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Arctic marine fisheries: Lessons learnt from the North-East Atlantic fisheries regimes?

Conference on Arctic Marine Resource Governance

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Overview

Research questions:

- How to deal with scientific uncertainties?
- How may change in migratory pattern affect distribution of participatory rights?

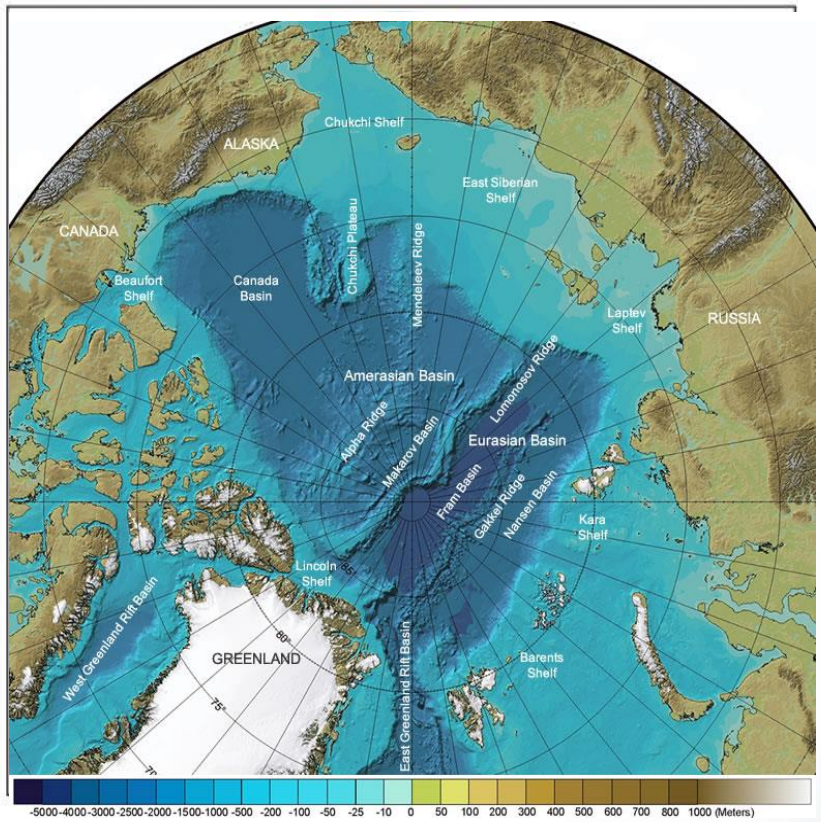
International legal sources and state practice:

- 1982 UN Convention on the Law of the Sea (UNCLOS)
- 1995 UN Agreement on Straddling and Highly Migratory Fish Stocks (FSA)
- 1995 FAO Code of Conduct for Responsible Fisheries (with guidelines)

- Joint Norwegian-Russian Fisheries Commission
- North-east Atlantic Coastal State cooperation arrangements
- North East Atlantic Fisheries Commission (NEAFC)

Arctic Ocean fisheries

- **The Arctic Ocean - more than high seas**
- **Current fishing areas**
- **Will there be commercial fishing in the Central Arctic Ocean?**



How to deal with scientific uncertainty?
UNCLOS and 1995 Fish Stocks Agreement

Traditional approach:

- Duty to actively manage the living marine resources and it shall be science-based
- Regulate «when need to»

Precautionary approach:

- New and exploratory fisheries (FSA Art 6, para.6):
  - Cautious, temporary measures
  - Assessment of impacts
  - Gradual development of the fishery

The Precautionary Approach:
«States shall be more cautious when information is uncertain, ureliable or inadequate. The absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures», FSA Article 6(2)

