

# Do We Need a New Legal Regime for the Arctic Ocean?

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## Abstract

This paper surveys matters related to the need for a new legal regime for the Arctic Ocean. It reviews the legal system based on the UN Convention for the Law of the Sea, and the regional and international treaties dealing with resource management, (marine) environmental protection and economic activities applicable to the Arctic. It suggests that implementation of existing legal instruments at the domestic level is a key factor needed to tackle the consequences of climate change and governance of fisheries and marine ecosystems in the Arctic. It is also considered to be the Arctic Council's responsibility to build a common understanding among the stakeholders, thereby enhancing the potential for further international cooperation.

## Keywords

Arctic Ocean; governance system; natural resources

## Introduction

The spectacular decline in sea ice in the Arctic Ocean and the perception that conflicts are brewing over rights to territories and natural resources<sup>1</sup> has brought the Arctic into the limelight. Numerous ideas about its governance—not always well informed—are being floated,<sup>2</sup> with some calling for a region-wide treaty to close a postulated governance deficit.<sup>3</sup>

The global oceans regime deals with jurisdiction and how issues related thereto are to be settled. It provides the legal framework for resource management, environmental protection, and economic activities in the oceans, including the Arctic Ocean. The five littoral states of the Arctic Ocean, i.e.,

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<sup>1</sup> See, for example, “Who owns the Arctic”, *Time Magazine* (1 October 2007) available at: <http://www.time.com/time/magazine/europe/0,9263,901071001,00.html>.

<sup>2</sup> See T. Potts and C. Schofield, “Current legal developments in the Arctic” (2008) 23 *IJMCL* 151–176, for a good overview.

<sup>3</sup> L. Nowlan, “Arctic Regime for Environmental Protection”, IUCN Environmental Policy and Law Paper No. 44 (IUCN, Gland, Switzerland, 2001); R Rayfuse, “Melting moments: The future of polar oceans governance in a warming world” 16 *RECIEL* (2007) 196–216.

Canada, Denmark/Greenland, Norway, Russia and USA, act in accordance with these rules. Other international treaties pertaining to the environment and economic activities apply to the region as well. Furthermore, significant international collaboration in the region is of a non-legally binding nature, in particular in the Arctic Council. The real need at this stage therefore seems to be the implementation of existing treaties and the further development of existing governance frameworks.

Focusing on the marine realm, we shall examine potential governance implications of climate change for the management of living marine resources and marine ecosystems. Is the existing international governance framework in the Arctic region an obstacle to progress in the governance of marine ecosystems?

### **The Arctic and the Arctic Ocean Governance System—A Snapshot**

An interesting aspect of the current debate on Arctic governance is the confusion about what “the Arctic” is.<sup>4</sup> Some limit the region to areas north of where the 10°C isotherm is found in July. Others use the Arctic Circle at 66° 33′, a region of more than 21 million km<sup>2</sup>—twice the size of continental Europe. Still others apply an even more generous definition, including more of Northern Scandinavia and the oceans bordering the Arctic Ocean. The Arctic Ocean to the north of the continents is 14 million km<sup>2</sup>, about 6 times the size of the Mediterranean Sea or 25 times the size of the North Sea.

One implication of a wide definition is that the region becomes more interesting in terms of economics: in the Arctic Ocean to the north of the continents, little economic activity takes place. However, the surrounding oceans, the Bering Sea and the North Atlantic, are significant in terms of their natural resources. The question of what to include in the term “Arctic” is therefore important, as governance issues and needs vary with geography.

As to the political geography of the Arctic, its basic feature is the land territories of the eight Arctic countries (Finland, Iceland and Sweden in addition to the five mentioned above) and the consequent maritime zones, which circumscribe the high seas in the central Arctic Ocean. There are no disputed land boundaries in the Arctic.<sup>5</sup> The centerpiece of the global oceans regime is the 1982 UN Law of the Sea Convention (LOSC),<sup>6</sup> which of course also

<sup>4</sup> For the issue of definitions, see G. Osherenko and O. Young, *The Age of the Arctic* (Cambridge University Press, Cambridge, 1989), p. 11.

<sup>5</sup> With the exception of Hans Island, an islet in the Nares Strait between Greenland and Canada.

