MULTI-LEVEL GOVERNANCE
IN MARITIME SPATIAL PLANNING
THROUGHOUT THE BALTIC SEA REGION

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MSP in Norway: The research base of the management plans

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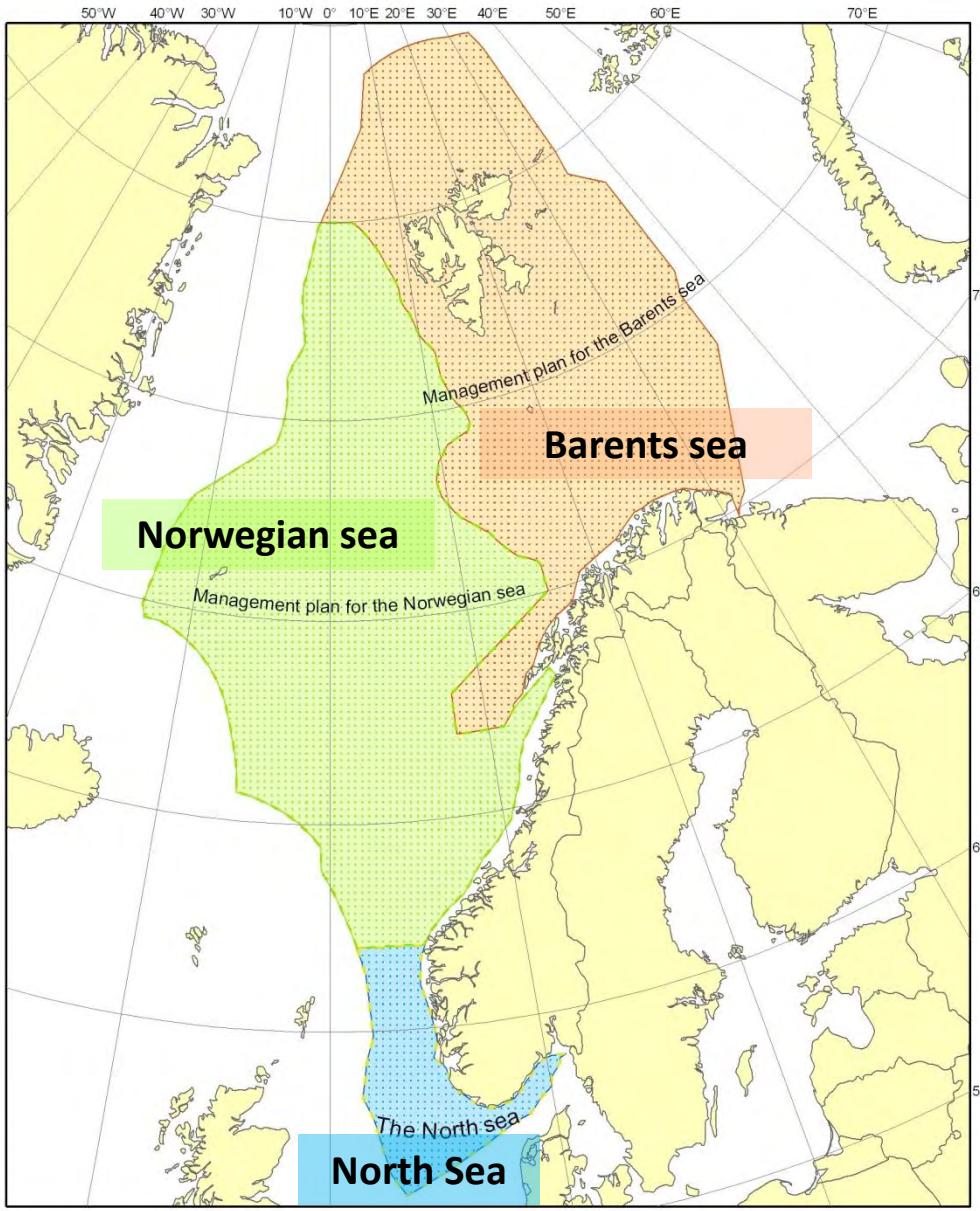
The Norwegian Management plans

- Initiated in 2001 to implement integrated and ecosystem-based management for Nor. EEZs
- Barents sea: 2006 (revision in 2011)
- Norwegian sea: 2009 (revision due in 2014)
- North Sea: 2013



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Objectives hierarchy

Strategic objective (aim)

Sustainable use and maintaining the health of the ecosystem

High-level Operational objectives

OPERATIONAL DISCHARGES: Will not result in damage or elevated background levels of pollution over the long term.

