2. Institutional Body

If OSPAR is expanded, there is already a solid organization, the OSPAR Commission, in place and coordinated by a permanent Secreta-

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316. Kyoto Protocol, *supra* note 9, art. 3(1).

317. See UNFCCC, FRAMEWORK CONVENTION ON CLIMATE CHANGE, REPORT OF THE AD HOC WORKING GROUP ON FURTHER COMMITMENTS FOR ANNEX I PARTIES UNDER THE KYOTO PROTOCOL ON ITS RESUMED SIXTH SESSION, HELD IN POZNAŃ FROM 1 TO 10 DECEMBER 2008 17 (2008), available at <http://unfccc.int/resource/docs/2008/awg6/eng/08.pdf>.

318. OSPAR Convention, *supra* note 134, at pmbl.

riat based in London. The Secretariat and Commission have already established a successful track record in the Northeast Atlantic. For example, in 2008, the Contracting Parties agreed to strengthen its work towards establishing a Marine Protected Area (MPA) in the high seas of the Northeast Atlantic.<sup>319</sup> This commitment demonstrates that a highly coordinated group of states could commit to legally binding measures that alter their rights—something that could never be accomplished by nations working independently or even bilaterally.

The OSPAR Commission would provide a superior level of coordination that is not currently practiced by the Arctic Council. As an example of the current lack of coordination and political commitment, a biennial Arctic Council meeting was attended by only three Ministers representing their countries.<sup>320</sup> Meetings are an important component to coordination and require high-level participation. Under OSPAR, the Arctic coastal states' representatives to the OSPAR Commission, along with the other contracting parties' representatives, would be required to meet at least once a year.<sup>321</sup> Further, at the request of three or more contracting parties, the Chairman of the Commission is required to convene an extraordinary meeting "as soon as practicable."<sup>322</sup> The requirement for yearly meetings will help ensure that the Arctic coastal states communicate on an annual basis and forge progress on controversial issues, while the availability of the extraordinary meetings provides Arctic coastal states with a means to rapidly respond to challenges in a coordinated fashion.

The Rules of Procedure for the OSPAR Commission afford non-contracting parties, international governmental organizations, and NGOs the opportunity to participate in its meetings. The Commission may unanimously decide to admit these third parties—represented by observers—at its meetings, although participation may be restricted.<sup>323</sup> These provisions may compensate for the lack of non-Arctic state involvement and provide a venue for third party concerns to be heard in a legally binding forum. While this is far from a universal treaty, it is one

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319. Press Release, OSPAR Commission, OSPAR Pioneers the Protection of the High Seas: OSPAR on Track to Meet the New EU Marine Directive (June 26, 2008), available at [http://www.ospar.org/content/news\\_detail.asp?menu=00600725000000\\_000001\\_000000](http://www.ospar.org/content/news_detail.asp?menu=00600725000000_000001_000000).

320. Nowlan, *supra* note 82, at 58.

321. OSPAR Commission, Rules of Procedure of the OSPAR Commission, As Revised at OSPAR 2001 (Annex 29), OSPAR 2002 (Annex 10), OSPAR 2005 (Annex 25), rule 4, available at [http://www.ospar.org/documents/DBASE/DECRECS/Agreements/05-17e\\_Rules%20of%20Procedure.doc](http://www.ospar.org/documents/DBASE/DECRECS/Agreements/05-17e_Rules%20of%20Procedure.doc).

322. *Id.* rule 5.

323. *Id.* rule 9.

means of ensuring the Arctic states could be held accountable by interests beyond their own borders.

### 3. Provisions

Once all of the Arctic coastal states become parties to OSPAR, decisions and complementary recommendations could be adopted to regulate offshore oil and gas activities in the Arctic. The recommendations for expanding and improving the existing Arctic arrangements (see section VI) could be codified under one regional Arctic agreement. OSPAR also lays out specific objectives aimed at achieving the overall purpose of preventing and eliminating marine pollution. Under article 3, any dumping of wastes or other matter from offshore installations in the Arctic marine area would be prohibited, and discharges and emissions would be regulated, as provided under article 4. The Arctic coastal states would retain permitting authority under article 5; however, according to Annex III, the OSPAR Commission would continue to: (1) collect information about substances and list substances which are toxic, persistent, and liable to bioaccumulate; (2) devise plans to reduce and phase out use or discharge of these substances from offshore sources; (3) draw up criteria, guidelines, and procedures for the prevention of pollution from the dumping of disused offshore installations and of disused offshore pipelines, and the leaving in place of offshore installations; and (4) draw up criteria, guidelines, and procedures relating to the placement of disused offshore installations and disused offshore pipelines with a view towards preventing and eliminating pollution.<sup>324</sup> As opposed to the Arctic Council's Offshore Oil and Gas Guidelines, the criteria, guidelines, and procedures drawn up by the OSPAR Commission would be legally binding on the entire Arctic marine area, thus affording a greater level of protection.

The Arctic coastal states could nominate a wide range of MPAs under OSPAR's Annex V. Under Annex V, as contracting parties, the Arctic coastal states could nominate particularly sensitive areas that are currently being damaged by climate change and that would be further damaged by offshore oil and gas drilling.

Arctic coastal states may want to consider including an obligation for a stringent transboundary EIA in Annex V of OSPAR that is stronger than what is already required under article 206 of UNCLOS.<sup>325</sup> In accordance with the precautionary principle, the threshold for triggering an

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324. OSPAR Convention, *supra* note 134, Annex III, art. 10.