<sup>6</sup> United Nations Convention on the Law of the Sea, done at Montego Bay 10 December 1982, in force 16 November 1994, 21 (6) *ILM* (1982) 1261–1354.

applies to the Arctic Ocean. The LOSC has a special status in international law, having priority over other international agreements.<sup>7</sup> It entered into force in 1994, and 157 countries had become parties to it by the end of 2008.<sup>8</sup> All the Arctic littoral countries except the USA are parties to the LOSC.

In a global perspective, the situation of the Arctic with regard to marine boundaries is not special. Of the about 400 potential marine boundaries in the world, more than half are unresolved.<sup>9</sup> In the Arctic, more than half of the potential exclusive economic zone (EEZ) boundaries are agreed to;<sup>10</sup> however, the boundaries between the US and Russia in the Bering Sea, Canada and the US in the Beaufort Sea, and Norway and Russia in the Barents Sea are not settled.<sup>11</sup> The LOSC states that coastal States have rights over the continental shelves beyond their EEZs, and provides a procedure for determining the outer limits of those shelves. The four Arctic countries that are parties to the LOSC follow this procedure. In the Ilulissat Declaration of 25 May 2008, the five Arctic littoral states affirmed their commitment to the law of the sea and the orderly settlement of overlapping claims.<sup>12</sup> The “... past and present conduct of the Arctic littoral states has been predominantly in accordance with international law and particularly the LOSC.”<sup>13</sup>

In the context of a debate about the current oceans regime in the Arctic and the challenges facing it, it is also important to note that the global oceans regime has dynamic elements. Two additional agreements have been negotiated under UN auspices, dealing with deep seabed minerals and high seas fisheries.<sup>14</sup> Furthermore, annual consultations—UN Informal Consultation Process on Oceans and the Law of the Sea (UNICPOLOS, or ICP)—are held

<sup>7</sup> M. Fitzmaurice and C. Elias, *Contemporary Issues in the Law of Treaties* (Eleven International Publishing, Utrecht, 2005), p. 334.

<sup>8</sup> Available online at: [http://www.un.org/Depts/los/reference\\_files/status2008.pdf](http://www.un.org/Depts/los/reference_files/status2008.pdf).

<sup>9</sup> D. Anderson, “Negotiating maritime boundary agreements: A personal view,” in R. Lagoni and D. Vignes (eds.), *Maritime Delimitation* (Koninklijke Brill N.V., Leiden, 2006), pp. 121–141 at p. 122.

<sup>10</sup> A.H. Hoel, “Jurisdictional Issues in the Arctic: An overview”, 2 *Oslo Files* (2008) 39–47.

<sup>11</sup> R. Churchill, “Claims to maritime zones in the Arctic—Law of the Sea normality or polar peculiarity?” in A. Oude Elferink and D. Rothwell (eds.), *The Law of the Sea and Polar Maritime Delimitation and Jurisdiction* (Martinus Nijhoff Publishers, Leiden, 2001), pp. 105–124.

<sup>12</sup> Ilulissat Declaration of 25 May 2008, available at the homepage of the Danish Ministry of Foreign Affairs: <http://www.um.dk/NR/rdonlyres/BE00B850-D278-4489-A6BE-6AE230415546/0/ArcticOceanConference.pdf>.

<sup>13</sup> T. Potts and C. Schofield, *op. cit.*, *supra* note 2.

<sup>14</sup> Agreement relating to the Implementation of Part XI of the LOS Convention, in force since 2001, 33 *ILM* 1309 (1994), and Agreement for the implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks, in force 11 November 2001, 34 *ILM* (1995) 1542. See also: <http://www.un.org/Depts/los/index.htm>.

in preparation for the annual resolutions on oceans and fisheries in the UN General Assembly (UNGA). The UNGA has mandated a number of initiatives in global oceans governance, such as the global process to study the conservation and use of biodiversity in areas beyond national jurisdiction,<sup>15</sup> and identification of elements in an ecosystem approach to oceans management.<sup>16</sup>

Based on the LOSC, a number of sector-specific regimes exist at global and regional levels of governance. In fisheries, for example, the Food and Agriculture Organization (FAO) is tasked with developing the global normative framework for resource management and has adopted a global Code of Conduct for Responsible Fisheries.<sup>17</sup> The regional level of governance is an arena for more concrete and policy-oriented activity; in fisheries, regional fisheries management agreements for the high seas areas in the North Atlantic and the North Pacific also apply to parts of the Arctic (see below). In the Northeast Atlantic, the OSPAR Convention deals with the protection of the marine environment.<sup>18</sup> In addition to such regional agreements, a substantial number of bilateral treaties in various issue-areas apply to the Arctic. The one region-specific and -wide treaty in the Arctic is the 1973 Polar Bear Treaty.<sup>19</sup> The first meeting of the parties to this agreement will be held in March 2009.

