

# The 2015 Oslo Declaration on Arctic High Seas Fisheries: The Starting Point Towards Future Fisheries Management in the Central Arctic Ocean

Dan Liu

*The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean (CAO) signed in July 2015 reflects the common interests of the Arctic coastal states (namely, the A5) to manage fisheries in the Central Arctic Ocean beyond national jurisdictions. As a multilateral document with a soft-law nature, the Oslo Declaration was followed by the 'A5 plus 5 (the EU, Iceland, China, Japan, and South Korea)' negotiations towards a legally binding agreement. However, questions remain unsolved. For example, to what extent can the Oslo Declaration or other following-up instruments be used for the CAO high seas fishery management? Moreover, under international fisheries law, are there any loopholes of the current fishery management under the 'A5 plus 5' negotiation framework? This paper provides an overall examination on the legal aspects of the Oslo Declaration, especially the arguments regarding the future of fisheries management in the High Seas portion of the Central Arctic Ocean, such as a Regional Fisheries Management Organization (RFMO) or Agreement (RFMA) as the interim measure, and the differences between the Declaration and international fisheries law.*

## Introduction

There are no generally accepted geographical definitions for the terms “Arctic” or “Arctic Ocean.” International fisheries law, typically the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (hereinafter referred to as the ‘the Fish Stock Agreement’), applies to the marine Arctic and the Arctic Ocean. Within 200 nautical miles from seashore, namely, maritime zones within the Exclusive Economic Zone (EEZ) or Exclusive Fishery Zone, jurisdiction to regulate fishing falls exclusively to the coastal state. For maritime zones beyond state jurisdiction, namely, the high seas and deep sea-bed, the UNCLOS confirms the right of all States to fish on the high seas. There are four high seas pockets in the marine Arctic, namely, the so-called ‘Banana Hole’ in the Norwegian Sea, the so-called ‘Loophole’ in the Barents

Sea, the so-called ‘Donut Hole’ in the central Bering Sea, and the so-called ‘Central Arctic Ocean’ (Molenaar, 2014: 104-105).<sup>1</sup> For discussion purposes, the term “Central Arctic Ocean” (CAO) in this article denotes the single high seas portion of the Arctic Ocean that is entirely surrounded by waters under the fisheries jurisdiction of Canada, the Kingdom of Denmark in respect of Greenland, the Kingdom of Norway, the Russian Federation and the United States of America (NOAA, 2015).<sup>2</sup>

On 16 July 2015, in Oslo, the coastal states of the Arctic Ocean (hereinafter referred to as the ‘A5’) (Dodds & Valur, 2012: 21-37)<sup>3</sup>—Canada, Denmark, Norway, the Russian Federation and the United States—took a long-awaited step in the international regulation of Arctic Ocean fisheries by signing the “Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean” (hereinafter referred to as the ‘Oslo Declaration’) (Molenaar, 2015: 426).<sup>4</sup> In this Declaration, the five countries state that “they are aware that fish stocks in the Arctic Ocean may occur both within areas under the fisheries jurisdiction of the coastal States and in the high seas portion of the CAO, including straddling fish stocks,” and “they share the view that it is desirable to implement appropriate interim measures to deter unregulated fishing in the future in the high seas portion of the CAO” (The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean, 2015).<sup>5</sup>

On 5 December 2015, the A5 invited the likely five members that would be involved in the CAO high seas fishery, countries or region that have a history of distant water fishing—the European Union, which negotiates fisheries as a block, Iceland, China, Japan, and South Korea—met in Washington for the first time to discuss the US proposal for an international fisheries agreement. In this meeting, the A5 showed their intention to authorize their vessels to conduct any future commercial fishing in this area only when one or more international mechanisms are in place to manage any such fishing in accordance with recognized international standards (Chairman’s Statement, 2015).<sup>6</sup> The overall purpose of the non-legally binding Declaration is to prevent unregulated high seas fishing in the approximately 2.8 million square kilometers area that comprises the central part of the Arctic Ocean (Shephard et al., 2016).<sup>7</sup>

This paper begins with a general introduction on not only national laws and policies of the A5, but also international fishery laws, especially the 1982 UNCLOS and the 1995 United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Fish Stock Agreement as applied in the high seas portion of the CAO. The second section examines legal issues of the Oslo Declaration, such as the interim measures regarding unregulated fishing in the high seas portion of the CAO, differences between the Declaration and international fisheries law, and the RFMO/As in the marine Arctic. The third section turns to discussion on the role of participants toward broader process during the previous negotiations, and the recent negotiation on the CAO high seas fisheries. As conclusion, this paper provides an overall evaluation of the Oslo Declaration and looks forward to the possibilities to establish a RFMO/A on fisheries management in high seas portion of the CAO.

### **Previous National Laws and Policies of the A5 on Arctic Fisheries and the International Fishery Laws as Applied in the High Seas Portion of the CAO**

Based on estimates produced by the National Snow and Ice Data Center, observations of sea ice thickness and volume from multiple sources have revealed the continued decline of the Arctic sea ice pack over the last decade (Kwok et al., 2009; Laxon et al., 2013; Kwok et al., 2015).<sup>8</sup> The Arctic

sea ice cover reached a minimum annual extent of 4.41 million km<sup>2</sup> on September 11, 2015 (Perovich et al., 2017).<sup>9</sup> With the summer retreat of sea ice and warming of ocean waters, fish species are moving north, including in subarctic waters. The management of fisheries in the CAO, beyond national jurisdictions, has nonetheless become a pressing issue in Arctic marine governance (Pan & Huntington, 2016).<sup>10</sup>

### **Scientific awareness of the need for High Seas Fisheries Management in the CAO**

Arctic and sub-Arctic waters are the habitat of more than 150 species of fish. However, Arctic fish communities are dominated by a few species. The most abundant ones are Greenland halibut, polar cod, Atlantic and Pacific cod, Greenland cod, walleye pollock, capelin, long rough dab, yellow fin sole, Atlantic and Pacific herring, and redfish (AMAP, 1998).<sup>11</sup> Although the CAO has been covered year-round in ice through most of human history, in recent summers up to 40% of it has melted into open water (Huntington et al., 2015).<sup>12</sup> This newly emerging ocean is undergoing tremendous ecological change at the same time it is becoming potentially accessible to commercial fishing fleets, which have proved relentless in their pursuit of catch. The combination of open water and north-moving fish raises the prospect of Arctic fisheries, though it remains unclear which species might move into the waters of the CAO, in what numbers, and when (Hollowed et al., 2013).<sup>13</sup> Therefore, it is highly possible that the waters of the CAO will have the potential to “open” for fishing unless closed or regulated by international agreement.

In 2012, an open letter was released by The Pew Charitable Trusts on the first day of the International Polar Year conference in Montreal. The major purpose of the letter which was signed by more than 2,000 scientists from 67 countries was to push Arctic leaders to develop an international fisheries agreement that would protect the waters of the CAO (The Pew Charitable Trust, 2012).<sup>14</sup> The letter recommends that leaders of coastal Arctic countries pursue the following actions: (1) to take the lead in developing a precautionary international fisheries management agreement; (2) to start with a catch level of zero until sufficient scientific research can assess the impacts of fisheries on the CAO ecosystem; and (3) to set up a robust management, monitoring and enforcement system before fishing begins (The Pew Charitable Trust, 2012).<sup>15</sup>

### **National Arctic fisheries laws and policies of the A5**

The Arctic Ocean is governed by national and international legal regimes, most notably the UNCLOS. Common interests in the region are coordinated by the Arctic Council, but its membership is limited to the coastal Arctic States (The Royal Society of UK, 2010).<sup>16</sup> The A5 have played a crucial role for consultations or negotiations on the CAO fisheries. Before the 2015 Oslo Declaration, formal diplomatic discussions on the Arctic fishery issue had been limited within the A5. However, perspectives of the A5 towards their own fisheries laws and policies varied.

Among the A5, the United States has played a lead role in shaping the multilateral level negotiations on the CAO fishery issue. The US legislation therefore can be seen as representative of the fishery policy for the Arctic coastal states. The northward expansion of fish species in parts of the United States' Arctic waters can be found in the Senate Joint Resolution No. 17 of 2007 (US Senate, 2007).<sup>17</sup> This resolution was passed by Congress in 2008 as Public Law 110-243. It directs the United States “to initiate international discussions and take necessary steps with other Nations to negotiate an agreement for managing migratory and trans-boundary fish stocks in the Arctic Ocean” (US Congress, 2008).<sup>18</sup> Following the same logic, in light of the uncertainty of additional

information for commercial fishery, the North Pacific Fishery Management Council adopted the 2009 Fishery Management Plan (2009 FMP) (North Pacific Fishery Management Council, 2009)<sup>19</sup> to govern the US waters of the Chukchi Sea and Beaufort Sea and to allow for scientific research on evaluating whether such activities can be done in a sustainable manner. This proactive and precautionary action by the United States is consistent with its Senate joint resolution No.17 of 2007 (Molenaar, 2014).<sup>20</sup>

In Canada, while there are aspects of the Department of Fisheries and Oceans (DFO) policies that have particular relevance to the Arctic, there is no cohesive policy framework that addresses Arctic fisheries management.<sup>21</sup> Two fisheries policies are particularly relevant to the Canadian Arctic fisheries management, i.e., the Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas (2009) and the Emerging Fisheries Policy (2008). The 2009 Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas provides guidance to DFO management in mitigating the impact of fishing on sensitive benthic areas, and avoiding impacts that are likely to cause serious or irreversible damage (DFO, 2009).<sup>22</sup> Under the 2008 Emerging Fisheries Policy which was originally developed in 1996, if a species or stock can sustain a fishery (biologically and commercially), the commercial fishery stage is reached and an integrated fisheries management plan should be developed (DFO, 2008).<sup>23</sup> The ban on fishing in US Arctic waters caused some controversy in Canada because it purported to include the 6250-square-nautical-mile disputed zone in the Beaufort Sea (Byers, 2013: 180).<sup>24</sup> With the development of the US-Canada bilateral talks, however, the 2010 Report of Canada's Standing Senate Committee on Fisheries and Oceans recommends Canada "to adopt an approach for the Canadian part of the Beaufort Sea that is similar to the US Arctic FMP," and "to engage on a bilateral discussion on the possibility of developing a complementary Canada-US approach to ecosystem-based management in the Beaufort Sea" (The Standing Senate Committee of Canadian Parliament, 2010).<sup>25</sup> In 2014, Canada adopted a similar approach with the United States for its portion of the Beaufort Sea under the Beaufort Sea integrated Fisheries Management Framework, where new commercial fisheries will only be considered after research has shown surplus and sustainable stocks (Government of Canada, 2014).<sup>26</sup>

Similar to the US and Canada, the Kingdom of Denmark's "Strategy for the Arctic 2011-2020" acknowledges that due to "relatively limited knowledge of fish stocks and fishery opportunities," the precautionary principle should be applied to protect the environment and fishery resources, while explicitly mentions the CAO in this regard (Ministry of Foreign Affairs of Kingdom of Denmark, 2011).<sup>27</sup>

