



INSTITUTE OF MARINE RESEARCH



On behalf of the Norwegian delegation

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Lessons Learned

Norwegian Marine Management

HARMONY, Copenhagen 3-4 November 2010



The Norwegian Sea

The Barents Sea



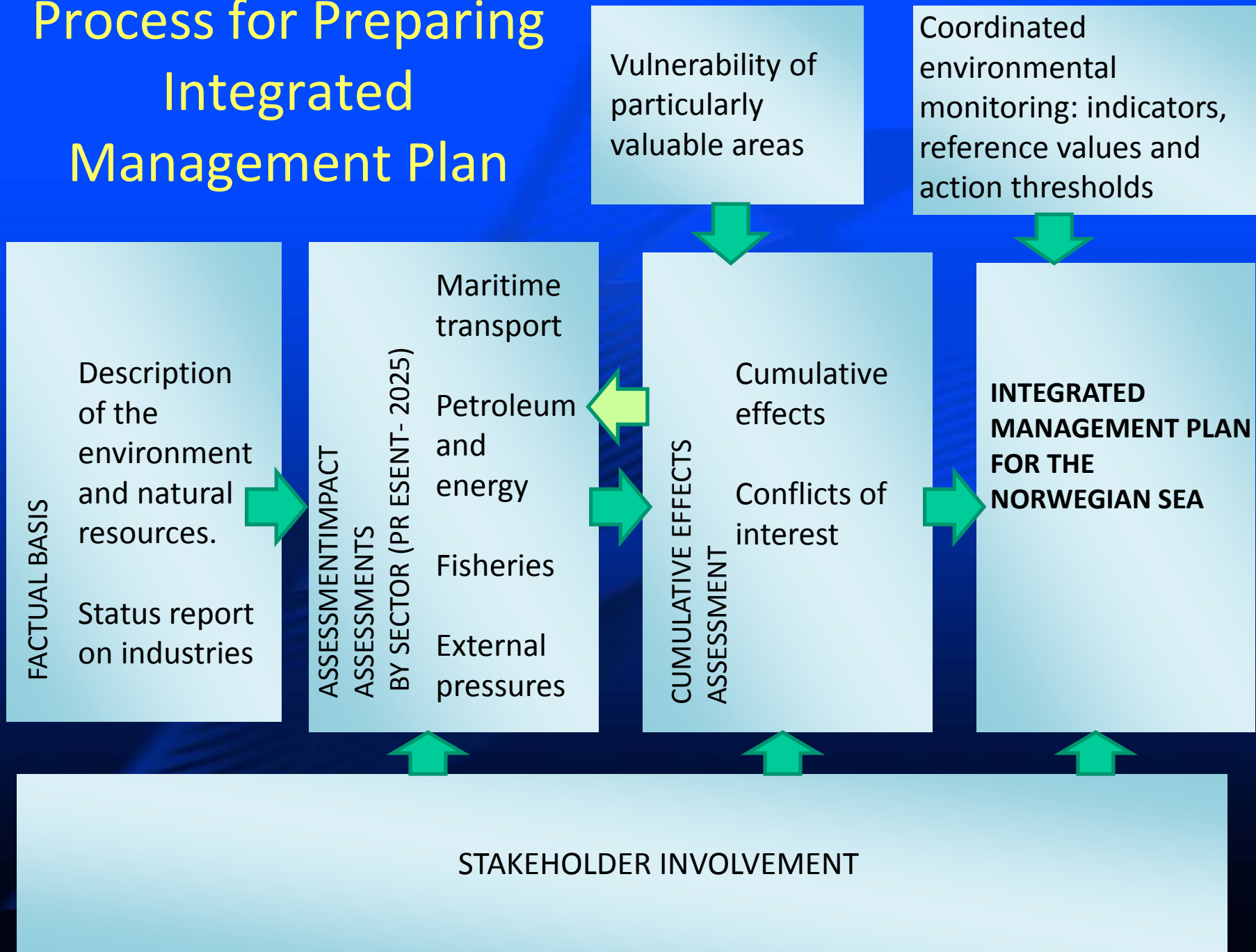
The North Sea Skagerrak



The Aim of the Management Plans

- Provide a framework for the sustainable use of natural resources and goods and at the same time maintain the structure, functioning and productivity of the ecosystems of the area.
- Ensure that business interests, local, regional and central authorities, environmental organizations and other interest groups all have a common understanding of the goals for the management.