A number of other global treaties are also highly relevant for the Arctic Ocean.<sup>20</sup> This includes the global climate regime (see below), the 1992 Biodiversity Convention,<sup>21</sup> and the global shipping regime (the 1972/73 MARPOL Convention and associated protocols).<sup>22</sup>

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<sup>15</sup> Resolution adopted by the General Assembly on Oceans and the Law of the Sea, A/RES/59/24, para. 73. Available online at: [http://www.un.org/Depts/los/general\\_assembly/general\\_assembly\\_resolutions.htm](http://www.un.org/Depts/los/general_assembly/general_assembly_resolutions.htm).

<sup>16</sup> Resolution adopted by the General Assembly on Oceans and the Law of the Sea, A/RES/61/222, para. 119. Available online at: [http://www.un.org/Depts/los/general\\_assembly/general\\_assembly\\_resolutions.htm](http://www.un.org/Depts/los/general_assembly/general_assembly_resolutions.htm).

<sup>17</sup> The Code of Conduct was adopted in 1995, and later supplemented by a number of International Plans of Action in specific areas. Available online at: <http://www.fao.org/fishery/ccrf/en>.

<sup>18</sup> Convention for the Protection of the Marine Environment of the Northeast Atlantic (OSPAR Convention) 1992, in force since 1998, 32 *ILM* 1072 (1993), see also online: <http://www.ospar.org/>. There is no corresponding body in the North Pacific.

<sup>19</sup> Agreement on Conservation of Polar Bears, done at Oslo, 15 November 1973, in force since 1976, 13 *ILM* (1973) 13.

<sup>20</sup> D. Rothwell, *The Polar Regions and Development of International Law* (Cambridge University Press, Cambridge, 1996).

<sup>21</sup> Convention on Biological Diversity, done at Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *ILM* 818 (1992).

<sup>22</sup> International Convention for the Prevention of Pollution from Ships, done at London, 2 November 1973, 12 *ILM* 1319 (1973); as amended by the Protocol, done at London, 1 June 1978, 17 *ILM* (1978) 546, in force 2 October 1983, 1340 *U.N.T.S.* 61.

There are also a number of soft-law arrangements which are specific to the region. The Arctic Council was established in 1996 by a declaration of the 8 Arctic countries: Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden and USA.<sup>23</sup> Six organizations of indigenous people, “Permanent Participants”, are also members. The Arctic Council operates on a very ambitious understanding of what the Arctic is, i.e., a region of more than 30 million square km.<sup>24</sup> The mandate of the Arctic Council is to:

...provide a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic.<sup>25</sup>

The Arctic Council works through programs pertaining to themes such as sustainable development, protection of the marine environment, as well as monitoring and assessment.<sup>26</sup> It works by consensus and has no regulatory function which obliges member states to act according to its decisions. The activity in the programs is fundamentally about establishing the status of knowledge in various issue-areas. Over time, this builds common understanding among the participants. Building on such consensual knowledge, the Arctic Council has also developed strategic plans and guidelines for action by the member states on specific issues. Thus the cooperation also enhances the capacity of member states to act on the issues at hand.<sup>27</sup>

Perhaps the most successful project to date executed under the auspices of the Arctic Council, is the Arctic Climate Impact Assessment (ACIA) that was carried out in 2000–2004. An effort to assess the status of knowledge and develop scenarios of future climate change,<sup>28</sup> the ACIA contributed to raising the issue higher up on the political agenda.<sup>29</sup> Other significant projects are the

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<sup>23</sup> T. Koivurova and D. VanderZwaag, “The Arctic Council at 10 years”, 40 *UBC Law Review* (2007) 121–194.

<sup>24</sup> Cf. the Arctic Council homepage at: [http://arctic-council.org/section/the\\_arctic\\_council](http://arctic-council.org/section/the_arctic_council).

<sup>25</sup> Declaration on the Establishment of the Arctic Council, Ottawa, 19 September 1996. Available at: <http://arctic-council.org/filearchive/Declaration%20on%20the%20Establishment%20of%20the%20Arctic%20Council-1.pdf>.

<sup>26</sup> O. Young, “Governing the Arctic: From cold war theater to mosaic of cooperation”, 11 *Global Governance* (2005) 9–15.