As to Norway, it's worth noting that it established a Fisheries Protection Zone (FPZ) around Svalbard rather than an EEZ in 1977. Several states enjoy fisheries access to the FPZ and territorial waters of Svalbard as a result of the provisions of equal access laid down in the Spitsbergen Treaty (Molenaar, 2012).<sup>28</sup> While Norway's "The High North—Visions and Strategies" emphasizes the need for sustainable and science-based fisheries management and the application of precautionary approach in a broad sense, no special attention is devoted to new fisheries (Ministry of Foreign Affairs of Norway, 2011).<sup>29</sup> Shortly after the signature of the Oslo Declaration, the Norwegian government expressed its concerns about the necessity to study how climate change is affecting the migration patterns of fish and other developments in the Arctic region, and emphasized the importance for the coastal states to invite other states to prevent unregulated fishing in the future (Government of Norway, 2015).<sup>30</sup>

Enforcement of Russian fisheries regulations in its EEZ and high seas portion of the Barents Sea has not been without controversy over the years. The Barents and White Sea Territorial Administration of the Federal Fishery Agency, which was established in 2006-2007, is responsible for quota control and carries out port and at-sea inspections in Russian territorial waters and outside the Russian EEZ in the Barents Sea Loophole and the Fishery Protection Zone around Svalbard (Glubokov, Hoel, Rolston, Turgeon & Vanderzwaag, 2014).<sup>31</sup> Russia also showed its desire to protect the Arctic Ocean from unregulated exploitation by vessels chasing northward-moving fish.<sup>32</sup>

In sum, fisheries management approaches of the US and Canada are both precautionary and proactive, even though in different ways. Whereas the US domestic regulations tend to be more unilaterally stringent and already constrain fisheries by its nationals, most of the policy statements by other A5 members advocate or envisage similar actions.

### **International fisheries law as applied in the high seas portion of the CAO**

The Arctic is host to a complex set of arrangements in fisheries that relate to a mix of national, bilateral, and international arrangements and jurisdiction (Loukacheva, 2015: 73).<sup>33</sup> The intergovernmental bodies of most relevance are the United Nations General Assembly and the United Nations Food and Agriculture Organization (FAO). The 1982 UNCLOS as well as the 1995 UN Fish Stocks Convention oblige states to cooperate on resource management in the areas beyond the 200 mile zones.

Major global legally binding and non-legally binding fisheries instruments are as follows:

- (1) The 1982 United Nations Convention on the Law of the Sea Convention (UNCLOS, 1982);<sup>34</sup>
- (2) The 1995 United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (hereinafter referred to as the “Fish Stocks Agreement”) (The Fish Stocks Agreement, 1995);<sup>35</sup>
- (3) The FAO fisheries instruments, such as the 1993 Compliance Agreement,<sup>36</sup> the 1995 FAO Code of Conduct for Responsible Fisheries<sup>37</sup> together with 29 Technical Guidelines and international plans of action to assist the international community in taking the necessary practical steps to implement the provisions foreseen in the Code (for example, the 2002 Implementation of the International Plan of Action to deter, prevent and eliminate, illegal, unreported and unregulated fishing, integration of fisheries into coastal area management, etc.) (FAO Technical Guidelines),<sup>38</sup> and the 2009 Port State Measures Agreement (Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 2009).<sup>39</sup>
- (4) The United Nations General Assembly Resolutions which have contributed to the phase-out of large-scale pelagic driftnet fishing and set up innovative restrictions on bottom-fisheries on the high seas (UN General Assembly).<sup>40</sup>

The provisions on marine capture fisheries in the UNCLOS and the Fish Stocks Agreement have a so-called “framework” character with overall objectives and basic rights and obligations for member states. The UNCLOS employs the “zonal management approach”, namely, it distinguishes

five categories of marine spaces: international waters, territorial seas, archipelagic waters, the EEZ, and the high seas (Yoshifumi, 2008: 5).<sup>41</sup> However, fish do not recognize such artificial zones or boundaries stipulated in the UNCLOS.

Under the UNCLOS, as regards straddling fish stocks and highly migratory fish stocks on the high seas, the obligation to cooperate is supplemented with the special obligations of relevant coastal states and the state fishing for these stocks in adjacent areas of the high seas to cooperate in the conservation of these stocks (UNCLOS, 1982, Article 63.2, Article 64.1),<sup>42</sup> and the obligation shall be complied with either through direct cooperation or through sub-regional or regional fisheries organizations (UNCLOS, 1982, Article 63.1-2).<sup>43</sup>

As indicated in its full title, the Fish Stock Agreement only applies to straddling and highly migratory fish stocks. Article 3 (1) of the Fish Stock Agreement indicates that the applicable regions are those of the areas “beyond national jurisdiction”. In practical term, this refers to areas of high seas where all states enjoy the freedom of fishing. However, some of the provisions are also applicable to areas under national jurisdiction—the EEZs or Exclusive Fisheries Zones. The Fish Stock Agreement thus includes obligations both for coastal states and for states fishing on the high seas (Henriksen, Hoenneland & Sydnes, 2006: 13).<sup>44</sup> Therefore, substantive fisheries standards are not set out by either the UNCLOS or the Fish Stock Agreement. Actual fisheries regulations are carried out by states individually or collectively, including through regional fisheries management organizations or arrangements (hereinafter referred to as the “RFMO/As”) (Molenaar, 2014: 108).<sup>45</sup>

## **The 2015 Oslo Declaration on High Seas Arctic Fisheries: Legal Issues and Beyond**

Any discussion about the CAO high seas fisheries cannot be isolated from Arctic fishery governance through international law. It’s necessary to examine legal issues of the Oslo Declaration by placing it within the framework of international fishery law. Meanwhile, participation by other states outside the A5 remains an important factor in the overall legitimacy and effectiveness of any outcome from the broader process. To this author, at least three major legal issues have been touched on by the Declaration as follows: the interim measures on commercial fishing, the RFMO/As on fisheries conservation and management on the high seas portion of the CAO, and the gaps between the Declaration and international fisheries law.

### **The interim measures**

Currently, the legal status of the Oslo Declaration is best understood as containing a number of non-legally binding commitments, amounting to so-called “soft law”, while expressing a preference (but not an obligation) that the states concerned should act, or should refrain from acting, in a specified manner (Ryder, 2015).<sup>46</sup> Soft law is by its nature the articulation of a “norm” in a non-binding written form, and it can also be applied to non-treaty agreements between states or between states and other entities that lack capacity to conclude treaties (Birnie, Boyle, Alan & Redgwell, 2009: 35).<sup>47</sup> The soft law nature of the Oslo Declaration is not only evidenced by the title of “Declaration” itself, but also by the use of the terms in the Declaration, such as “recognize”, “recall”, “acknowledge,” etcetera.

At the previous 2014 Nuuk meeting, political agreement was to reach “the desirability of developing appropriate interim measures to deter unregulated fishing in the future in the CAO”

(Arctic Fisheries Nuuk Chairmans and ToR for 3rd Meeting, 2014, February 24-26).<sup>48</sup> The Oslo Declaration goes beyond by expressing the A5's intention to implement a number of interim measures "to deter unregulated fishing in the future in the high seas portion of the CAO" (The Oslo Declaration, 2015).<sup>49</sup> However, the characterization of the Oslo Declaration as "ban" (Doyle, 2015)<sup>50</sup> on fishing in the Arctic is misleading for several reasons. First, it's important to recall the spatial focus of the Declaration and the interim measures it describes; the interim measures apply only to "the high seas portion of the CAO." Second, it must also be recalled that both the Declaration and the interim measures are not legally binding upon the A5. Although the Declaration indicates the intent on behalf of the A5 to comply with the interim measures it describes, such measures are legally non-enforceable (Ryder, 2015).<sup>51</sup> However, if the parties have strong determination to reach a legally binding agreement in the future, the interim measures that amount to a "moratorium" on fishing (Ryder, 2015)<sup>52</sup> at the high seas portion of the CAO, will be legally enforceable amongst the parties.

According to the Oslo Declaration, interim measures "in the single high seas portion of the CAO" will be implemented as follows: (1) Only in accordance with one or more "regional or subregional fisheries management organizations or arrangements" to manage fishing based on "recognized international standards", can commercial fishing in this high seas area be authorized; (2) Members of the Declaration will not only establish joint programs of scientific research with the aim of improving understanding of the ecosystems, but also promote cooperation with relevant scientific bodies, "including but not limited to," the International Council for the Exploration of the Sea (ICES)<sup>53</sup> and the North Pacific Marine Science Organization (PICES);<sup>54</sup> (3) Members of the Declaration will promote compliance with these interim measures and with relevant international law, including by coordinating their monitoring, control and surveillance activities in this area; (4) Members of the Declaration will ensure that non-commercial fishing does not undermine purpose of the interim measures (The Oslo Declaration, 2015).<sup>55</sup>

The key components of the Oslo Declaration are the interim measures that will be adopted by the members. The "interim measure" referred to in the Oslo Declaration appear only to restrict "commercial fishing." Thus, it appears clear that the restrictions or conditions imposed by the provision do not apply to subsistence, scientific, recreational, or other types of non-commercial fishing that may take place in the high seas portion of the CAO (Ryder, 2015).<sup>56</sup> However, other legal phrases in the Declaration that have future implication and influence on the Arctic and the fishing nations remain unclear and subject to clarification. Although the interim measures appear to restrict commercial fishing in the high seas portion of the CAO, it is apparent that such restrictions do not amount to a prohibition of commercial fishing of any sorts, but instead, imposes two conditions that must be met before the A5 can authorize their vessels to engage in commercial fishing in the area: (1) pursuant to one or more regional or sub-regional fisheries management organizations or arrangements (RFMO/As); and (2) "are or may be established to manage such fishing in accordance with recognized international standards" (Molenaar, 2016: 429-463).<sup>57</sup>

Reading the text of the Declaration, at least two loopholes can be observed as follows: First, the wording chosen is "established *to* manage" (The Oslo Declaration, 2015)<sup>58</sup> RFMO/As rather than, for instance, "established *and* manage". The literal interpretation of the chosen wording therefore implies the existing and future RFMO/As are "merely" required to have the mandate to manage fishing in accordance with "modern international standards" (Ryder, 2014)<sup>59</sup> and in return also

implies the merely requirement to establish a RFMO/A *per se* instead of its effective operation. Second, in view of the particular characteristics of the Arctic Ocean, the phrase of “international standards” is too broad to provide guidance for the interim measures. A possible interpretation of this term is to focus specific attention on international standards relating to new and exploratory fisheries (directing attention to, *inter alia*, Article 6 (6) of the 1995 Fish Stocks Agreement that will be explained in the next section).