The Joint Norwegian-Russian Fisheries Commission

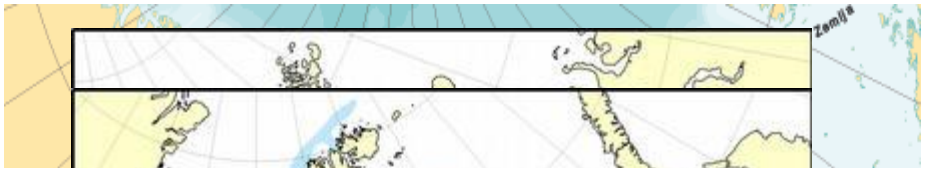
Bi-lateral arrangement for conservation and management of shared fish stocks

Supplemented by 2010 Delimitation Agreement:

- In operation for the next 15 years
- Precautionary approach

Management of shared fish stocks:

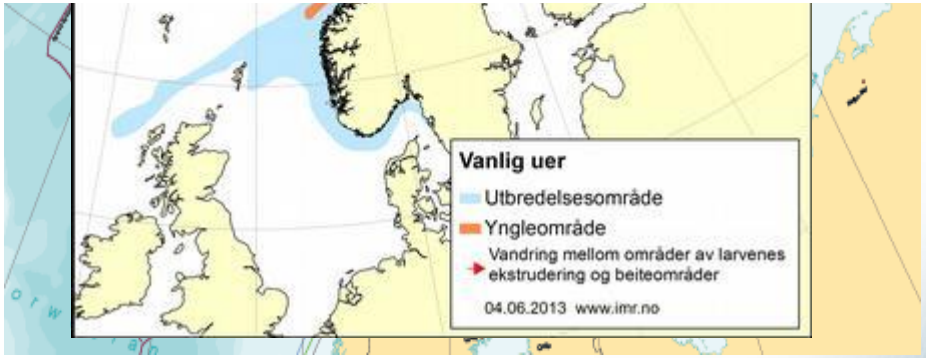
- Total allowable catches
- Allocation (including for third states)
- Long-term management plans
- Technical measures/enforcement



Stock and exploitation status

Table 3.3.4.1 Cod in Subareas I and II. State of the stock and fishery, relative to reference points.

		Fishing pressure				Stock size			
		2012	2013	2014		2013	2014	2015	
Maximum Sustainable Yield	F_{MSY}	✓	✓	✗	Above F_{MSY}	MSY $B_{trigger}$	✓	✓	✓	Above trigger
Precautionary approach	F_{pa}, F_{lim}	✓	✓	○	Increased risk	B_{pa}, B_{lim}	✓	✓	✓	Full reproductive capacity
Management Plan	F_{MGT}	✓	✓	✗	Above target	SSB_{MGT}	✓	✓	✓	Above trigger



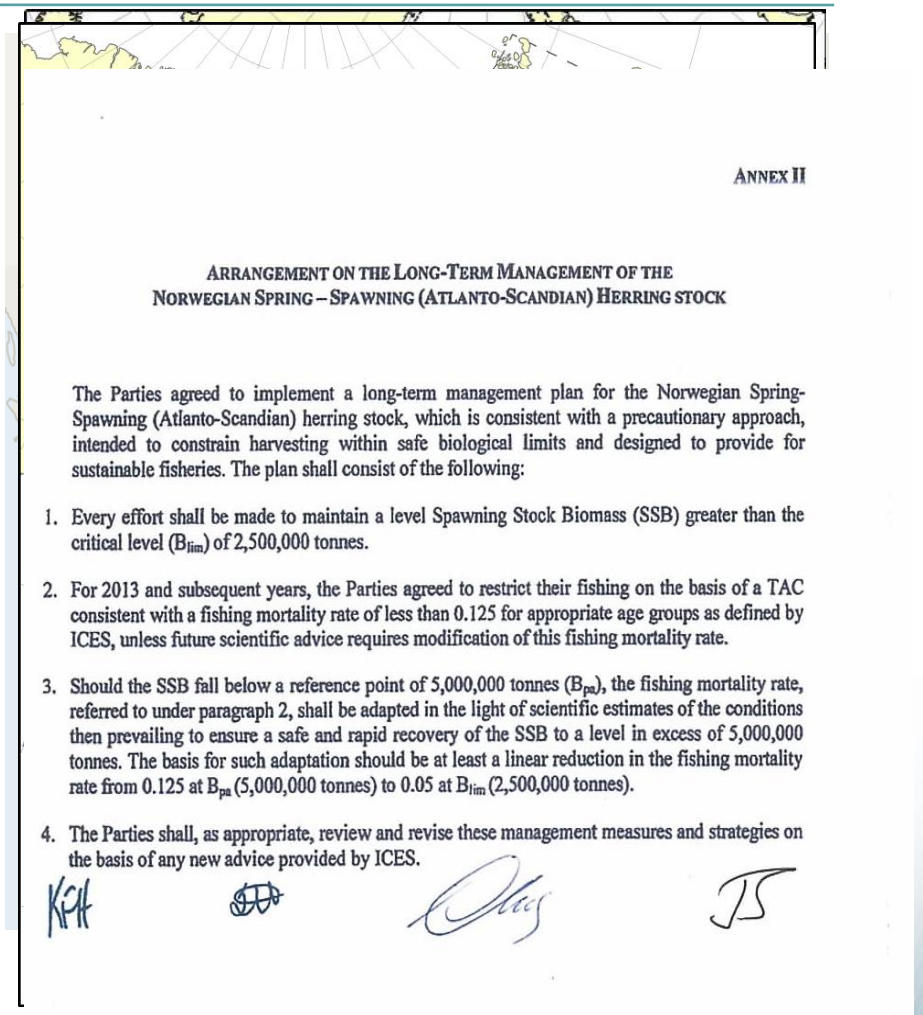
North-East Atlantic: Coastal State arrangements on shared fish stocks

