ICES advice for 2009

Advisory Committee for Fisheries and Aquaculture: “Fisheries”

Overview

16 October 2008, Brussels

Hans Lassen

ICES Secretariat

ICES 2008: new advisory process
Enhance transparency and integration

ICES Advisory services

- One Advisory Committee (instead of 3)
- Advice Drafting Groups prepare advice
  - includes topic experts and national experts
- Close links with expert groups
- Review process on all expert groups
- Increasing regional focus
- Open to (stakeholder) observers

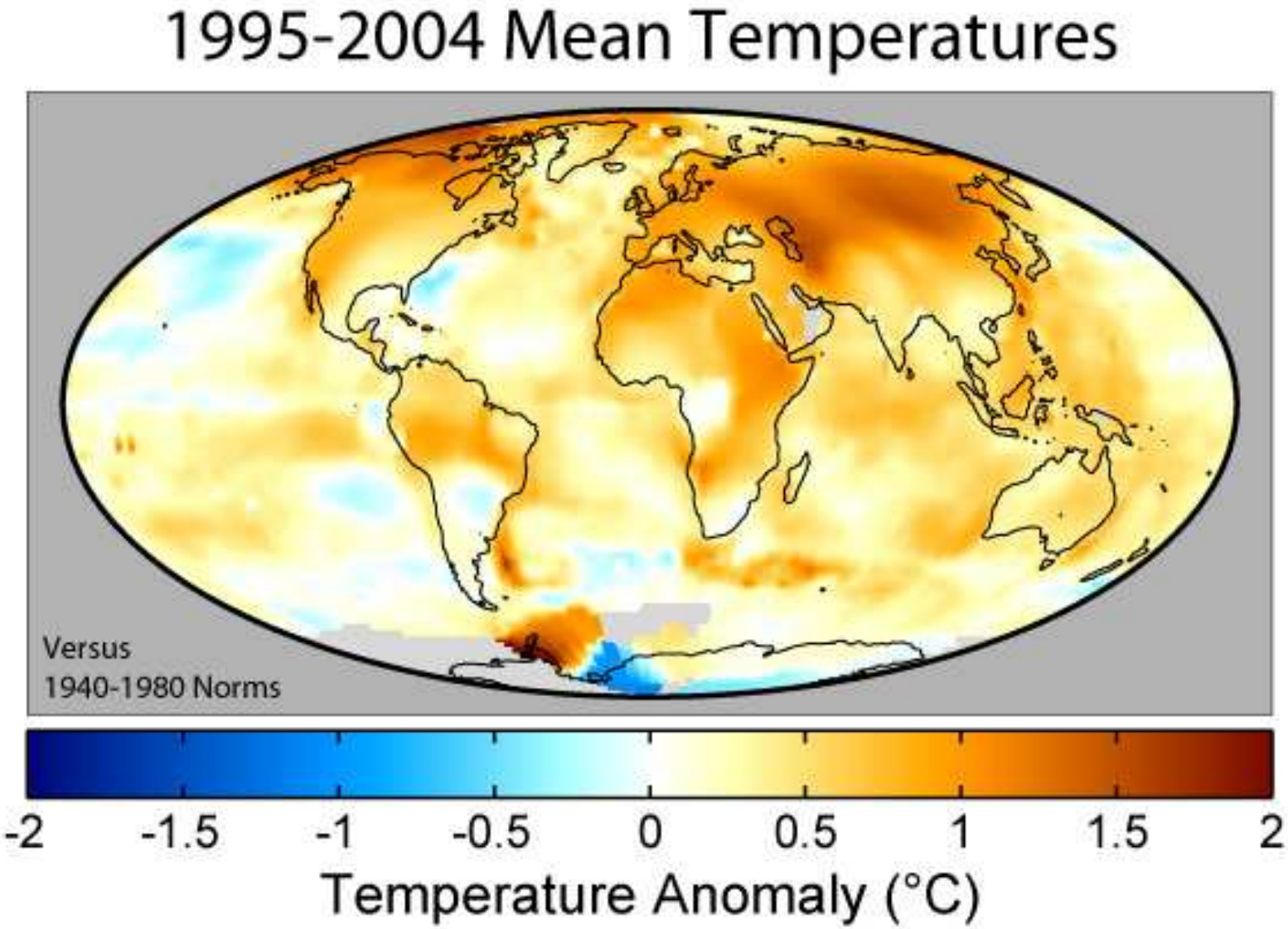
Trends in advice

- Climate Change

- Ecosystem Approach
- Spatial Planning

- Long term management Plans
- Maximum Sustainable Yield

Climate Change

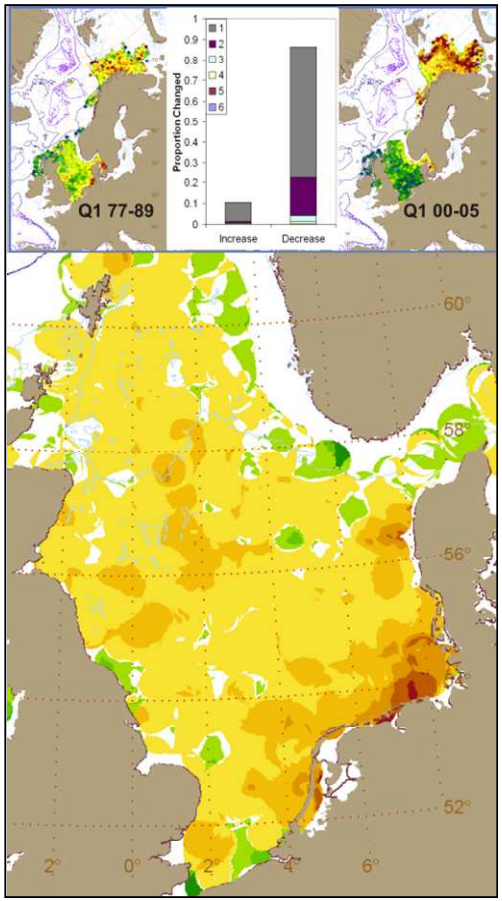


Climate Change: Changing populations

- Change in distribution of Atlantic cod (*Gadus morhua)* between 1977–1989 and 2000–2005 in the North Sea, quarter 1

- Blue to green colours indicate an increase
- Yellow to red indicate a decrease

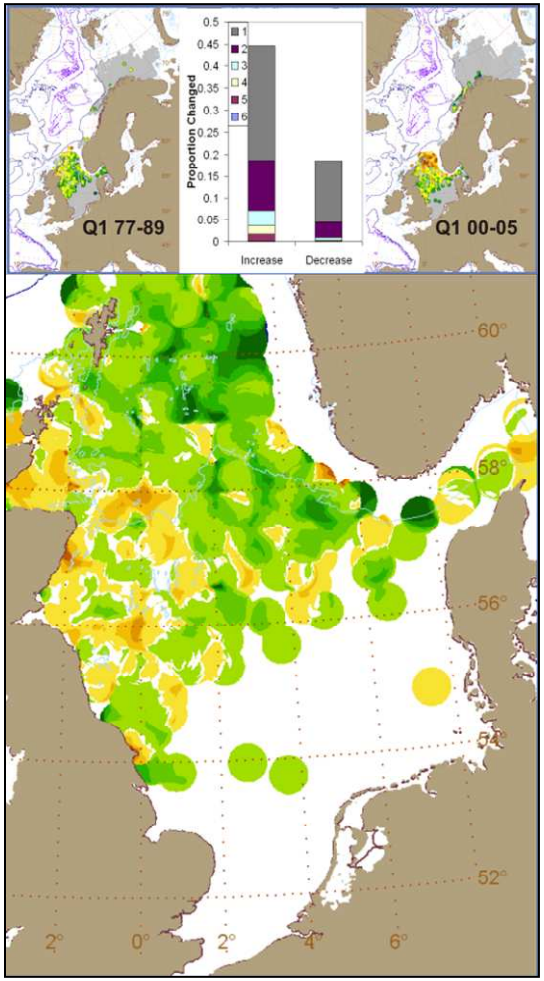
- The upper left panel shows distribution in the initial period (1977–1989) and upper right panel for 2000–2005. The large lower panel shows change in distribution between the two periods, where blue to green colours indicate an increase in density, dark colours indicating the largest change. Yellow to red indicate a decrease in density between the two periods, with red indicating the largest changes. The upper centre graph shows the proportion of the total survey area where an increase and decrease occurred, broken down by degree of increase or decrease (categories 1–6).



Climate Change: Changing polulations

- Change in distribution of anglerfish (*Lophius piscatorius)* between 1977–1989 and 2000–2005 in the North Sea, quarter 1

- Blue to green colours indicate an increase
- Yellow to red indicate a decrease



Ecosystem Approach to fisheries management

- Evaluate the effects of fishing broader than effects on target fish stocks
- Fisheries management part of overall use of the marine ecosystem
- Issues
  - Status of target species
  - By-catch and discards (other fish, marine mammals, sea birds, etc)
  - Effects of the sea bottom

