



#### **RECOMMENDATIONS**

- Strengthen Arctic marine science relevant for understanding the ecosystems of the Central Arctic Ocean (CAO). Implementation of the science plan that has been developed will require significant research and monitoring efforts.
- Implement best practices from the regional fisheries management organizations (RFMOs) as identified by the FAO: while not an RFMO, the CAO agreement is a regional cooperative mechanism and should be consistent with operational RFMOs, such as the Northeast Atlantic Fisheries Commission
- Learn from the International Council for the Exploration of the Sea (ICES): In the Northeast Atlantic, ICES is among the world's most advanced mechanisms for providing scientific advice for management.

Climate change and declining sea-ice in the Central Arctic Ocean (CAO) has brought concerns that fish stocks may expand into the high Arctic. Here, a high-seas area of 2.8 million km<sup>2</sup> - larger than the Mediterranean - exists in the middle of the CAO. While the sub-Arctic seas of the North Pacific and the North Atlantic have abundant fish resources subject to major commercial fisheries for generations, the CAO has little or none. Concerns that fish stocks could expand into the CAO provided the impetus for negotiating the 2018 Agreement to Prevent Unregulated Fishing in the Central Arctic Ocean. Most of the CAO is under the jurisdictions of five coastal states: Russia, the USA, Canada, Denmark/ Greenland and Norway. They are major fishing nations and have comprehensive regimes for management of the fisheries in their 200-mile zones.

# **Geography and fisheries**

The Arctic Ocean can be defined as the marine area of the High North that is ice-covered. That would mean a total of some 15 million km², which is the area of maximum ice extent in March (see map). Ice cover, oceanographic conditions, and lack of food prevents fish species of commercial interest from occurring in abundance.

There are two main gateways to the Arctic Ocean: between Norway (Svalbard) and Greenland, and between Russia and the USA (Alaska) in the Bering Strait. To the south of these gateways, there are important fishing grounds in the Barents Sea and the Bering Sea, providing the bulk of the landings from northern fisheries. To the south of the Barents Sea, the Norwegian Sea is a productive fishing ground as well, mostly for mackerel, herring and blue whiting. Also the waters between Iceland and Greenland, and in the Northwest Atlantic, have rich fish resources.

Most bilateral marine boundaries in the CAO have been settled, most recently between Norway and Russia in the Barents Sea in 2010. The USA and the Soviet Union agreed to a boundary in the Bering Sea and the Chukchi Sea in 1990, but the boundary agreement has not been ratified by Russia.

In the Arctic and sub-Arctic, there are five high-seas areas beyond national jurisdiction. In addition to the one in the CAO, there are high-seas areas in the Norwegian Sea and the Barents Sea. Fisheries in these areas and the European wedge of the CAO high seas area are managed by the Northeast Atlantic Fisheries Commission (NEAFC). In the Northwest Atlantic, the Northwest Atlantic Fisheries Organization (NAFO) manages fisheries there. In the Bering Sea a 1994 agreement essentially set a moratorium on pollock fisheries in the "Donut Hole."

Most fishing activities and catches are in areas under the jurisdiction of the five above-mentioned nations. The pollock fisheries in the Bering Sea and the cod fisheries in the Barents Sea are the most important by value. Other major fisheries include haddock, herring, blue whiting, and redfish.

## Climate change and the northern seas

Anthropogenic climate change brings warmer waters, reduced ice in the Central Arctic Ocean, and several other changes that are already affecting the marine ecosystems and the living marine resources of the High North.

The entire region north of 60°N is warming. With some regional variations, the long-term scenario is that by mid-century, the CAO will be virtually ice-free in late summer. Melting ice and increasing river runoff bring increased stratification of water masses, limiting primary production. Associated with increased CO² levels are also effects such as ocean acidification.

These physical impacts affect biological processes in the oceans, such as primary production, shifts of entire ecosystems, and changes in the geographical distribution of fish species. In the Barents Sea, these developments are already evident, with boreal species expanding their range northwards.

## The framework for fisheries management

The global framework for the conservation and sustainable use of living marine resources has developed vastly in recent decades. The 1982 Law of the Sea Convention (UNCLOS) provides for coastal state jurisdiction over the living marine resources to 200 nautical miles (370 km) from their coastlines. These sovereign rights over the resources come with obligations as regards conservation and utilization of resources, as well as the duty of international cooperation on the management of transboundary resources.

Regarding living marine resources outside the 200-mile zones, all states have in principle a right to fish in the high seas. However, that right is now limited, inter alia by the obligation to cooperate in regional bodies on the management of such resources. The 1995 UN Fish Stocks Agreement, an implementation agreement to the UNCLOS, requires states to apply a precautionary approach in fisheries management and to assess the impacts of fishing on ecosystems. It also strengthens the obligations to cooperate on the management of fisheries in the high seas beyond the 200-mile zones.

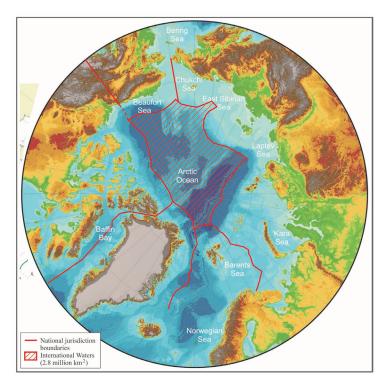
The UN Food and Agriculture Organization, FAO, has adopted several instruments relating to fisheries and their management, including the 1995 Code of Conduct for Responsible Fisheries.

#### **National frameworks**

On the basis of this global framework, all Arctic states have established 200-mile zones and developed domestic fisheries management regimes as well as arrangements for cooperation on transboundary resources. All Arctic states are parties to the 1995 UN Fish Stocks Convention, and, except the USA, to the 1982 UNCLOS.