Process for Preparing Integrated Management Plan



St.meld. nr. 8

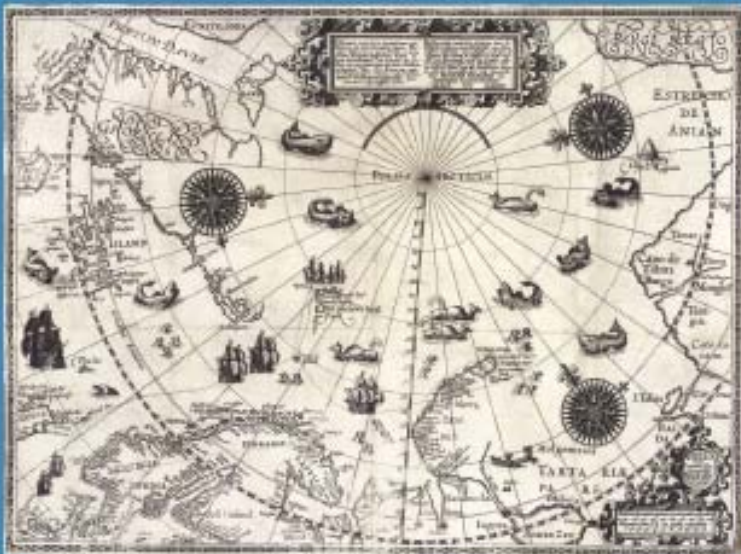
(2005–2006)

Integrated Management of the Marine
Environment of the Barents Sea and the
Sea Areas off the Lofoten Islands

Report No. 37 (2008–2009) to the Storting

Integrated Management of the Marine
Environment of the Norwegian Sea

”Stortingsmeldinger”
White papers to the Parliament



Political Participation

The Ministry of the Environment (responsible ministry)

The Ministry of Labour and Social Inclusion

The Ministry of Fisheries and Coastal Affairs

The Ministry of Trade and Industry

The Ministry of Petroleum and Energy

The Ministry of Foreign Affairs

Stakeholders

Fisheries

Petroleum industries

Shipping

Recreational users



Institutional Participation

The Norwegian Polar Institute (for the Barents Sea)