### **Disparities between the Oslo Declaration and international fisheries law**

The existing international legal framework and national regulation for Arctic fisheries contain the following main gaps: (1) Science-based and ecosystem-based fisheries management cannot be ensured due to lack of data; (2) Regulation by Arctic Ocean coastal states and other states and entities may not be adequate; (3) Gaps in Arctic Ocean coastal state fora and instruments; and (4) Gap in high seas coverage with the RFMOs (Molenaar, 2014: 117-118).<sup>60</sup>

The Oslo Declaration, taking the form of a multilateral agreement, may be seen as the first attempt to “fill in” the foregoing “gap” No.3 as an “instrument” reached by the A5 and the other five parties (the European Union, Iceland, Japan, South Korea and China). Efforts have been made by the Oslo Declaration, such as the decision to implement interim measures on commercial fishing, but disparities still remain between the Declaration and international fisheries law.

#### *(1) “New and exploratory fisheries” and interim measures*

As per the foregoing analysis, a possible linkage between the use of the term “international standards” and “interim measures” is to focus specific attention on the standards regarding new and exploratory fisheries, which directs special attention to relevant provisions of the 1995 Fish Stocks Agreement (Molenaar, 2016).<sup>61</sup> Unlike “straddling fish stocks” (UNCLOS, 1982, Article 63.2)<sup>62</sup> or “highly migratory fish stocks” (UNCLOS, 1982, Article 64.1)<sup>63</sup> that have been regulated or indirectly defined by the UNCLOS, “new fishery” and “exploratory fishery” were not defined either by the 1982 UNCLOS, or the 1995 Fish Stock Agreement. Such an omission in international fisheries law might be the latest awareness of the possibility for commercial fishing in the polar regions.

However, the Definition of “new fishery” and “exploratory fishery” provided by the 2016/17 CCAMLR (CCAMLR)<sup>64</sup> Conservation Measure may shed some light. “New fishery”, for the purposes of conservation measures, is “a fishery on a species using a particular fishing method in a statistical subarea or division for which: (i) information on distribution, abundance, demography, potential yield and stock identity from comprehensive research/surveys or exploratory fishing have not been submitted to CCAMLR; or (ii) catch and effort data have never been submitted to CCAMLR; or (iii) catch and effort data from the two most recent seasons in which fishing occurred have not been submitted to CCAMLR (The Commission at the Thirty-fifth Meeting, 2016, October 17- 28).<sup>65</sup> “Exploratory fisheries” are defined as either a fishery that “was previously classified as a ‘new fishery’”, or “continue to be classified as such until sufficient information is available: (a) to evaluate the distribution, abundance and demography of the target species, leading to an estimate of the fishery’s potential yield; (b) to review the fishery’s potential impacts on dependent and related species; (c) to allow the Scientific Committee to formulate and provide advice to the Commission on appropriate harvest catch levels, as well as effort levels and fishing gear, where appropriate” (The Commission at the Thirty-fifth Meeting, 2016, October 17- 28).<sup>66</sup> Under the CCAMLR, it can



be concluded that data and impact on target fisheries are two major factors for the determination of conservation measures of “new and exploratory fisheries.”

According to Article 6 of the 1995 Fish Stock Agreement, “for new or exploratory fisheries”, state members of the Agreement have a responsibility to adopt “cautious conservation and management measures” as soon as possible (Fish Stock Agreement, 1995, Article 6.6).<sup>67</sup> However, there is still a long way to go before current “interim measures” of the Declaration can be qualified and called “conservation and management measures” under international fisheries law for two reasons: First, data and information on new and exploratory fisheries are insufficient in the marine Arctic; Second, as a precondition for the implementation of the interim measures, an assessment on “the impact of the fisheries on the long-term sustainability of the stocks” (Fish Stock Agreement, 1995, Article 6.6)<sup>68</sup> is still unrealistic, because it remains unclear which species might move into the waters of the CAO, in what numbers, and when.

(2) *“Real interest” and the obligation to cooperate*

According to Article 118 of the UNCLOS, states “whose nationals exploit identical living resources, or different living resources” in the same area of the high seas shall cooperate in the conservation of these resources. As regards straddling fish stocks and highly migratory fish stocks on the high seas, this obligation is supplemented with the special obligation of the relevant coastal states and state fishing for these stocks in adjacent areas of the high seas to cooperate in the conservation of these stocks (Fish Stock Agreement, 1995, Article 63.2, Article 64.1).<sup>69</sup> According to the Fish Stocks Agreement, there are two ways for cooperation, either through membership or by agreeing to apply the conservation management measures adopted by the RFMO/As. However, the latter method is not an alternative for most states with an interest in high seas fisheries (Henriksen, Hønneland & Sydnes, 2006: 18-19).<sup>70</sup> Under international fisheries laws, the obligation to cooperate for coastal states and the states fishing for new and exploratory fisheries therefore shall apply to the high seas portions of the CAO. Subsequently, the right for those countries “having a real interest” to participate in cooperation through membership becomes highly relevant.

The Oslo Declaration addresses the interest of other states by not only “acknowledging their role in preventing unregulated high seas fisheries in the CAO,” but also looking forward “to work with them in a ‘broader process’ to develop measures consistent with this Declaration that would include commitments by all interested States.” The Declaration indicates a close linkage between those countries “having the interests” and the “broader process” (i.e., membership), but the criteria to determine the “interests” of new-comers is still subject to further interpretation. In this regard, the interpretation on relevant provisions of the Fish Stock Agreement may also shed some light. It is stated that those “having a real interest in the fisheries concerned” may join an RFMO/As in Art 8(3) of the Fish Stock Agreement:

Where a subregional or regional fisheries management organization or arrangement has the competence to establish conservation and management measures for particular straddling fish stocks or highly migratory fish stocks, States fishing for the stocks on the high seas and relevant coastal States shall give effect to their duty to cooperate by becoming members of such organization or participants in such arrangement, or by agreeing to apply the conservation and management measures established by such organization or arrangement. States having a real interest in the fisheries concerned may become members of such organization or participants in such arrangement. The terms of participation in such

organization or arrangement shall not preclude such States from membership or participation; nor shall they be applied in a manner which discriminates against any State or group of States having a real interest in the fisheries concerned.

There are two approaches for the interpretation of Article 8(3): restrictive reading and broad reading on the term “real interest”. As regards the first approach, some suggest that the use of “real” in Article 8 (3) already indicated that states must demonstrate a factual or concrete interest. It follows that the intention in adding this requirement must be to restrict access to membership, otherwise it would be unnecessary (Nandan, 2005).<sup>71</sup> But some others argue that interests in “fisheries concerned” do not necessarily exclude such states from becoming members.<sup>72</sup> As regards the second approach, a broad reading of “real interest” is to include states with fishing interest—including the relevant coastal states, states fishing for the stock on the high seas and states intending to fish for the stocks (Henriksen, Hoenneland & Sydnes, 2006: 20).<sup>73</sup> However, the broad reading of Article 8(3) leaves room for discretion by RFMO/As member states, and there is an obvious danger of misuse, as it was argued by Freestone and Makuch (1996) that “the wording of the paragraph is ripe for litigation” (Freestone & Makuch, 1997).<sup>74</sup>

As it has shown in the negotiation process of the Declaration, the A5 has persuaded five members (EU, China, Japan, South Korea and Iceland) and will continue to persuade other countries to refrain from unregulated fishing in the CAO. A broad reading of states with “interests” in fishing and the membership of potential RFMO/As as applied in the CAO seems to fit in the object and purpose of the Declaration.

### **Three potential RFMO/As as applied in the CAO**

It was suggested that the regional or subregional fisheries management organizations or arrangements are given exclusive competence to regulate the high seas fisheries of straddling fish stocks and highly migratory fish stocks (Molenaar, 2000; Hayashi, 1999: 55-84).<sup>75</sup> The two ways of organizing fisheries cooperation, namely, “arrangement” and “organization”, although appearing as equal mechanisms for cooperation, shall be distinguished from one and another. “Arrangement” is a relatively new concept in the Law of the Sea. “Arrangement” is understood as a “cooperative mechanism established in accordance with the UNCLOS and the Fish Stock Agreement by two or more States” (The Fish Stock Agreement, 1995, Article 1.1.d),<sup>76</sup> while the existence of a formal treaty establishing these forums may be an indication but is not necessarily a requirement for an arrangement. “Organization” is a better-known concept used in the UNCLOS. When contrasted to Arrangements, an Organization appears as a firmer and more fixed structure, probably by having its own secretariat and headquarters and separate decision-making procedures. “Organization” also refers to the concept of intergovernmental organizations-bodies set by the states through a convention with separate organs and responsibilities (Henriksen, Hoenneland & Sydnes, 2006).<sup>77</sup>

Scholarly discussions about potential RFMO/As applied in the marine Arctic or high seas portion of the CAO have been a ceaseless topic (Churchill, 2001: 235-272; Molenaar, 2012; Glubokov et al., 2014; Molenaar, 2015: 84-85; Zou & Huang, 2016).<sup>78</sup> Eric J. Molenaar’s study provides an explicit list of major regional, sub-regional and bilateral fisheries bodies and instruments that apply to certain southerly waters of the marine Arctic but not explicitly to the Arctic Ocean as follows: (1) The Canada and US bilateral International Pacific Halibut Commission (IPHC), established by the IPHC Convention (1953); (2) The Canada and US Yukon River Panel of the bilateral Pacific Salmon Commission (PSC), established by the Pacific Salmon Treaty (1985); (3) The North Pacific

Anadromous Fish Commission (NPAFC), established by the NPAFC Convention (1992); (4) The Western and Central Pacific Fisheries Commission (WCPFC), established by the WCPFC Convention (2000); (5) The Conference of Parties (COP) to the Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea (1994); (6) The North Atlantic Salmon Conservation Organization (NASCO), established by the NASCO (1982); (7) The International Commission for the Conservation of Atlantic Tunas (ICCAT), established by the ICCAT Convention (1966); (8) The North Atlantic Fisheries Organization (NAFO), established by NAFO Convention (1978); (9) The North East Atlantic Fisheries Commission (NEAFC),<sup>79</sup> established by the NEAFC Convention (1980); (10) The joint Norwegian-Russian Fisheries Commission (Joint Commission), established by the bilateral Framework Agreement (1975).

Among these nine fora and instruments, examples of fishery management “organizations” are the NEAFC and the NAFO. The annual Conference of Parties to the Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea, on the other hand, is a typical “arrangement.” The instruments under the above Nos. 1-5 apply to certain southerly waters of the marine Arctic in the Pacific, and Nos. 6-8 apply to certain southerly waters of the marine Arctic in the Atlantic, therefore none of them apply to the CAO (Molenaar, 2014: 110-111; Molenaar, 2015: 84-85).<sup>80</sup> Since the NEAFC and the Joint Commission have a clear mandate in the Arctic Ocean, and there have been discussions on the role of the OSPAR Convention as applied in the Arctic ocean, close attention needs to be paid on these three mechanisms.

