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Background Paper

Arctic Fisheries

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LIST OF ABBREVIATIONS

ACIA	Arctic Climate Impact Assessment
CoP	Conference of Parties
EAF	ecosystem approach to fisheries
EIA	environmental impact assessment
FAO	United Nations Food and Agriculture Organization
FMP	fishery management plan
ICC	Intergovernmental Consultative Committee
ICCAT	International Commission on the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IPOA	international plan of action
MOU	Memorandum of Understanding
MSY	maximum sustainable yield
NAFO	Northwest Atlantic Fisheries Organization
NASCO	North Atlantic Salmon Conservation Organization
NEAFC	North East Atlantic Fisheries Commission
NPAFC	North Pacific Anadromous Fish Commission
NPFMC	North Pacific Fishery Management Council
PICES	North Pacific Marine Science Organization
PSC	Pacific Salmon Commission
RFMO	regional fisheries management organization
SEA	strategic impact assessment
TAC	total allowable catch
UNGA	United Nations General Assembly
WCPFC	Western and Central Pacific Ocean Fisheries Commission

EXECUTIVE SUMMARY

This background paper focuses on fisheries that occur in the Arctic marine area, including fisheries for anadromous species that spawn in rivers that flow directly into the Arctic marine area. The paper follows a sectoral perspective, but in pursuance of an ecosystem approach to fisheries (EAF). Due to this sectoral perspective, the focus will be exclusively on international instruments and intergovernmental and other relevant international bodies that relate to, or pursue, conservation as well as management. No attention will therefore be paid to those that focus exclusively on conservation of species and habitat by various means, including by the regulation of international trade.

The broad spatial scope of the Arctic marine area implies that it includes a wide range of different ecosystems, fish stocks and fisheries. Significant differences exist for instance between the Atlantic and Pacific sides of the Arctic marine area. Chapter 13 on 'Fisheries and Aquaculture' of the Arctic Climate Impact Assessment (ACIA) Scientific Report reflect these differences by focusing only on the four major Arctic and Subarctic marine fisheries and their ecosystems, namely (i) the Barents and Norwegian Seas (ii) the waters around Iceland and off East Greenland, (iii) the Newfoundland and Labrador Seas and (iv) the Bering Sea. The species discussed in this chapter are a selection that is based to a considerable extent on the focus on these four areas. Saying anything useful about the relative importance of fisheries for these species is impossible without going into a lot of detail. Pursuing an EAF is not only a challenge in view of the complexity of the functioning of Arctic marine ecosystems and the limitations and shortcomings of science, but presumably also the lack of necessary data.

The ACIA does not examine subsistence fisheries in the Arctic marine area under a separate heading, but devotes attention to them within the scope of these four spatial areas. It seems, likely, however, that subsistence fishing in the other parts of the Arctic marine area will be relatively more important to indigenous peoples.

While warmer Arctic surface and water temperatures, reductions in sea ice coverage and thickness, reduced salinity, increasing acidification and other oceanographic and meteorological changes are all factors that are certain to affect Arctic marine ecosystems, accurate predictions cannot be made. The composition of Arctic marine ecosystems will undoubtedly change; qualitatively, quantitatively, spatially and temporally. Where new fishing opportunities will occur (on the high seas or within coastal state maritime zones) and with respect to which species or category of species (e.g. shared, anadromous, straddling or highly migratory) is also difficult to predict. Similarly which states - Arctic Ocean coastal states or other states - will benefit or suffer and how subsistence fishing will be affected, among other things by competition with commercial fisheries. Finally, as reduced ice coverage and thickness will also enable other human activities - most importantly shipping and offshore hydrocarbon activities - these activities may compete with fishing in a spatial sense or affect them by pollution and other impacts.

The impact of current and future Arctic fisheries on the marine environment and marine biodiversity in the Arctic is not likely to be fundamentally different from impacts to the marine environment and biodiversity in other parts of the globe. Arctic fisheries could lead to over-exploitation of target species and a variety of impacts on non-target species, for instance on

dependent species due to predator-prey relationships, on associated species due to by-catch and on benthic species due to bottom fishing techniques. In view of the broad spatial scope of the Arctic marine area, such undesirable effects are without doubt already occurring, even though not necessarily on a very serious scale.

All the global legally binding and non-legally binding instruments related to fisheries conservation and management are also applicable to the Arctic marine area. The most important ones are the United Nations Convention on the Law of the Sea (LOS Convention), the Fish Stocks Agreement, the United Nations Food and Agriculture Organization (FAO) Compliance Agreement, the FAO Code of Conduct for Responsible Fisheries, and its Technical Guidelines, international plans of action (IPOAs) - for instance the IPOA-IUU - and the Model Scheme on PSM, and Resolutions of the United Nations General Assembly (UNGA), among other things on driftnets and destructive fishing practices. Moreover, the Arctic marine area also falls in principle within the competence of the bodies established by these instruments or that are responsible for adopting them.

The applicability of these global instruments to the Arctic marine area also means that their shortcomings apply as well, for instance the non-applicability of the Fish Stocks Agreement to other fish stocks than straddling and highly migratory fish stocks. This is relevant for the Arctic context as new fishing opportunities are also likely to relate to shared and anadromous fish stocks.

While a considerable number of regional fisheries management organization (RFMOs) and Arrangements apply explicitly or implicitly to parts of the Arctic marine area, a large section of the Arctic marine area is not covered by an RFMO or Arrangement with competence over target species other than tuna and tuna-like species and anadromous species. The Arctic Council has so far not focused on the conservation and management of target species and also lacks any express mandate for conserving or managing Arctic fisheries. The Arctic Council can at any rate not be equated with a RFMO or Arrangement.

There are several bilateral arrangements between the relevant Arctic Ocean coastal states on the conservation and management of shared fish stocks within the Arctic marine area. However, some are missing. This would seem to relate to Canada - United States (Beaufort Sea), Canada - Greenland and Russian Federation - United States (Chukchi Sea).

In some parts of the Arctic marine area, for instance the North Atlantic, national regulation is expected to be extensive and relate to all or most of the relevant capacities in which states can exercise jurisdiction, namely as flag, coastal, port and market states and with regard to their natural and legal persons. In other parts of the Arctic marine area, the presence of ice for most of the year has up until now rendered national fisheries regulation for those areas unnecessary. However, as diminishing ice-coverage will attract fishing vessels looking for possible new fishing opportunities, Arctic states will have to develop national regulation for such areas in order to discharge their obligations under international law. The United States is currently engaged in this process with regard to fishing in the maritime zones off Alaska north of the Bering Strait. As some of the fish stocks in the EEZ off Alaska are likely to be transboundary, reference should also be made to the United States Senate joint resolution (SJ Res.) No. 17 of 2007, "directing the United States to initiate international discussions and take necessary steps with other Nations to negotiate an agreement for managing migratory and transboundary fish stocks in the Arctic Ocean".

The current international legal framework relating to fisheries in the Arctic marine area may require adjustments in view of current or future threats of fisheries to the marine environment and marine biodiversity in the Arctic marine area. An assessment of the need for such adjustments should start with conducting basic fisheries research as well the development of future scenarios about areas, dates, species, fishing techniques for which new fishing opportunities are likely to arise and potential impacts for non-target species. It may for instance reveal that new fishing opportunities in the Pacific side of the Arctic Ocean will be mainly located in the maritime zones of coastal states for a considerable time, whereas fishing opportunities in the Atlantic side may much sooner also encompass high seas areas that were not fished before. Such an assessment could be carried out within the framework of the Arctic Council (e.g. through its Conservation of Arctic Flora and Fauna working group (CAFF)) or outside, for instance by the International Council for the Exploration of the Sea (ICES).

In view of the discussion at the meeting of SAOs in November 2007, there is currently considerable opposition within the membership of the Arctic Council to becoming actively involved in fisheries management and conservation. This opposition is likely to mean that the Arctic Council may not be used as a forum for discussing the options identified in this subsection, let alone be used as a forum for negotiating a legally binding or non-legally binding instrument on Arctic fisheries conservation and management.

In addition to ensuring the availability of relevant scientific data, *inter alia* by developing the scenarios mentioned above, the following options can be identified

- individual action by Arctic Ocean coastal states and other states in their capacities as flag, coastal, port and market states and with regard to their natural and legal persons;
- bilateral or subregional arrangements between the relevant Arctic Ocean coastal states on the conservation and management of shared and anadromous fish stocks;
- a declaration or statement by which the main relevant general principles of the Fish Stocks Agreement, the recent UNGA Resolutions in relation to vulnerable marine ecosystems and destructive fishing practices and relevant conservation and management measures drawn from RFMOs are made applicable to new and existing fisheries in the Arctic marine area. In particular, this declaration could stipulate that there shall be no new fisheries until adequate assessments of their potential impacts on target and non-target species and livelihoods of indigenous peoples are carried out;
- mechanisms or procedures similar to an environmental impact assessment (EIA) and/or a strategic impact assessment (SEA) for new fisheries in the Arctic marine area; and
- one or more state-of-the-art RFMOs or Arrangements for species other than tuna or tuna-like species and anadromous species, whether self-standing or as part of a legally binding framework instrument for the Arctic and possibly in conjunction with adjustments in the competence of existing RFMOs or Arrangements, in particular in geographical terms.