Descriptors of good environmental status

Marine Strategy Framework Directive

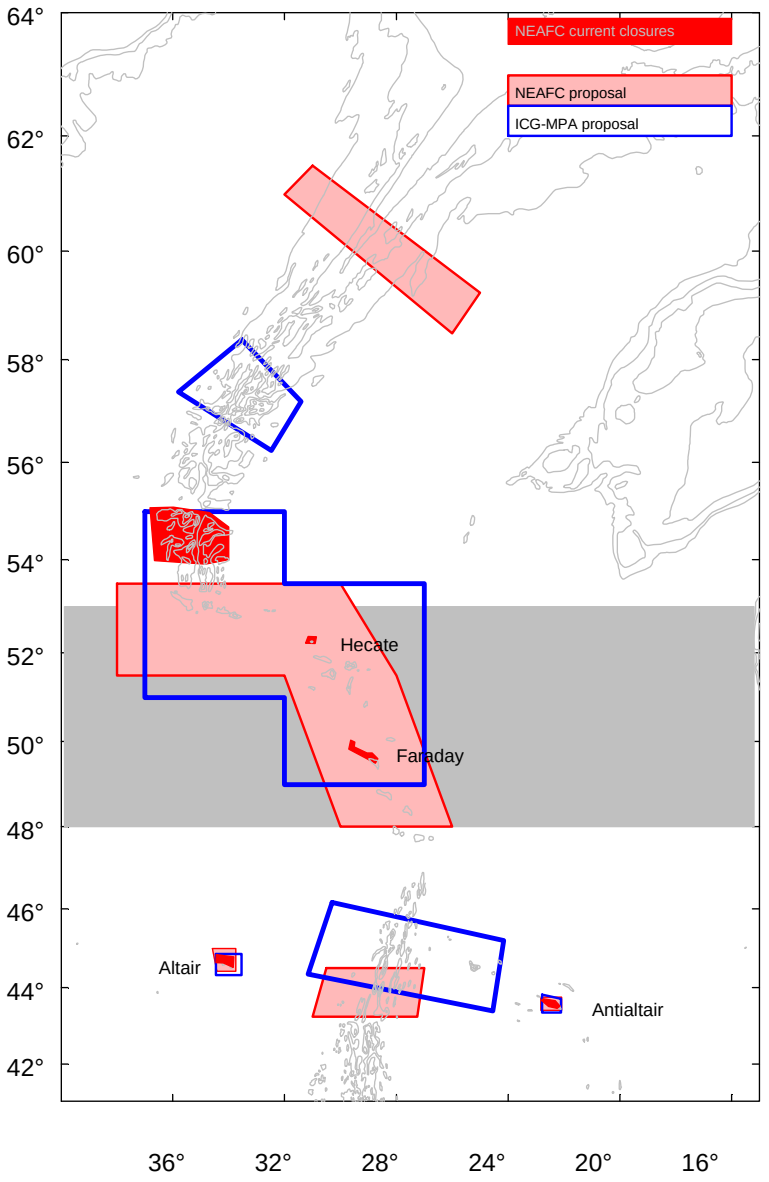
(1)	**Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.**
(2)	Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystems.
(3)	**Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock.**
(4)	All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.
(5)	Human-induced eutrophication is minimised, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algae blooms and oxygen deficiency in bottom waters.
(6)	**Sea floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected.**
(7)	Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems.
(8)	Concentrations of contaminants are at levels not giving rise to pollution effects.
(9)	Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards.
(10)	Properties and quantities of marine litter do not cause harm to the coastal and marine environment.
(11)	Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.

Spatial Planning

- Increasing use of Marine Protected Areas in fisheries management
  - High seas: NEAFC protected areas
  - Coastal: NATURA 2000 sites
  - Environment concerns: OSPAR Protected areas

