



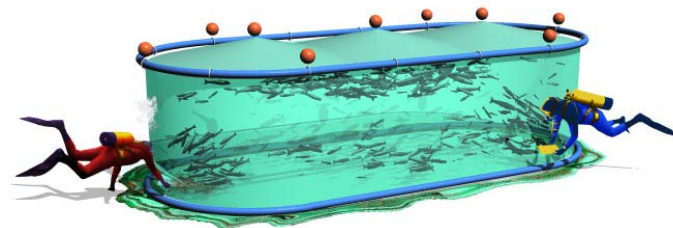
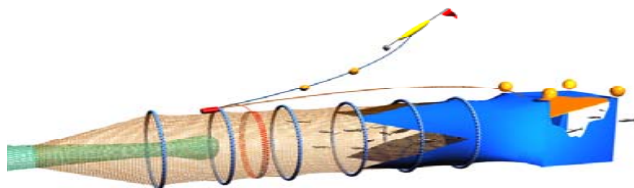
FISKERIDEPARTEMENTET

*Norwegian Ministry of Fisheries*

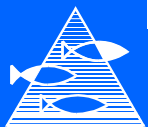
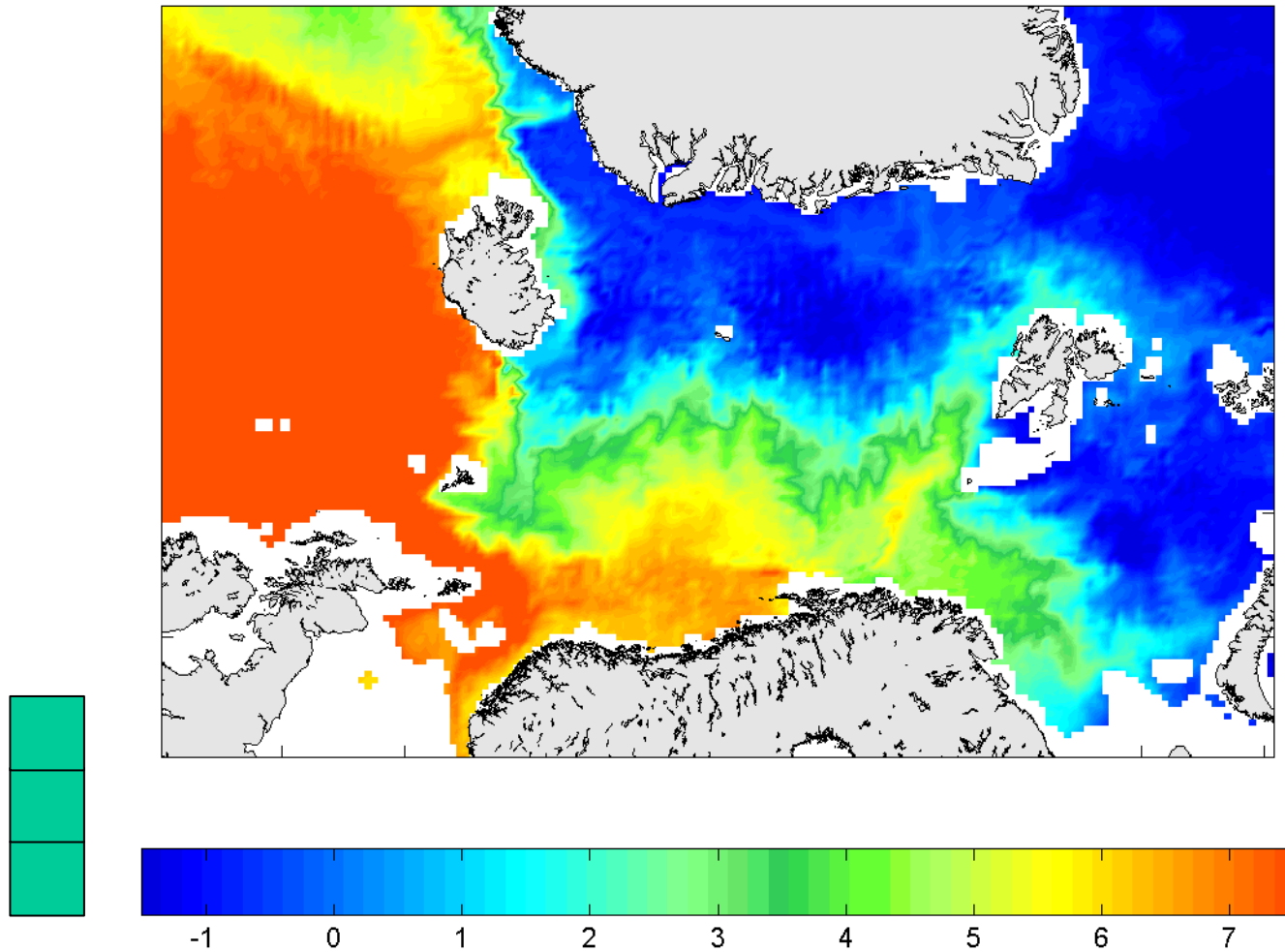
## Irish Presidency of the Council of Fisheries Ministers of the European Union – Ministerial & Stakeholders Conference