ACUTE POLLUTION: The risk of damage will be kept at a low level.

LITTER and waste will be avoided.

HABITAT CONSERVATION: Establish a network of MPAS at the latest by 2012.

HAZARDOUS AND RADIOACTIVE SUBSTANCES: Will not exceed the background levels for naturally occurring and will be close to zero for synthetic substances. Releases and inputs will not cause these levels to be exceeded.

SAFE SEAFOOD: Will be safe and be perceived as safe by consumers.

MARITIME SAFETY measures and the oil spill response system will be designed and dimensioned to minimize the risk of damage to the environment.

BIODIVERSITY: Will ensure that diversity at ecosystem, habitat, species and genetic levels, and the productivity of ecosystems, are maintained.

POLLUTION GENERAL: No damage to the productivity and health of environment. No higher levels of pollutants.

VALUABLE AREAS:
1) Activities conducted so that ecological function and biodiversity maintained

2) Damage to threatened and vulnerable habitats will be avoided

3) Activities will be conducted so that the structure, function, productivity and dynamics in particularly important habitats is maintained

SPECIES MANAGEMENT:
1) Maintaining viable populations and genetic diversity

2) Managing harvested species within safe biological limits

3) Mange essential species to maintain their role for structure, function and productivity

4) Reduce negative pressure on endangered and vulnerable species

5) Avoid introduction of alien species

Examples of indicators for the operational objectives developed by the Managing group

Delivery of Hazardous and Radioactive Substances into the area:
- Atmospheric Deposition
- Inflow via Ocean Currents
- Fresh-Water River Runoff
- Vessel Discharge
- Discharge from Oil & Gas Facilities
- Radioactive Substances

Pollution levels in:
- Bottom fauna
- Fish
- Marine Mammals
- Seabirds
- Sediments

What differences did it make?

- No legislation specifically for the plans. Implemented through existing legislation
  - ‘Marine resources act’ has been designed with this in mind
- New meeting places for advisors, managers and stakeholders
- Annual reporting of status (ecosystem, human use) and state of knowledge
- Development of an indicator-based reporting system (ecosystem state and anthropogenic pressures and effects)
- Assessment of environmental risk
- Routing system for shipping
- Area-based management framework for petroleum

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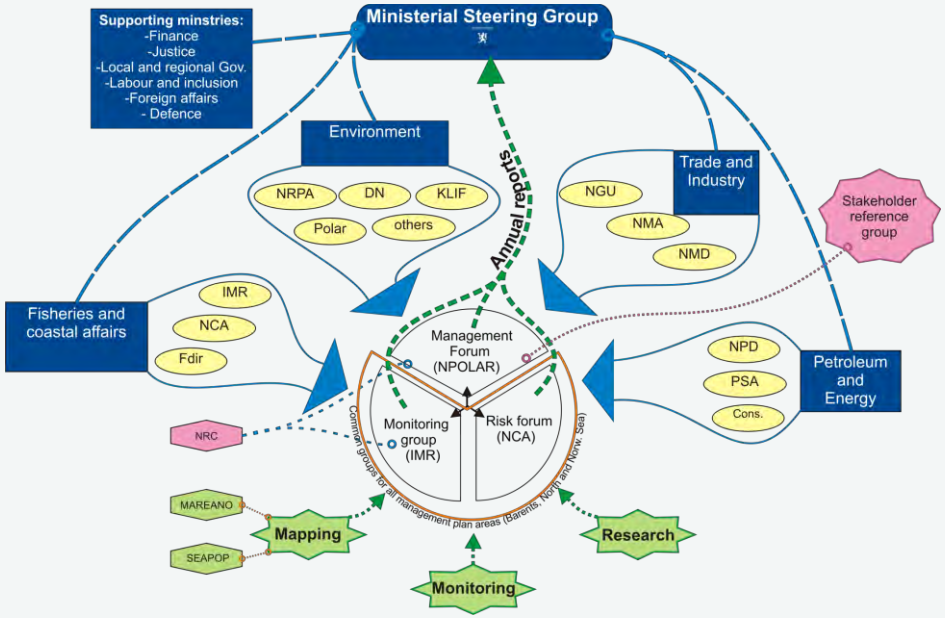
Organisation

- 24 national institutions involved
  - 12 reserach institutions
  - 10 managing directorates
  - 5 ministries
  - All coastal local national authorities