<sup>27</sup> O.S. Stokke, “A legal regime for the Arctic? Interplay with the Law of the Sea Convention”, 31 *Marine Policy* (2007) 402–408.

<sup>28</sup> ACIA, *Arctic Climate Impact Assessment* (Cambridge University Press, Cambridge, 2005).

<sup>29</sup> A.H. Hoel, “Climate change”, in O S Stokke and G Hønneland (eds.): *International Cooperation and Arctic Governance: Regime Effectiveness and Northern Region Building* (Routledge, London and New York, 2007), pp. 112–137.

Status of the Arctic Environment Report<sup>30</sup> and the AMAP Oil and Gas Assessment.<sup>31</sup> When it comes to the marine environment, work under the Protection of the Arctic Marine Environment working group resulted in an Arctic Marine Strategic Plan in 2004.<sup>32</sup> Guidelines for the exploitation of petroleum in the Arctic were developed in 1997 and revised in 2002.<sup>33</sup> Guidelines for offshore oil and gas activities will be adopted at the Arctic Council's ministerial meeting in April 2009. A comprehensive assessment of shipping in the Arctic<sup>34</sup> will also be released for the 2009 ministerial meeting.

In the context of scientific knowledge about the Arctic, the International Arctic Science Committee (IASC) plays an important role by initiating and coordinating international scientific initiatives.<sup>35</sup> IASC, established in 1990 with 18 member states,<sup>36</sup> has provided the impetus for a number of research initiatives which have grown into international research programs.

In conclusion, the institutional architecture of the Arctic Ocean is one of a legal and political order dominated by state sovereignty and jurisdiction,<sup>37</sup> to a large extent embedded in international agreements where the LOSC constitutes the centerpiece. Non-legally binding cooperation is important, particularly in the context of the Arctic Council, which has addressed a number of the substantive issues that underlie current concerns for the region.

## Potential Developments of the Current Ocean Governance Structure

Climate change and reduction of sea ice is perhaps the most significant driver of the current debate on Arctic Ocean governance. What characterizes these developments, and what can be achieved on the basis of the current Arctic Ocean governance system?

### *Climate Change*

The emissions of climate gases have a global impact, and this is the reason why there is a global regime to control emissions—the 1992 Climate Change

<sup>30</sup> Arctic Monitoring and Assessment Programme, *AMAP Assessment Report: Arctic Pollution Issues* (AMAP, Oslo, 1998).

<sup>31</sup> Arctic Monitoring and Assessment Programme, *Arctic Oil and Gas 2007* (AMAP, Oslo, 2008).

<sup>32</sup> Available at: <http://arcticportal.org/pame/amsp>.

<sup>33</sup> See: <http://arcticportal.org/en/pame/offshore-oil-and-gas>.

<sup>34</sup> See: <http://arcticportal.org/amsa>.

<sup>35</sup> See: <http://www.arcticportal.org/iasc/>.

<sup>36</sup> The actual members are the national science organizations.

<sup>37</sup> R. Rayfuse, *op. cit.*, *supra* note 3 at 198.

Convention (FCCC) and the 1997 Kyoto Protocol.<sup>38</sup> The latter specifies emission targets for industrialized countries for the period running up to 2012. Currently, the sights are set on the period after 2012 and the post-Kyoto regime, which will have to be negotiated over the next few years. Emissions will have to be cut substantially in order to avoid dramatic changes to ecosystems and societies.<sup>39</sup>

The global climate regime addresses the mitigation aspect of the climate issue. It is difficult to see the merits of a regional regime for the Arctic in this respect. There are, however, also questions about adaptation to change,<sup>40</sup> and a case for regional action. How societies can cope with a rapidly changing environment is a theme that can benefit from mutual learning about approaches to adaptation. Since the Arctic countries to some extent share similar climates and ecosystems, useful insights and lessons may be gained for each party. The Vulnerability and Adaptation to Climate Change in the Arctic (VACCA) project under the Sustainable Development Working Group (SDWG) in the Arctic Council addresses these concerns.<sup>41</sup>

The Arctic Council has demonstrated its ability to thoroughly assess the scientific status of major, global political issues through the ACIA, which brought an enhanced common understanding of the impacts of climate change in the Arctic.<sup>42</sup> Another role would be to function as a platform for coordinating work in relation to the global climate talks on issues relating to the Arctic, as for example in the upcoming Conference of the Parties (COP-15) of the FCCC in Copenhagen in November 2009.