*“Fast Tracking the Development of Environmental-Friendly Fishing Methods”*

Norwegian efforts and perspectives, by  
Minister of Fisheries, Mr. Svein Ludvigsen



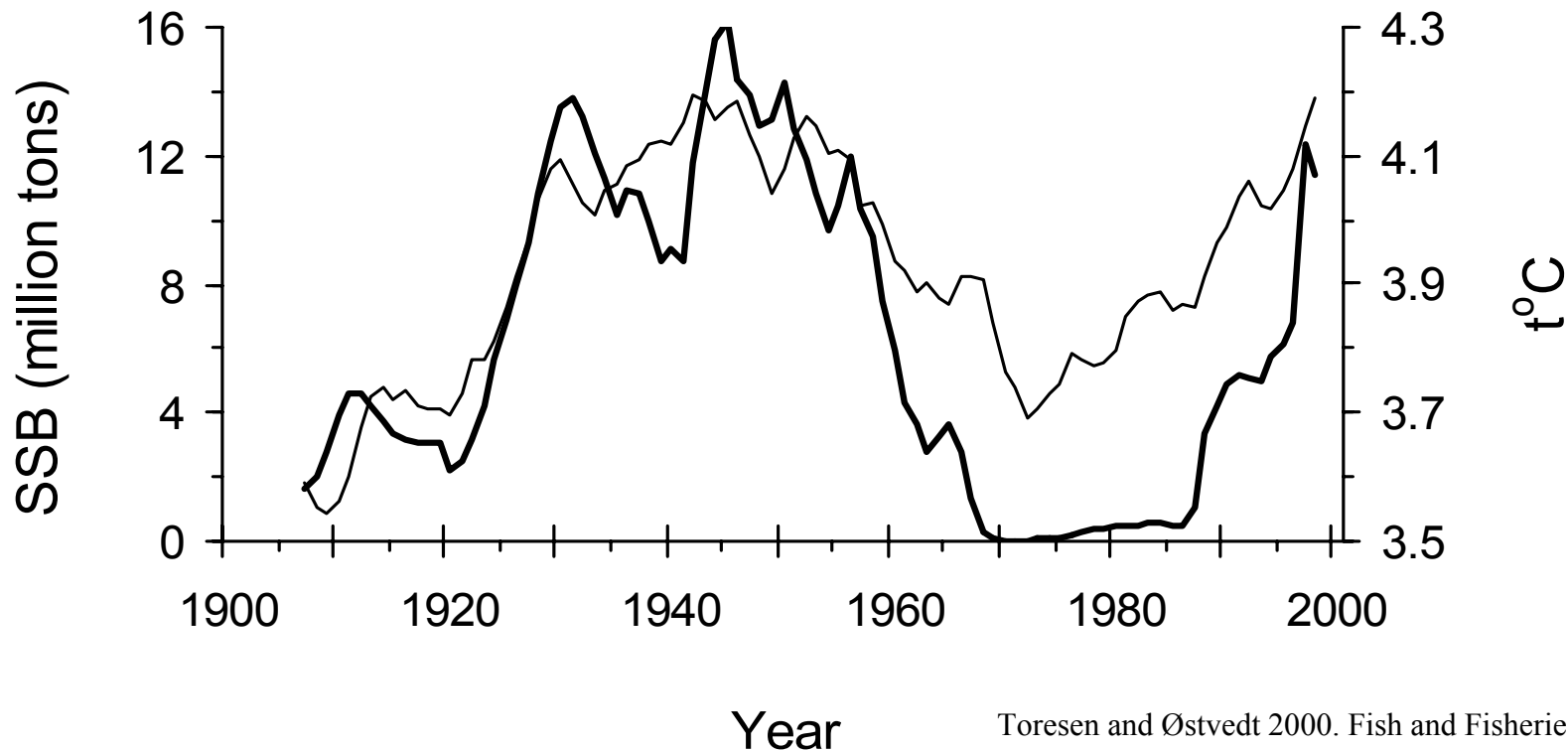
Mar 97



Institute of Marine Research

## Norwegian spring spawning herring

Norwegian spring spawning herring and temperature  
Stock collapse in late 60-ies, due to adverse climatic  
conditions and very hard fishing pressure.