- Collaborations with neighbouring countires and international organisations: ICES, NEAFC, Arctic Council, IMO, LRTAP, OSPAR, EU and EU countries, Russia

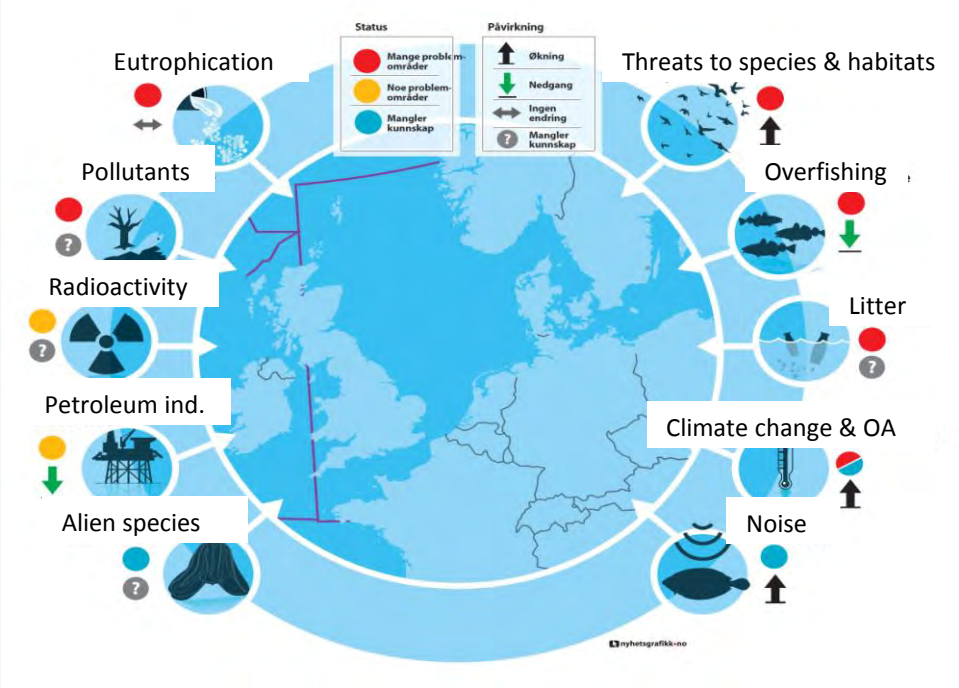
Hybrid top-down approach

- Led and initiated by the government (political decision)
- Development carried out by government research institutes and directorates
- Input from stakeholders at various stages:
  - Hearings
  - Public meetings
- Important zoning decisions made at political level