The impacts of climate change and the role of the Arctic in the global climate system implies that the demands on science in the Arctic will continue to grow. The IASC will play an important role here. The International Polar Year (IPY) (2007–2009) provides an extraordinary effort on the part of the international science community to expand upon and improve our knowledge

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<sup>38</sup> United Nations Framework Convention on Climate Change, done at New York, 9 May 1992, in force 21 March 1994, 31 *ILM* 849 (1992); Kyoto Protocol, done at Kyoto, 11 December 1997, in force 16 February 2005, 37 *ILM* (1998) 22.

<sup>39</sup> S. Barrett, "Climate treaties and the imperative of enforcement", 24 *Oxford Review of Economic Policy* (2008) 239–258.

<sup>40</sup> F. Biermann *et al.*, "Climate Governance Post-2012—options for EU policy-making", (2008) *CEPS Policy Briefs* No. 177, available at: <http://www.ceps.eu>.

<sup>41</sup> I. Kelman and K. van Dam, "Vulnerability and Adaptation to Climate Change in the Arctic (VACCA): An Analysis of the Scoping Study Data. A report prepared for the Sustainable Development Working Group of the Arctic Council", (2008) available at: <http://portal.sdwg.org/media.php?mid=815&xwm=true>.

<sup>42</sup> A. Nilsson, *A Changing Arctic Climate. Science and Policy in the Arctic Climate Impact Assessment* (Ph.D. thesis, Linköping University, 2007) available at: Linköping University Electronic Press, available online at: <http://urn.kb.se/resolve?urn=urn:nbn:se:liu:diva-8517>.

of the Polar Regions. The IPY consists of some 200 projects, involving more than 1000 scientists from over 60 nations.<sup>43</sup> The IPY targets both Polar Regions and understanding climate change is the major theme of the program. The program ends in 2009, but it will be important to maintain and develop the body of knowledge that results from it, capitalizing on the investments made in people and infrastructure. The Arctic Council now considers how the IPY legacy can be cultivated, fostering the recruitment of a new generation of scientists, access to areas, development of infrastructure and outreach issues.<sup>44</sup>

### *The Management of Living Marine Resources*

In the central Arctic Ocean (north of the continents), almost no fisheries occur. The region is ice-covered for most of the year, and this inhibits the evolution of ecosystems that can sustain major fisheries. However, if we include also the bordering seas, the Bering and the Barents Seas in particular, the Arctic is globally seen as a significant fishing region<sup>45</sup> and it has been so for a long time. The pollock fisheries in the Bering Sea and the herring and cod fisheries in the Northeast Atlantic are among the world's major fisheries. Marine mammals are harvested in most Arctic countries.<sup>46</sup>

The harvest of living marine resources in the Bering Sea and Barents Sea is subject to extensive and long-standing management regimes.<sup>47</sup> Resource management builds on the principles of the LOSC, the UN Fish Stocks Agreement (FSA) and the FAO Code of Conduct for Responsible Fisheries. In a comparative perspective, the management of Arctic fisheries stands out as relatively effective in terms of resource conservation, compared to those in, for example, the North Sea or the East Coast of the US.<sup>48</sup> The pollock fisheries,

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<sup>43</sup> See <http://www.ipy.org/>.

<sup>44</sup> Paper to Arctic Council SAO meeting, Kautokeino, 19–20 November 2008. On file with author. The Senior Arctic Officials (SAO) are their ministers' representatives to the Arctic Council and responsible for its activities between ministerial meetings.

<sup>45</sup> A.H. Hoel and H. Vilhjamsson, "Arctic Fisheries," in M. Nutall (ed.), *Encyclopedia of the Arctic* (Routledge, New York and London, 2004), pp. 635–41.

<sup>46</sup> This includes commercial harvests of minke whales in Iceland and Norway, and aboriginal harvests in Greenland, Russia, Canada and USA. Commercial sealing takes place in Canada, Norway and Russia, and aboriginal harvests occur in all Arctic countries.

<sup>47</sup> A.H. Hoel, "Best practices in fisheries management: Experiences from the Norwegian—Russian fisheries cooperation" in P. Aalto, H. Blakkisrud and H. Smith (eds.), *The New Northern Dimension of the European Neighborhood* (Center for European Policy Studies, Brussels, 2008), pp. 54–70.