## Fisheries management in short retrospect

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- Till 1970-ies: free fishing, few regulations – depletion of stocks
- Quotas (TACs), licenses, effort regulations
- Sustainable development/fisheries (FAO/Rio)
- Responsible fishing (FAO/CoC, Cancun)
- Precautionary Approach to Fish. Management.
- Conservation of biodiversity
- **Ecosystem based fisheries management**

## Ecosystem based fisheries management (EBFM) goals:

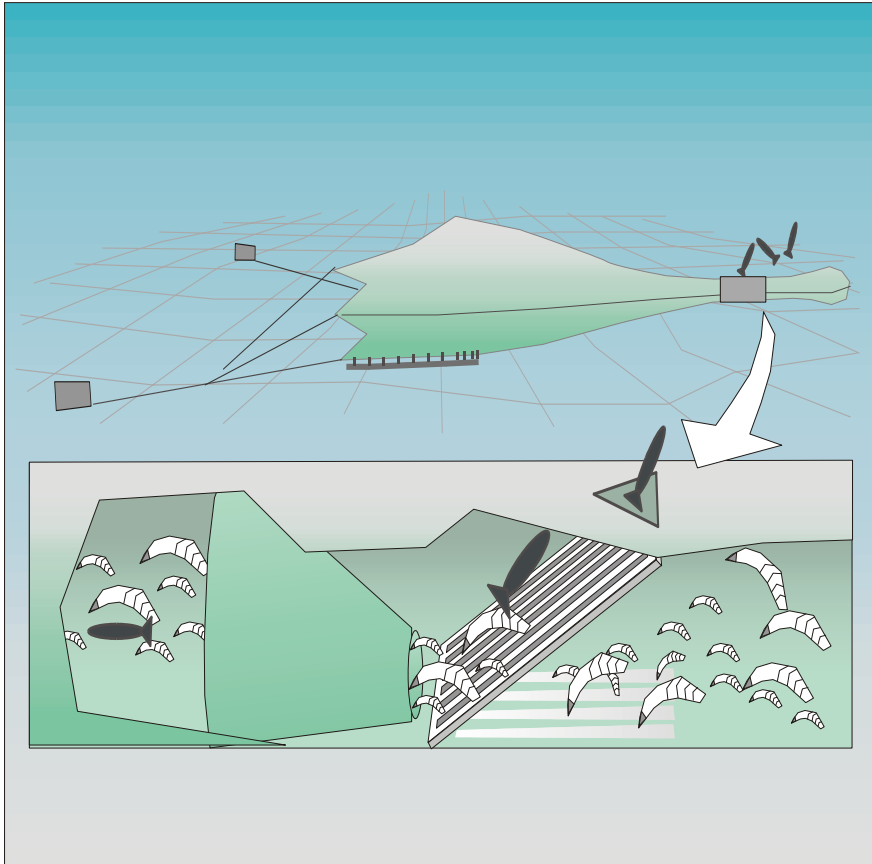
- Healthy marine ecosystems
- Healthy, productive fish stocks
- Balanced harvest at different trophic levels from plankton feeders to top predators
- Healthy fishing industry and coastal communities
- Healthy seafood

## **Ecosystem based advice for fisheries management, elements:**

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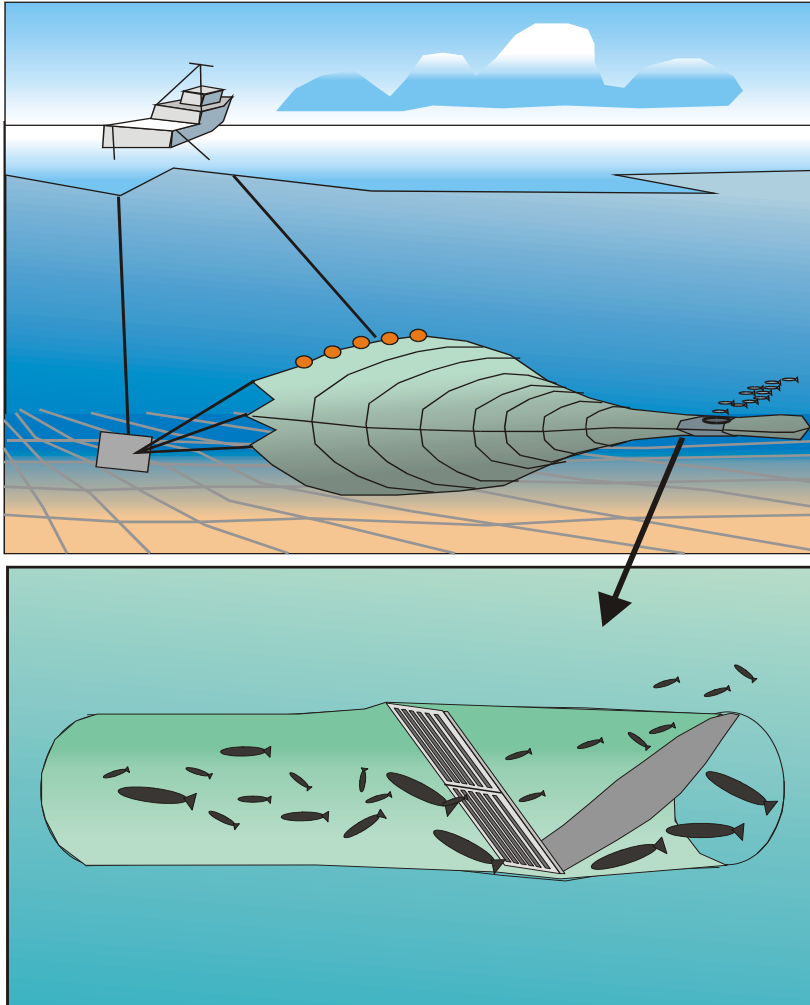
- 1. Advice for "healthy" oceans as a sound basis for marine life and seafood production
- 2. Improved scientific management advice by incorporating ecosystem information in fish stock assessments and forecasts
- 3. Reduced ecosystem effects of fishing by advice on improved fish capture methods