In the Arctic there are several bilateral arrangements. Norway's most important bilateral agreement on cooperation in fisheries management is with Russia.

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A joint fisheries commission established in 1975 sets annual total allowable quotas for shared fish stocks in the Barents Sea. The commission also decides on technical measures such as mesh sizes in trawl gear, and on enforcement of fisheries regulations.

Further, Norway has bilateral arrangements for fisheries management with Greenland, Iceland, the Faroes, and the EU, as well as consultations on fisheries with the USA and Canada. Similarly, there are bilateral arrangements between Iceland and Greenland, Greenland and Canada, and the USA and Russia.

The amounts of fish are taken in Northern (sub-Arctic) waters is globally significant. Landings from Northern waters are of an order of magnitude of 6–7 million tons. Global and regional frameworks seem to be implemented well in the High North, and most major fisheries there are now sustainable – unlike the case globally. According to the FAO, about one third of the fish stocks in the world are overexploited. A fundamental reason is failure to implement the global framework.

## A new regime for the CAO

Against the backdrop of climate change and reduction of sea ice in the Arctic Ocean, and the 2008 Ilulissat Declaration where the five Arctic coastal states to the CAO agreed to step up efforts in marine conservation on the basis of the law of the sea, these five met in Oslo in 2010. There was an emerging concern that, with the continued decline in ice cover, the high-seas area in the CAO could become accessible to fishing vessels in the future.

In a 2015 declaration, the five coastal states agreed to abstain from fishing in the high-seas area, to establish a research and monitoring program to monitor developments, and to initiate an extended process involving more countries. The last point was because of the right that all states have to engage in fisheries in the high seas, and the need to engage potential distant-water fishing nations to ensure their cooperation.

This triggered a new set of negotiations, now involving also China, the Republic of Korea, Japan, Iceland, as well as the EU. Negotiations took place over two years, concluding in late 2017. Key issues included how to implement the provisions in the global framework relating to precautionary and ecosystem approaches, how to deal with exploratory fisheries, and how to organize scientific cooperation. The Agreement to Prevent Unregulated Fishing in the Central Arctic Ocean was signed in October 2018.

The objective of the Agreement is to prevent future unregulated fishing in the high-seas areas in the CAO. To achieve this, the parties commit to not allowing their vessels to fish in these waters until 16 years after the entry into force of the Agreement. Thereafter, the moratorium will be extended in five-year increments unless a party objects. Decision-making is by consensus. Further, the Agreement explicitly recognizes the role of NEAFC in the European wedge of the CAO.

A second feature of the 2018 Agreement is the Joint Program of Scientific Research and Monitoring, the reports of which will provide the basis for decisionmaking when the meeting of the parties under the Agreement becomes operational. This is in practice a continuation of the series of scientific meetings that commenced in 2011, and which has already produced a science plan and an implementation plan.

The prime mover of the entire process from about 2008 to 2018 was the USA. The process was initiated by a resolution in the US Congress requiring the Administration to approach other coastal states with a view to arriving at an agreement to address potential fishing in the CAO. The USA provided leadership by drafting text and chairing meetings. While initially reluctant, mainly due to lack of scientific basis, the other coastal states came on board in concluding the 2015 declaration. Canada, the EU, Russia, and the USA had ratified the agreement by summer 2019; Norway ratified in spring 2020.

However, as of June 2020, the Agreement is not yet in force. For that to happen, all ten parties must ratify it. The Agreement is not a fully fledged regional fisheries management organization (RFMO), but contains the mechanisms for initiating the negotiation of one, should scientific work in the future conclude that commercial fisheries in the high-seas area are viable. The scientific meetings, which since 2015 have included scientists from the new actors, as well as representation from the International Council for the Exploration of the Sea (ICES) and the North Pacific Marine Science Organization (PICES), have developed reports on the status of Arctic fish and voiced skepticism regarding the potential for viable, commercial fish stocks in the high seas of the CAO.

#### **Conclusions**

The coastal states in the Arctic have robust domestic management regimes based on the global framework for the management of living marine resources. With the Agreement to Prevent Unregulated Fishing in the Central Arctic Ocean, a loophole in the CAO has been closed. On the basis of this, the Arctic nations are better prepared to address the challenges that climate change will bring for resource management in the High North in the foreseeable future.

When fish stocks expand their geographic distribution northwards, they are likely to remain within the coastal states' 200-mile zones. The CAO is deep, whereas groundfish stocks live in relatively shallow waters closer to land. Moreover, the CAO nutrient-poor, leaving little food for fish.

The emergence of the Central Arctic Ocean regime to prevent unregulated fishing took place in a period with significant developments in regional cooperation and the negotiation of new regimes in several other issue-areas in the Arctic: in search and rescue (2011), oil-spill prevention (2013), and international scientific cooperation (2016), as well as a Polar Code regulating shipping in polar waters under the International Maritime Organization (IMO).

The CAO agreement is a significant addition to the evolving regional governance framework for the Arctic Ocean, complementing the other initiatives of the past decade. Equally important, it serves to reinforce the role of the global fisheries framework, being based on the law of the sea and its principles for fisheries management, including the requirements to base decisions on the best available science and a precautionary approach. A politically notable feature is the inclusion of several non-Arctic states and entities. The fact that the USA, China as well as Russia participated in the development of this agreement makes clear the geopolitical significance of fish in the Arctic.

Alf Håkon Hoel is a Professor at the College of Fisheries Science, UiT – the Arctic University of Norway. His research interests are international politics, resource management, environmental politics and polar affairs.



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NUPI PB 7024 St. Olavs Plass, 0130 OSLO, Norway www.nupi.no | post@nupi.no

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