




How an eco-regional model of the Barents Sea lends support to science-informed decision making

2015 Arctic Biodiversity Congress

12:30 – 14:00

Room: Mesanin



Case Study - General Aim
*offer concrete and practical advice for the
implementation of feasible and priority actions
under CAFF policy recommendation areas.*

- **Ecosystem-based management**
- Identifying and safeguarding important areas for biodiversity
- Addressing individual stressors on biodiversity
- Improving knowledge and public awareness



CAFF policy recommendation - *Ecosystem-based management*

- **Advance and advocate ecosystem-based management efforts in the Arctic as a framework for cooperation, planning and development.**
- This includes an approach to development that proceeds cautiously,
- with sound short and long-term environmental risk assessment and management,
- using the best available scientific and traditional ecological knowledge,
- following the best environmental practices,
- considering cumulative effects and adhering to international standards.

The marine environment is an important natural resource for society



A source of essential raw materials & services



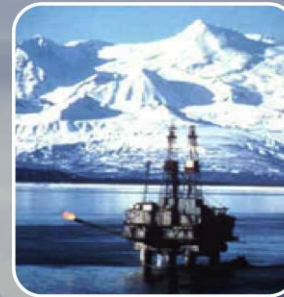
Shipping



Tourism



Fisheries



Petroleum



Mining

Ecosystem-based management

The preferred policy approach for managing the use of raw materials and services



The Royal Norwegian Ministry of the Environment

Report No. 8 to the Storting

(2005–2006)

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

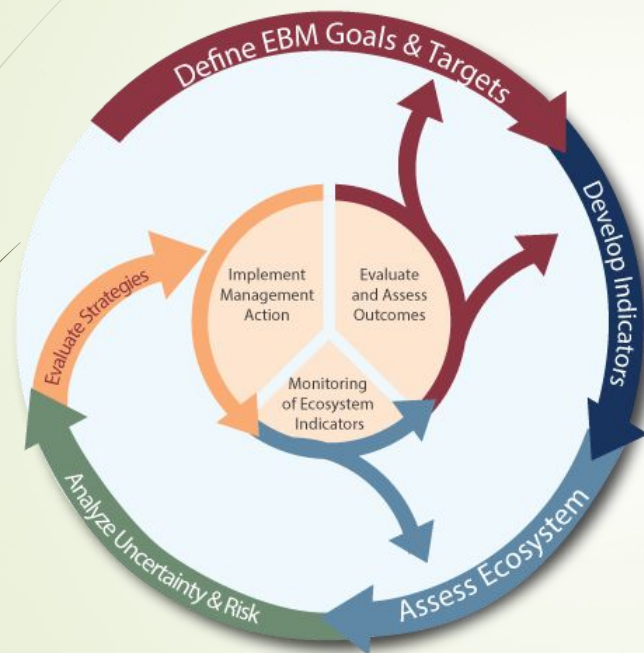


European Commission Integrated maritime policy

Provide a more coherent approach to maritime issues, with increased coordination between different policy areas.

Focuses on issues that require the coordination of different sectors and actors e.g. marine knowledge.