The Directorate of Fisheries

The Institute of Marine Research

The Norwegian Petroleum Directorate

The Norwegian Coastal Administration

The Norwegian Climate and Pollution Agency

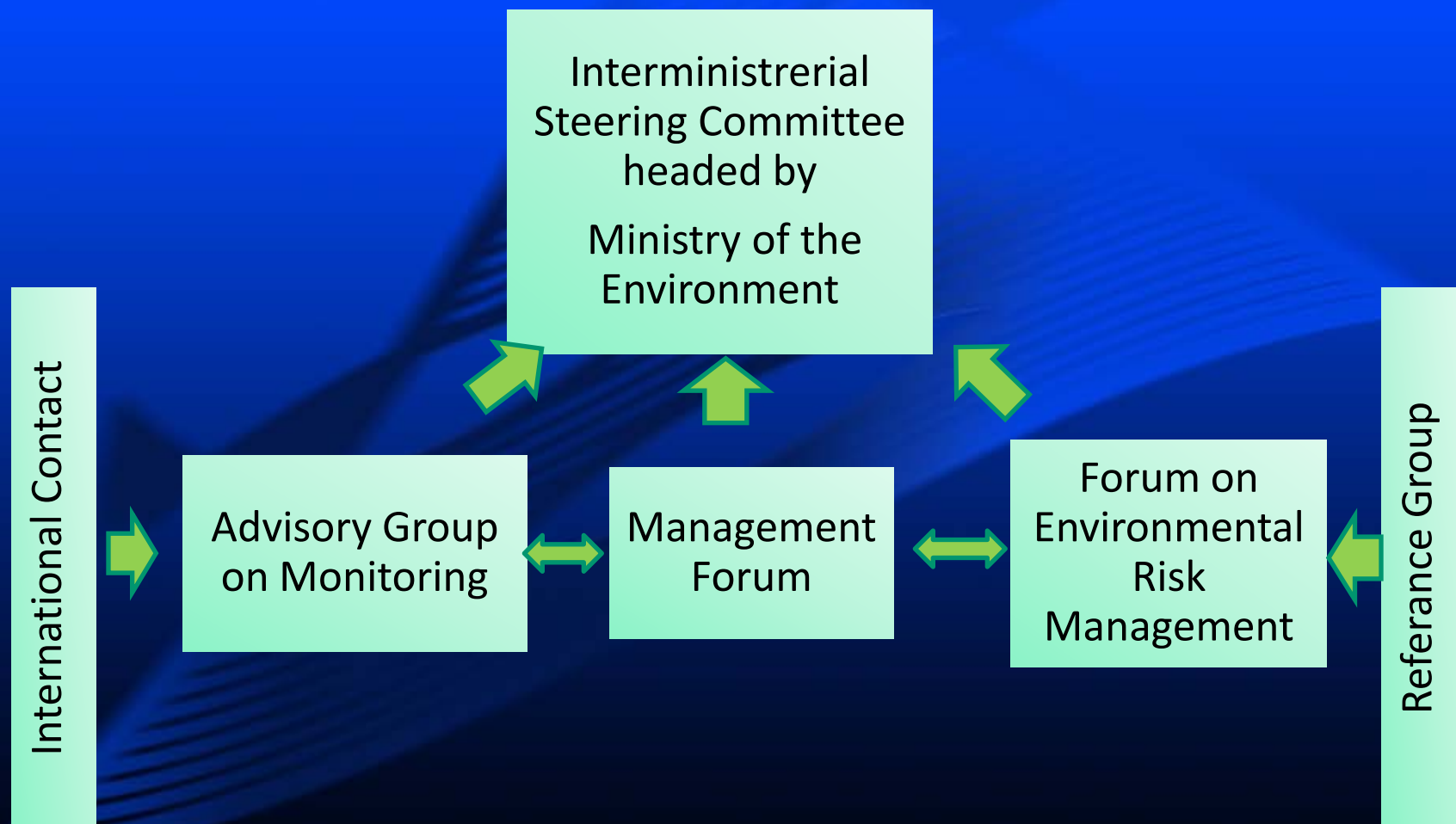
The Directorate for Nature Management

The Norwegian Maritime Directorate

The Norwegian Radiation Protection Authority

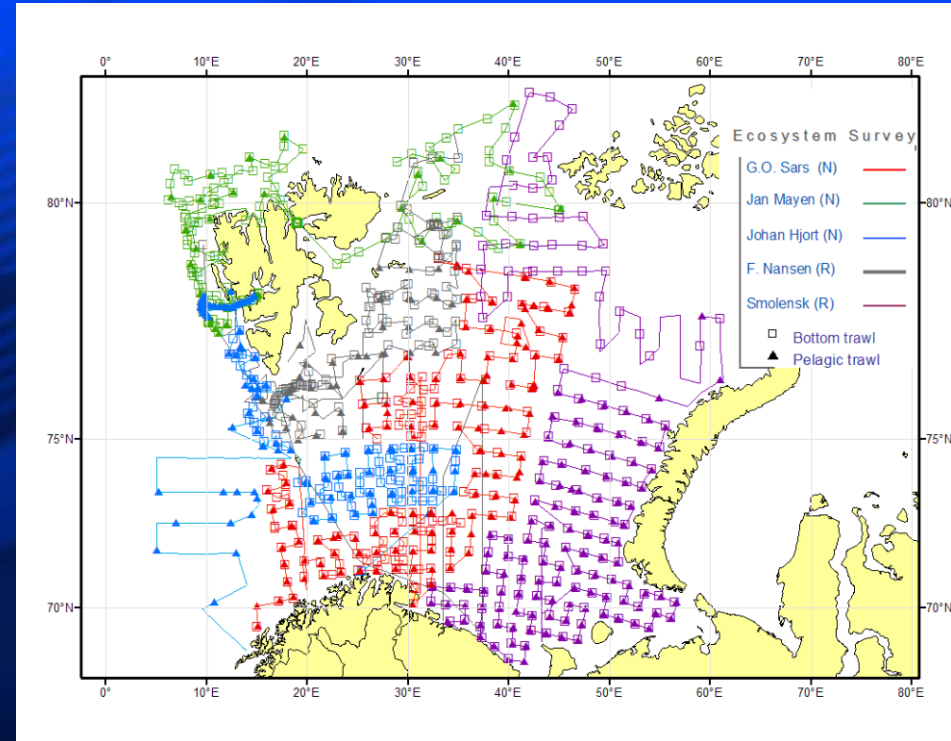
The Directorate for Cultural Heritage.