Ecosystem Pressures

North Sea Pressures on the environment



The scientific base

Passive air and water sampling

Oceanographic monitoring

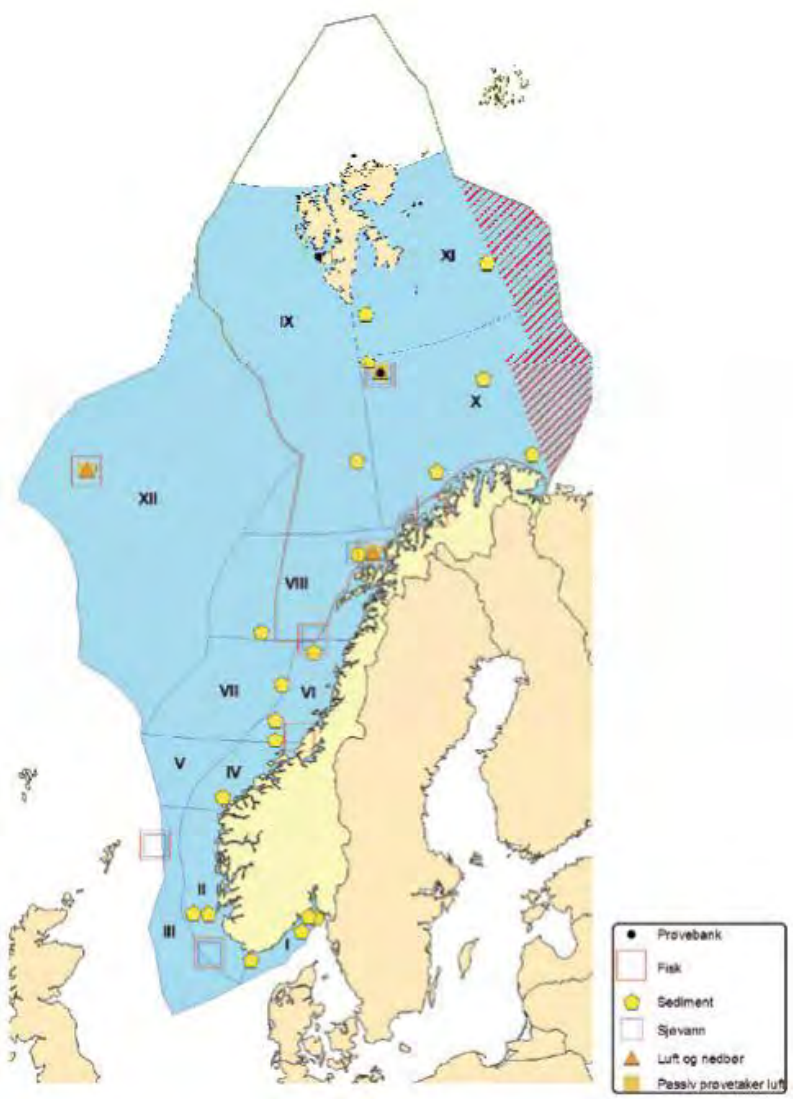
Mareano, bottom mapping

Indicators

Ecosystem surveillance

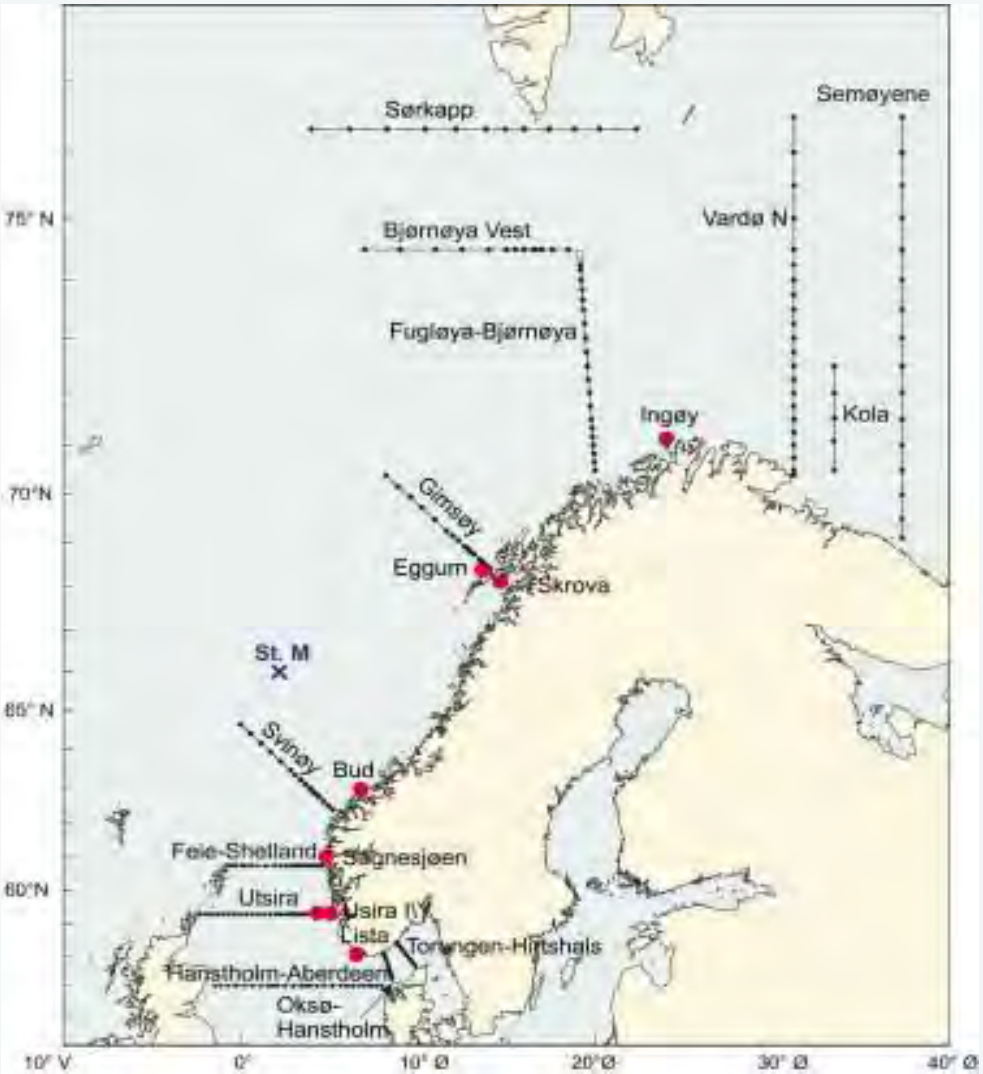