The first mechanism, the NEAFC, is a RFMO with a regulatory area in the Arctic, as it covers the Arctic Ocean between longitudes 42° west and 51° east (The NEAFC Convention, 1980, Article 1.a),<sup>81</sup> involving three areas of the high seas of the northeast Atlantic: the Reykjanes Ridge-Azores area, the ‘Doughnut Hole’ of the Norwegian Sea (also known as ‘Banana Hole’) and the Barents Sea ‘Loophole’ (Henriksen et al., 2006: 101).<sup>82</sup> The NEAFC hence also manages a small part of the high seas that is located in the Arctic Ocean. The second mechanism, the OSPAR Convention (OSPAR)<sup>83</sup> (named after the original Oslo and Paris Conventions) also covers parts of Arctic Ocean, since the “Contracting Parties”—fifteen Arctic and non-Arctic states—hold the key to legal protection of the Arctic. Neither NEAFC nor OSPAR have thus far displayed an active interest in addressing management issues of the high seas portion of the CAO, nor have the A5 themselves individually or collectively promoted this possibility (Wegge, 2015).<sup>84</sup>

As far as the third mechanism, where the Joint Commission is concerned, the constitutive instruments of the Commission does not specify its spatial mandate (The Joint Norwegian-Russian Fisheries Commission).<sup>85</sup> Therefore, fisheries for species whose distributional range extends into the CAO fall within the Joint Commission’s mandate. However, the Joint Commission’s competence over the CAO was also challenged because of its previous working methods: “if the Joint Commission would actually exercise competence over the CAO in a similar manner as with regard to the Loophole, this would not be acceptable to the other Arctic Ocean coastal states and other members of NEAFC” (Molenaar, 2014: 111).<sup>86</sup>

The gap in RFMO coverage of the high seas between the international legal framework and national regulation for Arctic fisheries (Molenaar, 2014: 118)<sup>87</sup> has undoubtedly generated the most debate. Taking the negotiation process of the fisheries management in the CAO into consideration, the application of any of the said three RFMO/As on the high seas portion of the CAO will be problematic, not to mention difficulties to reach consensus among the A5 in this regard. A full-

fledged RFMO does not seem the most likely option either, due to considerations of cost-effectiveness in light of the fact that significant commercially viable fisheries are not expected in the short term. An Arrangement—whether legally binding or non-legally binding—is therefore a more likely option (Molenaar, 2014: 118).<sup>88</sup>

Although the 2015 Oslo Declaration states that based on the available scientific information, commercial fishing in the high seas portion of the CAO is unlikely to occur in the near future, “there is no need at present to establish any additional regional fisheries management organization for the CAO.” Reading the provision regarding interim measures, the Oslo Declaration still leaves the door open for the RFMO/As “that are or may be established.”

### **The Broader Process of the Oslo Declaration and the Follow-up Development of the CAO High Seas Fisheries Arrangement**

Governance of the CAO high seas fisheries is not just about fishing, it also has many other aspects, such as cooperative governance of the Arctic, relations among Arctic states, and relations between Arctic and non-Arctic states. Some authors take the position that “such an agreement is thus a question of policy, science, and international relations” (Pan & Huntington, 2016).<sup>89</sup> In its context, the Oslo Declaration envisions a broader process. Not surprisingly, the follow-up negotiations will continue to proceed the broader process, and the choice of invitees may be informed based on the concept of “real interest”, which is a necessary prerequisite for membership and participation in RFMO/As under the UN Fish Stock Agreement.

#### **Role of participants in the “A5 plus 5” broader process**

The signing of the Oslo Declaration by the A5 in July 2015 received applause ([Iceland blasts Arctic Five for exclusion from fishing agreement](#), 2015, July 30),<sup>90</sup> but the previous negotiation process was criticized as an *inter se* A5 approach because of the ignorance of other Arctic fisheries stakeholders (Nielsson & Magnusson, 2015)<sup>91</sup> or states having potential interests in Arctic fishing. Participation by other states outside the A5 remains an important factor in the overall legitimacy and effectiveness of any outcome from the broader process, and especially could be helpful in addressing potential inconsistencies with the freedom of high seas fishing (UNCLOS, 1982)<sup>92</sup> embodied in the UNCLOS, and the concept of “real interest” in the Fish Stocks Agreement (The Fish Stocks Agreement, 1995, Articles 8.3, Article 9.2).<sup>93</sup>

The roles of other participants can be traced back to the 2014 Nuuk meeting. In this meeting, the A5 agreed “that it is appropriate for the States whose exclusive economic zones border the high seas area in question to take the initiative on this matter,” they also continued to “recognize the interests of Arctic residents, particularly the Arctic [I]ndigenous peoples, in these matters and to engage with them as appropriate” and to “reaffirm that other States may have an interest in this topic and looked forward to a broader process involving additional States beginning before the end of 2014” (Chairman’s Statement, Meeting on Arctic Fisheries, 2014, February 24-26).<sup>94</sup> Although the 2015 Oslo Declaration was signed among the members of the A5, the A5 also acknowledged “the interest of other States in preventing unregulated high seas fisheries in the CAO and look forward to working with them in a broader process to develop measures consistent with this Declaration that would include commitments by all interested States” (The Oslo Declaration, 2015).<sup>95</sup> Therefore, setting political issues aside, it is necessary to consider a broader process involving actors other than the A5, which would include other non-Arctic Ocean states and non-

state actors in future consultations and preparations. That's why the calls for participation of the fourth meeting of scientific experts from the five cooperating nations (China, Korea, Japan, Iceland and the European Union) in September of 2016 (NOAA, 2016)<sup>96</sup> have been publicly acknowledged, and it seems to support the above position. As regards non-state actors, the Arctic Ocean coastal state process has so far involved considerable participation by non-governmental organizations (NGOs), notably, Pew Charitable Trust, which has been exceptionally active, and Arctic Indigenous peoples (Wegge, 2015).<sup>97</sup>

As articulated above, after the signature of the Oslo Declaration in December 2015, the A5 met with representatives from five cooperating nations. Interested bodies, including the Arctic Council (PAME/CAFF), PICES, ICES, and the Pacific Arctic Group (PAG) were also involved in this conference. The December 2015 meeting considered that, "it is unlikely that there will be a stock or stocks of fish in the high seas area of the CAO sufficient to support a sustainable commercial fishery in that area in the near future," therefore, "a number of these approaches could be combined in a step-by-step or evolutionary fashion" (Meeting on High Seas Fisheries in the Central Arctic Ocean, 2015, December 1-3).<sup>98</sup> Additional meetings of these ten governments occurred in April 2016 in Washington, D.C., July 2016 in Iqaluit, Nunavut, Canada, and November-December 2016 in Tórshavn,<sup>99</sup> Faroe Islands, Denmark (Fourth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean, 2017, January).<sup>100</sup>

### **The follow-up development in Reykjavik**

At the time of this writing, a recent meeting in Reykjavik, Iceland in March 2017 followed previous talks that took place in Washington from 1-3 December 2015 and from 19-21 April 2016, in Iqaluit, Canada from 6-8 July 2016, and in Tórshavn, The Faroe Islands, from 29 November to 1 December 2016 (US Department of State, 2017).<sup>101</sup> At the meeting, the A5 met with representatives from the governments of China, the EU, Iceland, Japan, and Korea continued to discuss on a binding international accord to the high seas portion of the CAO from unregulated fishing (Highleyman, 2016).<sup>102</sup> Before this meeting, delegations had worked on the basis of a Chairman's Text circulated in October 2016 that was in the format of a legally binding agreement.

The foregoing Chairman's Draft Text for the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (hereafter referred to as "Chairman's Draft Text") was composed of a preamble and ten articles. Compared with the Oslo Declaration which focused on the interim measures, more provisions were added in the Chairman's Draft Text. The Major content can be classified into several categories: (1) Regular provisions, including "use of terms", "objective" of the agreement, and "the applied area"; (2) Interim measures and relevant measures, including "interim measures", "joint program of scientific research and monitoring", "review and further implementation"; (3) Legal effect of the agreement, such as the provisions regarding "accession", "non-parties", "signature", "depository", "entry into force and withdrawal" of the agreement, and "relation to other agreements"; (4) Joint Program of Scientific Research and Monitoring, taking Indigenous knowledge into consideration; and (5) Separate provisions for "dispute settlement" and "decision making" (The Chairman's Draft Text, 2016, July 8).<sup>103</sup>

Compared with the previous meeting in Tórshavn that had failed to find consensus on the terms of the said agreement (McGwin, 2016),<sup>104</sup> delegations meeting in Reykjavik made progress in resolving differences of view on many issues under discussion, with a small number of key

provisions remaining to be agreed upon. The Chairman's Statement released after the Reykjavik meeting outlined the remaining work with "a general commitment to conclude the negotiations in the near future", including: (1) a description or definition of the Agreement Area; (2) the conditions under which a decision might be made to commence negotiations on an agreement to establish one or more additional regional or subregional fisheries management organizations or arrangements for the high seas portion of the central Arctic Ocean; (3) the possibility to adopt other conservation and management measures that could apply after such negotiations have commenced; and (4) decision-making procedures (US Department of State, 2017).

## **Conclusion**

Recent scientific publications tend to be level-headed in their expectations of new commercial fish stocks in the high seas of the CAO. Even with a continued reduction in ice cover in the Central Arctic Ocean fish migration northwards, scientific findings suggest that the vast majority of such migrating stocks are likely to be found within the EEZs of the A5 before reaching the high seas (Wegge, 2015; Hoel, 2014).<sup>105</sup> The A5 are all major fishing nations and have extensive domestic fisheries management regimes. Multilateral fisheries fora and instruments, such as the NEAFC and the OSPAR Convention, have clear mandates in the Arctic Ocean. Where fish stocks are shared between two countries, bilateral arrangements exist for cooperation on management, such as the Joint Commission between Norway and Russia. The A5 have considered the issue of the CAO high seas fisheries for years, taking the existing international legal framework for the oceans as their point of departure. The UNCLOS and the Fish Stocks Convention oblige states to cooperate on resource management in the areas beyond the 200-nautical-mile zones. Moreover, as part of the "broader process", the importance of other countries having real interest in fishing in the area has been taken into consideration, when China, the EU, Iceland, Japan, and Korea were invited to discuss a binding international agreement in the near future.

The 2015 Oslo Declaration, taking the form of "soft law" by the A5 to regulate high seas fishing in the CAO, will be noted as an important step for fisheries management of the marine Arctic. Based on "the obligation to apply the precautionary approach," the Oslo Declaration calls upon the implementation of appropriate interim measures to deter unregulated fishing in the future in the high seas portion of the CAO. The implication of applying the precautionary principle in the Oslo Declaration reflects the significant lack of science and data, and seeks to remedy this knowledge gap before actual fisheries become feasible. This also demonstrates commitment to fundamental principles of international fisheries management, and, in particular, international standards for the management of "new and exploratory fisheries."