Shared fish stocks:

- Norwegian Spring Spawning Herring (NSSH)
- Mackerel
- Blue whiting (BW)
- Redfish

Arrangements:

- Five party agreements on NSSH
- Three party arrangement on Mackerel
- Four party agreements on BW



ANNEX II

ARRANGEMENT ON THE LONG-TERM MANAGEMENT OF THE NORWEGIAN SPRING – SPAWNING (ATLANTO-SCANDIAN) HERRING STOCK

The Parties agreed to implement a long-term management plan for the Norwegian Spring-Spawning (Atlanto-Scandian) herring stock, which is consistent with a precautionary approach, intended to constrain harvesting within safe biological limits and designed to provide for sustainable fisheries. The plan shall consist of the following:

1. Every effort shall be made to maintain a level Spawning Stock Biomass (SSB) greater than the critical level (B_{lim}) of 2,500,000 tonnes.

2. For 2013 and subsequent years, the Parties agreed to restrict their fishing on the basis of a TAC consistent with a fishing mortality rate of less than 0.125 for appropriate age groups as defined by ICES, unless future scientific advice requires modification of this fishing mortality rate.

3. Should the SSB fall below a reference point of 5,000,000 tonnes (B_{pa}), the fishing mortality rate, referred to under paragraph 2, shall be adapted in the light of scientific estimates of the conditions then prevailing to ensure a safe and rapid recovery of the SSB to a level in excess of 5,000,000 tonnes. The basis for such adaptation should be at least a linear reduction in the fishing mortality rate from 0.125 at B_{pa} (5,000,000 tonnes) to 0.05 at B_{lim} (2,500,000 tonnes).

4. The Parties shall, as appropriate, review and revise these management measures and strategies on the basis of any new advice provided by ICES.

North-East Atlantic Fisheries Commission (NEAFC)

Regional fisheries management organization (RFMO)