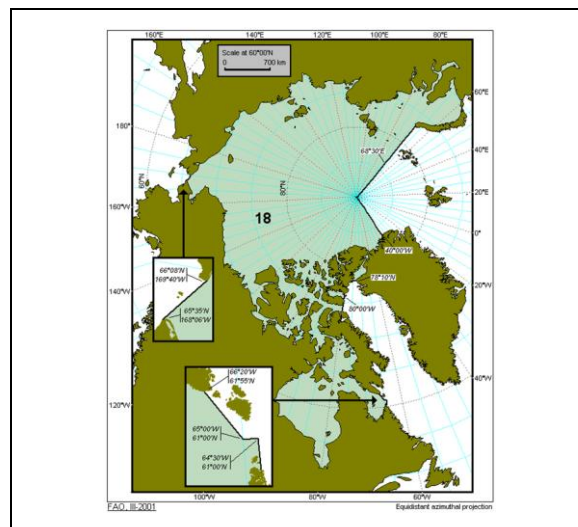
1. INTRODUCTION

This background paper starts with section 2 on its spatial scope, species, fisheries and definitions, followed by section 3 on current Arctic fisheries and section 4 on Arctic fisheries and climate change. Section 5 then gives an overview of the international legal and policy framework with respect to Arctic fisheries and section 6 devotes some attention to national regulation. The paper concludes with section 7 on the gaps in the international legal and policy framework and national regulation and options for addressing them.

2. SPATIAL SCOPE, SPECIES, FISHERIES AND DEFINITIONS

In this background paper, Arctic fisheries are regarded as the fisheries that occur or could occur in the Arctic marine area as defined in the Introduction to the background papers. The Arctic marine area has, among other things, a broader spatial scope than FAO Statistical Area No. 18: Arctic Sea (see Figure 1) and overlaps with the regulatory areas of several regional fisheries management organizations (RFMOs). The constitutive instruments of these RFMOs and their regulatory areas will be described in subsection 5.5.

Figure 1: Spatial scope of FAO Statistical Area No. 18: Arctic Sea



Source: <www.fao.org/fishery/area/Area18>.

As a consequence of the presence of anadromous fish species (e.g. salmon) in the Arctic marine area, the spatial scope of this background paper also extends to the rivers that flow directly into the Arctic marine area.

This background paper focuses exclusively on marine capture fisheries; aquaculture is therefore beyond its scope. As regards species, the paper will often distinguish between fisheries for target species and the impacts of fisheries on non-target species. Target species are exclusively 'fishery resources', which are defined as fish, molluscs, crustaceans and

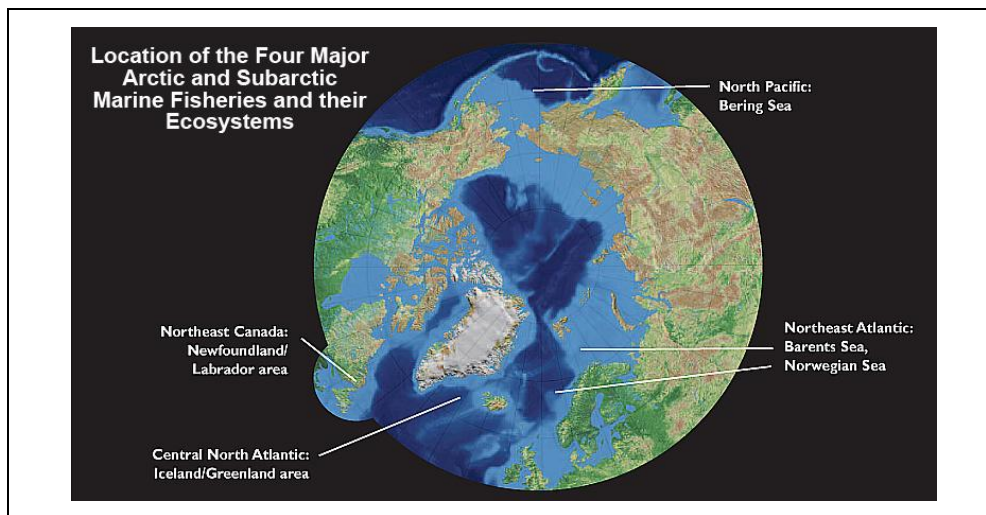
sedentary species.¹ Non-target species can be fishery resources and marine mammals but also birds and (other) benthic species, including corals.

The acronym RFMO is in this paper defined as a regional intergovernmental organization with the competence to impose on its Members legally binding measures for the conservation and management of target fishery resources and regulating impacts of fishing on non-target species.² The term 'Arrangement' is understood to be a bilateral or (sub-) regional cooperative mechanism other than an intergovernmental organization, but otherwise has in principle the same characteristics as an RFMO.³

3. CURRENT ARCTIC FISHERIES

The broad spatial scope of the Arctic marine area implies that it includes a wide range of different ecosystems, fish stocks and fisheries. Significant differences exist for instance between the Atlantic and Pacific sides of the Arctic marine area. Cognizant of these differences, Chapter 13 on 'Fisheries and Aquaculture' of the Arctic Climate Impact Assessment (ACIA) Scientific Report opts to focus on the four major Arctic and Subarctic marine fisheries and their ecosystems, namely (i) the Northeast Atlantic (Barents and Norwegian Seas) (ii) the Central North Atlantic (waters around Iceland and off East Greenland), (iii) Northeast Canada (Newfoundland and Labrador Seas) and (iv) the North Pacific (Bering Sea).⁴ These areas are depicted in Figure 2 (below).

Figure 2: Location of the Four Major Arctic and Subarctic Marine Fisheries and their Ecosystems



Source: ACIA, Scientific Report, Chapter 13 'Fisheries and Aquaculture', p. 693.

¹ Based on Art. 1(b) of the amended NEAFC Convention, note 20 infra.

² See also subsection 5.1 below.

³ The term 'Arrangement' is derived from the term 'arrangement' as defined in Art. 1(1)(d) of the Fish Stocks Agreement.

⁴ Also see the information in Chapter 12, entitled 'Hunting, Herding, Fishing, and Gathering: Indigenous Peoples and Renewable Resource Use in the Arctic', for instance on p. 652.

The species on which this ACIA chapter focuses are “those few circumpolar species (capelin (*Mallotus villosus*), Greenland halibut (*Reinhardtius hippoglossoides*), northern shrimp (*Pandalus borealis*), and polar cod (*Boreogadus saida*)) and those of commercial importance in specific regions. The latter include Atlantic cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), Alaska pollock (*Theragra chalcogramma*), Pacific cod (*Gadus macrocephalus*), snow crab (*Chionoecetes opilio*)”.⁵ Other species discussed by the ACIA include herring, salmon and (red) king crab. It is nevertheless clear that these species are merely a selection, based to a considerable extent on the focus on the four spatial areas mentioned above. Saying anything useful about the relative importance of fisheries for these species is impossible without going into a lot of detail.⁶ The ACIA chapter also notes the complexity of the functioning of Arctic marine ecosystems as well as the limitations and shortcomings of science.⁷ Presumably, a lot of data required for pursuing an ecosystem approach to fisheries (EAF; see below) is also presently not available.

The ACIA does not examine subsistence fisheries in the Arctic marine area under a separate heading, but devotes attention to them within the scope of the four spatial areas mentioned above. It seems likely, however, that subsistence fishing in the other parts of the Arctic marine area will be relatively more important to indigenous peoples.

4. ARCTIC FISHERIES AND CLIMATE CHANGE

The following seem to be the main consequences of climate change to the Arctic marine area:

- much more rapid warming of Arctic surface temperatures in comparison with the rest of the world. As a consequence, Arctic waters will warm more rapidly as well;
- substantial reductions of Arctic sea ice coverage and thickness;
- reduced salinity due to influx of fresh water as a consequence of melting sea ice (which is essentially salt free) and glacial ice;
- other oceanographic and meteorological changes (e.g. more storms and waves) in particular due to changes in air and water temperature and sea ice coverage; and
- increasing acidification of the world’s oceans due to increasing uptake of CO₂ (which is not just relevant to the Arctic marine area).

⁵ ACIA, Scientific Report, Chapter 13, p. 693.

⁶ For such detailed information see ACIA, Scientific Report, Chapter 13 and the North Pacific Fishery Management Council (NPFMC) Public Review Draft Fishery Management Plan for Fish Resources of the Arctic Management Area (Draft Arctic FMP), version of January 2009 and the Public Review Draft Environmental Assessment / Regulatory Impact Review / Initial Regulatory Flexibility Analysis for the Arctic Fishery Management Plan (Arctic FMP EA/RIR/IRFA Public Review Draft), version of January 2009, available at <www.fakr.noaa.gov/npfmc>. Other information can be obtained through the Arctic Fisheries Working Group operating under the International Council for the Exploration of the Sea (ICES; see <www.ices.dk>). This working group, however, has so far been focusing exclusively on the Northeast Atlantic. See also W.E. Schrank, “The ACIA, Climate Change and Fisheries” 31 *Marine Policy* 5-18 (2007).

⁷ ACIA, Scientific Report, Chapter 13, p. 692.