Moreover, in the Declaration, the A5 agreed that commercial fishing in the high seas portion of the central Arctic Ocean is unlikely to occur in the near future and that there is "no need at present to establish any RFMO/As for this area." Some suggest that the likelihood of establishing a new RFMO for the CAO is slim in the near future (Wegge, 2015).<sup>106</sup> However, to this author, since the existing RFMO/As regarding marine Arctic already provide useful experience on fishery management and the Oslo Declaration leaves the door open for the RFMO/As "that are or may be established," it is not unrealistic "to discuss the likelihood of establishing a new RFMO for the CAO" (Wegge, 2015).<sup>107</sup> Instead, there may be a step-to-step process for the RFMO/As for the CAO, which includes: step one, to reach a legally binding agreement at the initial stage; step two,

to establishment an arrangement based on the “funding agreement”; and step three, to establish a RFMO when conditions are ripe.

## Acknowledgments

The author is grateful for suggestions or comments on earlier drafts received by Director & Professor Niels Einarsson at the Stefansson Arctic Institute of Iceland, Professor Aldo Chircop at Schulich School of Law of Dalhousie University, and Associate Professor Jian Ye TANG at National Engineering Research Center for Oceanic Fisheries of Shanghai Ocean University. The viewpoints expressed herein are those of the author, not necessarily construed as others.

This research was supported by the 2015 CNARC Fellowship Programme and the 2016 academic programme of Shanghai Jiao Tong University (BV-COLP2016011)

## Notes

1. Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth (Eds.), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (pp. 104-105). New York: Springer.
2. At the most recent scientific experts meeting on the fish stock in the central Arctic Ocean, it is however worth noting that the term central Arctic Ocean was also been referred to the extraterritorial waters of the Arctic. See Third Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean. (2015, April 14-16). NOAA. (2015). *Final Report of the Third Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean*. Retrieved from [https://www.afsc.noaa.gov/Arctic\\_fish\\_stocks\\_third\\_meeting/meeting\\_reports/3rd Arctic Fish Final Report 10 July 2015 final.pdf](https://www.afsc.noaa.gov/Arctic_fish_stocks_third_meeting/meeting_reports/3rd_Arctic_Fish_Final_Report_10_July_2015_final.pdf).
3. It's worth noting that Klaus Dodds and Valur Ingimundarson used Iceland as a case study and explored cultural and political significance for Iceland to be acknowledged and recognized as an “Arctic coastal state”. See Dodds, Klaus., Ingimundarson, Valur. (2012). Territorial Nationalism and Arctic Geopolitics: Iceland as an Arctic Coastal State. *The Polar Journal*, 2 (1), 21-37.
4. Molenaar, Erik J. (2015). The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean. In L. Heininen, H. Exner-Pirot & J. Plouffe (Eds). *Arctic Yearbook 2015* (pp. 427-431). Akureyri, Iceland: Northern Research Forum. Retrieved from [https://arcticyearbook.com/images/Articles\\_2015/briefing-notes/3.BN\\_Molenaar.pdf](https://arcticyearbook.com/images/Articles_2015/briefing-notes/3.BN_Molenaar.pdf).
5. The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean. (2015, July 16). Retrieved from <https://www.regjeringen.no/globalassets/departementene/ud/vedlegg/folkerett/declaration-on-arctic-fisheries-16-july-2015.pdf>
6. Meeting on High Seas Fishery in the Central Arctic Ocean: Chairman's Statement. (2015, Dec 5), the US Department of State, Press Release. Retrieved from <https://www.state.gov/e/oes/ocns/opa/rls/269126.htm>

7. Shephard, Grace Elizabeth. et al. (2016). Assessing the added value of the recent declaration on unregulated fishing for sustainable governance of the central Arctic Ocean, *Marine Policy*, 66, 51.
8. See Kwok, R., Rothrock, D. A. (2009). Decline in Arctic Sea Ice Thickness from Submarine and ICES at Records: 1958-2008. *Geophys. Res. Lett.*, 36; Laxon, S.W. et al. (2013). CryoSat Estimates of Arctic Sea Ice. *Geophys. Res. Lett.*, 40; Kwok, R., and Cunningham, G. F. (2015). Variability of Arctic sea ice thickness and volume from CryoSat-2. *Philosophical Transactions*, 373.
9. D. Perovich., et al. (2017). Sea Ice, Arctic Report Card: Update for 2015. Retrieved from [http://www.arctic.noaa.gov/reportcard/sea\\_ice.html](http://www.arctic.noaa.gov/reportcard/sea_ice.html)
10. Pan, Min., Huntington, Henry P. (2016). A Precautionary Approach to Fisheries in the Central Arctic Ocean: Policy, Science, and China. *Marine Policy*, 66, 153.
11. AMAP. (1998, June 1). AMAP Assessment Report: Arctic Pollution Issues, Oslo, Norway, 132.
12. Huntington, Henry P. et al. (2015). A New Perspective on Changing Arctic Marine Ecosystems: Panarchy Adaptive Cycles in Pan-Arctic Spatial and Temporal Scales. In Salvatore Aricò. (Ed.), *Ocean Sustainability in the 21st Century*. UK: Cambridge University Press, 109-126.
13. Hollowed, A. B., Planque B., Loeng, H. (2013). Potential Movement of Fish and Shellfish Stocks from the Subarctic to the Arctic, *Fisheries Oceanography*, 22, 355-370.
14. The Pew Charitable Trust. (2012, April 12). An Open Letter from International Scientists. Retrieved from [http://www.pewtrusts.org/~media/legacy/oceans\\_north\\_legacy/page\\_attachments/international-arctic-scientist-letter-with-signs-522012.pdf?la=en](http://www.pewtrusts.org/~media/legacy/oceans_north_legacy/page_attachments/international-arctic-scientist-letter-with-signs-522012.pdf?la=en)
15. The Pew Charitable Trust. (2012, September). More than 2,000 scientists Worldwide urge protection of central arctic ocean fisheries. Retrieved from <http://www.pewtrusts.org/en/projects/arctic-ocean-international/solutions/2000-scientists-urge-protection>
16. The Royal Society of UK. (2010, January). New Frontiers in Science Diplomacy Contents, 24. Retrieved from [https://royalsociety.org/~media/Royal\\_Society\\_Content/policy/publications/2010/4294969468.pdf](https://royalsociety.org/~media/Royal_Society_Content/policy/publications/2010/4294969468.pdf)
17. Joint Resolution (110th Congress), S.J.Res.17 2007.
18. Public Law 110-243, 122 STAT. 1569-1571 (2008, June 3). Retrieved from <https://www.congress.gov/110/plaws/publ243/PLAW-110publ243.pdf>
19. North Pacific Fishery Management Council. (2009, Aug). Fishery Management Plan for Fish Resources of the Arctic Management Area. Retrieved from <http://www.npfmc.org/wp-content/PDFdocuments/fmp/Arctic/ArcticFMP.pdf>
20. Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth (Eds.), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (p. 115). New York: Springer.
21. Warner, L., Vanderzwaag, D.L., Engler, C. (2014). Canada and the Governance of Arctic Marine Fisheries: Tending a Fragmented Net. *Ocean Yearbook*, 28 (1), 406.



22. DFO. (2009). Policy for Managing the Impact of Fishing on Sensitive Benthic Areas. Retrieved from <http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/benthi-eng.htm>
23. DFO. (2008). New Emerging Fisheries Policy. Retrieved from <http://www.dfo-mpo.gc.ca/fm-gp/policies-politiques/efp-pnp-eng.htm>
24. Byers, Michael. (2013). *International Law and the Arctic*. UK: Cambridge University Press, p. 180.
25. The Standing Senate Committee of Canadian Parliament. (2010). The Management of Fisheries and Oceans in Canada's Western Arctic. Retrieved from <http://www.parl.gc.ca/Content/SEN/Committee/403/fish/subsitemay10/recommendations-e.htm>
26. Government of Canada. (2014, October 17). Archived—Minister Aglukkaq Announces the Signature of the Beaufort Sea Integrated Fisheries Management Framework. Retrieved from <http://news.gc.ca/web/article-en.do?nid=894639>
27. Ministry of Foreign Affairs of Kingdom of Denmark. (2011, August). *Strategy for the Arctic 2011-2020*, 31. Retrieved from [https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/system/files/ged/41%20mss-denmark\\_en.pdf](https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/system/files/ged/41%20mss-denmark_en.pdf)
28. See Molenaar, Erik J. (2012). Fisheries Regulation in the Maritime Zones of Svalbard. *International Journal of Marine and Coastal Law*, 27 (3), 50-52.
29. See Ministry of Foreign Affairs of Norway. (2011). *High North-Visions and Strategies*. Retrieved from [https://www.regjeringen.no/globalassets/upload/ud/vedlegg/nordomradene/ud\\_nordomrodene\\_en\\_web.pdf](https://www.regjeringen.no/globalassets/upload/ud/vedlegg/nordomradene/ud_nordomrodene_en_web.pdf)
30. Government of Norway. (2015, July 20). [How to Stop Unregulated Fishing in the Arctic Ocean](http://www.norwaypost.no/news-politics/30965-How-to-Stop-Unregulated-Fishing-in-the-Arctic-Ocean). Retrieved from <http://www.norwaypost.no/news-politics/30965->
31. Glubokov, A.L., Hoel, A.H., Rolston, S. J., Turgeon, S., Vanderzwaag, D. L. (2014). Governance of Russian Arctic Fisheries in the Barents Sea: Surveying National and Cooperative Currents. *Ocean Yearbook*, 28 (1), 340-341.
32. Rosen, Yereth. (2015, September 1). US-Russia United Desire to Protect Arctic Ocean Unregulated Fishing. Retrieved from <http://www.adn.com/arctic/article/us-russia-united-desire-protect-arctic-ocean-unregulated-fishing/2015/09/02/>
33. Loukacheva, Natalia. (Ed.). (2015). *Polar Law Textbook*. Copenhagen: Nordic Council of Ministers, p. 73.
34. Till May 2017, 168 countries or entities made ratification, accession and succession to the UNCLOS. UNCLOS. (1982). Retrieved from [http://www.un.org/Depts/los/convention\\_agreements/convention\\_overview\\_convention.htm](http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm)
35. The Fish Stock Agreement came into force as from 11 December 2001. Till March, 2017, there are 86 parties of the Agreement. The Fish Stock Agreement. (1995). Retrieved from [https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXI-7&chapter=21&lang=en](https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXI-7&chapter=21&lang=en).