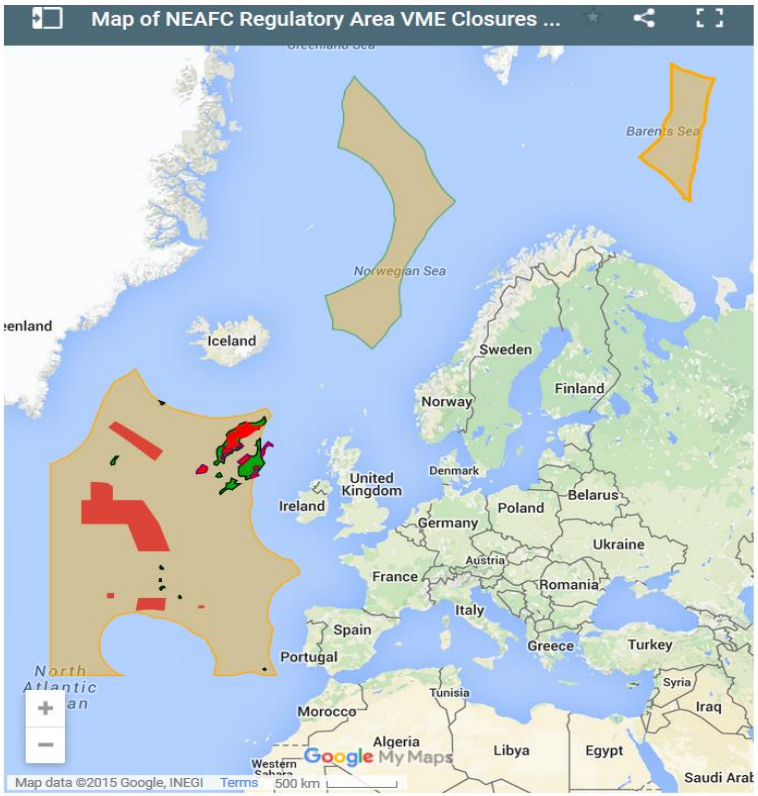
Amendments to the Convention:

- Application of the PA
- Minimise harmful impacts on living resources and ecosystems

Main (existing) fisheries

Deep-sea fisheries:

- Area closures
- Prior approval of exploratory fishing based on assessment of impacts
- Possible authorisation of new «existing bottom fishing area»



View Map of NEAFC Regulatory Area and All Closures in a larger map

NEAFC RAs and All Closures

This map shows NEAFC RA's and all closures ie: Areas closed to protect Vulnerable Marine Ecosystems, Hatton Rockall Closures and the Haddock closed area, Blue Ling closure (seasonal, south of Iceland) and 13 areas define as existing bottom fishing areas. A larger Google map is available by following the link above.

The role of science

Science-based conservation and management:

- Conservation to be based on/take into account «the best scientific evidence available»
- Cooperation: Regular exchange and contribution of available scientific information through competent international organization, UNCLOS arts 61(5) and 119(2)

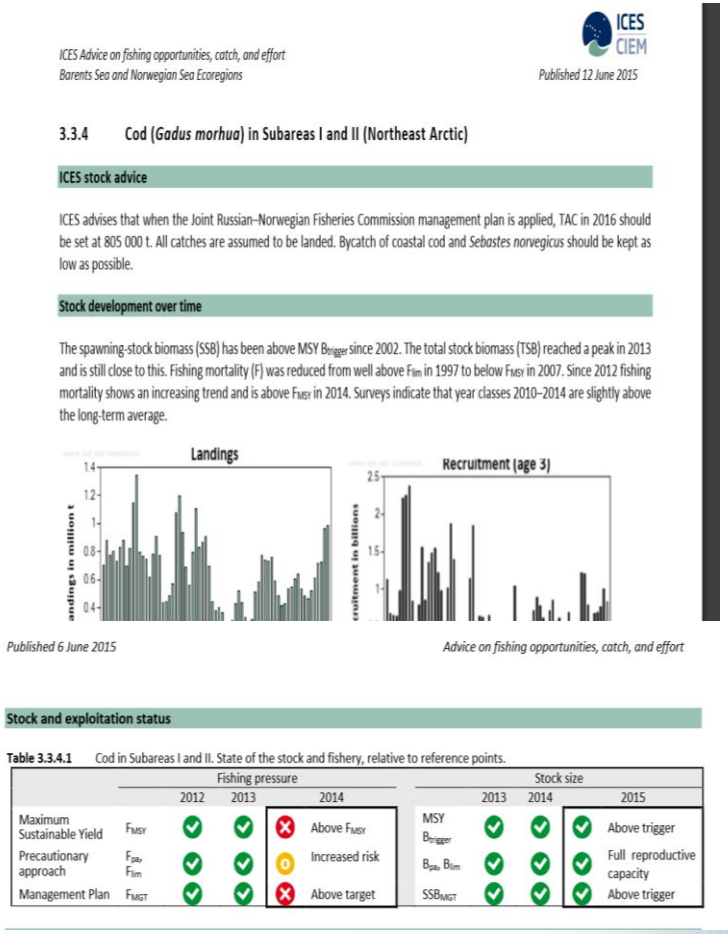
Relevant international organizations:

- ICES (International Council for the Exploration of the Seas)
- PICES (North Pacific Marine Science Organization)

The role of science
ICES

The ICES advice is developed within the context of international, regional and national legal instruments

The ICES advice is based on «an ecosystem approach, within a precautionary approach»



ICES Advice on fishing opportunities, catch, and effort
Barents Sea and Norwegian Sea Ecoregions

ICES CIEM

Published 12 June 2015

3.3.4 Cod (*Gadus morhua*) in Subareas I and II (Northeast Arctic)

ICES stock advice

ICES advises that when the Joint Russian–Norwegian Fisheries Commission management plan is applied, TAC in 2016 should be set at 805 000 t. All catches are assumed to be landed. Bycatch of coastal cod and *Sebastes norvegicus* should be kept as low as possible.

Stock development over time

The spawning-stock biomass (SSB) has been above MSY $B_{trigger}$ since 2002. The total stock biomass (TSB) reached a peak in 2013 and is still close to this. Fishing mortality (F) was reduced from well above F_{lim} in 1997 to below F_{MSY} in 2007. Since 2012 fishing mortality shows an increasing trend and is above F_{MSY} in 2014. Surveys indicate that year classes 2010–2014 are slightly above the long-term average.

Published 6 June 2015 *Advice on fishing opportunities, catch, and effort*

Stock and exploitation status

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Assessment
Dealing with scientific uncertainty

Precaution in existing fisheries

Precaution in new and exploratory fisheries (deep sea fishing)

Role of international scientific advisory body

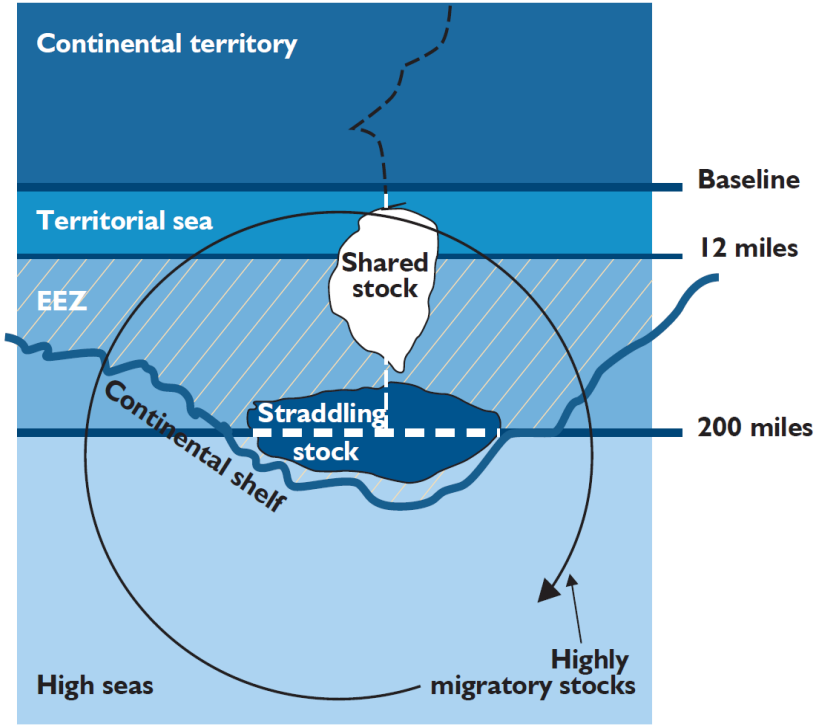
How may change in migratory pattern affect distribution of participatory rights? UNCLOS

Does UNCLOS provide any answers?