That these changes will affect Arctic marine ecosystems is certain, but accurate predictions cannot be made.⁸ One general conclusion is that

a moderate warming will improve the conditions for some of the most important commercial fish stocks, as well as for aquaculture. This is most likely to be due to enhanced levels of primary and secondary production resulting from reduced sea-ice cover and more extensive habitat areas for subarctic species such as cod and herring. Global warming is also likely to induce an ecosystem regime shift in some areas, resulting in a very different species composition.⁹

The composition of Arctic marine ecosystems will undoubtedly change, both qualitatively and quantitatively. Some species will at some stage disappear and others (e.g. due to northward migration) will be added and the relative importance of species in abundance will change as well. These changes will of course be spatially and temporally differentiated. Where new fishing opportunities will occur (on the high seas or within coastal state maritime zones) and with respect to which species or categories of species (e.g. shared, anadromous, straddling or highly migratory¹⁰) is also difficult to predict. Similarly which states - Arctic Ocean coastal states or other states - will benefit or suffer and how subsistence fishing will be affected, among other things by competition with commercial fisheries. Finally, as reduced ice overage and thickness will also enable other human activities - most importantly shipping and offshore hydrocarbon activities - these activities may compete with fishing in a spatial sense or affect them by pollution and other impacts.

The impact of current and future Arctic fisheries on the marine environment and marine biodiversity in the Arctic is not likely to be fundamentally different from impacts to the marine environment and biodiversity in other parts of the globe. Arctic fisheries could lead to over-exploitation of target species and a variety of impacts on non-target species, for instance on dependent species due to predator-prey relationships, on associated species due to by-catch and on benthic species due to bottom fishing techniques.¹¹ In view of the broad spatial scope of the Arctic marine area, such undesirable effects are without doubt already occurring, even though not necessarily on a very serious scale.

5. INTERNATIONAL LEGAL AND POLICY FRAMEWORK

5.1. Introduction

The aim of this section is to provide an overview of the international legal and policy framework with respect to Arctic fisheries. The purpose of regulating Arctic fisheries follows from the core focus of Arctic TRANSFORM, namely the protection and preservation of the marine environment and marine biodiversity of the Arctic marine area. Even though fisheries

⁸ Ibid., at p. 770.

⁹ Ibid. One area in which an ecosystem shift occurred in the past is the Bering Sea.

¹⁰ See subsection 5.5 on the LOS Convention.

¹¹ See subsection 5.5 on the LOS Convention.

are approached from a sectoral perspective, the objective is to pursue an EAF, defined in the FAO Technical Guidelines on 'The ecosystem approach to fisheries'¹² as follows:

An ecosystem approach to fisheries strives to balance various societal objectives by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.¹³

More concrete, operationalized objectives of EAF include minimizing or avoiding impacts of fishing on non-target species, for instance in terms of by-catch and ensuring availability of food in light of predator-prey relationships. These objectives complement the classic objectives of avoidance of over-exploitation of target species.

As a consequence of the sectoral perspective of this paper, the focus will be exclusively on international instruments and intergovernmental and other relevant international bodies that relate to, or pursue, conservation as well as management. No attention will therefore be paid to those that focus exclusively on conservation of species and habitat by various means, including by the regulation of international trade.

5.2. Interests, rights, obligations and jurisdiction

The international legal and policy framework for fisheries conservation and management seeks to safeguard the different interests of the international community as a whole with those of states that have rights, obligations or jurisdiction in their capacities as flag, coastal, port or market states or with respect to their natural and legal persons. Definitions for the terms 'flag state', 'coastal state' and 'port state' are provided in the subsection with the same title in the background paper on shipping. Also applicable are that subsection's observations on the consensual nature of international law, 'free riders', jurisdiction and on the fact that states generally have interests, rights, obligations and jurisdiction in more than one capacity. It is clear that the problem of flag states that act as free riders in relation to fisheries in areas beyond national jurisdiction is a grave threat to target and non-target species.

In the context of this paper, a port state's jurisdiction relates to fishing activities that have taken place beyond its maritime zones. Such fishing activities may nevertheless have related to transboundary stocks that also occur in the maritime zones of the port's coastal state. While there is no universally accepted definition for the term 'market state', this paper uses the definition for this term proposed in the constitutive instrument of an RFMO under negotiation, namely "a State [...] which imports, exports, re-exports or has a domestic market for fish or fish products derived from fishing in the Convention Area".¹⁴

Both flag and coastal states would in principle have an interest in long-term exercise of their entitlements over marine living resources in the various maritime zones. However, as a coastal state has exclusive access to marine living resources within areas under its national

¹² FAO Technical Guidelines for Responsible Fisheries No. 4, Suppl. 2 (FAO, Rome: 2003).

¹³ At p. 6.

¹⁴ Art. 1(m) of the Draft Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (doc. SP/06/WP1, Revision 4 (October 2008), text at <www.southpacificrfmo.org>).

jurisdiction, its commitment to that objective may often be stronger than that of a flag state. A port state will commonly pursue socio-economic interests related to the port and its 'hinterland'.

5.3. Substantive standards

Fisheries conservation and management authorities often make use of the following substantive standards:

- Restrictions on catch and effort, for instance by setting the total allowable catch (TAC) and allocating the TAC by means of national quotas;
- Minimum size limits for target species;
- Maximum by-catch limits, for instance in terms of the number of individuals (e.g. in relation to marine turtles and marine mammals) or as a percentage of the target catch;
- Technical measures, for instance minimum mesh sizes, by-catch mitigation techniques (e.g. turtle excluder devices, bird-scaring lines); and
- Spatial measures (e.g. closed areas) aimed at avoiding catch of target species (e.g. nursing and spawning areas) or non-target species (e.g. important feedings areas) or avoiding impact on sensitive habitat (e.g. cold water coral reefs).

5.4. Intergovernmental and other relevant international bodies

The main global intergovernmental organizations and bodies of relevance to this paper are the United Nations General Assembly (UNGA) and the FAO. At the regional level, there are a number of RFMOs and bilateral or regional organizations/arrangements whose spatial scope overlaps to some extent with the Arctic marine area. These are:

- the International Commission on the Conservation of Atlantic Tunas (ICCAT), established by the ICCAT Convention¹⁵;
- the bilateral (Canada and the United States) International Pacific Halibut Commission (IPHC), established by the IPHC Convention¹⁶;
- the bilateral (Russian Federation and the United States) Intergovernmental Consultative Committee (ICC), established by the Agreement on Mutual Fisheries Relations¹⁷;

¹⁵ International Convention for the Conservation of Atlantic Tunas, Rio de Janeiro, 14 May 1966. In force 21 March 1969, *United Nations Treaty Series* No. 9587 (1969); <www.iccat.int>.

¹⁶ Convention for the Preservation of the Halibut Fishery of the North Pacific Ocean and the Bering Sea, Ottawa, 2 March 1953. In force 28 October 1953, 222 *United Nations Treaty Series* 78 (1955). Exchange of Notes Constituting an Agreement to Amend the [IPHC Convention], Washington, 29 March 1979. In force 29 March 1979, 1168 *United Nations Treaty Series* 380 (1980).

¹⁷ Agreement between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics on Mutual Fisheries Relations, Moscow, 31 May 1988. In force 28 October 1988, *Treaties and other International Acts Series* 11,422. The Agreement expires on 31 December 2008 but the United States will seek to extend it with another five years. The two states are currently engaged in negotiations to establish a comprehensive fisheries agreement for the Northern Bering Sea. At the 2007 ICC meeting, only three provisions of the draft agreement remained unresolved. The next ICC meeting is scheduled to take place in September 2008 (information obtained from <www.nmfs.noaa.gov/ia/bilateral>, visited 26 August 2008).

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- the Northwest Atlantic Fisheries Organization (NAFO), established by the NAFO Convention.¹⁸ Its main regulatory body is the NAFO Fisheries Commission;
- the North Atlantic Salmon Conservation Organization (NASCO), established by the NASCO Convention¹⁹;
- the North East Atlantic Fisheries Commission (NEAFC), established by the NEAFC Convention²⁰;
- the North Pacific Anadromous Fish Commission (NPAFC), established by the NPAFC Convention²¹;
- the Norway-Russian Federation Fisheries Commission (governed and established by the 1975 Framework Agreement,²² the 1976 Mutual Access Agreement²³ and the 1978 Grey Zone Agreement²⁴) and the trilateral Loophole Agreement and Protocols²⁵;

¹⁸ Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries, Ottawa, 24 October 1978. In force 1 January 1979, 1135 *United Nations Treaty Series* 369; <www.nafo.int>. 2007 Amendment, Lisbon, 28 September 2007. Not in force, NAFO/GC Doc. 07/4. The 2007 Amendment consists of eight articles which replace the title with “Convention on Cooperation in the Northwest Atlantic Fisheries” and the existing Preamble, Annexes and almost all provisions by new ones.

¹⁹ Convention for the Conservation of Salmon in the North Atlantic Ocean, Reykjavik, 2 March 1982. In force 1 October 1983, 1338 *United Nations Treaty Series* 33; <www.nasco.int>.