Reports and links

Passive air and water sampling



2010:
regions and sampling stations

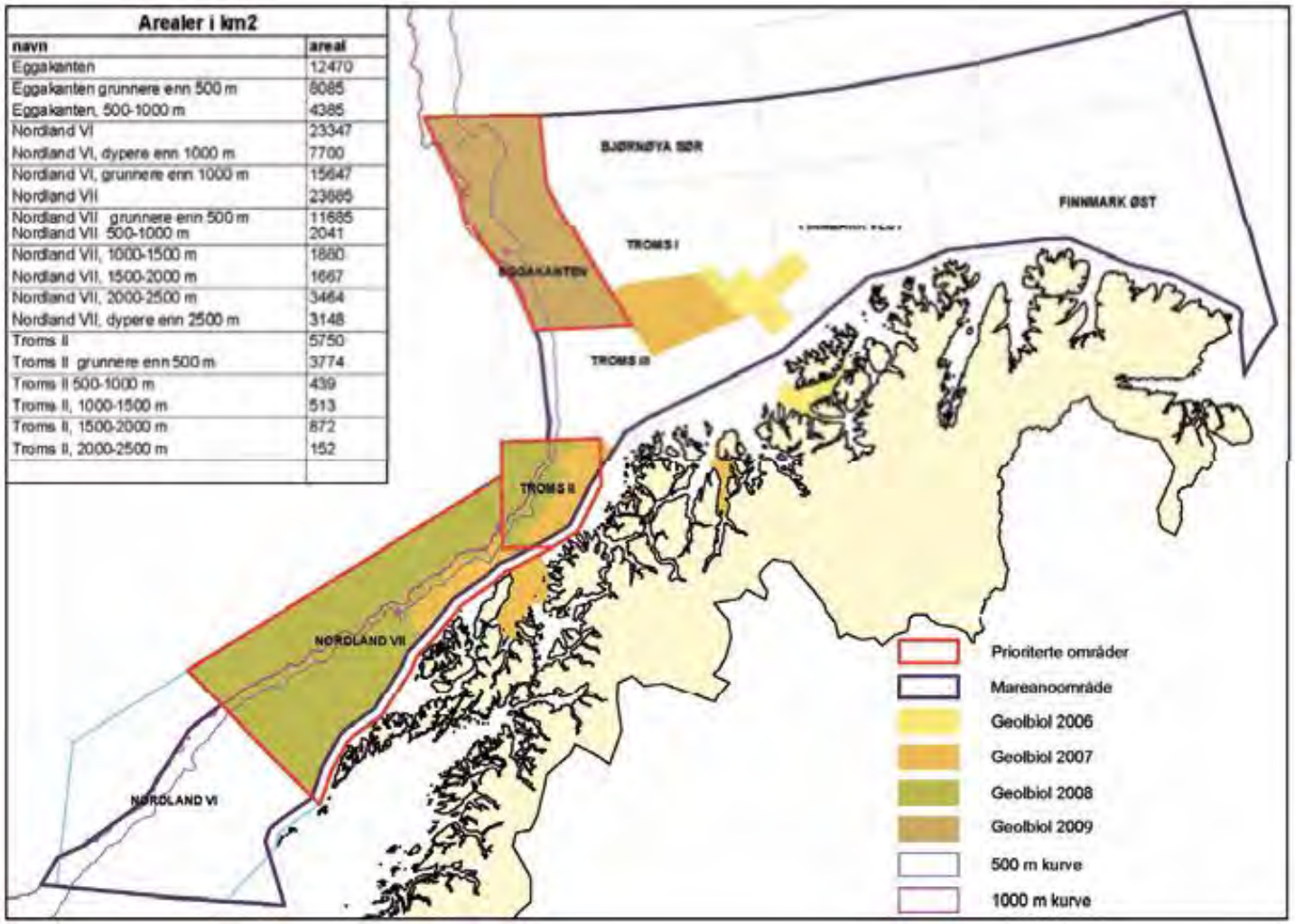
Oceanographic monitoring



Fixed sampling stations in the North Sea, the Norwegian Sea and the Barents Sea. (IMR)