## Nordmøre grid for separating shrimp and fish



- Retains shrimp
- Releases fish by-catch
- Improves quality of target catch
- Reduces sorting work onboard
- Increases yields of non-targets for other fisheries
- Mandatory in a number of fisheries

## Size sorting grid

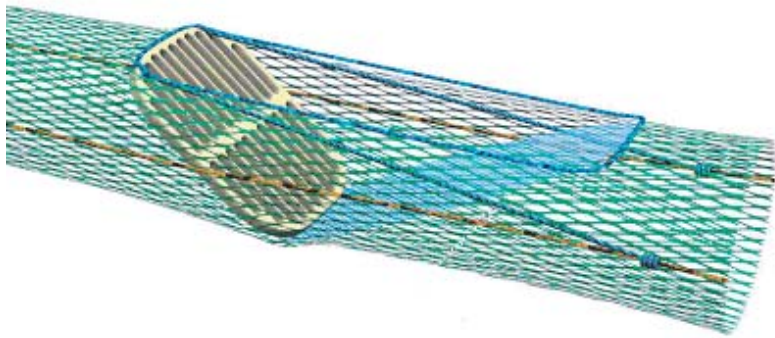


- Small, juvenile fish are released
- Size sorting with grids is less dependant on high catch rates than meshes
- Properly designed and used size sorting grids may allow fishing to continue in areas where the abundance of young fish is high



## Eurogrid

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- A hinged flexible whitefish grid system for demersal towed gear fisheries, developed in an EU project (Scotland, France, Denmark, Sweden, Norway).
- Can be wound around net drums of smaller vessels, - easy to handle.
- Selectivity comparable to other grid systems.
- A good grid option in fisheries where grids are made mandatory by legislation on used on voluntary basis by the industry