²⁰ Convention on Future Multilateral Cooperation in the North-East Atlantic Fisheries, London, 18 November 1980. In force 17 March 1982, 1285 *United Nations Treaty Series* 129; <www.neafc.org>. 2004 Amendments (Art. 18bis), London; 12 November 2004. Not in force, but provisionally applied by means of the ‘London Declaration’ of 18 November 2005; <www.neafc.org>. 2006 Amendments, London (Preamble, Arts 1, 2 and 4), 11 August 2006. Not in force, but provisionally applied by means of the ‘London Declaration’ of 18 November 2005; <www.neafc.org>.

²¹ Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, Moscow, 11 February 1992. In force 16 February 1993, 22 *Law of the Sea Bulletin* 21 (1993); <www.npafc.org>.

²² Agreement between the Government of Norway and the Government of the Union of Soviet Socialist Republics on Co-operation in the Fishing Industry, Moscow, 11 April 1975. In force 11 April 1975; 983 *United Nations Treaty Series* 7 (1975). See also O.S. Stokke, “The Loophole of the Barents Sea Fisheries Regime”, in: *Governing High Seas Fisheries: The Interplay of Global and Regional Regimes*, O.S. Stokke (ed.) (Oxford University Press: 2001), pp. 273-301, at p. 274.

²³ Agreement between the Government of the Union of Soviet Socialist Republics and the Government of the Kingdom of Norway Concerning Mutual Relations in the Field of Fisheries, Moscow, 15 October 1976. In force 21 April 1977; 1157 *United Nations Treaty Series* 146 (1980).

²⁴ Avtale mellom Norge og Sovjetunionen om en midlertidig praktisk ordning for fisket i et tilstøtende område i Barentshavet, Oslo, 11 January 1978. In force 11 January 1978; *Overenskomster med fremmede stater* (1978), 436 (Agreement between Norway and the Soviet Union on provisional practical arrangements on fishing in an adjacent area of the Barents Sea).

²⁵ Agreement between the Government of Iceland, the Government of Norway and the Government of the Russian Federation Concerning Certain Aspects of Co-operation in the Area of Fisheries, St. Petersburg, 15 May 1999. In force 15 July 1999; 41 *Law of the Sea Bulletin* 53 (1999); Protocol between the Government of Iceland and the Government of the Russian Federation under the Agreement between the Government of Iceland, the Government of Norway and the Government of the Russian Federation concerning Certain Aspects of Co-operation in the Area of Fisheries St. Petersburg, 15 May 1999. In force 15 July 1999; 14 *International Journal of Marine and Coastal Law* 488-490 (1999); <faolex.fao.org>; and Protocol between the Government of Norway and the Government of Iceland under the Agreement between the Government of Iceland, the Government of Norway and the Government of the Russian Federation concerning

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- the Western and Central Pacific Ocean Fisheries Commission (WCPFC), established by the WCPFC Convention²⁶;
- the Yukon River Panel of the bilateral (Canada and the United States) Pacific Salmon Commission (PSC), established by the Pacific Salmon Treaty²⁷; and
- the annual Conference of Parties (CoP) to the CBS Convention²⁸.

Reference can also be made to the currently ongoing negotiation process for the establishment of an RFMO with competence over bottom fisheries in the Northwest Pacific.²⁹ While interim measures adopted by this process apply south of 45° South, no agreement has yet been reached on the spatial scope of the future Convention.³⁰

The main Arctic Council working groups of relevance to this paper are the CAFF and the SDWG. CAFF's work is guided by the CAFF Strategic Plan for the Conservation of Arctic Biological Diversity and has five core objectives, namely

- Monitoring of Arctic biodiversity;
- Conservation of Arctic species & their habitats;
- Consider the establishment of protected areas;
- Conservation of nature outside protected areas; and
- Integration of conservation objectives & measures for economic sectors of the society;

Finally, reference can be made to the following relevant international bodies:

- the OSPAR Commission established under the OSPAR Convention,³¹ in particular for its work under Annex IV on the assessment of the quality of the marine environment;³²
- various bodies established under the International Council for the Exploration of the Sea (ICES), in particular the Arctic Fisheries Working Group;

Certain Aspects of Co-operation in the Area of Fisheries St. Petersburg, 15 May 1999. In force 15 July 1999; 41 *Law of the Sea Bulletin* 56 (1999) <faolex.fao.org>.

²⁶ Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean, Honolulu, 5 September 2000. In force 19 June 2004, 40 *International Legal Materials* 277 (2001); <www.wcpfc.int>.

²⁷ Treaty between the Government of Canada and the Government of the United States of America Concerning Pacific Salmon, Ottawa, 28 January 1985. In force 18 March 1985; <www.psc.org>. The Yukon River Panel was established by means of the Yukon River Salmon Agreement of December 2002, which amended the Pacific Salmon Treaty.

²⁸ Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea, Washington, 16 June 1994. In force 8 December 1995, 34 *International Legal Materials* 67 (1995); <www.afsc.noaa.gov/refm/cbs>.

²⁹ For some information see <nwpbfo.nomaki.jp> and Y. Takei, *Filling Regulatory Gaps in High Seas Fisheries: Discrete High Seas Fish Stocks, Deep-Sea Fisheries and Vulnerable Marine Ecosystems* (PhD manuscript, Utrecht University, October 2008), at Chapter 5.3.

³⁰ Apparently, the United States does not favor the inclusion of the Bering Sea at all and Japan favors the inclusion of the high seas of the Bering Sea that fall within FAO Statistical Area No. 67.

³¹ Convention for the Protection of the Marine Environment of the North-East Atlantic, Paris, 22 September 1992. In force 25 March 1998, <www.ospar.org>. Annex V, Sintra, 23 September 1998. In force 30 August 2000; <www.ospar.org>.

³² Note that the efforts of the OSPAR Commission under Annex V on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area is addressed in the Background paper on Environmental Governance.

- bodies established under the North Pacific Marine Science Organization (PICES);³³ and
- the International Arctic Science Committee (IASC).

5.5. International instruments

Introduction

As a point of departure, it should be noted that all the global legally binding and non-legally binding instruments related to fisheries conservation and management are also applicable to the Arctic marine area. The most important ones are:

- the LOS Convention;
- the Fish Stocks Agreement;
- the FAO Compliance Agreement³⁴;
- the FAO Code of Conduct for Responsible Fisheries,³⁵ and its Technical Guidelines, international plans of action (IPOAs) - for instance the IPOA-IUU³⁶ - and the Model Scheme on PSM³⁷; and
- UNGA Resolutions, among other things on driftnets and destructive fishing practices³⁸.

The subsections below will address in some more detail the LOS Convention, the Fish Stocks Agreement, constitutive instruments of RFMOs and Arrangements and their conservation and management measures and Arctic Council instruments. Finally, for the sake of completeness reference should be made here to the OSPAR Convention and the Treaty of Spitsbergen³⁹.

LOS Convention

In addition to acknowledging the sovereignty, sovereign rights and jurisdiction of coastal states over all or certain living resources within their maritime zones and the freedom of

³³ For information see <www.pices.int>.

³⁴ Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, Rome, 24 November 1993. In force 24 April 2003, 33 *International Legal Materials* 969 (1994); <www.fao.org/legal>.

³⁵ Adopted by the Twenty-eight Session of the FAO Conference, Rome, 31 October 1995, <www.fao.org/fi>.

³⁶ International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. Adopted by consensus by FAO's Committee on Fisheries on 2 March 2001 and endorsed by the FAO Council on 23 June 2001; <www.fao.org/fi>.

³⁷ Model Scheme on Port State Measures to Combat Illegal, Unreported and Unregulated Fishing endorsed by COFI at its Twenty-Sixth Session in March 2005. Reference should in this context also be made to the FAO Technical Consultation to Draft a Legally-Binding Instrument on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, which commenced in June 2008 and may conclude its work in 2009.

³⁸ See *inter alia* UNGA Resolution No. 61/105, of 8 December 2006, 'Sustainable fisheries, including through the 1995 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, and related instruments', in particular paras 59 and 80-86.

³⁹ Treaty on the Status of Spitsbergen, Paris, 9 February 1920. In force 14 August 1925; 2 *League of Nations Treaty Series* 8.

fishing of all states in the high seas,⁴⁰ the LOS Convention lays down several basic obligations which restrict these entitlements. These are⁴¹

1. avoiding over-exploitation of target species by means of
 - a. determining the TAC, *inter alia*, by taking account of
 - i. dependent species (predator-prey relationships) and by-catch of associated species;
 - ii. generally recommended minimum standards;
 - b. using the best available scientific research available, where appropriate by cooperating within relevant international organizations;
2. avoiding or limiting by-catch of non-target species;
3. avoiding or limiting other impacts of fisheries on the marine ecosystem, for instance fragile ecosystems as well as the habitat of depleted, threatened or endangered species;
4. striving for the objective of maximum sustainable yield (MSY), except for marine mammals, sedentary species and species whose range of distribution does not extend seaward of the territorial sea;
5. cooperating in relation to transboundary stocks and discrete high seas stocks. The following different categories of transboundary stocks can be distinguished
 - a. shared stocks: between the EEZs of two or more coastal states;
 - b. straddling stocks: occurring within the EEZs of one or more coastal states and the high seas;
 - c. highly migratory stocks: the species listed on Annex I to the LOS Convention (in particular tuna and tuna-like species); and
 - d. anadromous (e.g. salmon) & catadromous (e.g. eel) stocks.