Bottom mapping

Mareano, Spring 2010



Arealer i km2

navn	areal
Eggakanten	12470
Eggakanten grunnere enn 500 m	8085
Eggakanten, 500-1000 m	4385
Nordland VI	23347
Nordland VI, dypere enn 1000 m	7700
Nordland VI, grunnere enn 1000 m	15647
Nordland VII	23685
Nordland VII grunnere enn 500 m	11685
Nordland VII 500-1000 m	2041
Nordland VII, 1000-1500 m	1880
Nordland VII, 1500-2000 m	1667
Nordland VII, 2000-2500 m	3464
Nordland VII, dypere enn 2500 m	3148
Troms II	5750
Troms II grunnere enn 500 m	3774
Troms II 500-1000 m	439
Troms II, 1000-1500 m	513
Troms II, 1500-2000 m	872
Troms II, 2000-2500 m	152

Indicators (suggestion for the North Sea)

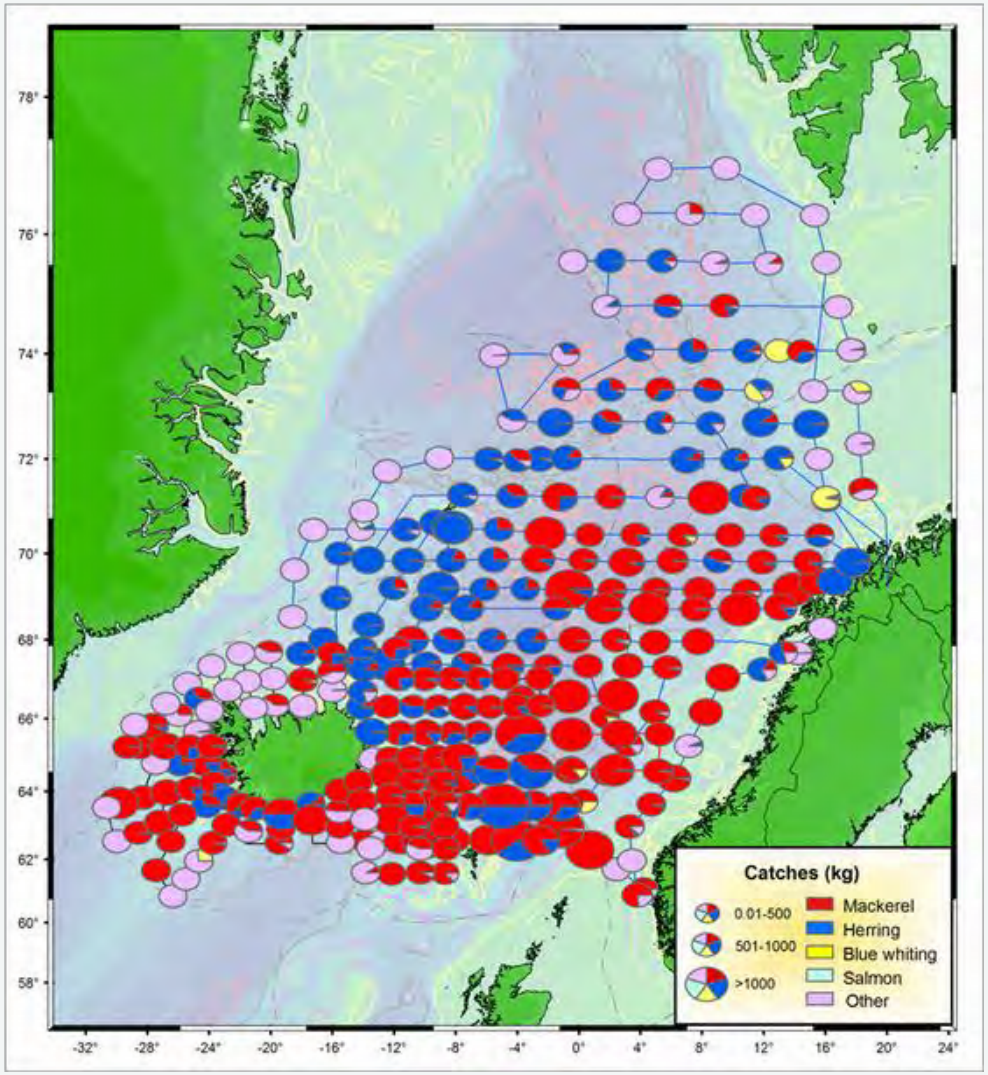
State evaluation : **29 parameters/indicators, 82 data series**