- Shared fish stocks
- Straddling fish stocks
- High seas fish stocks

Possible principles:

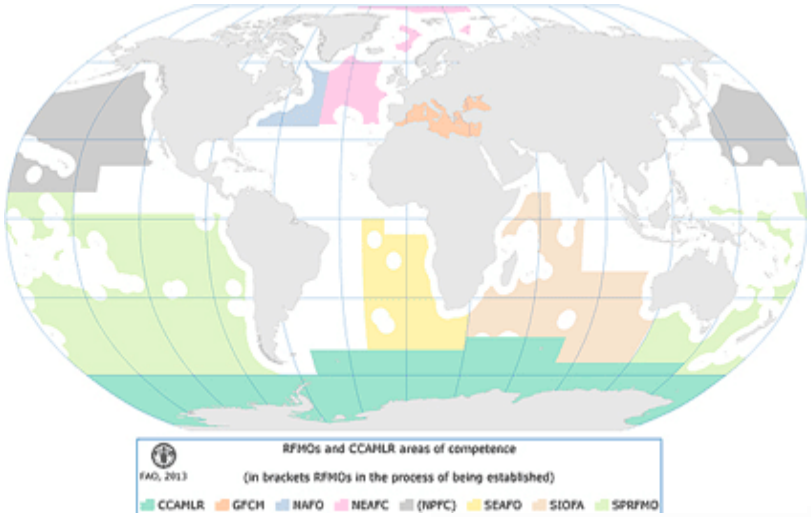
- Spatial and temporal distribution of the stock
- Economic needs of coastal communities
- Fishing patterns
- Needs of developing states



Post UNCLOS developments:
Fish Stock Agreement

Strengthening of the Regional Fisheries Management Organization:

- Right to fish on the high seas depends on membership or acceptance to apply the conservation and management measures
- Allocation of participatory rights as one of the tasks of RFMOs



No general principles on allocation of participatory rights:

- Considerations when deciding on nature and extent of newcomers rights
- Reflective of general principles, but not exhaustive

Compatibility requirement:

- Zonal attachment

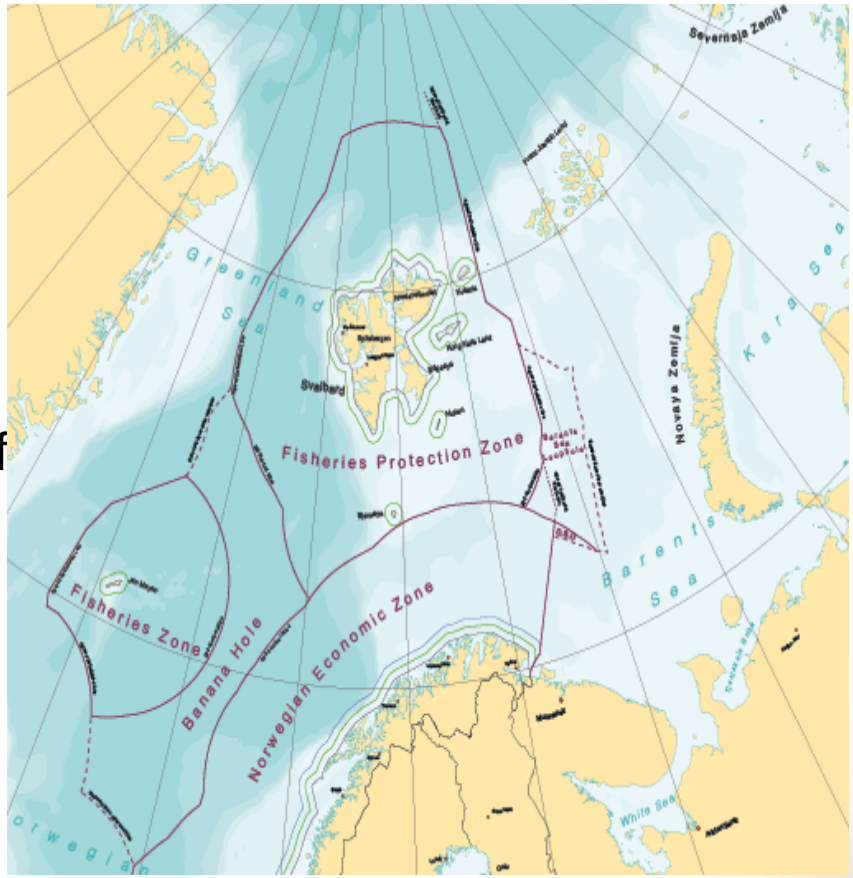
Practice from North-East Atlantic:
Joint Norwegian-Russian Fisheries Commission