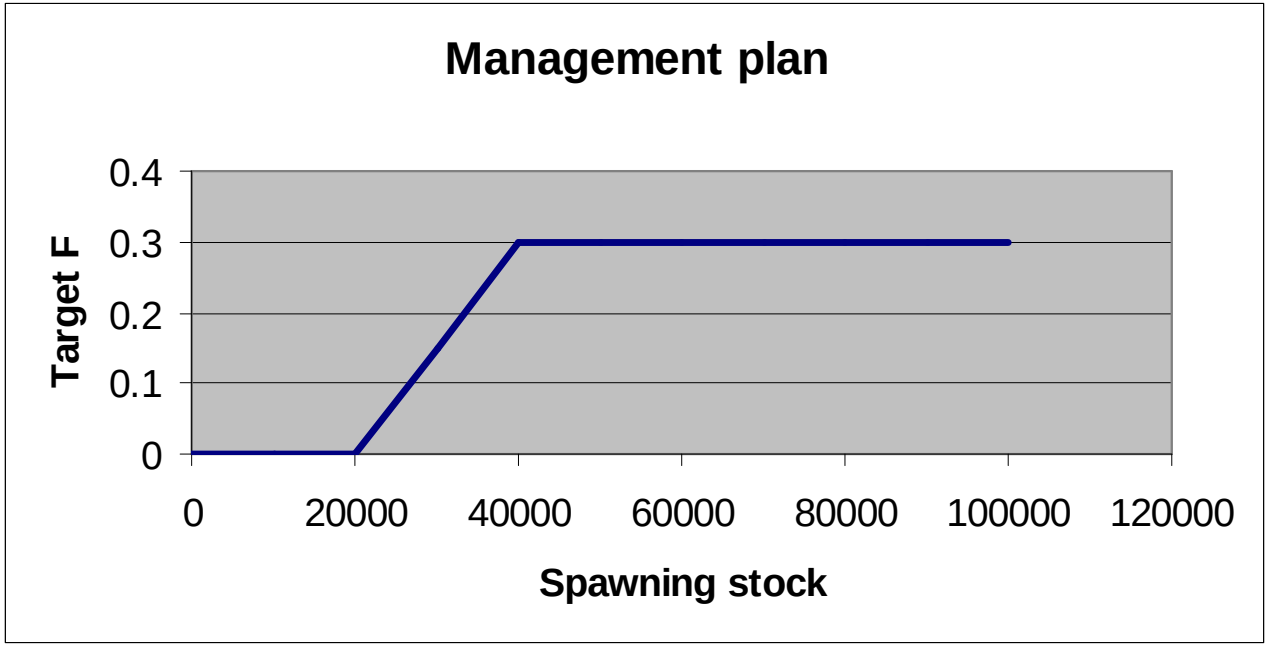
Spatial Planning: Example

1) Proposed areas on the mid-Atlantic Ridge
   OSPAR (Blue)
   Marine Protected Areas
   NEAFC (Red)
   Areas closed to bottom fishing by.
   Existing NEAFC closures (solid red)



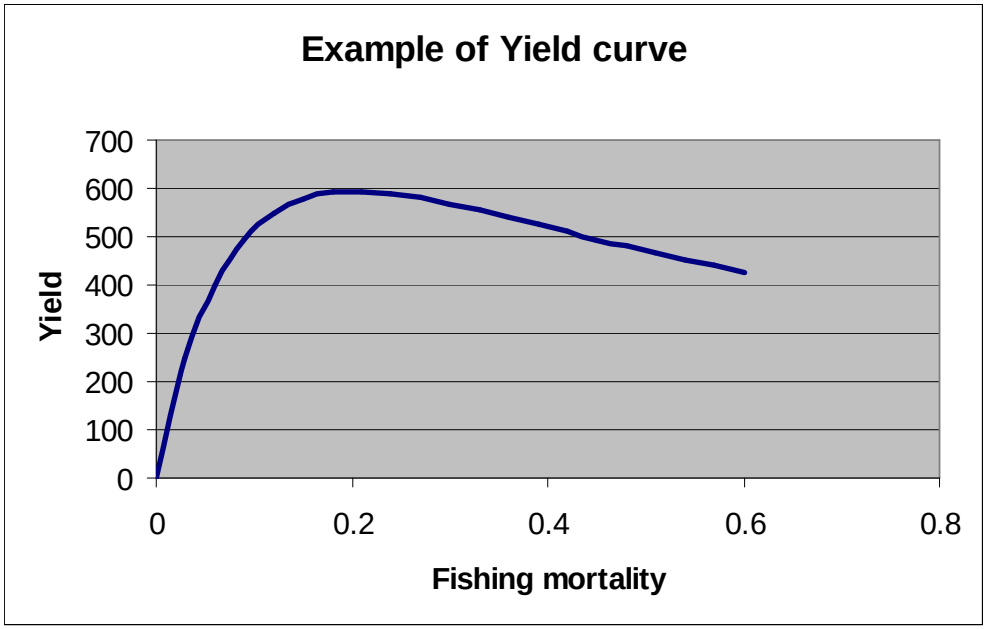
Long Term Management Plans

- Effective decision making
- Focusing on long term goals
- Based on assessment of stock status (SSB and F)
- Stability on TAC (15% rule)



Maximum Sustainable Yield

- Effective use of the production in the populations
  - Recruitment
  - Growth
  - Mortality
- Precautionary Approach
  - safeguarding reproduction