Organisation of the Management Plan Governance



Ecosystem Surveys

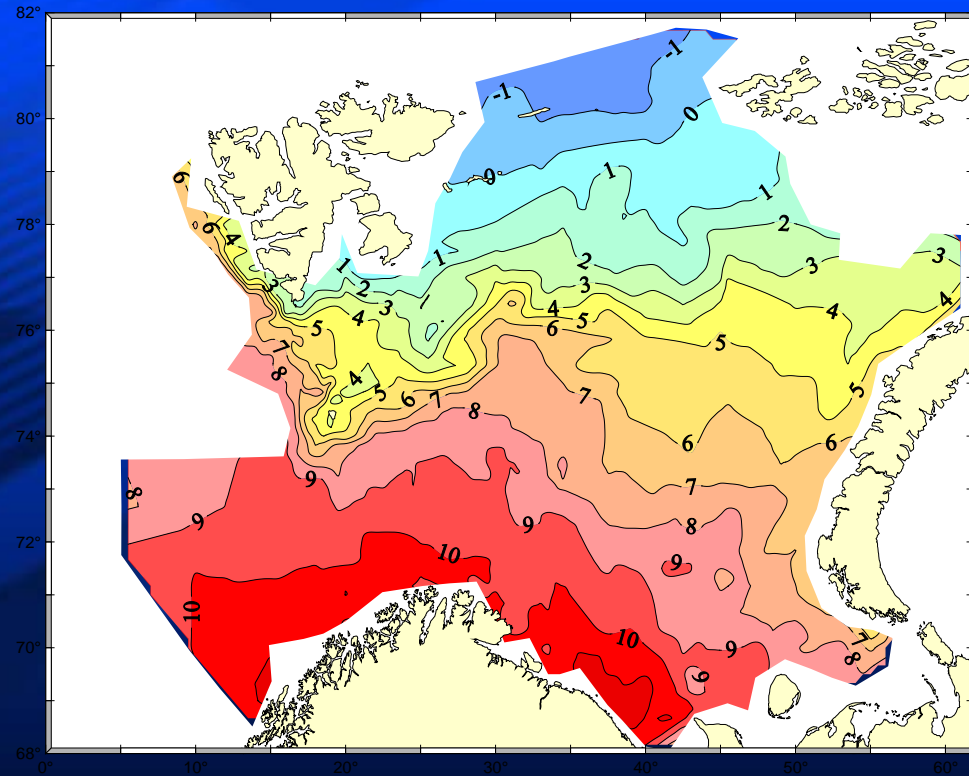
- Measuring ion the state of a suit of indicators
 - Climate and physical oceanography
 - Plankton
 - Benthos, species and structure-building societies
 - Fish species, commercial and non-commercial
 - Seabirds and sea mammals
 - Alien species
 - Vulnerable species
 - Seafood Safety
 - Pollution



Total survey effort in the Barents Sea: ~220 days

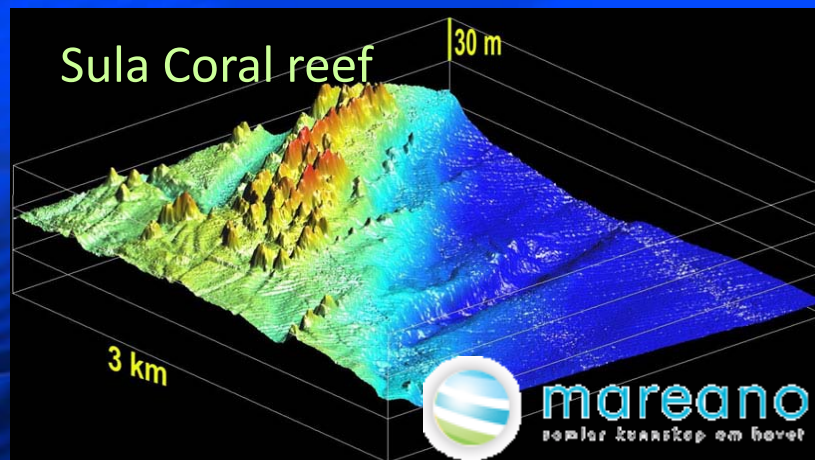
Ocean Climate

- Monitor and modelling of the flux of different water masses to and from the Barents Sea
- Input to ACIA work to predict long-term climate changes
- Investigate consequences of climate change on the ecosystem