1975/1976 Cooperation agreements

2010 Barents Sea Delimitation Agreement:

«…with a view to maintain their existing respective shares of total allowable catch volumes and to ensure relative stability of their fishing activities for each of the stocks concerned." (Article 4)

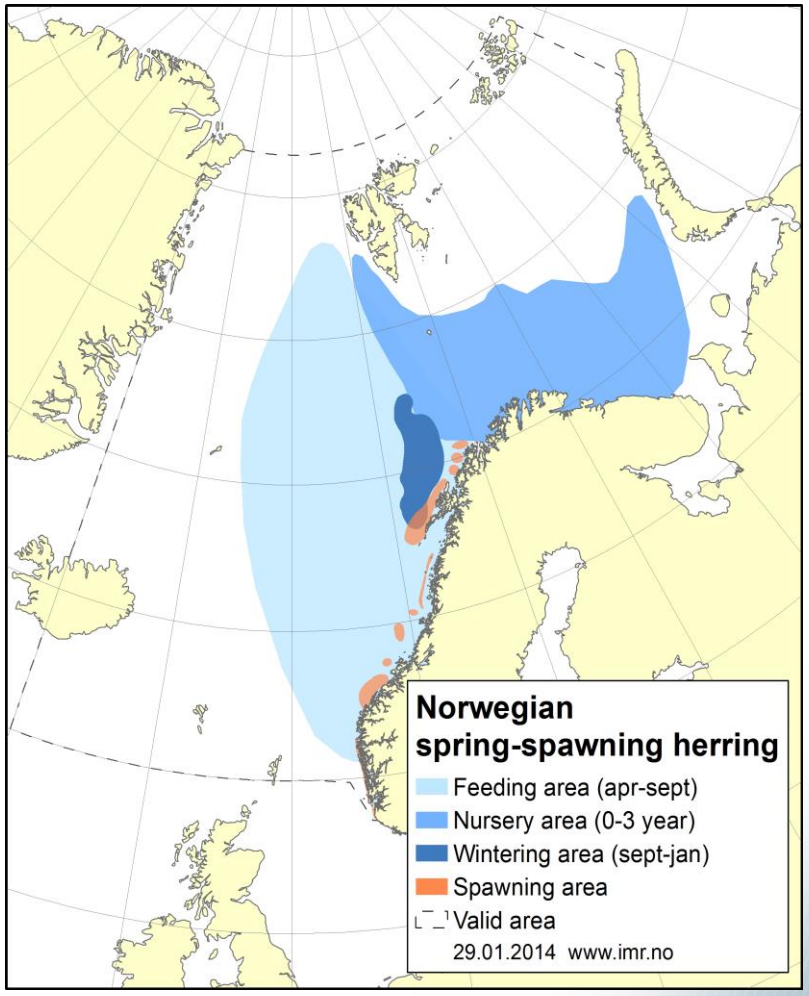
Redfish (*S. mentella)*



Practice from North-East Atlantic: Shared fish stocks

Conflicts over allocation of participatory rights:

- Does the stock occur within the fishery jurisdiction?
- Which principles are relevant, and how to transform them into shares?
- The principle on zonal attachment: what is relevant: historic distribution of fishing, physical distribution, of which components, which period etc