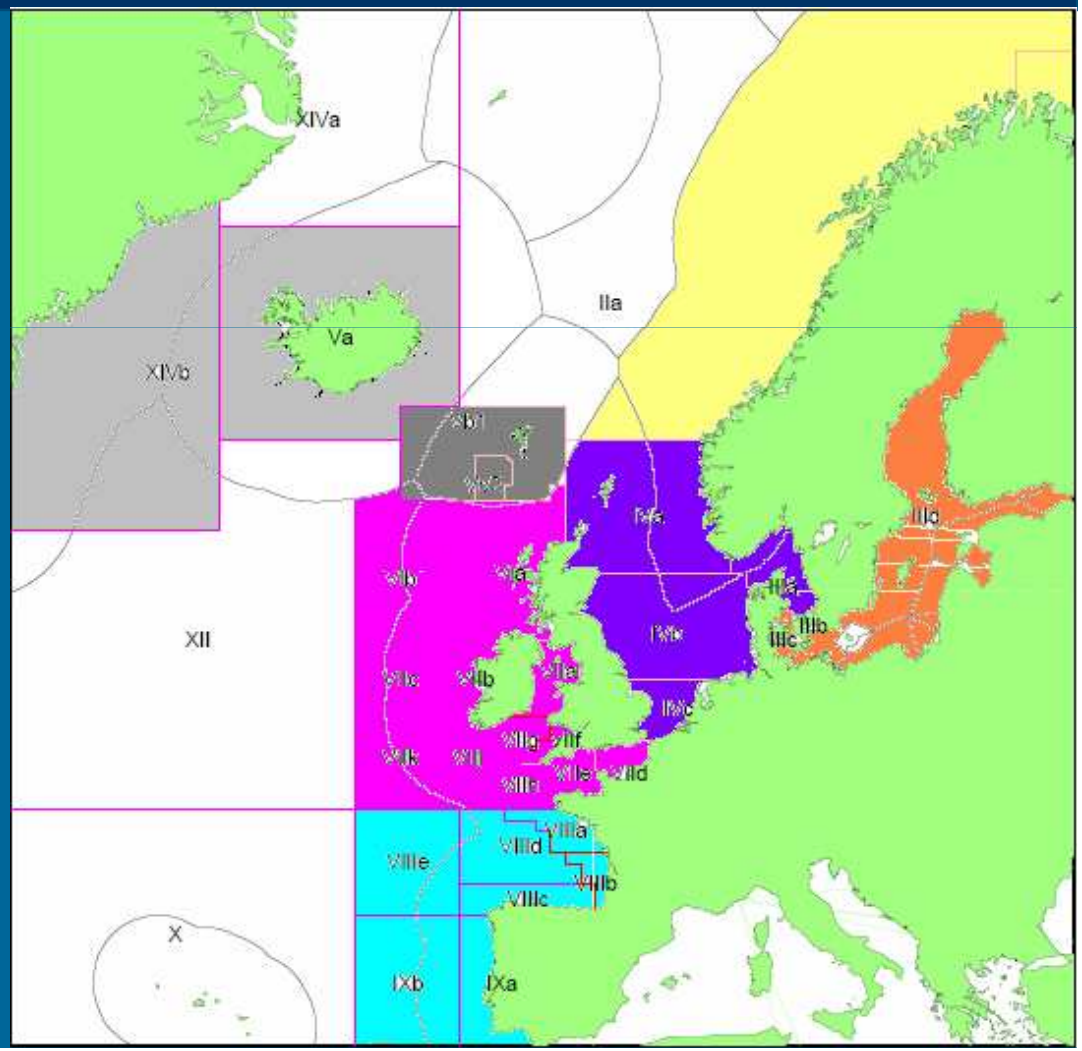


Approach to advice

- Only provide new advice when there is a clear basis
  - (sufficient information)
- Application of precautionary approach
  - avoid B_{lim} with high probability
- Identification of potential target reference points
  - high long term yield/low risk to stock
- Evaluation of management plans
  - North Sea Herring
  - Western Baltic Herring
  - NEA Mackerel
  - North Sea Cod