36. The Compliance Agreement. (1993). Retrieved from <http://www.fao.org/docrep/MEETING/003/X3130m/x3130m00.HTM>
37. To strengthen the international legal framework for more effective conservation, management and sustainable exploitation and production of living aquatic resources, the 1995 FAO Conference adopted the FAO Code of Conduct for Responsible Fisheries.
38. See FAO Technical Guidelines. Retrieved from <http://www.fao.org/fishery/topic/166351/en>
39. Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. (2009). Retrieved from <http://www.fao.org/3/a-i1644t.pdf>
40. Oceans and the Law of the Sea in the General Assembly of the United Nations. Retrieved from [http://www.un.org/Depts/los/general\\_assembly/general\\_assembly.htm](http://www.un.org/Depts/los/general_assembly/general_assembly.htm)
41. Yoshifumi, Tanaka. (2008). *A Dual Approach to Ocean Governance: The Cases of Zonal and Integrated Management in the International Law of the Sea*. Ashgate, p. 5.
42. Article 63 (2), 64 (1) of the UNCLOS.
43. Article 63 (1)&(2), Art 64, Art 118, and Art 119 of the UNCLOS.
44. Henriksen, T., Hoenneland, G., Sydnes. A. (2006). *Law and Politics in Ocean Governance: the UN Fish Stocks Agreement and Regional Fisheries Management Regimes*, Leiden: Martinus Nijhoff Publishers, p. 13.
45. Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth (Eds.), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (p. 108). New York: Springer.
46. Ryder, Seamus.(2015, August 11). *The Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean*. Retrieved from <http://site.uit.no/jclos/2015/08/11/the-declaration-concerning-the-prevention-of-unregulated-high-seas-fishing-in-the-central-arctic-ocean/>
47. Birnie, Patricia., Boyle, Alan., Redgwell, Catherine. (2009). *International Law and the Environment (3rd Edition)*. Oxford University Press, p. 35.
48. Arctic Fisheries Nuuk Chairmans and ToR for 3rd Meeting. Chairman's Statement, Meeting on Arctic Fisheries. (2014, February 24-26). Nuuk, Greenland. Retrieved from [https://www.afsc.noaa.gov/Arctic\\_fish\\_stocks\\_third\\_meeting/Arctic%20Fisheries%20Nuuk%20Chairmans%20and%20ToR%20for%203rd%20Meeting.pdf](https://www.afsc.noaa.gov/Arctic_fish_stocks_third_meeting/Arctic%20Fisheries%20Nuuk%20Chairmans%20and%20ToR%20for%203rd%20Meeting.pdf)
49. The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean. 2015, July 16.
50. Doyle, Alister. (2015, July 15). Fish Ban in the Arctic. *Toronto Sun*. Retrieved from <http://www.torontosun.com/2015/07/16/fishing-ban-in-arctic>
51. Ryder, Seamus. (2015, August 11). *The Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean*. Retrieved from <http://site.uit.no/jclos/2015/08/11/the-declaration-concerning-the-prevention-of-unregulated-high-seas-fishing-in-the-central-arctic-ocean/>
52. Ryder, Seamus. (2015, August 11). *The Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean*. Retrieved from <http://site.uit.no/jclos/2015/08/11/the-declaration-concerning-the-prevention-of-unregulated-high-seas-fishing-in-the-central-arctic-ocean/>

53. International Council for the Exploration of the Sea: It was established on July 22, 1902 in Copenhagen. It is a leading multidisciplinary scientific forum for the exchange of information and ideas on all aspects of marine sciences pertaining to the North Atlantic, including the adjacent Baltic Sea and North Sea, and for the promotion and coordination of marine research by scientists within its member nations. See ICES. Retrieved from <http://www.ices.dk/Pages/default.aspx>
54. The North Pacific Marine Science Organization: it is an intergovernmental scientific organization, which was established in 1992 to promote and coordinate marine research in the northern North Pacific and adjacent seas. Its present members are Canada, Japan, People's Republic of China, Republic of Korea, the Russian Federation, and the United States of America. See North Pacific Marine Science Organization. Retrieved from <http://www.pices.int/>
55. The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean. 2015, July 16.
56. Ryder, Seamus. (2015, August 11). *The Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean*. Retrieved from <http://site.uit.no/jclos/2015/08/11/the-declaration-concerning-the-prevention-of-unregulated-high-seas-fishing-in-the-central-arctic-ocean/>
57. See Molenaar, E.J. (2016). International Regulation of Central Arctic Ocean Fisheries. In Myron Nordquist. (Eds). *Challenges of the Changing Arctic. Continental Shelf, Navigation, and Fisheries*, Brill Academic Publishers, pp. 429-463.
58. The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean. 2015, July 16.
59. Ryder, Seamus. (2014, October 15). *The Nuuk Meeting on Central Arctic Ocean Fisheries*. Retrieved from <http://site.uit.no/jclos/2014/10/15/the-nuuk-meeting-on-central-arctic-ocean-fisheries/>
60. Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth. (Eds.), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (pp.117-118). New York: Springer.
61. Molenaar, E.J. (2016). International Regulation of Central Arctic Ocean Fisheries. In Myron Nordquist. (Eds). *Challenges of the Changing Arctic. Continental Shelf, Navigation, and Fisheries*, Brill Academic Publishers.
62. Art 63 (2) of the UNCLOS: "where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area."
63. Art 64 (1) of the UNCLOS: "the coastal State and other States whose nationals fish in the region for the highly migratory species listed in Annex I shall cooperate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone. In regions for which no appropriate international organization exists, the coastal State and other States whose nationals harvest these species in the region shall cooperate to establish such an organization and participate in its work."

64. CCAMLR: the Convention on the Conservation of Antarctic Marine Living Resources, also Commission on the Conservation of Antarctic Marine Living Resources, and CCAMLR, is part of the Antarctic Treaty System. The Convention was opened for signature on 1 August 1980 and entered into force on 7 April 1982 by the Commission for the Conservation of Antarctic Marine Living Resources, headquartered in Tasmania, Australia. See CCAMLR. About CCAMLR. Retrieved from <https://www.ccamlr.org/en/organisation/about-ccamlr>
65. The Commission at the Thirty-fifth Meeting. 2016, October 17-28. Schedule of Conservation Measures in Force 2016/17. Retrieved from <https://www.ccamlr.org/en/document/publications/schedule-conservation-measures-force-2016/17>
66. The Commission at the Thirty-fifth Meeting. 2016, October 17-28. Schedule of Conservation Measures in Force 2016/17. Retrieved from <https://www.ccamlr.org/en/document/publications/schedule-conservation-measures-force-2016/17>
67. Art. 6 (6), the Fish Stock Agreement.
68. Art. 6 (6), the Fish Stock Agreement.
69. Article 63 (2) and 64(1), the Fish Stock Agreement.
70. Henriksen, T., Hønneland, G. , [Sydnes](#), A. (2006). *Law and Politics in Ocean Governance: the UN Fish Stocks Agreement and Regional Fisheries Management Regimes.*, Leiden: Martinus Nijhoff Publishers, pp.18-19.
71. Nandan, S.N., 2005. *Current Fisheries Governance*. Conference on the Governance of High Seas Fisheries and the United Nation Fish Agreement: Moving from Words to Action. Canada.
72. Molenaar, E.J. (2000). *The Concept of Real Interest and Other Aspects of Cooperation Through Regional Fisheries Management Organizations*. *International Journal of Marine and Coastal Law*, 18 (4), 486.
73. Henriksen, T., Hoenneland, G., Sydnes. A. (2006). *Law and Politics in Ocean Governance: the UN Fish Stocks Agreement and Regional Fisheries Management Regimes*, Leiden: Martinus Nijhoff Publishers, p.20.
74. Freestone, David., Makuch, Zen.(1997). The New International Law of Fisheries: the 1995 UN Straddling & Stocks Convention. *Yearbook of International Environmental Law*, 7 (1), 29-30.
75. This is the conclusion reached by Molenaar (2000) and Hayashi (1999). See Molenaar, Erik J. (2000). The Concept of Real Interest and Other Aspects of Cooperation through Regional Fisheries Management Mechanisms, *International Journal of Marine and Coastal law*, 15(4), 475-532; Hayashi, M. (1999). The Straddling and Highly Migratory Fish Stocks Agreement. In Hey, Ellen. (Ed). *Developments in International Fisheries law* (pp. 55-84). The Hague: Kluwer Law International.
76. See Article 1(1) (d), the Fish Stock Agreement.
77. Henriksen, T. Hoenneland, G., Sydnes. A. (2006). *Law and Politics in Ocean Governance: the UN Fish Stocks Agreement and Regional Fisheries Management Regimes*, Leiden: Martinus Nijhoff Publishers, p.17.

78. For literature on this topic, see *inter alia*, Robin, Churchill. (2001). Managing Straddling Fish Stocks in the North-East Atlantic: A Multiplicity of Instruments and Regime Linkage—But How Effective a Management? In Stokke, O. S. (Ed). *Governing High Seas Fisheries: The Interplay of Global and Regional Regimes*, Oxford: Oxford University Press, pp. 235-272; Molenaar, Eric J. (2012). Fisheries Regulation in the Maritime Zones of Svalbard. *International Journal of Marine and Coastal Law*, 27(3), 26-27; Glubokov, A.L., Hoel, A.H. Rolston, S. J., Turgeon, S., Vanderzwaag, D. L. (2014). Governance of Russian Arctic Fisheries in the Barents Sea: Surveying National and Cooperative Currents. *Ocean Yearbook*, 28 (1), 328-347; Molenaar, Eric J. (2015) International Law on Arctic Fisheries. In Loukacheva, Natalia. (Ed). *Polar Law Textbook*. Copenhagen: Nordic Council of Ministers, pp. 84-85; Zou, Leilei., Huang, Shuolin. (2016). Analysis on A5's Stewardship in the High Seas Fisheries Management (in Chinese). *Journal of Ocean University of China (Social Science)*, 3, 6-13.
79. NEAFC: The North East Atlantic Fisheries Commission is made up of delegations from Contracting Parties who have agreed to abide by the rules of the Convention on Future Multilateral Cooperation in North East Atlantic Fisheries, which entered into force in its current form in November 1982. The NEAFC composes of 5 parties, namely, Denmark (in respect of the Faroe Islands and Greenland), the European Union, Iceland, Norway and the Russian Federation. NEAFC. FAQs about NEAFC. Retrieved from <http://www.neafc.org/neafcguide>
80. See Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth., et al. (Eds), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (pp.110-111). New York: Springer; Molenaar, Eric J. (2015). International Law on Arctic Fisheries, in Natalia Loukacheva ed., *Polar Law Textbook*. Copenhagen: Nordic Council of Ministers, pp. 84-85.
81. Art 1 (a), the Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries (the “NEAFC Convention”, adopted on 18 November 1980 and entered into force in 1982).
82. Henriksen, T., Hoenneland, G., Sydnes. A. (2006). *Law and Politics in Ocean Governance: the UN Fish Stocks Agreement and Regional Fisheries Management Regimes*, Leiden: Martinus Nijhoff Publishers, p.101.
83. The OSPAR: OSPAR started in 1972 with the Oslo Convention against dumping and was broadened to cover land-based sources and the offshore industry by the Paris Convention of 1974. The word “OSPAR” comes from combining bits of the words “Oslo” and “Paris”, the places where agreements making up the OSPAR Convention were signed. These two conventions were unified, up-dated and extended by the 1992 OSPAR Convention. The new annex on biodiversity and ecosystems was adopted in 1998 to cover non-polluting human activities that can adversely affect the sea. The fifteen Governments of OSPAR are Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom. See OSPAR. About the OSPAR. Retrieved from <http://www.ospar.org/about>
84. Wegge, Njord. (2015). The Emerging Politics of the Arctic Ocean: Future Management of the Living Marine Resources. *Marine Policy*, 51, 331-338.
85. The Joint Norwegian-Russian Fisheries Commission provides efficient joint management of the most important fish stocks of both countries, in the Barents Sea and the Norwegian Sea. The decision to establish the Commission was made in 1974, and the