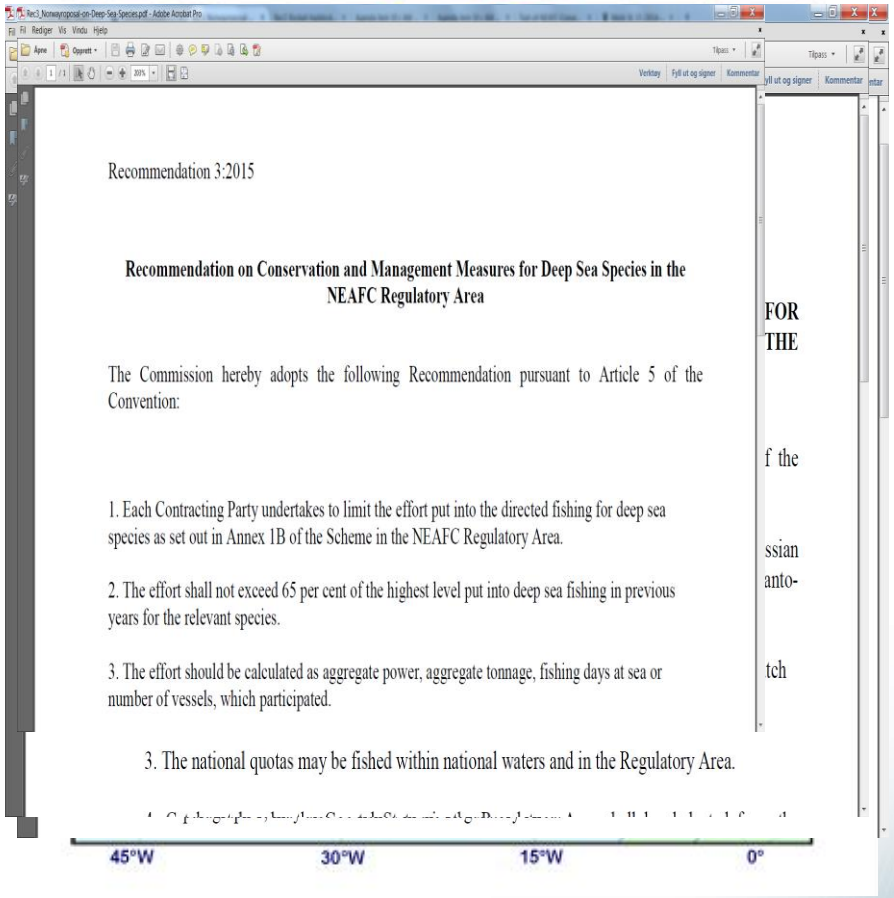


Practice from North-East Atlantic: NEAFC

NEAFC is competent to allocate catches or efforts between members, Article 7

Regulation of straddling fish stocks, dependent on coastal States agreements

Allocation of catches and efforts for discrete fish stocks



Recommendation 3:2015

Recommendation on Conservation and Management Measures for Deep Sea Species in the NEAFC Regulatory Area

The Commission hereby adopts the following Recommendation pursuant to Article 5 of the Convention:

1. Each Contracting Party undertakes to limit the effort put into the directed fishing for deep sea species as set out in Annex 1B of the Scheme in the NEAFC Regulatory Area.

2. The effort shall not exceed 65 per cent of the highest level put into deep sea fishing in previous years for the relevant species.

3. The effort should be calculated as aggregate power, aggregate tonnage, fishing days at sea or number of vessels, which participated.

3. The national quotas may be fished within national waters and in the Regulatory Area.

45°W 30°W 15°W 0°

How may change in migratory pattern affect distribution of participatory rights?
Assessment

- **No clear guidance in international (fisheries) law regarding allocation of rights both in new fisheries and existing fisheries**
- **The principle of equity may be supplemented by different and conflicting considerations**
- **Complex negotiations:**
  - stability vs. change
  - Indefinite number of states/third state problem
- **Alternative decision-making procedures?**

Lessons learnt from the North-East Atlantic?

- **The most «stringent» application of the Precautionary Approach where it is least costly**
- **The role of international scientific advisory bodies**
- **Critical: Decision-making/negotiations on allocation of national quotas of common natural resources**