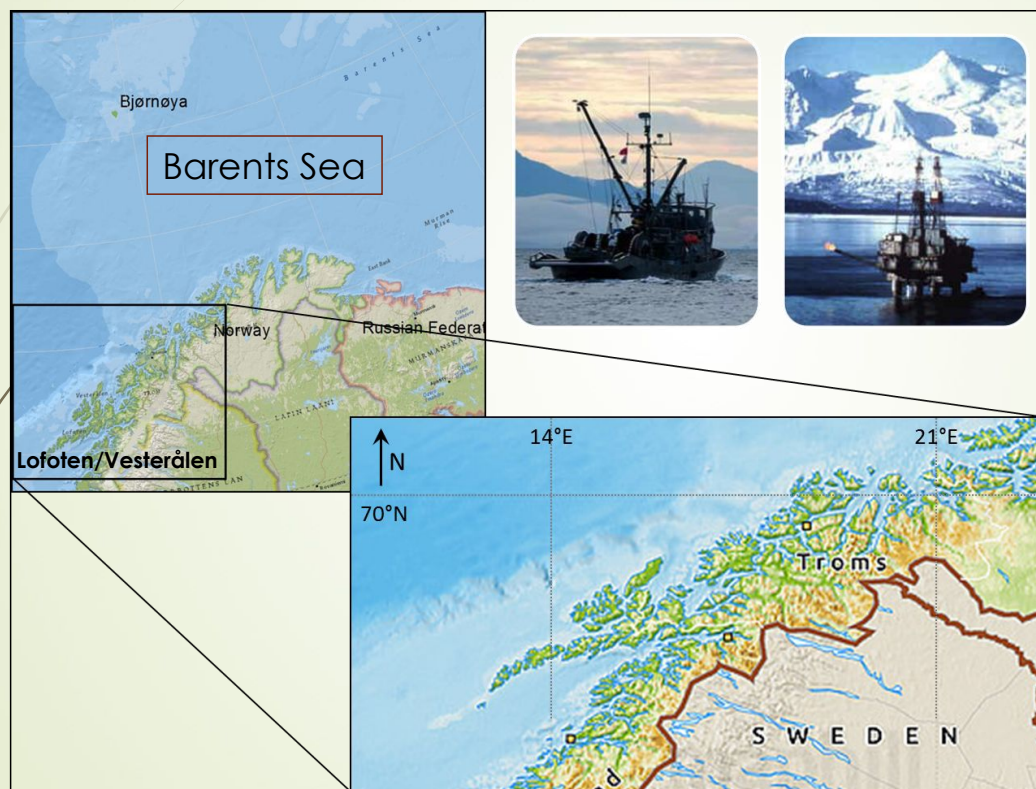
Ecosystem-based management



- **Balance:** balance and integrate the needs of multiple human user groups while maintaining the health of the underlying system that supports those needs.
- **Collaboration:** collaborative decision-making involving a diverse set of organizations and individuals
- **Adaptive:** monitoring and evaluation are tied to changes in future management directions.

Protect ecosystem health & provide ecosystem services

Lofoten-Vesterålen Region



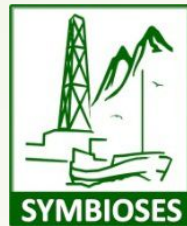
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A software tool to investigate impacts from petroleum and fisheries activities



Information



Decision support





Session Plan – Part 1

Presentations

Name	Affiliation	Title
JoLynn Carroll*	Akvaplan-niva	Session Introduction
Ole Jacob Broch	SINTEF Fisheries & Aquaculture	Simulating oil spill impacts on plankton populations
Daniel Howell	Institute of Marine Research	Simulating oil spill impacts on the adult fish population