325. See generally United Nations Economic Commission for Europe, Convention on Environmental Impact Assessment in a Transboundary Context, <http://www.unece.org/env/eia/eia.htm> (last visited Jan. 13, 2010).

EIA should be lower than “substantial pollution” and “significant and harmful change” because the Arctic ecosystem is already under severe stress from climate change and oil and gas exploration in formerly ice-covered areas. The EIA requirements under Annex I of the 1991 Environmental Protocol for the Antarctic, which impose stringent standards on activities having more than a minor or transitory impact, should serve as an example. Under a rigorous EIA, the immediate impacts of oil and gas development could be considered alongside the impacts of climate change which are already threatening the environment.

Under the OSPAR regime, the Arctic coastal states would be obliged to apply the precautionary principle,<sup>326</sup> the polluter pays principle,<sup>327</sup> the best available techniques and best environmental practices principles,<sup>328</sup> and to take an ecosystem based approach to managing the Arctic marine environment.<sup>329</sup> These principles should influence the type of mechanisms put in place and their level of stringency. For example, the precautionary, best available techniques, and best environmental practices principles may prevent the Arctic coastal states from hastily developing oil and gas resources on their continental shelves without having carefully considered its actions. It should be noted, that OSPAR does nothing to preclude the Arctic coastal states—via Commission decision—from freezing new oil and gas development until the potential environmental impacts are fully understood (as required by the precautionary principle) and the technologies are proven and market ready (as required by the principles of best available techniques and best environmental practices). This, of course, would have implications on existing operations. One could argue that existing and already permitted operations could continue, but new operations in the hypothetically expanded Arctic Waters Region of OSPAR would be put on hold because there are reasonable grounds for concern that new oil and gas activities using the existing technologies would cause serious or irreversible damage. The restriction could be lifted once the OSPAR Commission understood the full extent of environmental consequences, mitigation mechanisms were in place, and the technologies were ready so as to conduct operations in an environmentally sound manner with the capability to clean up spills. Thus, while the principles in themselves do not prescribe certain actions, they do help inform states of the types of rules that should be put in place.

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326. OSPAR Convention, *supra* note 134, art. 2(2)(a).

327. *Id.* art. 2(2)(b).

328. *Id.* art. 2(3)(b).

329. This is not explicitly stated in the Convention. See OSPAR Convention, *supra* note 134.

The current challenges in the Arctic demand a higher level of protection. OSPAR has the potential to prevent and to help eliminate pollution from the Arctic marine environment. There is already a solid Commission in place, supported by the Secretariat based in London. Under the Convention's articles and annexes, the Arctic coastal states could establish mechanisms that would apply directly to oil and gas exploration and exploitation in Arctic waters. A stringent EIA procedure could govern whether, when, and how such activities would take place. There are also opportunities to protect particular special marine areas. The OSPAR approach integrates the important principles of international law such as the precautionary, best available techniques, and best environmental practices principles. Therefore, an expanded OSPAR is a protective option available to the Arctic coastal states.

### VIII. CONCLUSION: SOFTENING OF ICE DEMANDS HARDENING OF LAW

The Arctic marine environment is so precious and unique, and the current situation—the intensification of climate change impacts opening the Arctic up to oil and gas development in previously untouched areas—is so urgent, that the Arctic coastal states should depart from their current stance taken in the Ilulissat Declaration. The existing agreements and international organizations recognized in the Declaration will not be effective in confronting the new challenges facing the Arctic due to a lack of participation and cohesion, and because the existing obligations are not stringent enough to protect against the perils of drilling in newly ice free areas.

By not moving forward with a comprehensive regional regime, the Arctic coastal states are ignoring trends in international environmental law and acting contrary to general principles of international law, such as the precautionary principle. There is substantial legal support for the adoption of a binding regional Arctic marine agreement. UNCLOS directs parties, such as the Arctic coastal states, to move forward in a coordinated fashion in developing rules for the protection and preservation of the marine environment and the regulation of offshore activities. OSPAR provides a ready-made framework under which the Arctic coastal states may act. There is an opportunity for the Arctic coastal states to retain their sovereignty, sovereign rights, and jurisdiction without sacrificing the fragile Arctic marine environment. In accordance with the rules and principles of international law, the Arctic states should move forward with the development of a comprehensive regional Arctic marine environment agreement that consolidates and strengthens the existing mechanisms that apply to oil and gas exploration and exploitation on the Arctic coastal states' continental shelves.

While politics continue to freeze the adoption of a new and binding Arctic marine environment agreement, the Arctic's ice will continue to melt and oil and gas activities on the Arctic coastal states' continental shelves will increase. Public concern inside and outside of the Arctic will also intensify. WWF is calling for a moratorium on new offshore oil development in the Arctic until the oil spill response gap is filled.<sup>330</sup> The Arctic coastal states can address public concerns by adopting a regional Arctic marine environment agreement facilitating the adoption of rules and standards to oversee the new opportunities and threats.

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330. Neil Hamilton, Director, WWF International Arctic Programme, *Should There Be a Future for Oil and Gas in the Arctic?*, Presentation for Arctic Frontiers 2008 (Jan. 22, 2008), in *ARCTIC FRONTIERS 2008 DOWNLOADS*, at 32, [http://www.arctic-frontiers.com/index.php?option=com\\_docman&task=cat\\_view&gid=40&Itemid=155](http://www.arctic-frontiers.com/index.php?option=com_docman&task=cat_view&gid=40&Itemid=155) (follow 04 Hamilton hyperlink).