<sup>48</sup> The fisheries in the North Sea, for instance, are generally considered to be in a dire state, with a number of fish stocks being heavily over-fished.



for example, are certified by the Marine Stewardship Council, which requires passing a rigorous test.<sup>49</sup>

The ACIA stated that with higher ocean temperatures, the migratory range of fish stocks could shift northwards and the productive capacity of ecosystems could increase.<sup>50</sup> There is, however, considerable uncertainty regarding how marine ecosystems will respond to such warming. It is not necessarily that we will have a linear increase in productivity in response to warming.<sup>51</sup> Species distributions may be affected by other factors,<sup>52</sup> and it may be misleading to expect northwards movement of fish as a simple response to increases in temperature and reduction in sea ice.

Even with a strong reduction in sea ice beyond current minima, potential fisheries in the central Arctic Ocean would be under the jurisdiction of coastal States and subject to their domestic resource management regimes, which, in the case of all five littoral states, build on the principles of the LOSC.

There are three pockets of high seas in the seas bordering the Arctic Ocean: the “Banana” hole in the Norwegian Sea, the “Loophole” in the Barents Sea and the “Doughnut” hole in the Bering Sea.<sup>53</sup> Substantial fisheries take place only in the Norwegian Sea. All three areas are managed by a regional fisheries management organization (RFMO) and/or a regional arrangement, as mandated by the FSA.

In the currently ice-covered high seas area in the central Arctic Ocean, the Northeast Atlantic Fisheries Commission has a mandate over the “European” wedge,<sup>54</sup> while other sectors in the Central Arctic Ocean do not have an RFMO or arrangement. Should sea-ice reduction continue while ecosystems that can sustain fisheries at the high seas in the central Arctic Ocean develop, (an) arrangement(s) would have to be negotiated for this, on the basis of the principles laid down in the LOSC and the FSA. Following the entry into force of the FSA in 2001, substantial developments have taken place in this regard world-wide, with a number of new RFMOs or arrangements negotiated and existing ones renegotiated and refurbished.<sup>55</sup> The Arctic countries

<sup>49</sup> See <http://www.msc.org/get-certified/fisheries>.

<sup>50</sup> ACIA, *op. cit.*, *supra* note 28 at chapter 13.

<sup>51</sup> H. Loeng *et al.*, “Klimaendringer i Barentshavet—konsekvenser av økte CO2 nivåer i atmosfæren og havet” (2008) Norwegian Polar Institute Report Series No. 126, Tromsø.

<sup>52</sup> J.M. Grebmeier *et al.*, “A Major Ecosystem Shift in the Northern Bering Sea”, 311 *Science* (2006) 1461.

<sup>53</sup> O.S. Stokke (ed.), *Governing High Seas Fisheries* (Cambridge University Press, Cambridge, 2001).

<sup>54</sup> The NEAFC area is to the north of 36° north latitude and between 42° west longitude and 51° east longitude.

<sup>55</sup> Chatham House Panel, *Recommended Best Practices for Regional Fisheries Management Organizations*, Report of an independent panel to develop a model for improved governance by

have generally been at the forefront of these developments, being early to ratify the FSA, implementing it in domestic legislation and modernizing the RFMOs relevant to the region.

Consequently it can be concluded that there are already fisheries management regimes in those areas in the Arctic where substantial fisheries occur, that they function relatively well, and if new fisheries develop in the central Arctic Ocean, the law of the sea provides definitive rules for how such a situation is to be handled. Furthermore, at least some of the Arctic countries have a demonstrated capacity for implementing and following up on the global oceans governance framework.

However, important questions remain, and in this respect the Arctic is no different from the rest of the world: the major challenges in fisheries management today are a) to stop illegal, unreported and unregulated (IUU) fishing and reduce overcapacity,<sup>56</sup> and to apply an ecosystems approach to their management.<sup>57</sup> Most fishing activities, including the ones in the Arctic, take place in waters under the jurisdiction of states. The main work in relation to implementation of international agreements and putting them to work in practice is located inside the EEZs rather than on the high seas. Because many stocks of living marine resources are transboundary, bilateral and regional cooperation is often required.

Certain marine mammals are subject to a global treaty; for example, in the case of the large whales, it is the 1946 International Convention for the Regulation of Whaling.<sup>58</sup> At the regional level, the North Atlantic Marine Mammals Commission (NAMMCO) plays an important role in that region.<sup>59</sup> The exploitation of marine mammals is very controversial,<sup>60</sup> and for that reason the International Whaling Commission, the body operating under the Whaling Convention, has been riven with conflicts for more than two decades. The European Union has established limitations and bans on the imports of seal products.<sup>61</sup> However, this is a source of concern for several Arctic countries

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Regional Fisheries Management Organizations (The Royal Institute of International Affairs, London, 2007).