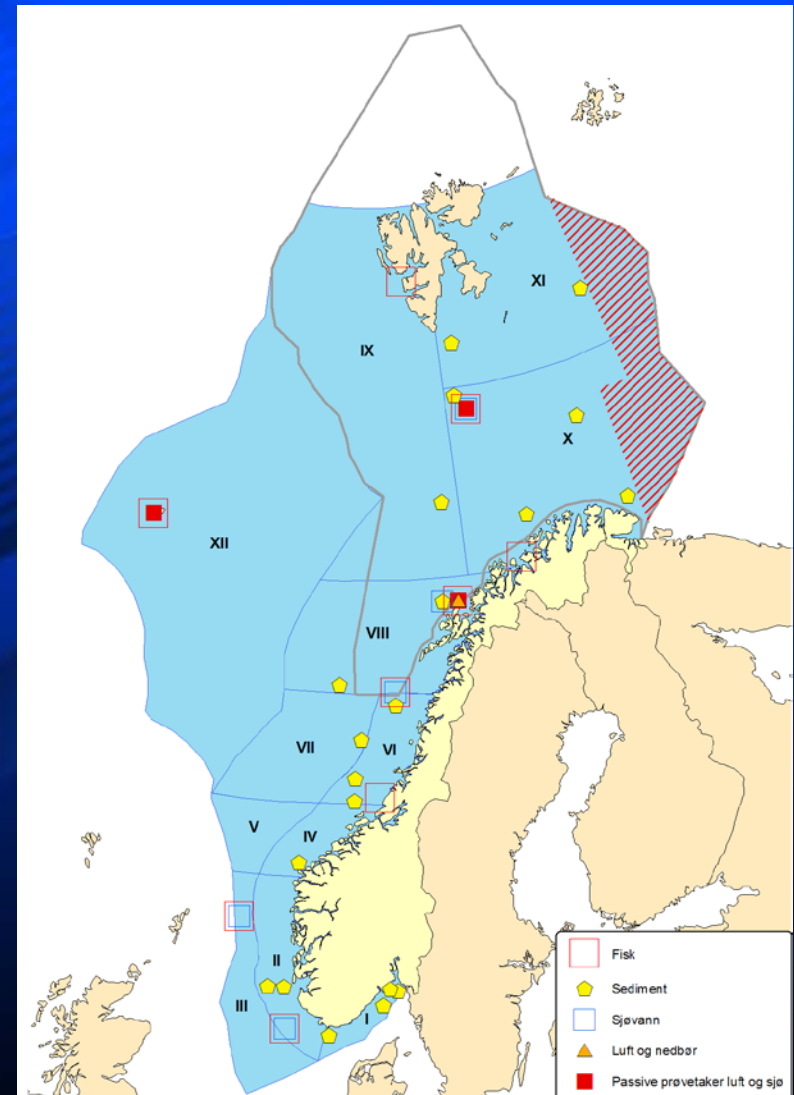
MAREANO and SEAPOP

- Mapping
- Monitoring (SEAPOP)
- Develop research projects
- www.mareano.no
- www.seapop.no



Marine Pollution Monitoring Programme

- Objectives
 - Collect data on inputs of oil and other hazardous substances to the marine areas from all sources
 - Monitoring pollution status in selected indicators (cod, air sea water, sediments)
 - Monitoring variation in ocean acidification
- Read more on www.Klif.no



Data Collections and Use

- Collection of data from surveys:
 - “Artsdatabanken”
 - MARBANK
 - DIRNAT (Miljøstatus)
 - IMR (SEA2DATA : infrastructure for efficient streaming of marine data)
- Use of data:
 - Stock assessments
 - National and international reports and advisories
 - Nature Index
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Identification of Particular Valuable and Vulnerable Areas

With areas of particular biological value we mean:

- Areas that are important for biological production
- Areas that are important for biodiversity

Under these two main criteria are a wide range of sub-criteria



Reports

Annual reports on

- State of the ecosystem (Monitoring group)
- Evaluation of the development of human activities (Risk group)
- Evaluation of the management of the region according to the management plan (Expert forum)

Periodic evaluation reports (every 4th year)(all groups)



Lessons Learned

Positive experiences

- Increased cooperation between directorates and research institutions
- Improved communication with stake holders
- Continual refinement of methodology and reporting from the Barents Sea plan (2005-2006) to the present preparation of a management plan for the North Sea and Skagerrak
- Increased ecosystem-based monitoring
- Use of maps showing Particularly Valuable and Vulnerable Areas have been especially important for political decisions



Lessons Learned

Challenges

- Time allocations to cover all tasks involved
- Methodology to test how efficient integrated management practise is to manage the state of the marine ecosystems
- Fill data gap for indicators on all trophic levels
- Unclear definition of terms and levels of impact
- Methodology used to collect data and for assessment of cumulative pressures



Lessons learned

Challenges

- Integration of accidental events into the integrated, long-term dynamics of the marine regions
- Mapping of the huge areas of Norwegian marine regions
- Detect climatic changes and include adapted indicators
- Detect effects of ocean acidification and establish indicators



Lessons Learned

Challenges

- Measuring the grades of effects of human impacts
- Establishing scientifically based environmental target levels
- Developing integrated evaluation methodology
- Development of complex ecosystem-related indicators

The background is a solid blue color with a faint, stylized graphic of a flag or banner. The graphic consists of several overlapping, curved shapes that suggest the folds and waves of a flag. The lines are thin and light blue, creating a subtle texture. The overall composition is simple and clean.

Thank you