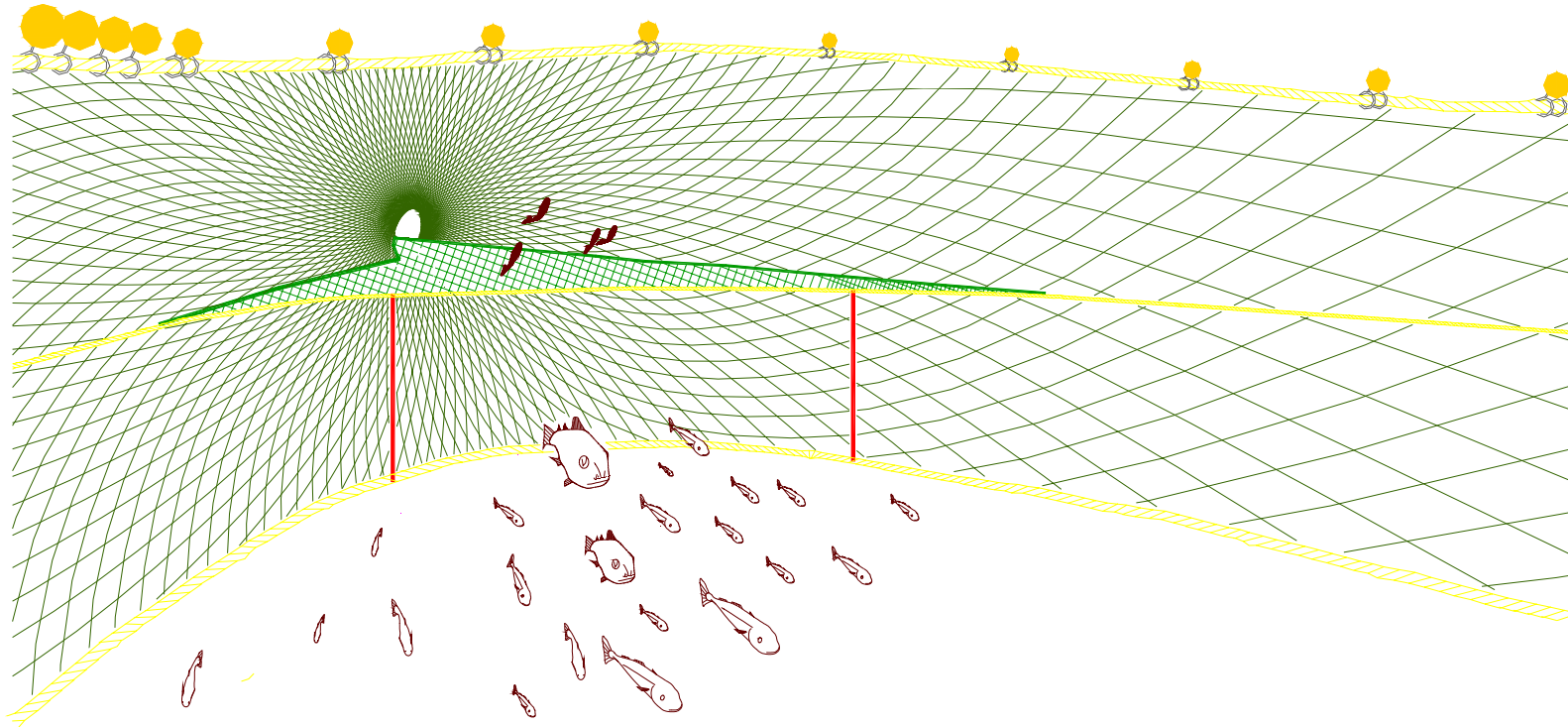


FISKERIDEPARTEMENTET

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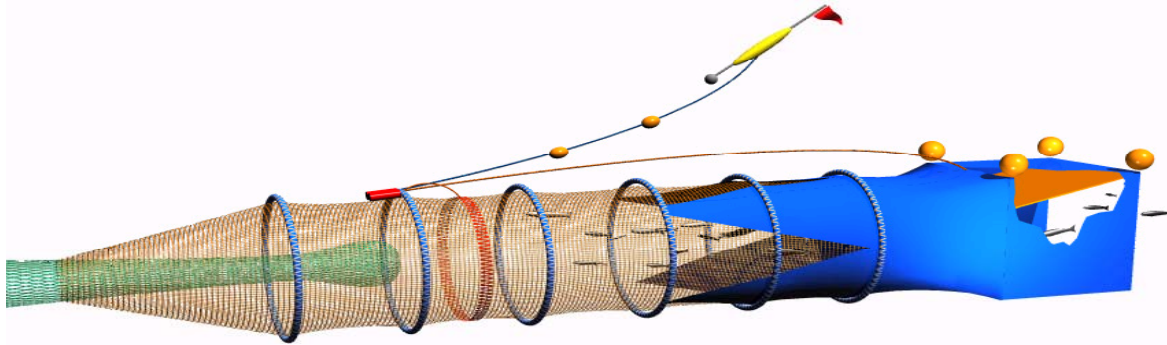
The Riches of the Sea - Norway's Future

# Species selectivity: Trawling with horizontal separator panel

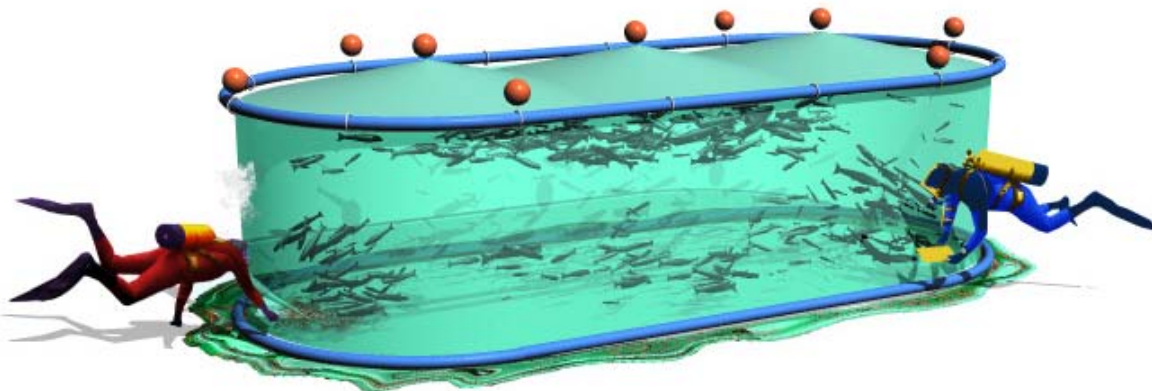


## Survival of fish escaping from fishing gears

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Fish escaping from trawl codends are collected in cover net and transferred to holding cages for monitoring of survival