<sup>56</sup> FAO, *The State of World Fisheries and Aquaculture* (FAO, Rome, 2007).

<sup>57</sup> E. Pikitch *et al.*, "Ecosystem-based fishery management", (2004) 305 *Science* 346–347.

<sup>58</sup> International Convention for the Regulation of Whaling, done at Washington, DC, 2 December 1946, in force 10 November 1948, 161 *UNTS* 72, 338 *UNTS* 336.

<sup>59</sup> Agreement on Cooperation in Research, Conservation and Management of Marine Mammals in the North Atlantic, done at Nuuk, 9 April 1992, in force 7 July 1992, 1945 *UNTS* 33321; online at: [http://untreaty.un.org/unts/120001\\_144071/16/9/000134.34.pdf](http://untreaty.un.org/unts/120001_144071/16/9/000134.34.pdf); see also online at: [www.nammco.org](http://www.nammco.org).

<sup>60</sup> M. Iliff, "Compromise in the IWC: Is it possible or desirable?", 32 *Marine Policy* (2008) 997–1003.

<sup>61</sup> See <http://news.bbc.co.uk/2/hi/europe/7523114.stm>.

where Arctic communities are dependent upon the harvesting of marine mammals.

### *Ecosystem-based Oceans Management*

Over the last decade, perhaps the most significant issue in international oceans management, including fisheries, was the introduction of ecosystem-based management. In relation to living marine resources, this essentially means that the impacts of the fishing activity on the ecosystem must be taken into account on the one hand, and that the constraints the ecosystem places on a given fishery must be considered on the other.<sup>62</sup> In other words, an ecosystem perspective is applied to management within an economic sector. A more ambitious objective is to apply this perspective to all sectors.

Globally, the combined pressures from economic activities, such as fisheries, shipping, and petroleum-related ventures, on the one hand, and environmental stressors, like climate change and pollution, on the other, have brought the concept of ecosystem-based oceans management (EBOM) to the fore. In numerous international agreements and processes, EBOM has been promoted as the way to address the multi-faceted challenges to oceans management.<sup>63</sup> The LOSC itself states in its Preamble that "... the problems of ocean space are closely interrelated and need to be considered as a whole". The 2002 Johannesburg Plan of Implementation urges countries to implement an ecosystem-based approach to oceans management by 2010.<sup>64</sup> In 2006 the UNGA invited states to consider the "agreed consensual elements" relating to ecosystem approaches developed by the ICP earlier that year.<sup>65</sup>

The actual implementation of EBOM must in the long run be effected at the domestic level of governance, as the issues involved mostly relate to practical policy development and implementation. The Arctic countries are actively engaged in this development in various ways reflecting their domestic circumstances. The US<sup>66</sup> and Norway,<sup>67</sup> among others, have had major policy reviews,

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<sup>62</sup> J. Morishita, "What is the ecosystem approach for fisheries management?" 32 *Marine Policy* (2008) 19–26.

<sup>63</sup> *Ibid.*

<sup>64</sup> Johannesburg Plan of Implementation, Para 30 d, available online at: [http://www.un.org/jsummit/html/documents/summit\\_docs/2309\\_planfinal.htm](http://www.un.org/jsummit/html/documents/summit_docs/2309_planfinal.htm).

<sup>65</sup> UN General Assembly Resolution A/RES/61/222, para. 119, *op. cit.*, *supra* note 16.

<sup>66</sup> US Oceans Commission 2004: An Ocean Blueprint for the 21st Century. Available at: <http://www.oceancommission.gov/documents/welcome.html>.

<sup>67</sup> Report No. 12 to the Storting (2001–2002): Protecting the Riches of the Sea. Ministry of the Environment, Oslo. Available online at: <http://www.regjeringen.no/nb/dep/md/dok/regpubl/stmeld/20012002/Report-No-12-2001-2002-to-the-Storting.html?id=452041>.

resulting in the introduction of ambitious schemes for EBOM. In Norway, the 2002 policy review resulted in the development of a comprehensive management plan for the Barents Sea, which attempts to reconcile the concerns of various economic sectors and for the marine environment within the framework of ecosystems-based management. The plan identifies vulnerable areas and regulates where and when specific economic activities can take place.<sup>68</sup>

Against this background, the Arctic Council in 2007 launched a project to study how the countries work in this regard—the Best Practices in Ecosystems-Based Oceans Management Project (BePOMAr). The idea is that there are lessons to be learnt by studying implementation practices in the different countries and comparing those practices with the goal to learn from each other. Based on a series of country case-studies, a set of “Observed Best Practices” have been derived, pointing towards practices that have proved useful in getting ecosystems-based management to work at the domestic level. The Observed Best Practices consist of some “core elements” which are essential to ecosystems-based management, and “common themes” in the national experience.