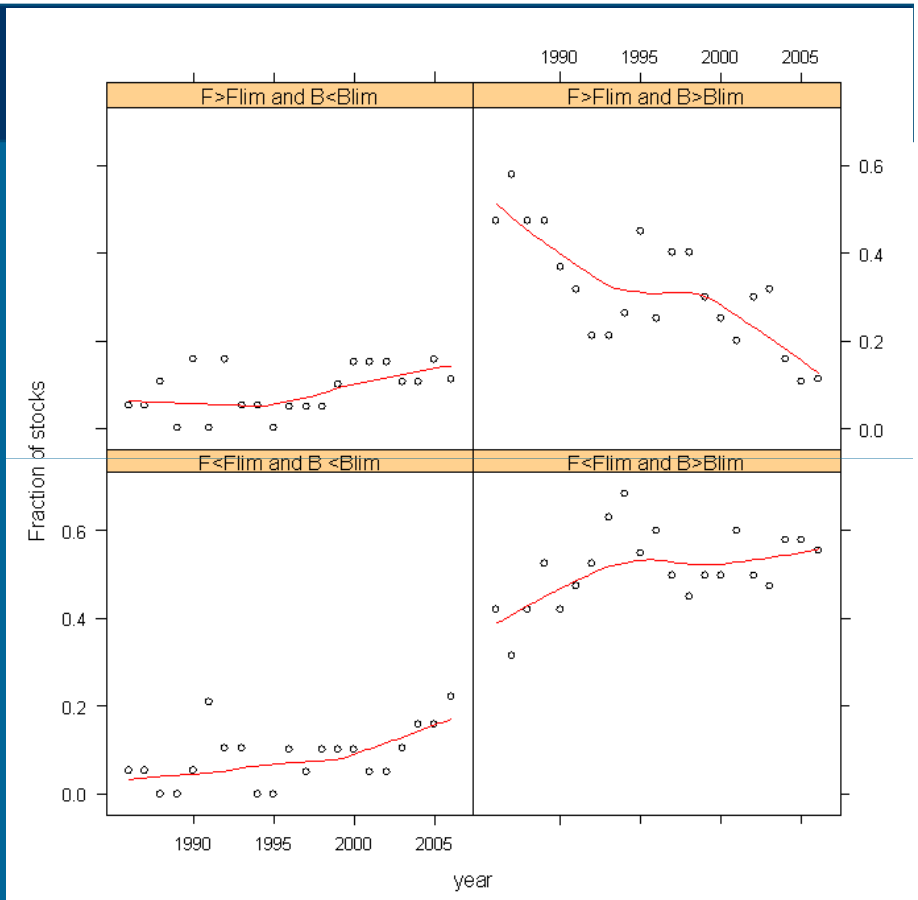
ICES Ecosystems

1. Barents and Norwegian Sea
2. Iceland and Faroe Islands
3. North Sea
4. Celtic Sea
5. Bay of Biscay and Iberian waters
6. Baltic Sea



Status of stocks: Northeast Atlantic

Proportion of stocks in good conditions decreases



Northeast Atlantic EU waters: Status

Pelagic Stocks	Demersal Stocks	Shellfish
Herring	Cod	Nephrops
Anchovy	Haddock	(Northern stocks)
Sardine	Whiting	Nephrops
Sprat	Saithe	(Southern stocks)
Hake Southern	Anglerfish	
Horse mackerel	Megrim	Northern prawn
(North Sea)	Plaice	
	Sole	

Northeast Atlantic EU waters

Deep water Stocks

Tusk

Ling

Blue ling

Greater silver smelt

Scabbard fish

Orange Roughy

Widely distributed Stocks

Norwegian spring spawning herring

Blue whiting

Horse mackerel

NEA Mackerel

Northern hake

Northeast Atlantic EU waters

Shortlived species	Others
Capelin	Salmon
Sprat	Sea trout
Norway pout	Eel
Sand eel	Sharks
Anchovy	Rays

Widely distributed Stocks: Status

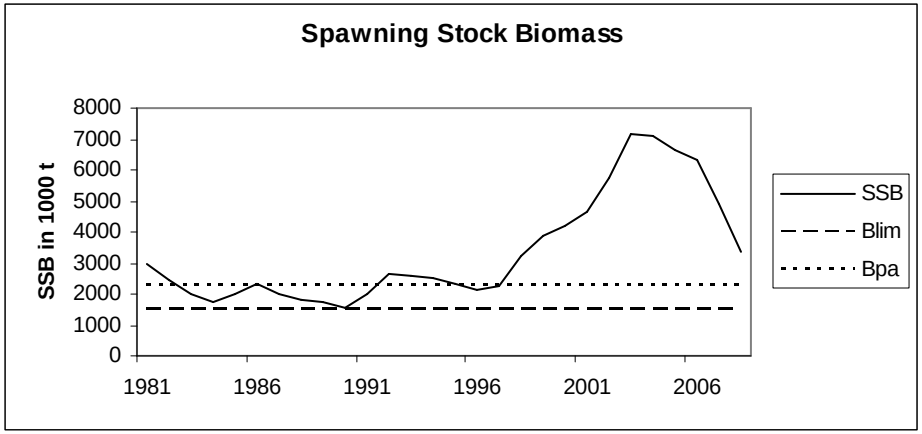
- All stocks at a high level
- Alle stocks with fished at sustainable level
- Alls stocks fished above what might be a MSY value

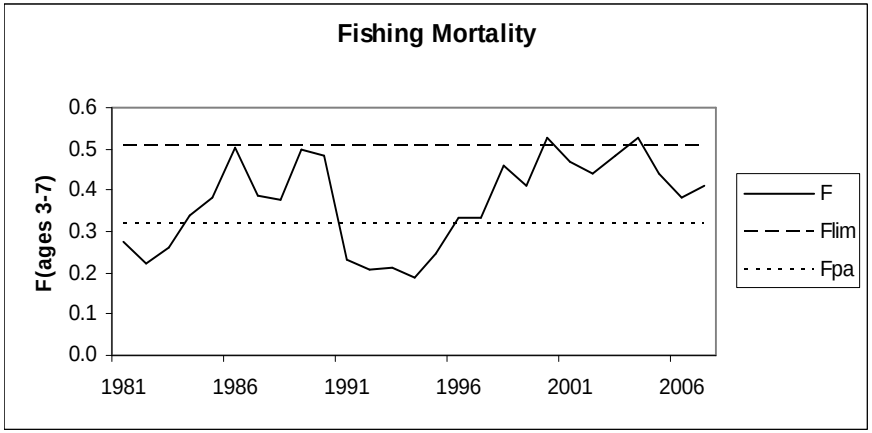
Species	TAC proposal for 2009
Hake–Northern stock	< 51 500 t
Northeast Atlantic mackerel	443 000 t– 578 000 t
Western horse mackerel	180 000 t
Blue whiting	384 000 t
Norwegian spring-spawning herring	1 643 000 t