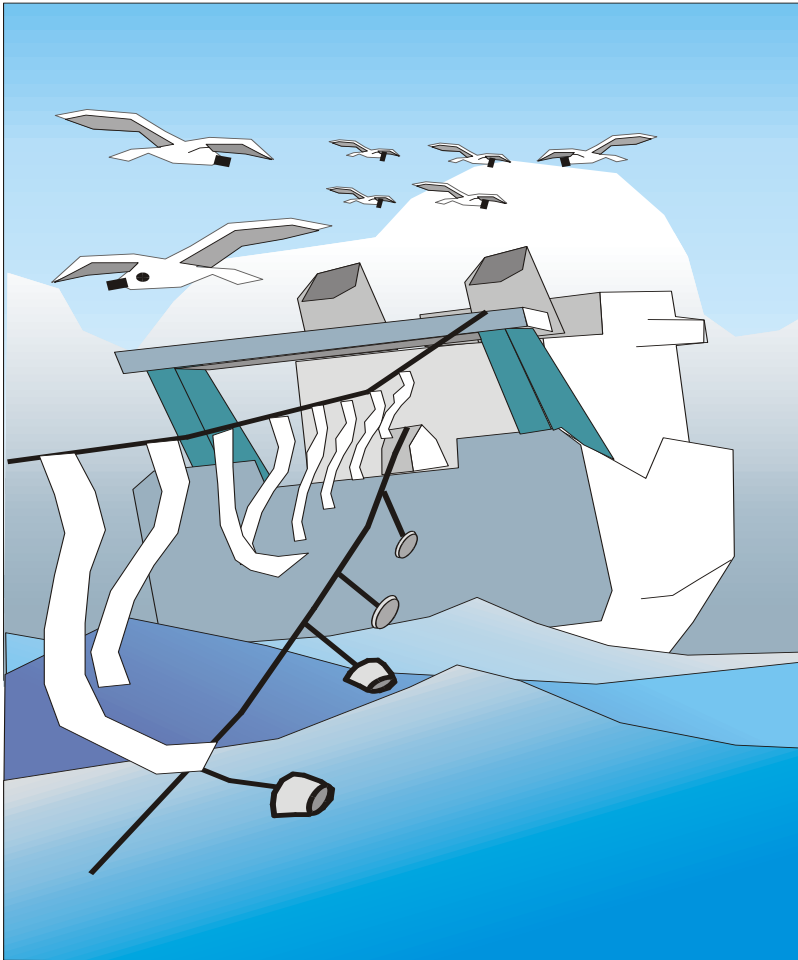


The survival of gadoid fish like cod, saithe and haddock seem to high in general, although there are still certain aspects of gadoid survival that needs to be investigated.

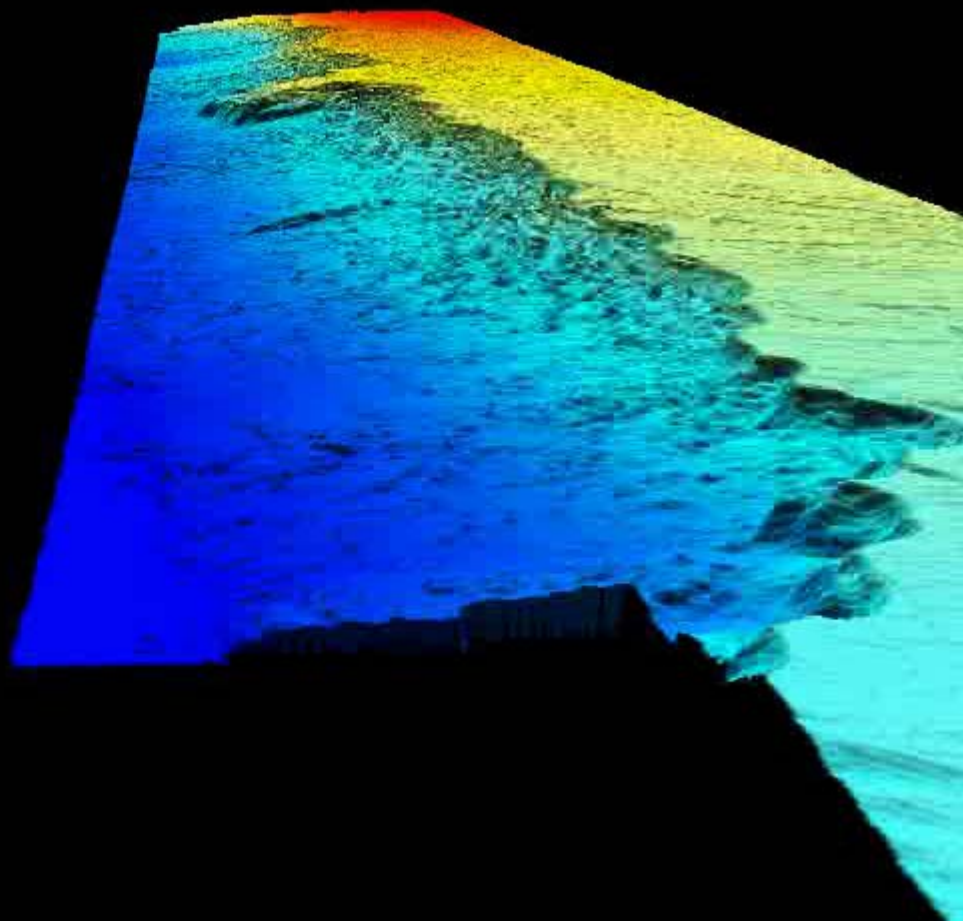
The survival of pelagic species like mackerel and herring is lower. Development of new selectivity devices for these species should always be linked to studies of survival.