- Commission held its very first session in 1976. See The Joint Norwegian-Russian Fisheries Commission. The Fisheries Commission. Retrieved from <http://www.jointfish.com/index.php/eng/THE-FISHERIES-COMMISSION>
86. See Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth. (Eds.), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (p.111). New York: Springer.
  87. Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth. (Eds.), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (p.118). New York: Springer.
  88. Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth. (Eds.), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (p.118). New York: Springer.
  89. Pan, Min., Huntington, Henry P. (2016). A Precautionary Approach to Fisheries in the Central Arctic Ocean: Policy, Science, and China. *Marine Policy*, 66, 153.
  90. For example, the Inuit Circumpolar Council, [have been strong advocates for a moratorium on commercial fishing in the central Arctic Ocean](#) until a sustainable management plan is in place and [were involved in discussions with the five coastal states](#) on the issue. See [Iceland blasts Arctic Five for exclusion from fishing agreement](#). (2015, July 30). Retrieved from <http://www.rcinet.ca/eye-on-the-arctic/2015/07/30/iceland-blasts-arctic-five-for-exclusion-from-fishing-agreement/>
  91. Nielsson, Egill Thor., Magnusson, Bjarni Mar. (2015, August 5). *The Arctic Five Strike Again*. Retrieved from <http://arcticjournal.com/opinion/1732/arctic-five-strike-again>
  92. Article 116 of UNCLOS states that: “All States have the right for their nationals to engage in fishing on the high seas subject to:
    - (a) their treaty obligations;
    - (b) the rights and duties as well as the interests of coastal States provided for, *inter alia*, in article 63, paragraph 2, and articles 64 to 67...”
  93. Articles 8(3) & Article 9(2), the Fish Stocks Agreement.
  94. See Chairman’s Statement, Meeting on Arctic Fisheries. (2014, February 24-26), Nuuk: Greenland.
  95. The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean. 2015, July 16.
  96. See NOAA. (2016). Fourth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean. Retrieved from [http://www.afsc.noaa.gov/Arctic\\_fish\\_stocks\\_fourth\\_meeting/](http://www.afsc.noaa.gov/Arctic_fish_stocks_fourth_meeting/)
  97. See Wegge, Njord. (2015). The Emerging Politics of the Arctic Ocean: Future Management of the Living Marine Resources. *Marine Policy*, 51, 334.
  98. See Meeting on High Seas Fisheries in the Central Arctic Ocean. (2015, December 1-3). Chairman’s Statement. Washington, D.C.
  99. The meeting in Torshaven occurred after the scientific meeting in Troms.
  100. See Fourth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean. (2017, January). Final Report of the Fourth Meeting of Scientific Experts on Fish Stocks

- in the Central Arctic Ocean., pp.8-9, Retrieved from [http://www.afsc.noaa.gov/Arctic\\_fish\\_stocks\\_fourth\\_meeting/pdfs/FourthFiSCAOreportfinalJan26\\_2017.pdf](http://www.afsc.noaa.gov/Arctic_fish_stocks_fourth_meeting/pdfs/FourthFiSCAOreportfinalJan26_2017.pdf)
101. See US Department of State. (2017, March 27). Meeting on High Seas Fisheries in the Central Arctic Ocean: Chairman's Statement. Retrieved from <https://www.state.gov/e/oes/ocns/opa/rls/269126.htm>
  102. See Highleyman, Scott. (2016, December 15). Negotiations for a Central Arctic Fisheries Accord Advance. <http://www.pewtrusts.org/en/research-and-analysis/analysis/2016/12/15/negotiations-for-a-central-arctic-fisheries-accord-advance>
  103. The Chairman's Draft Text (2016, July 8). On file with the author.
  104. See McGwin, Kevin. (2016, December 1). No agreement on Arctic fisheries moratorium. *The Arctic Journal*. Retrieved from <http://arcticjournal.com/business/2734/no-agreement-arctic-fisheries-moratorium>
  105. See US Department of State. (2017, March 27). Meeting on High Seas Fisheries in the Central Arctic Ocean: Chairman's Statement. Retrieved from <https://www.state.gov/e/oes/ocns/opa/rls/269126.htm>
  106. See Wegge, Njord. (2015). The Emerging Politics of the Arctic Ocean: Future Management of the Living Marine Resources. *Marine Policy*, 51, 337; Hoel, Alf Håkon. (2014, March 11). Fish, fisheries and fisheries management in the Arctic Ocean. Retrieved from <http://barentsobserver.com/en/opinion/2014/03/fish-fisheries-and-fisheries-management-arctic-ocean-11-03>
  107. Wegge, Njord. (2015). The Emerging Politics of the Arctic Ocean: Future Management of the Living Marine Resources. *Marine Policy*, 51, 337.

## References

- Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. (2009). Retrieved from <http://www.fao.org/3/a-i1644t.pdf>
- AMAP. (1998, June 1). AMAP Assessment Report: Arctic Pollution Issues, Oslo, Norway.
- Arctic Fisheries Nuuk Chairmans and ToR for 3rd Meeting. Chairman's Statement, Meeting on Arctic Fisheries. (2014, February 24-26). Nuuk, Greenland. Retrieved from [https://www.afsc.noaa.gov/Arctic\\_fish\\_stocks\\_third\\_meeting/Arctic%20Fisheries%20Nuuk%20Chairmans%20and%20ToR%20for%203rd%20Meeting.pdf](https://www.afsc.noaa.gov/Arctic_fish_stocks_third_meeting/Arctic%20Fisheries%20Nuuk%20Chairmans%20and%20ToR%20for%203rd%20Meeting.pdf).
- Birnie, Patricia., Boyle, Alan., Redgwell, Catherine. (2009). *International Law and the Environment (3rd Edition)*. Oxford University Press.
- Byers, Michael. (2013). *International Law and the Arctic*. UK: Cambridge University Press.
- CCAMLR. About CCAMLR. Retrieved from <https://www.ccamlr.org/en/organisation/about-ccamlr>
- Chairman's Statement, Meeting on Arctic Fisheries. (2014, February 24-26), Nuuk: Greenland.
- D. Perovich., et al. (2017). Sea Ice, Arctic Report Card: Update for 2015. Retrieved from

- [http://www.arctic.noaa.gov/reportcard/sea\\_ice.html](http://www.arctic.noaa.gov/reportcard/sea_ice.html)
- DFO. (2008). New Emerging Fisheries Policy. Retrieved from <http://www.dfo-mpo.gc.ca/fm-gp/policies-politiques/efp-pnp-eng.htm>
- DFO. (2009). Policy for Managing the Impact of Fishing on Sensitive Benthic Areas. Retrieved from <http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/benthi-eng.htm>
- Doyle, Alister. (2015, July 15). Fish Ban in the Arctic. *Toronto Sun*. Retrieved from <http://www.torontosun.com/2015/07/16/fishing-ban-in-arctic>
- Dodds, Klaus and Ingimundarson, Valur. (2012). Territorial Nationalism and Arctic Geopolitics: Iceland as an Arctic Coastal State. *The Polar Journal*, 2 (1), 21-37.
- FAO Technical Guidelines. <http://www.fao.org/fishery/topic/166351/en>
- Glubokov, A.L., Hoel, A.H., Rolston, S. J., Turgeon, S., Vanderzwaag, D. L. (2014). Governance of Russian Arctic Fisheries in the Barents Sea: Surveying National and Cooperative Currents. *Ocean Yearbook*, 28 (1).
- Fourth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean. (2017, January). Final Report of the Fourth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean., pp.8-9, Retrieved from [http://www.afsc.noaa.gov/Arctic\\_fish\\_stocks\\_fourth\\_meeting/pdfs/FourthFiSCAOreportfinalJan26\\_2017.pdf](http://www.afsc.noaa.gov/Arctic_fish_stocks_fourth_meeting/pdfs/FourthFiSCAOreportfinalJan26_2017.pdf)
- Freestone, David., Makuch, Zen.(1997). The New International Law of Fisheries: the 1995 UN Straddling & Stocks Convention. *Yearbook of International Environmental Law*, 7 (1), 29-30.
- Glubokov, A.L., Hoel, A.H., Rolston, S. J., Turgeon, S., Vanderzwaag, D. L. (2014). Governance of Russian Arctic Fisheries in the Barents Sea: Surveying National and Cooperative Currents. *Ocean Yearbook*, 28 (1).
- Government of Canada. (2014, October 17). Archived—Minister Aglukkaq Announces the Signature of the Beaufort Sea Integrated Fisheries Management Framework. Retrieved from <http://news.gc.ca/web/article-en.do?nid=894639>
- Government of Norway. (2015, July 20). [How to Stop Unregulated Fishing in the Arctic Ocean](http://www.norwaypost.no/news-politics/30965-). Retrieved from <http://www.norwaypost.no/news-politics/30965->
- Hayashi, M. (1999). The Straddling and Highly Migratory Fish Stocks Agreement. In Hey, Ellen. (Ed). *Developments in International Fisheries law* (pp. 55-84). The Hague: Kluwer Law International.
- Henriksen, T. Hoenneland, G., Sydnes. A. (2006). *Law and Politics in Ocean Governance: the UN Fish Stocks Agreement and Regional Fisheries Management Regimes*, Leiden: Martinus Nijhoff Publishers.
- Highlyman, Scott. (2016, December 15). Negotiations for a Central Arctic Fisheries Accord Advance. <http://www.pewtrusts.org/en/research-and-analysis/analysis/2016/12/15/negotiations-for-a-central-arctic-fisheries-accord-advance>
- Hollowed, A. B., Planque B., Loeng, H. (2013). Potential Movement of Fish and Shellfish Stocks from the Subarctic to the Arctic, *Fisheries Oceanography*, 22, 355-370.
- Hoel, Alf Håkon. (2014, March 11). Fish, fisheries and fisheries management in the Arctic Ocean. Retrieved from <http://barentsobserver.com/en/opinion/2014/03/fish-fisheries-and-fisheries-management-arctic-ocean-11-03>
- Huntington, Henry P. et al. (2015). A New Perspective on Changing Arctic Marine Ecosystems: Panarchy Adaptive Cycles in Pan-Arctic Spatial and Temporal Scales. In Salvatore Aricò.