Fish Stocks Agreement

As explained in the Introduction to the background papers, the Fish Stocks Agreement is an Implementation Agreement of the LOS Convention. It does not deal with all of the LOS Convention's categories of stocks, but exclusively with straddling fish stocks and highly migratory fish stocks. Its objective is "to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks".⁴² Its scope of application encompasses not only areas beyond national jurisdiction but also areas within national jurisdiction.⁴³

While the Fish Stock Agreement does not alter the basic jurisdictional framework of the LOS Convention,⁴⁴ the basic provisions of the LOS Convention are broadened, strengthened and specified in more detail in the Fish Stocks Agreement in relation to straddling and highly migratory fish stocks. This includes the requirements to apply a precautionary approach and an ecosystem approach to fisheries,⁴⁵ to protect biodiversity in the marine environment, the

⁴⁰ See the Introduction to the background papers.

⁴¹ See, among other things, Arts 61-68, 116-120 and 194(5) of the LOS Convention.

⁴² Art. 2 of the Fish Stocks Agreement.

⁴³ Art. 3 of the Fish Stocks Agreement.

⁴⁴ Art. 4 of the Fish Stocks Agreement stipulates that the Agreement "shall be interpreted and applied in the context of and in a manner consistent with the [LOS] Convention".

⁴⁵ Even though this terminology is not explicitly used.

concept of compatibility, a variety of specific obligations for flag states, high seas enforcement powers for non-flag states and rights and obligations for port states.

In contrast with the LOS Convention, the Fish Stocks Agreement regards RFMOs and Arrangements as the preferred vehicles for fisheries regulation at the regional level. It imposes obligations on States Parties to the Fish Stocks Agreement to cooperate through appropriate existing RFMOs and Arrangements. Of crucial importance in that regard is Article 8(4), which stipulates that access to fisheries is limited to cooperating states. New is also the right in Article 8(3) of states with a 'real interest' to become members of RFMOs or participants in Arrangements. Arguably, the duty to cooperate with the relevant RFMO or Arrangement laid down in Article 8(3) is already part of customary international law and thereby entitles the relevant members or participants to take measures against (non-cooperating) non-members and non-participants that would otherwise be in violation of international law, for instance trade-related measures.⁴⁶ The practice of RFMOs on trade-related measures has at any rate not been challenged by means of the establishment of a dispute settlement procedure under the World Trade Organization.

RFMOs and Arrangements are to be established where these do not exist.⁴⁷ Moreover, as a consequence of in particular bottom-fisheries targeting deep-sea fish species - which are often discrete high seas fish stocks - there is broad support in the international community to ensure that all areas beyond national jurisdiction are covered by RFMOs or Arrangements. Such coverage would ensure that all target fisheries fall within the mandate of an RFMO or Arrangement. Moreover, these RFMOs or Arrangements need to have modern ecosystem-based fisheries management mandates that also allow them to address fisheries impacts on non-target species (including on benthic habitats).⁴⁸ These developments have among other things led to the 'filling' of gaps in such coverage in the Southern Indian Ocean and the establishment of negotiation processes to fill gaps in the Southern Pacific and the Northern or Northwest Pacific.⁴⁹ Within the United States, these developments have led to the adoption of Senate joint resolution (SJ Res.) No. 17 of 2007 (see section 6).

The Agreement does not establish a regulatory body but provides for the convening of a review conference in its Article 36. While this was likely to have been envisaged as a one-off event, the Review Conference on the Fish Stocks Agreement that convened in May 2006⁵⁰ was not formally closed and will resume in 2010. This may transform the review conference into a permanent or at least regularly recurring forum in which the implementation of the Fish Stocks Agreement and RFMOs and Arrangements can be discussed and where recommendations can be made to improve such implementation.

⁴⁶ Cf. See UNGA Resolution No. 61/105, note 38 supra, at para. 46.

⁴⁷ Cf. Art. 8(5) of the Fish Stocks Agreement.

⁴⁸ See UNGA Resolution No. 61/105, note 38 supra, at para. 82.

⁴⁹ See note 29 supra. See also the overview of gaps in K.M. Gjerde, "Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction" (*IUCN Marine Law and Policy Paper No. 1: 2008*; available at <cms.iucn.org>), at pp. 5-6.

⁵⁰ See Report of the Review Conference on the Fish Stocks Agreement (UN Doc. A/CONF.210/2006/15, of 5 July 2006), at p. 39, para 43(d).

The non-applicability of the Fish Stocks Agreement to stocks other than straddling and highly migratory fish stocks came in particular to the fore as a consequence of bottom-fisheries targeting deep-sea fish species - which are often discrete high seas fish stocks. It has been proposed that a legally binding instrument is needed to address this gap.⁵¹ So far, however, there is not much more than the following operative paragraph in a UNGA Resolution, which reads:

Calls upon all States, directly or through regional fisheries management organizations and arrangements, to apply widely, in accordance with international law and the Code, [footnote omitted] the precautionary approach and an ecosystem approach to the conservation, management and exploitation of fish stocks, including straddling fish stocks, highly migratory fish stocks and discrete high seas fish stocks, and also calls upon States parties to the Agreement to implement fully the provisions of article 6 of the Agreement as a matter of priority;⁵²

While this paragraph applies in principle to all fish stocks, its purpose seems mainly aimed to singling out discrete high seas fish stocks. In the Arctic context, however, new fishing opportunities are also likely to relate to shared and anadromous fish stocks. The non-applicability of the Fish Stocks Agreement to these fish stocks would mean that only the relatively general obligations contained in the LOS Convention apply.

Constitutive instruments of RFMOs and Arrangements and their conservation and management measures

This subsection deals with multilateral fisheries conservation and management.⁵³ An important first distinction is between multilateral fisheries conservation and management that applies explicitly to the Arctic marine area and that which applies implicitly or less explicitly to the Arctic marine area. The latter category consists of two examples, namely the WCPFC (Figure 3) and the ICCAT (Figure 4). The WCPFC Convention Area “comprises all waters of the Pacific Ocean”, but does not have an agreed northern boundary.⁵⁴ That means that the Bering Sea would come within the scope of the WCPFC, provided tuna or tuna-like species within its mandate occur therein. The ICCAT Convention Area consists of the “waters of the Atlantic Ocean, including the adjacent Seas”.⁵⁵ It is very likely that its negotiators had the Mediterranean and Caribbean Seas, but not the Arctic Sea, in mind when agreeing on this phrase. Nevertheless, as there is no agreed definition for, or northern limit of, the Atlantic Ocean, ICCAT may in principle have competence within the entire FAO Statistical Area No. 18,⁵⁶ with regard to the tuna and tuna-like species within its competence. It should be noted, however, that the occurrence of tuna or tuna like species is currently and in the near future

⁵¹ See, *inter alia*, E.J. Molenaar, “Current Legal and Institutional Issues Relating to the Conservation and Management of High Seas Deep Sea Fisheries”, in ‘Report and documentation of the Expert Consultation on Deep-Sea Fisheries in the High Seas, Bangkok, Thailand, 21-23 November 2006’ (FAO Fisheries Report No. 838; 2007), pp. 113-139, at pp. 129-133.

⁵² UNGA Resolution No. 61/105, note 38 supra, at para. 5.

⁵³ For national fisheries conservation and management see subsection 6.

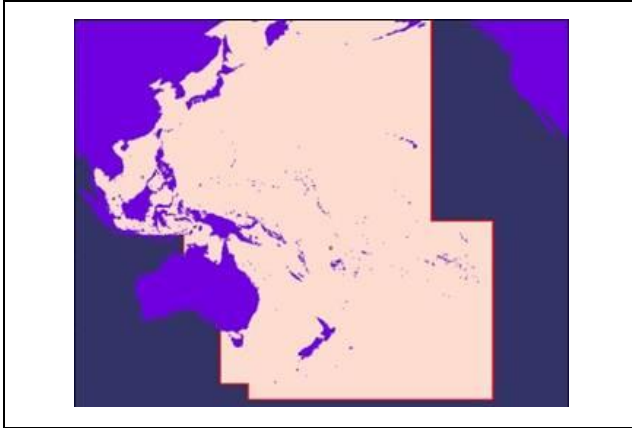
⁵⁴ Art. 3(1).

⁵⁵ Art. I.

⁵⁶ See section 2.

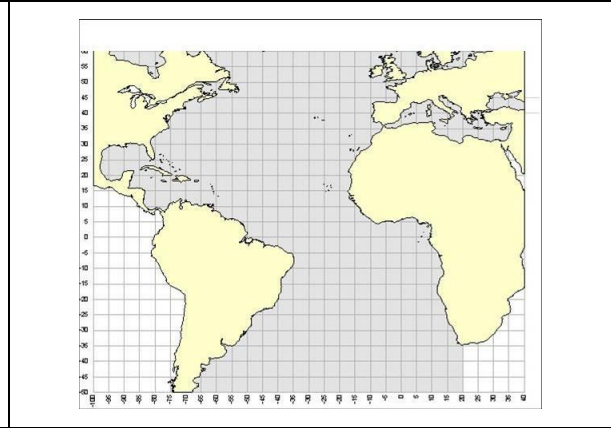
likely to be confined to the most southern parts of the Arctic marine area. Occurrence in the Arctic Ocean will be even further ahead in the future.