## Bird-Scaring line to reduce seabird capture during longline fishing

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- Seabirds try to take bait from hooks during setting of longlines and might self be hooked
- This is particularly a problem for albatrosses and petrels in Southern Oceans
- Mitigations tools such as scaring lines significantly reduce the problem

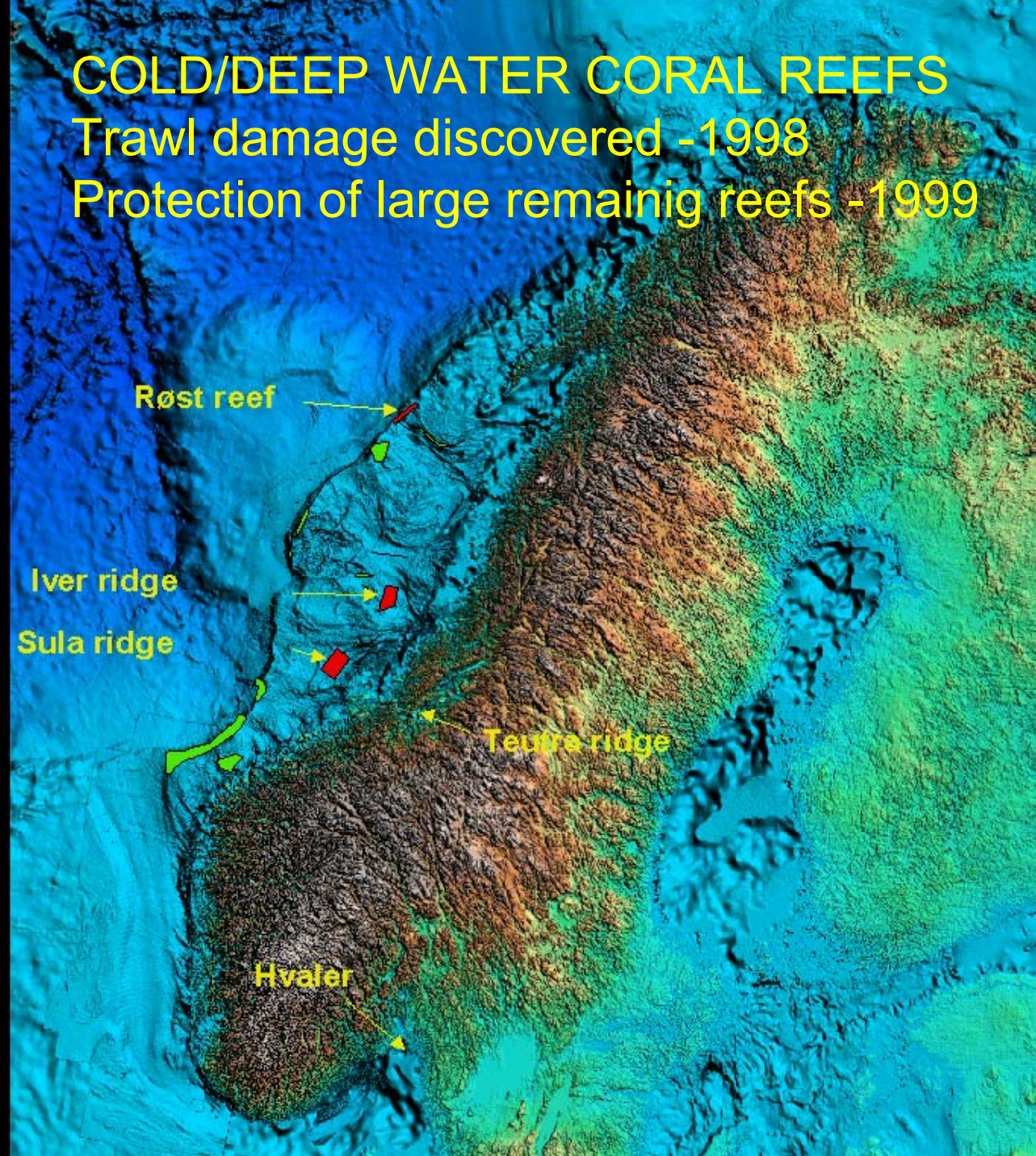




# COLD/DEEP WATER CORAL REEFS

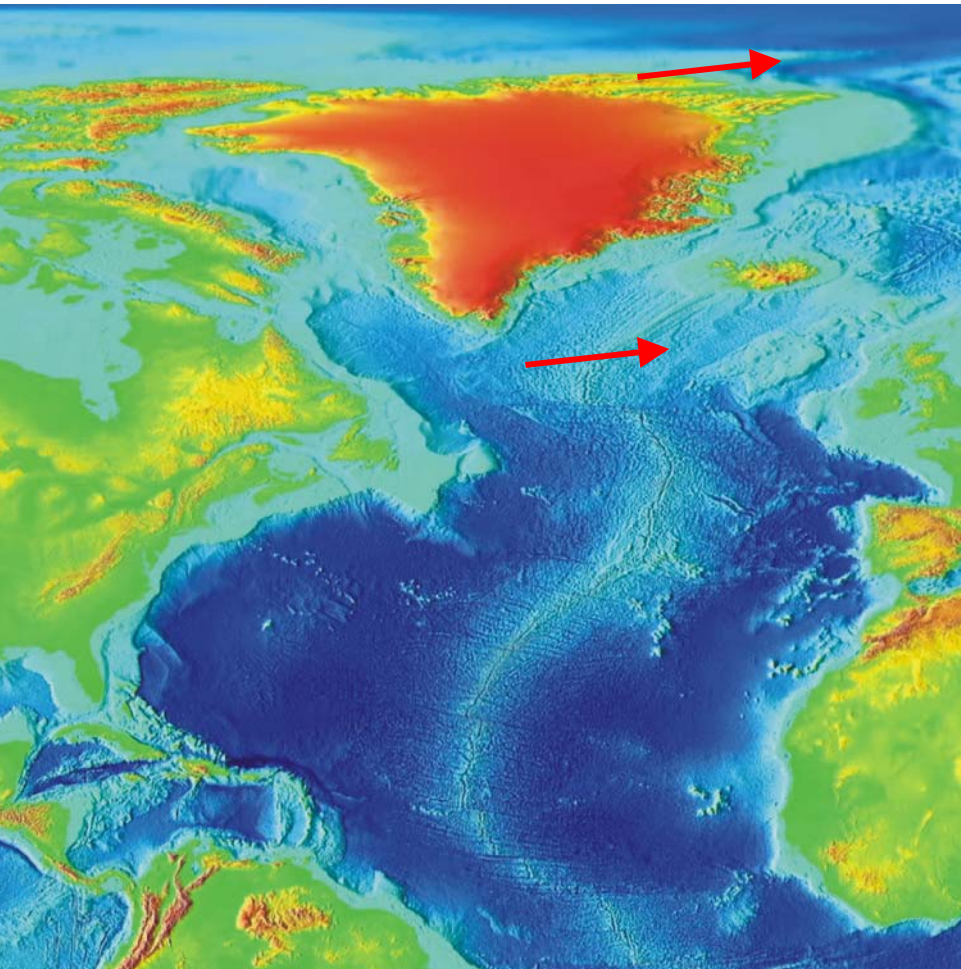
Trawl damage discovered -1998

Protection of large remaining reefs -1999



## The Census of Marine Life pilot project (Mar-Eco):

### Patterns and processes of the ecosystems of the Northern Mid-Atlantic



*Area:* Iceland – Azores



*Taxa/components:*

Pelagic, benthopelagic and epibenthic macrofauna.

Fishes, cephalopods, gelatinous plankton, crustaceans.

*Planning phase:* 2001-2003

*Field phase:* 2003-2005

*Analytical phase:* 2004-2008



## Themes that need further research

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### Ideas for an Ocean Research Programme:

- New knowledge
  - Marine ecosystem functioning and dynamics
  - Biodiversity
  - A clean sea
  - Marine habitat mapping
- Methodology
  - Ecosystem modelling
  - Observation methodology
- Exploitation
  - Ecological quality objectives
  - Responsible fishing