- (Ed.), *Ocean Sustainability in the 21st Century*. UK: Cambridge University Press, 109-126.
- Iceland blasts Arctic Five for exclusion from fishing agreement. (2015, July 30). Retrieved from <http://www.rcinet.ca/eye-on-the-arctic/2015/07/30/iceland-blasts-arctic-five-for-exclusion-from-fishing-agreement/>
- ICES. Retrieved from <http://www.ices.dk/Pages/default.aspx>
- Joint Resolution (110th Congress), S.J.Res.17 2007.
- Kwok, R., Rothrock, D. A. (2009). Decline in Arctic Sea Ice Thickness from Submarine and ICES at Records: 1958-2008. *Geophys. Res. Lett.*, 36.
- Kwok, R., and Cunningham, G. F. (2015). Variability of Arctic sea ice thickness and volume from CryoSat-2. *Philosophical Transactions*, 373.
- Laxon, S.W. et al. (2013). CryoSat Estimates of Arctic Sea Ice. *Geophys. Res. Lett.*, 40.
- Loukacheva, Natalia. (Ed.). (2015). *Polar Law Textbook*. Copenhagen: Nordic Council of Ministers.
- McGwin, Kevin. (2016, December 1). No agreement on Arctic fisheries moratorium. *The Arctic Journal*. Retrieved from <http://arcticjournal.com/business/2734/no-agreement-arctic-fisheries-moratorium>
- Meeting on High Seas Fisheries in the Central Arctic Ocean. (2015, December 1-3). Chairman's Statement. Washington, D.C.
- Ministry of Foreign Affairs of Kingdom of Denmark. (2011, August). *Strategy for the Arctic 2011-2020*, 31. Retrieved from [https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/system/files/ged/41%20mss-denmark\\_en.pdf](https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/system/files/ged/41%20mss-denmark_en.pdf)
- Ministry of Foreign Affairs of Norway. (2011). *High North-Visions and Strategies*. Retrieved from [https://www.regjeringen.no/globalassets/upload/ud/vedlegg/nordomradene/ud\\_nordomradene\\_en\\_web.pdf](https://www.regjeringen.no/globalassets/upload/ud/vedlegg/nordomradene/ud_nordomradene_en_web.pdf)
- Molenaar, E.J. (2000). *The Concept of Real Interest and Other Aspects of Cooperation Through Regional Fisheries Management Organizations*. *International Journal of Marine and Coastal Law*, 18 (4).
- Molenaar, Eric J. (2012). Fisheries Regulation in the Maritime Zones of Svalbard. *International Journal of Marine and Coastal Law*, 27(3).
- Molenaar, E.J. (2016). International Regulation of Central Arctic Ocean Fisheries. In Myron Nordquist. (Eds). *Challenges of the Changing Arctic. Continental Shelf, Navigation, and Fisheries*, Brill Academic Publishers.
- Molenaar, Erik J. (2000). The Concept of Real Interest and Other Aspects of Cooperation through Regional Fisheries Management Mechanisms, *International Journal of Marine and Coastal law*, 15(4).
- Molenaar, Erik J. (2012). Fisheries Regulation in the Maritime Zones of Svalbard. *International Journal of Marine and Coastal Law*, 27 (3).
- Molenaar, Erik J. (2014). Status and Reform of International Arctic Fisheries Law. In Tedsen, Elizabeth. (Eds.), *Arctic Marine Governance: Opportunities for Transatlantic Cooperation* (pp. 117-118). New York: Springer.
- Molenaar, Eric J. (2015). International Law on Arctic Fisheries, in Natalia Loukacheva ed., *Polar Law Textbook*. Copenhagen: Nordic Council of Ministers.
- Molenaar, Eric J. (2015). International Law on Arctic Fisheries. In Loukacheva, Natalia. (Ed).

- Polar Law Textbook*. Copenhagen: Nordic Council of Ministers.
- Molenaar, Erik J. (2015). The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean, *Arctic Yearbook*, 17 (4).
- Nandan, S.N., 2005. *Current Fisheries Governance*. Conference on the Governance of High Seas Fisheries and the United Nation Fish Agreement: Moving from Words to Action. Canada.
- NEAFC. Retrieved from <http://www.neafc.org/neafcguide>
- Nielsson, Egill Thor., Magnusson, Bjarni Mar. (2015, August 5). *The Arctic Five Strike Again*. Retrieved from <http://arcticjournal.com/opinion/1732/arctic-five-strike-again>
- NOAA. (2015). *Final Report of the Third Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean*. Retrieved from [https://www.afsc.noaa.gov/Arctic\\_fish\\_stocks\\_third\\_meeting/meeting\\_reports/3rd\\_Arctic\\_Fish\\_Final\\_Report\\_10\\_July\\_2015\\_final.pdf](https://www.afsc.noaa.gov/Arctic_fish_stocks_third_meeting/meeting_reports/3rd_Arctic_Fish_Final_Report_10_July_2015_final.pdf).
- NOAA. (2016). Fourth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean. Retrieved from [http://www.afsc.noaa.gov/Arctic\\_fish\\_stocks\\_fourth\\_meeting/](http://www.afsc.noaa.gov/Arctic_fish_stocks_fourth_meeting/)
- North Pacific Fishery Management Council. (2009, Aug). Fishery Management Plan for Fish Resources of the Arctic Management Area. Retrieved from <http://www.npfmc.org/wp-content/PDFdocuments/fmp/Arctic/ArcticFMP.pdf>
- North Pacific Marine Science Organization. Retrieved from <http://www.pices.int/>
- Oceans and the Law of the Sea in the General Assembly of the United Nations. Retrieved from [http://www.un.org/Depts/los/general\\_assembly/general\\_assembly.htm](http://www.un.org/Depts/los/general_assembly/general_assembly.htm)
- Pan, Min., Huntington, Henry P. (2016). A Precautionary Approach to Fisheries in the Central Arctic Ocean: Policy, Science, and China. *Marine Policy*, 66.
- Public Law 110-243, 122 STAT. 1569-1571 (2008, June 3). Retrieved from <https://www.congress.gov/110/plaws/publ243/PLAW-110publ243.pdf>
- Rosen, Yereth. (2015, September 1). US-Russia United Desire to Protect Arctic Ocean Unregulated Fishing. Retrieved from (<http://www.adn.com/arctic/article/us-russia-united-desire-protect-arctic-ocean-unregulated-fishing/2015/09/02/>)
- Robin, Churchill. (2001). Managing Straddling Fish Stocks in the North-East Atlantic: A Multiplicity of Instruments and Regime Linkage—But How Effective a Management? In Stokke, O. S. (Ed). *Governing High Seas Fisheries: The Interplay of Global and Regional Regimes*, Oxford: Oxford University Press.
- Ryder, Seamus. (2014, October 15). *The Nuuk Meeting on Central Arctic Ocean Fisheries*. Retrieved from <http://site.uit.no/jclos/2014/10/15/the-nuuk-meeting-on-central-arctic-ocean-fisheries/>
- Ryder, Seamus. (2015, August 11). *The Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean*. Retrieved from <http://site.uit.no/jclos/2015/08/11/the-declaration-concerning-the-prevention-of-unregulated-high-seas-fishing-in-the-central-arctic-ocean/>
- Shephard, Grace Elizabeth. et al. (2016). Assessing the added value of the recent declaration on unregulated fishing for sustainable governance of the central Arctic Ocean, *Marine Policy*, 66, 51.
- The Chairman's Draft Text (2016, July 8). On file with the author.

- The Commission at the Thirty-fifth Meeting. 2016, October 17-28. Schedule of Conservation Measures in Force 2016/17. Retrieved from <https://www.ccamlr.org/en/document/publications/schedule-conservation-measures-force-2016/17>
- The Compliance Agreement. (1993). Retrieved from <http://www.fao.org/docrep/MEETING/003/X3130m/x3130m00.HTM>
- The Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries (the “NEAFC Convention”, adopted on 18 November 1980 and entered into force in 1982).
- The Fish Stock Agreement. (1995). Retrieved from [https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXI-7&chapter=21&lang=en](https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXI-7&chapter=21&lang=en)
- The Joint Norwegian-Russian Fisheries Commission. The Fisheries Commission. Retrieved from <http://www.jointfish.com/index.php/eng/THE-FISHERIES-COMMISSION>
- The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean. (2015, July 16). Retrieved from <https://www.regjeringen.no/globalassets/departementene/ud/vedlegg/folkerett/declaration-on-arctic-fisheries-16-july-2015.pdf>
- The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean. 2015, July 16.
- The OSPAR. About the OSPAR. Retrieved from <http://www.ospar.org/about>
- The Pew Charitable Trust. (2012, April 12). An Open Letter from International Scientists. Retrieved from [http://www.pewtrusts.org/~media/legacy/oceans\\_north\\_legacy/page\\_attachments/international-arctic-scientist-letter-with-sigs-522012.pdf?la=en](http://www.pewtrusts.org/~media/legacy/oceans_north_legacy/page_attachments/international-arctic-scientist-letter-with-sigs-522012.pdf?la=en)
- The Pew Charitable Trust. (2012, September). More than 2,000 scientists Worldwide urge protection of central arctic ocean fisheries. Retrieved from <http://www.pewtrusts.org/en/projects/arctic-ocean-international/solutions/2000-scientists-urge-protection>
- The Royal Society of UK. (2010, January). New Frontiers in Science Diplomacy Contents, 24. Retrieved from [https://royalsociety.org/~media/Royal\\_Society\\_Content/policy/publications/2010/4294969468.pdf](https://royalsociety.org/~media/Royal_Society_Content/policy/publications/2010/4294969468.pdf)
- The Standing Senate Committee of Canadian Parliament. (2010). The Management of Fisheries and Oceans in Canada’s Western Arctic. Retrieved from <http://www.parl.gc.ca/Content/SEN/Committee/403/fish/subsitemay10/recommendations-e.htm>
- US Department of State. (2017, March 27). Meeting on High Seas Fisheries in the Central Arctic Ocean: Chairman's Statement. Retrieved from <https://www.state.gov/e/oes/ocns/opa/rls/269126.htm>
- UNCLOS. (1982). United Nations Convention on the Law of the Sea of 10 December 1982 Overview and full text. Retrieved from [http://www.un.org/Depts/los/convention\\_agreements/convention\\_overview\\_convention.htm](http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm)
- Warner, L., Vanderzwaag, D.L., Engler, C. (2014). Canada and the Governance of Arctic Marine Fisheries: Tending a Fragmented Net. *Ocean Yearbook*, 28 (1).

- Wegge, Njord. (2015). The Emerging Politics of the Arctic Ocean: Future Management of the Living Marine Resources. *Marine Policy*, 51.
- Yoshifumi, Tanaka. (2008). *A Dual Approach to Ocean Governance: The Cases of Zonal and Integrated Management in the International Law of the Sea*. Ashgate.
- Zou, Leilei., Huang, Shuolin. (2016). Analysis on A5's Stewardship in the High Seas Fisheries Management (in Chinese). *Journal of Ocean University of China (Social Science)*, 3.