Figure 3: WCPFC Convention Area



Source: <www.wcpfc.int>.

Figure 4: ICCAT Convention Area

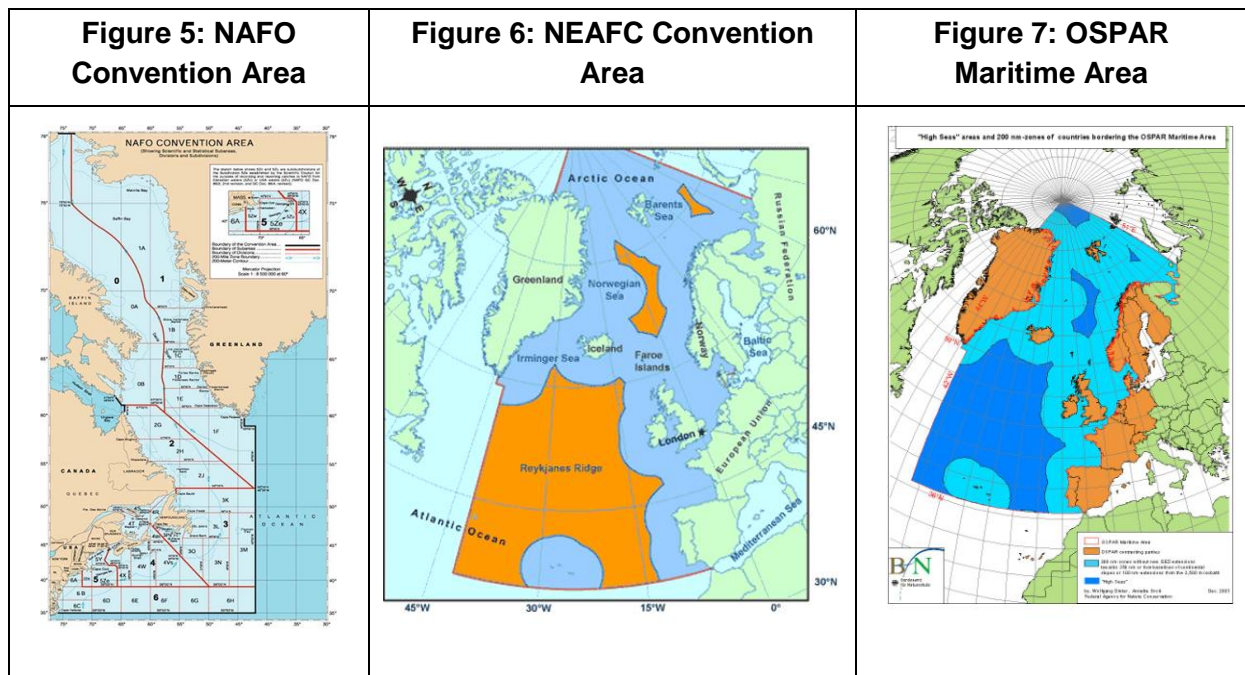


Source: <www.iccat.int>.

The regulatory areas of the following RFMOs and Arrangements apply explicitly to the Arctic marine area:

- NAFO (Figure 5);
- NEAFC (Figure 6);
- the Norway-Russian Federation Fisheries Commission and the Loophole Agreement and Protocols⁵⁷ (Figure 8);
- NASCO (Figure 9);
- CBS Convention (Figure 10);
- IPHC (Figure 11);
- Yukon River Panel (Figure 12); and
- NPAFC (Figure 13).

⁵⁷ Agreement between the Government of Iceland, the Government of Norway and the Government of the Russian Federation Concerning Certain Aspects of Co-operation in the Area of Fisheries, St. Petersburg, 15 May 1999. In force 15 July 1999; 41 *Law of the Sea Bulletin* 53 (1999); Protocol between the Government of Iceland and the Government of the Russian Federation under the Agreement between the Government of Iceland, the Government of Norway and the Government of the Russian Federation concerning Certain Aspects of Co-operation in the Area of Fisheries St. Petersburg, 15 May 1999. In force 15 July 1999; 14 *International Journal of Marine and Coastal Law* 488-490 (1999); <faolex.fao.org>; and Protocol between the Government of Norway and the Government of Iceland under the Agreement between the Government of Iceland, the Government of Norway and the Government of the Russian Federation concerning Certain Aspects of Co-operation in the Area of Fisheries St. Petersburg, 15 May 1999. In force 15 July 1999; 41 *Law of the Sea Bulletin* 56 (1999) <faolex.fao.org>.



Source: <www.nafo.int>

Source: <www.neafc.org>.

Source: Bundesamt für Naturschutz.

It should be noted that the map of the NEAFC Convention Area that is available on the NEAFC website does not show the high seas pocket in the Arctic Ocean. This can be seen by comparison with the map of the OSPAR Maritime Area shown in Figure 7, which has an identical spatial scope.⁵⁸ It should also be noted that NEAFC does not exercise its full competence with regard to the Loophole, which is governed by the Norway-Russian Federation Fisheries Commission and the Loophole Agreement and Protocols. Whereas the main focus of the latter is on demersal species, the main focus of NEAFC is on pelagic and deep-sea fisheries. It may of course be possible that NEAFC will actually also exercise species competence in the Loophole in the future, for instance if a fishery for one or more pelagic species in the Loophole would become commercially viable.⁵⁹

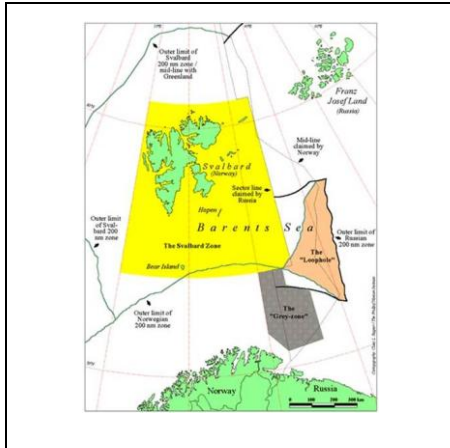
As regards the NASCO Convention, pursuant to Article 1(1) it “applies to the salmon stocks which migrate beyond areas of fisheries jurisdiction of coastal states of the Atlantic Ocean

⁵⁸ Note also Art. 1(a)(2) of the NEAFC Convention, which reads “within that part of the Atlantic Ocean north of 59° north latitude and between 44° west longitude and 42° west longitude”. As this provision does not refer to the Arctic - in contrast with Art. (1)(a)(1) - it seems reasonable to conclude that the NEAFC Convention Area do not encompass the waters north of Greenland between 44° west longitude and 42° west longitude extending to the North Pole because these are part of the Arctic Ocean. While it may sometimes be difficult to determine where the Arctic Ocean begins and the Atlantic Ocean ends, the waters north of Greenland would seem undoubtedly part of the Arctic Ocean. Note that the spatial coverage of the OSPAR Convention is identical.

⁵⁹ It should be noted, however, that the provisions in the NEAFC Scheme of Control and Enforcement (in force 1 May 2008) on ‘Port State Control of Foreign Fishing Vessels’ are made applicable to the NEAFC Convention Area by Art. 20 and thereby also the area covered by the Norway-Russian Federation Fisheries Commission and the Loophole Agreement and Protocols.

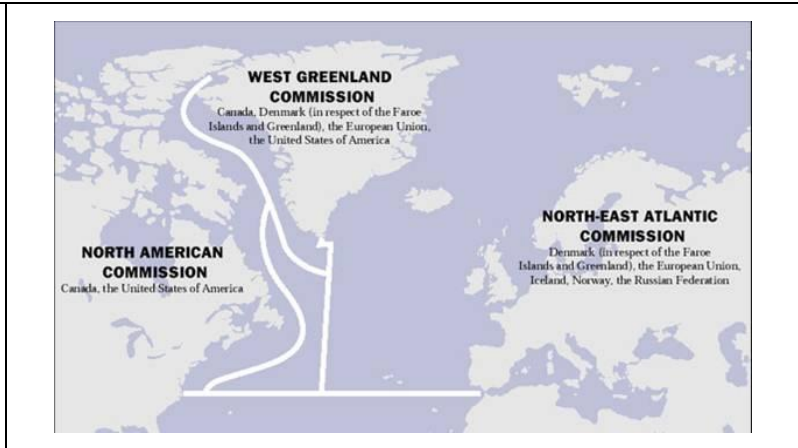
north of 36°N latitude throughout their migratory range.” In the absence of an agreed definition for, or northern limit of, the Atlantic Ocean, it seems possible for NASCO to exercise competence over salmon in the entire FAO Statistical Area No. 18.⁶⁰

Figure 8: Grey Zone & Loophole



Source: Stokke, note 22.

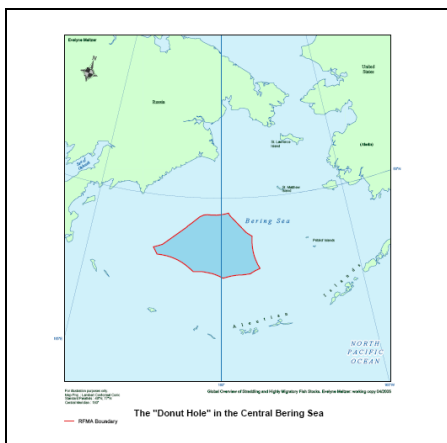
Figure 9: NASCO Convention Area



Source: <www.nasco.int>.