Although the implementation of EBOM may be in a more advanced stage than is commonly assumed,<sup>69</sup> it is also true that major challenges are associated with it. Those challenges are related to the production of an appropriate knowledge base for it, the choice of effective policy instruments, and inter-agency cooperation across multiple sectors of governance. In the Arctic best practices study, the core elements identified included area-based approaches to management, the use of appropriate science, the development of integrated management plans, and the conclusion of transboundary arrangements, where necessary. Other important considerations are that EBOM is a work in progress, and not an end state. Its actual implementation will vary with geography, as needs and challenges to be confronted vary. The need to build on existing practices and institutional structures is emphasized.

## Conclusion

At the outset of this article we asked whether the existing international governance framework in the Arctic region is an obstacle to progress in the gover-

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<sup>68</sup> K. Kroepelien, “The Norwegian Barents Sea Management Plan and the EC Marine Strategy Directive: Some political and legal challenges with an ecosystem-based approach to the protection of the European marine environment”, 16 *RECIEL* (2007) 24–35.

<sup>69</sup> S. Murawski, “Ten myths concerning ecosystem approaches to marine resource management”, 31 *Marine Policy* (2007) 681–690.

nance of marine ecosystems. The answer is that there is a comprehensive governance framework based on the LOSC in particular, which provides the legal basis for the further development of the mechanisms and instruments.<sup>70</sup> Where further development of international cooperation is most urgently needed is probably to make arrangements relating to the regulation of shipping in the Arctic, e.g., by the revision of the IMO Polar Code and the development of an Arctic search and rescue system. As regards the issue of petroleum, most of the petroleum resources are likely to be within 200-nautical-mile zones,<sup>71</sup> and the governance issues would to a large extent be of a domestic nature.

As a consequence of climate change and governance of fisheries and marine ecosystems in the Arctic, the near-term needs are related to implementation of existing legal instruments. This reflects the global situation and not one specific to the Arctic.<sup>72</sup> Implementation means getting the principles and rules of international agreements to work in practice. This is a demanding task that requires work at the domestic levels of governance in particular, involving a complex set of activities including science, the development of regulatory arrangements, and enforcement.

It is an important feature of the Arctic governance system that significant parts are of a non-legally binding nature, and it is critical to cultivate these further, in particular in the Arctic Council.<sup>73</sup> Over the years, the Arctic Council has assessed the state of our knowledge in a number of issue-areas that are critical to our current understanding of the Arctic, for example, pollution, climate change, oil and gas activities, and shipping. Thereby agreement on the status of knowledge is enhanced—a precondition for political action.<sup>74</sup> Moreover, by their continuous work over many years, those involved with the Arctic Council working groups and projects developed a common understanding of the nature of the challenges in the regions, and how these can be approached. The work of the Arctic Council in developing guidelines for action contributes to the development of international standards that domestic policy development can build on. Third, during such processes, countries also gain an increased understanding of each other's concerns and positions,

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<sup>70</sup> H. Corell, "Reflections on the possibilities and limitations of a binding legal regime" (2007) 37 *European Policy and Law* 321–324.

<sup>71</sup> Potts and Schofield, *op. cit.*, *supra* note 2 at 154.

<sup>72</sup> S.A. Ebbin, A H Hoel and A K. Sydnes (eds.), *A Sea Change, The Exclusive Economic Zone and Governance Institutions for Living Marine Resources* (Springer, New York, 2005).

<sup>73</sup> O. Young, "Whither the Arctic? Conflict or cooperation in the circumpolar North", (2009) 45 *Polar Record* 73–82.

<sup>74</sup> S. Andresen *et al.*, (eds.) *Science and Politics in International Environmental Regimes* (University of Manchester Press, Manchester, 2000).

thereby enhancing the potential for international cooperation. This is an approach where the issue is not whether a particular rule is followed, but whether actions taken are appropriate to the circumstances and whether there is something to be learned from others in this regard.

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