NEA Mackerel: **Revised reference points**

Type	Value	Technical basis
B_{lim}	1.67 million t	$B_{lim}=B_{loss}$, the biomass above which reduced recruitment has not been observed.
B_{pa}	2.3 million t	Trigger reference point used in the current management agreed between Norway, Faroe Islands, and the EU in 1999.
F_{lim}	0.42, the fishing mortality estimated to lead to potential stock collapse.	$F_{lim}=F_{loss}$
F_{pa}	0.23	F_{lim} * 0.55 (CV 36%).

Blue Whiting: Decreasing Spawning stock biomass

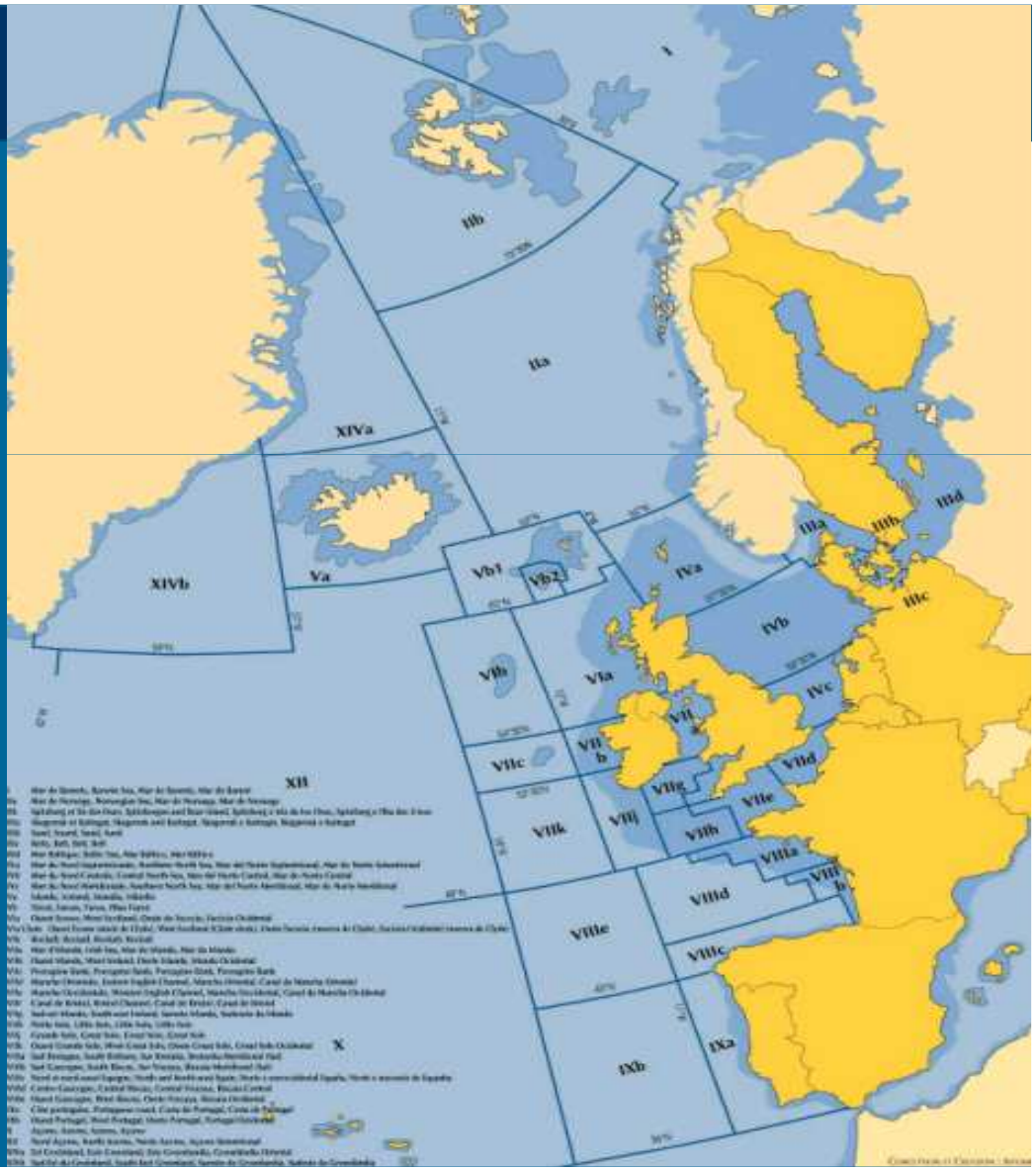