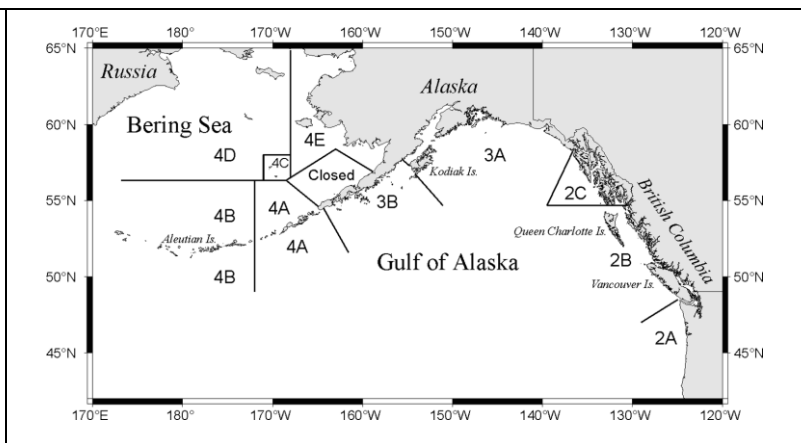
As regards the Bering Sea, the overview above indicates that it is explicitly covered by at least four multilateral regimes in addition to the WCPFC Convention. While these regimes all focus on a single species or a single group of species (anadromous), it should be noted that the CBS Convention can also be applied to “living marine resources other than Pollock”.⁶¹

Figure 10: CBS Convention Area



Source: E. Meltzer, DFO, Canada.

Figure 11: Regulatory area IPHC Convention

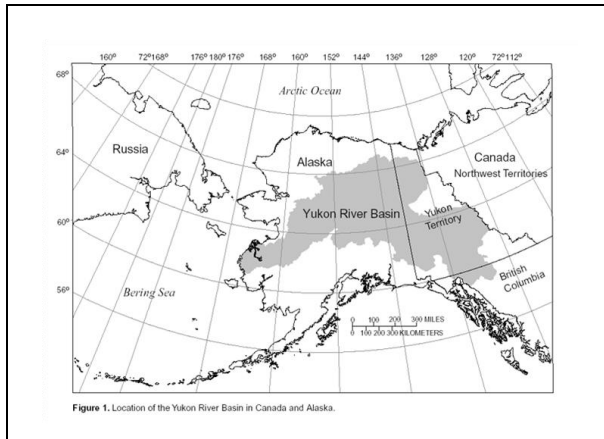


Source: <www.iphc.washington.edu>.

⁶⁰ This may nevertheless require adjustment of the spatial scope and composition of NASCO Commissions.

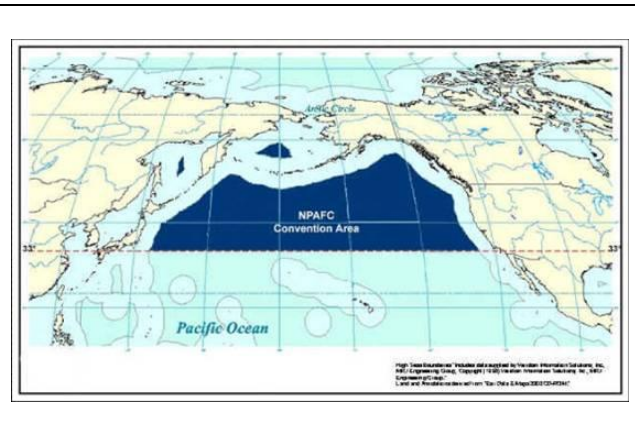
⁶¹ Art. II(4) of the CBS Convention.

Figure 12: Location of Yukon River Basin



Source: <www.psc.org>.

Figure 13: NPAFC Convention Area



Source: <www.npafc.org>.

The content of these constitutive instruments varies considerably and in the context of this paper it is not possible - and arguably also not necessary - to examine it in depth. Among other things, the older instruments are relatively concise and simple and the newer ones much more extensive and complex, largely as a consequence of the progressive development of international fisheries law. The substantive standards of these RFMOs and Arrangements are in most cases laid down in conservation and management measures that are adopted or revised during periodic meetings.⁶²

As a consequence of the growing crisis in marine capture fisheries globally, both as regards over-exploitation of target species and the impacts on non-target species, processes have been set in motion to upgrade the constitutive instruments of these RFMOs and Arrangements to enable them to carry out the objectives of the Fish Stocks Agreement in light of the functions of RFMOs pursuant to Article 10 of the Fish Stocks Agreement. These processes are, to put it differently, aimed at making them 'compatible' with the Fish Stocks Agreement and other modern international instruments. The upgrades are among other things aimed at replacing older mandates with EAF mandates. In addition, several RFMOs have agreed to having their performance assessed.⁶³

⁶² In the case of the Norway-Russian Federation Fisheries Commission these are to a large extent laid down in the so-called 'Grey Zone Agreement' (original title: *Avtale mellom Norge og Sovjetunionen om en midlertidig praktisk ordning for fisket i et tilstøtende område i Barentshavet med tilhørende protokoll og erklæring*, translated to "Agreement between Norway and the Soviet Union on a temporary and practical arrangement for the fishery in an adjacent area of the Barents Sea"; available in the Norwegian treaty Series; Overenskomster 1978 p. 436). This is a temporary agreement first adopted in 1978 and renewed annually since then.

⁶³ The first performance assessment of an RFMO related to NEAFC.

Arctic Council instruments

The Arctic Council has so far not focused on the conservation and management of target species and can also not be equated with an RFMO or Arrangement.⁶⁴ However, especially CAFF has been and still is engaged in various important monitoring and assessment activities, such as Circumpolar Biodiversity Monitoring Program and the Arctic Biodiversity Assessment.⁶⁵ These would seem very useful for international fisheries conservation and management.

6. NATIONAL REGULATION

Within the context of this paper it is not possible to give an overview of national regulation by Arctic states on the conservation and management of target species and the regulation of the impacts of fishing on non-target species within the Arctic marine area. In some parts of the Arctic marine area, for instance the North Atlantic, national regulation is expected to be extensive and relate to all or most of the relevant capacities in which states can exercise jurisdiction, namely as flag, coastal, port and market states and with regard to their natural and legal persons.

For other parts of the Arctic marine area, however, the presence of ice for most of the year has so far rendered national fisheries regulation for those areas unnecessary. But as diminishing ice-coverage will attract fishing vessels looking for possible new fishing opportunities, Arctic states will be required to develop national regulation in order to discharge their obligations under international law, including those under the LOS Convention and the Fish Stocks Agreement. The United States is currently engaged in this process with regard to fishing in the maritime zones off Alaska north of the Bering Strait (see Figure 14). In the United States, competence over fisheries is shared by the individual states (in this case Alaska) within 3 nm from shore and the federal government in the remainder of the United States maritime zones. The North Pacific Fishery Management Council (NPFMC) plays a key role in federal regulation with regard to the maritime zones of the United States in the North Pacific. The NPFMC has adopted various fishery management plans (FMPs) that apply as far north as the Bering Strait and its King and Tanner Crab and Scallop FMPs also apply to that part of the Chukchi Sea that lies between the Bering Strait and Point Hope. In June 2007, the NPFMC closed the Northern Bering Sea to bottom trawling and directed a research plan to be developed for that area.⁶⁶ Since October 2006, the NPFMC has also specifically focused its attention on Arctic fishery management. This has led to the development of an Arctic FMP which is likely to be adopted at the February 2009 meeting of the Council. The Draft Arctic FMP proposes, *inter alia*, to “close the Arctic to commercial fishing so that unregulated fishing does not occur and until information improves so that

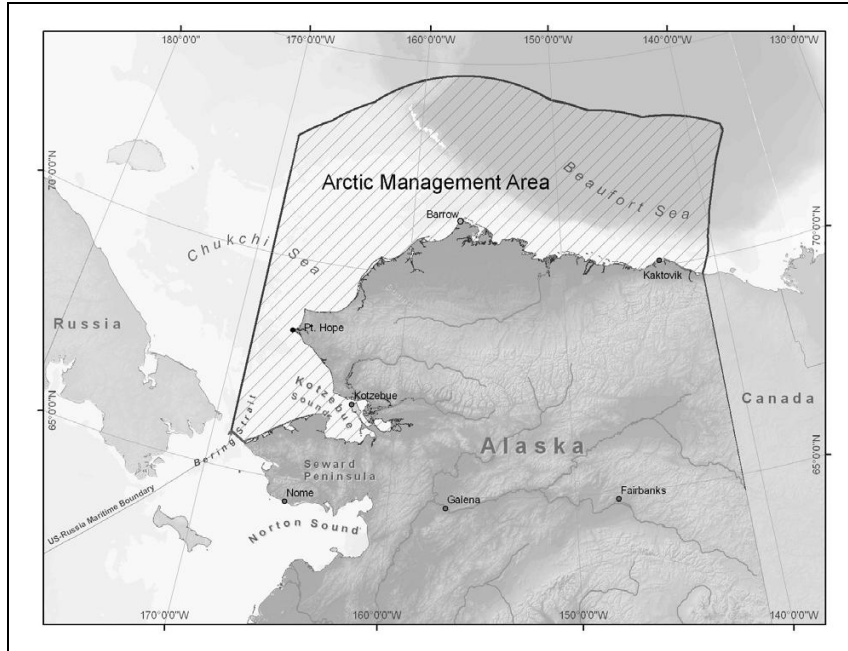
⁶⁴ Note that most Members of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) - which is part of the Antarctic Treaty system - do not regard CCAMLR as an RFMO. However, most take the view that CCAMLR is ‘something more than an RFMO’.