	Parameters	Data series
•Oceanography	4	12
•Plankton	4	9
	Indicators	
•Benthos	3	6
•Fish stocks	4	11
•Sea mammals	1	3
•Sea birds	5	16
•Vulnerable and threatened species and nature types	1	1
•Alien species	1	1
•Areal conflicts and pollution	6	23

Pressure and effects evaluation: **13 indicators, 70 data series**

	Parameters	Data series
•Petroleum	4	9
•Fisheries	4	12
•Shipping	3	5
•Others	2	3

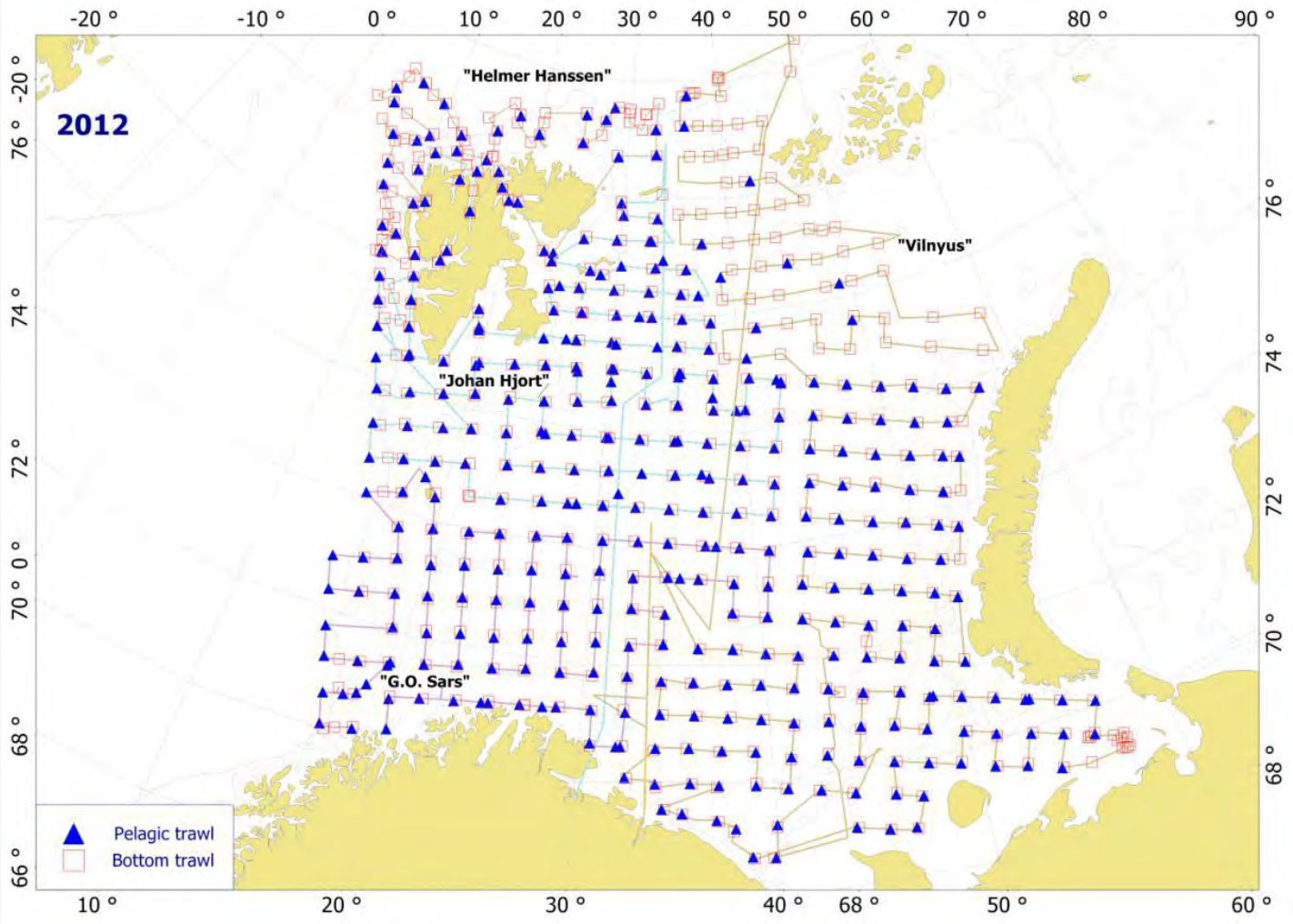
Ecosystem surveillance



Trawl survey 2011

The Norwegian Sea

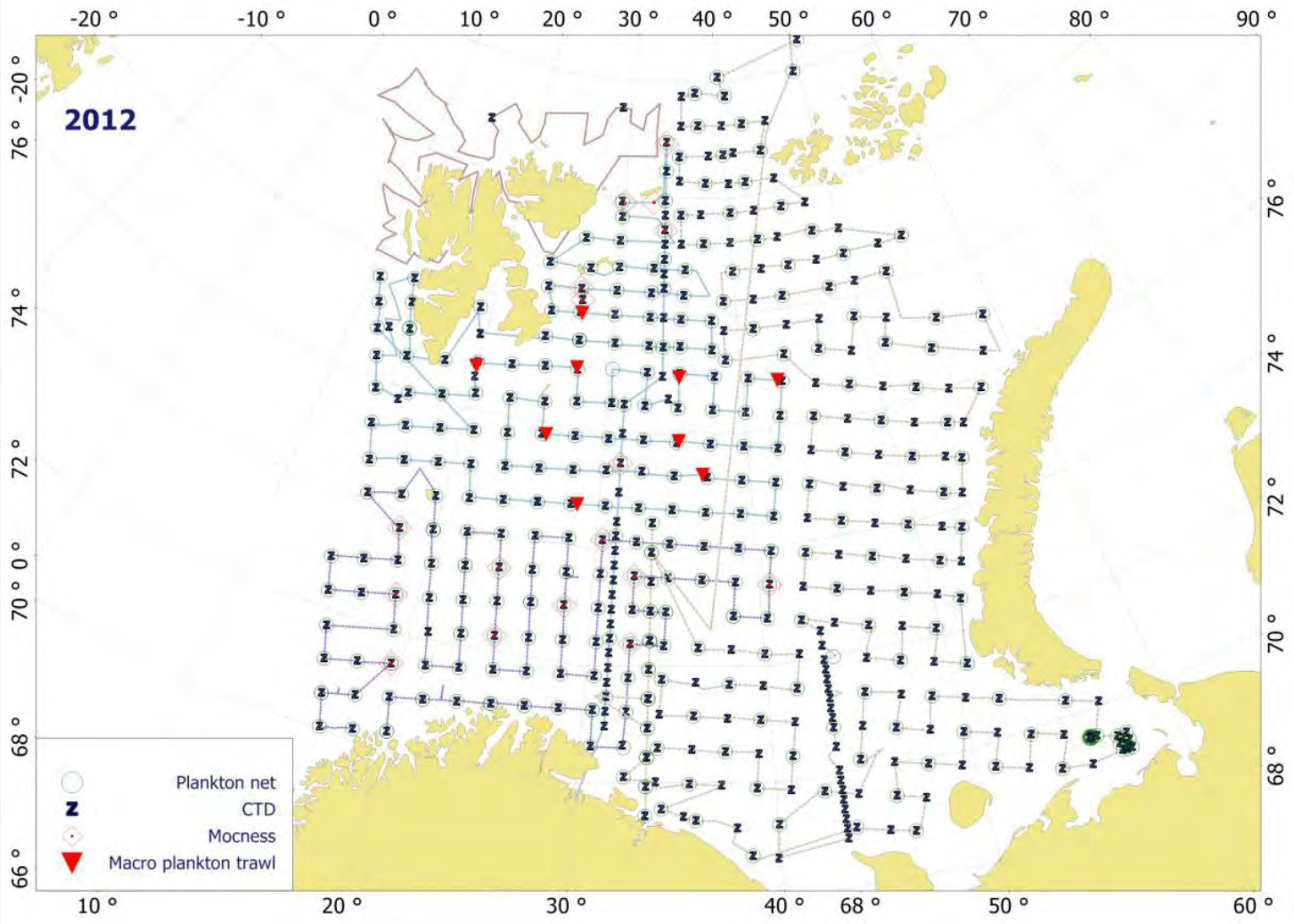
Ecosystem surveillance



Trawl sampling stations, 2013

The Barents Sea

Ecosystem surveillance



Oceanography and plankton stations, 2013

The Barents Sea

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Reports

Links

- Ecosystem activity in the Arctic Ocean (IMR report no. 4 - 2013 http://www.imr.no/filarkiv/2013/04/hi-rapp_4-2013.pdf/en

- IMR/PINRO no. 1 2012 : Biological-Geological Seabed Mapping and Monitoring in the Barents Sea.
  http://www.imr.no/filarkiv/2012/03/imr-pinro_1-2012.pdf/en

More reports on surveillance and surveys in Norwegian at www.imr.no

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Thank you