Widely distributed stocks

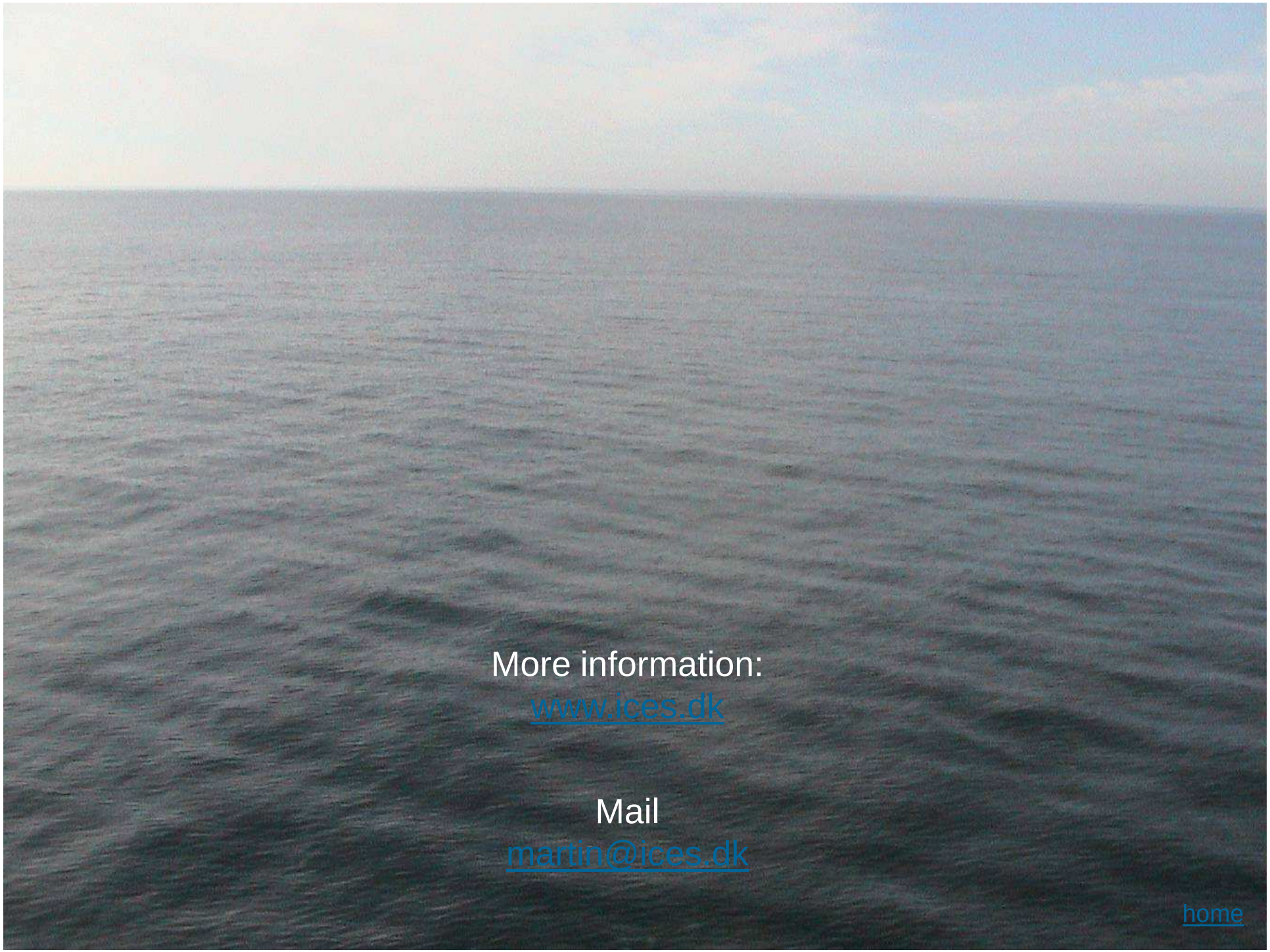
Northeast Atlantic Mackerel
Blue whiting
Norwegian spring spawning herring
(Western) horse mackerel

Northern hake



Herring stocks: General findings

- Herring stocks experience low recruitment
  - Reason not fully known (lack of research)
  - Requires reductions in catches
- Evaluation of management plans
  - Suggestion for lower exploitation for North Sea herring
  - Initial exploration for Western Baltic herring



More information:
www.ices.dk

Mail
martin@ices.dk

home