⁶⁵ For information see <arcticportal.org/en/caff>. See also T. Koivurova and D.L. VanderZwaag, “The Arctic Council at 10 Years: Retrospects and Prospects” 40 *University of British Columbia Law Review* 121-194 (2007), at pp. 147-149.

⁶⁶ *News & Notes*, June 2007, at p. 2 (available at <www.fakr.noaa.gov/npfmc>).

fishing can be conducted sustainably and with due concern to other ecosystem components”.⁶⁷

Figure 14: EEZ off Alaska and spatial scope of Arctic FMP



Source: Draft Arctic FMP, note 6 supra, at p. 1.

In light of these developments in the United States, it would be important to know if other states - both Arctic and non-Arctic - have policies on Arctic fisheries as such or on Arctic fisheries in the context of climate change. The January 2009 Arctic Region Policy of the United States⁶⁸ contains a few paragraphs on fisheries but not a separate section.⁶⁹ Conversely, Section 3.2 of the European Commission’s Arctic Communication⁷⁰ is specifically devoted to ‘Fisheries’ and is among other things supportive of the approach pursued by the United States by means of its NPFMC.⁷¹ Finally, reference can be made to the Canadian ‘New Emerging Fisheries Policy’ that was adopted in 2001.⁷² While nothing in

⁶⁷ Arctic FMP EA/RIR/IRFA Public Review Draft, note 6 supra, at p. iii. At its February 2009 meeting, the Council still needs to decide on different ‘Alternatives’ and ‘Options’ linked to them. See *News & Notes*, December 2008, p. 2 (available at <www.fakr.noaa.gov/npfmc>).

⁶⁸ National Security Presidential Directive/NSPD-66 & Homeland Security Presidential Directive/HSPD-25, of 9 January 2009. In effect same day; text at <www.whitehouse.gov> (press release of 12 January 2009).

⁶⁹ See sections III(H)(4) and (6)(b) and (c).

⁷⁰ COM (2008) 763, of 20 November 2008, ‘Communication from the Commission to the European Parliament and the Council on The European Union and the Arctic Region’.

⁷¹ On p. 8 it is observed “Until a conservation and management regime is in place for the areas not yet covered by such a regime, no new fisheries should commence”.

⁷² Available at <www.dfo-mpo.gc.ca/communic/fish_man/nepf_e.htm> (viewed 7 August 2008).

its text indicates that it was specifically developed for Arctic fisheries in the context of climate change, it may nevertheless be useful.

As some of the fish stocks in the EEZ off Alaska are likely to be transboundary, reference should also be made to the United States Senate joint resolution (SJ Res.) No. 17 of 2007, “directing the United States to initiate international discussions and take necessary steps with other Nations to negotiate an agreement for managing migratory and transboundary fish stocks in the Arctic Ocean”.⁷³ The United States Administration has so far informed Canada and the Russian Federation of SJ Res. No. 17 of 2007 and has expressed its willingness to engage in exploratory talks on the issue. The United States also brought SJ Res. No. 17 of 2007 to the attention of SAOs during their meeting in November 2007. During the discussion that followed there was “strong support for building on and considering this issue within the context of existing mechanisms”.⁷⁴ This would seem to indicate that a considerable majority of the Arctic states does not want the Arctic Council to become directly involved in fisheries management and conservation.

Finally, mention should be made of fisheries conservation and management in the fisheries protection zone established by Norway off Svalbard (see Figure 8 above). This fisheries conservation and management can be categorized as unilateral, even though Norway allocates fishing opportunities for certain species to some contracting parties to the Treaty of Spitsbergen.

7. GAPS IN THE INTERNATIONAL LEGAL AND POLICY FRAMEWORK AND NATIONAL REGULATION AND OPTIONS FOR ADDRESSING THEM

7.1. Gaps

Even though all the global intergovernmental organizations, bodies and legally binding and non-legally binding instruments related to fisheries conservation and management are also applicable to the Arctic marine area, a large part of the Arctic marine area is not covered by an RFMO or Arrangement with competence over target species other than tuna and tuna-like species and anadromous species.⁷⁵ The Arctic Council has so far not focused on the conservation and management of target species, lacks an express mandate for conserving or managing Arctic fisheries and also seems unwilling to become directly involved in fisheries management and conservation. The Arctic Council can at any rate not be equated with a RFMO or Arrangement.

There are several bilateral arrangements between the relevant Arctic Ocean coastal states on the conservation and management of shared fish stocks within the Arctic marine area.

⁷³ Passed by the Senate on 4 October 2007. The House of Representatives voted in favor of SJ Res. No. 17 in May 2008 and President Bush signed it on 4 June 2008.

⁷⁴ Final Report of the Meeting of Senior Arctic Officials, 28-29 November 2007, Narvik, Norway (available at <www.arctic-council.org>), at p. 12.

⁷⁵ This conclusion assumes that the Bering Sea would come within the scope of the WCPFC, and that ICCAT and NASCO may in principle have competence within the entire FAO Statistical Area No. 18.

However, some are missing. This would seem to relate to Canada - United States (Beaufort Sea), Canada - Greenland and Russian Federation - United States (Chukchi Sea).

In some parts of the Arctic marine area, the presence of ice for most of the year has up until now rendered national fisheries regulation unnecessary. However, as diminishing ice-coverage will attract fishing vessels looking for possible new fishing opportunities, Arctic states will have to develop national regulation in order to discharge their obligations under international law.

Another gap relates to science and data. The complexity of the functioning of Arctic marine ecosystems as well as the limitations and shortcomings of science were noted in the ACIA.⁷⁶ It is most likely that a lot of data required for pursuing an EAF is presently also not available. Fortunately, these aspects played a crucial role in the development of the Arctic FMP within the NPFMC.

7.2. Options

This subsection contains various options for adjusting the current international legal framework relating to fisheries in the Arctic marine area in case such adjustments are regarded as necessary in view of current or future threats of fisheries to the marine environment and marine biodiversity in the Arctic marine area. An assessment of the need for such adjustments should start with conducting basic fisheries research as well the development of future scenarios about areas, dates, species, fishing techniques for which new fishing opportunities are likely to arise and potential impacts for non-target species. It may for instance reveal that new fishing opportunities in the Pacific side of the Arctic Ocean will be mainly located in the maritime zones of coastal states for a considerable time, whereas fishing opportunities in Atlantic side may much sooner also encompass the high seas that were not fished before. Such an assessment could be carried out within the framework of the Arctic Council (e.g. through (CAFF)) or outside, for instance by (ICES).

In view of the discussion at the meeting of SAOs in November 2007, there is currently considerable opposition within the membership of the Arctic Council against it becoming actively involved in fisheries management and conservation. This opposition is likely to mean that the Arctic Council may not be used as a forum for discussing the options identified in this subsection, let alone be used as a forum for negotiating a legally binding or non-legally binding instrument on Arctic fisheries conservation and management.

In addition to ensuring the availability of relevant scientific data, *inter alia* by developing the scenarios mentioned above, the following options can be identified

- individual action by Arctic Ocean coastal states and other states in their capacities as flag, coastal, port and market states and with regard to their natural and legal persons;
- bilateral or subregional arrangements between the relevant Arctic Ocean coastal states on the conservation and management of shared and anadromous fish stocks;
- a declaration or statement by which the main relevant general principles of the Fish Stocks Agreement, the recent UNGA Resolutions in relation to vulnerable marine ecosystems and destructive fishing practices and relevant conservation and

⁷⁶ See section 3.

management measures drawn from RFMOs⁷⁷ are made applicable to new and existing fisheries in the Arctic marine area. In particular, this declaration could stipulate that there shall be no new fisheries until adequate assessments of their potential impacts on target and non-target species and livelihoods of indigenous peoples are carried out;

- mechanisms or procedures similar to an environmental impact assessment (EIA) and/or a strategic impact assessment (SEA) for new fisheries in the Arctic marine area; and
- one or more state-of-the-art RFMOs or Arrangements, whether self-standing or as part of a legally binding framework instrument for the Arctic and possibly in conjunction with adjustments in the competence of existing RFMOs or Arrangements, in particular in geographical terms.

⁷⁷ E.g. CCAMLR Conservation Measures 21-01 (2008) 'Notification that Members are considering initiating a new fishery' and 21-02 (2008) 'Exploratory fisheries'.

8. OVERVIEW OF CITED PUBLICATIONS

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- Y. Takei, *Filling Regulatory Gaps in High Seas Fisheries: Discrete High Seas Fish Stocks, Deep-Sea Fisheries and Vulnerable Marine Ecosystems* (PhD manuscript, Utrecht University, October 2008)