Session Plan – Part 2

Panel & audience discussion

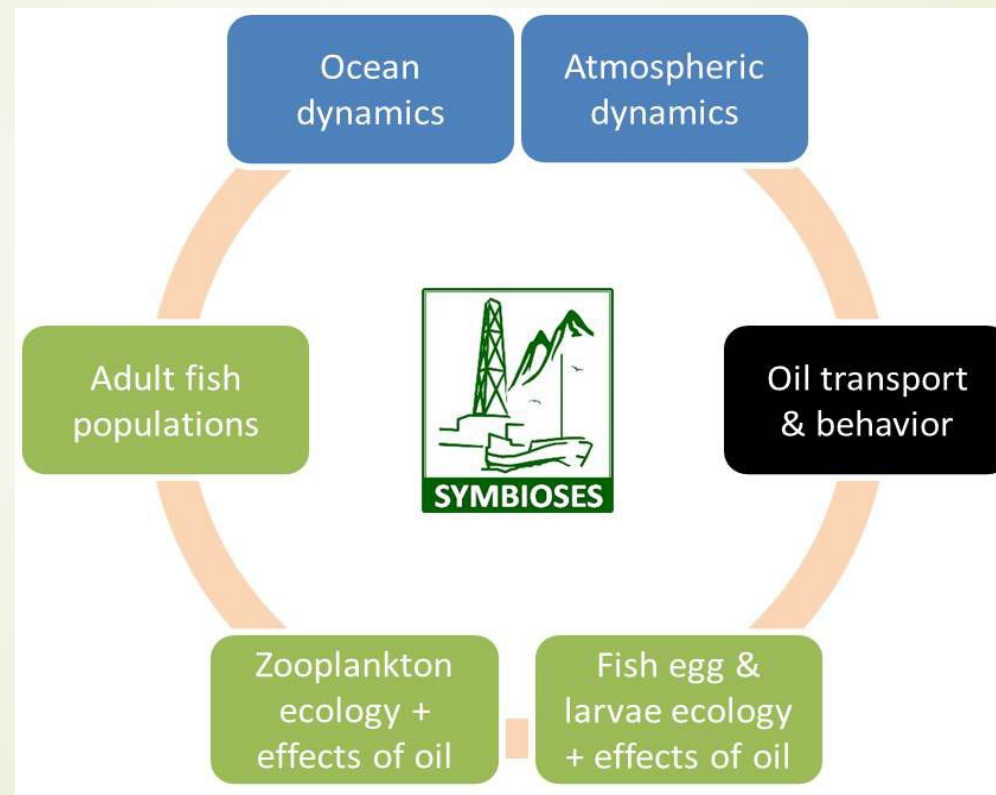
Name	Affiliation
Geir Morten Skeie	SENSe/Akvaplan-niva
Jürgen Weissenberger	Statoil ASA
Kerim Aydin	U.S. National Oceanic & Atmospheric Administration

Panel & Audience discussion –
*Advice and needs for the use of decision-support tools to
inform ecosystem-based management*

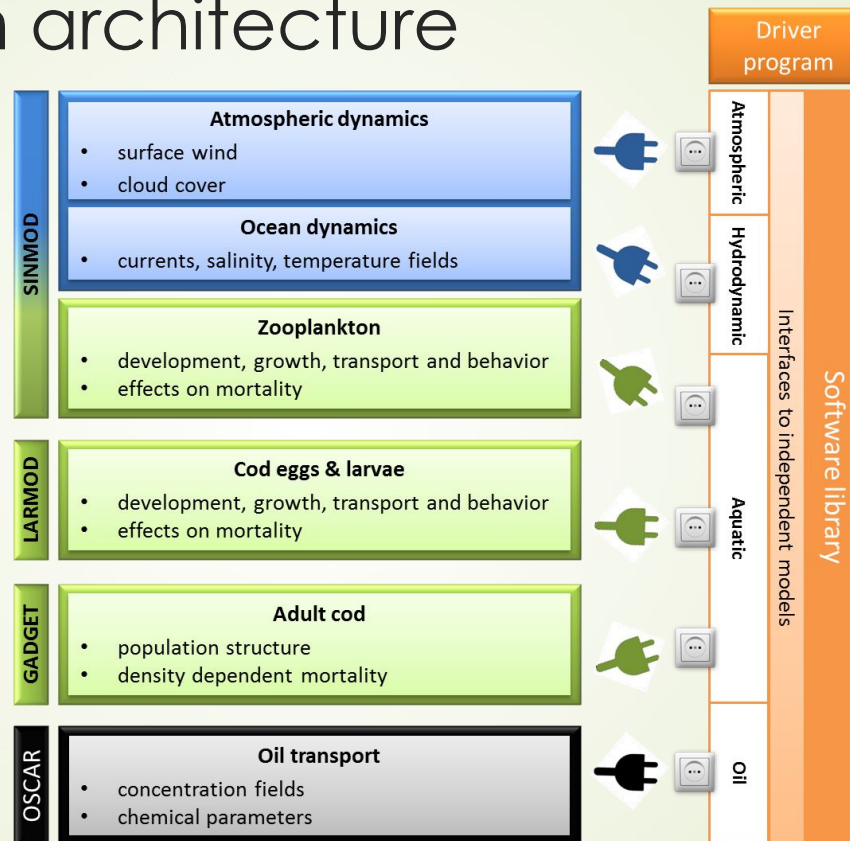


- **How tools can advance our ability to address multiple objectives: biodiversity protection, fisheries, and energy**
- **How tools are critical to enhancing partnerships between conservation, management & industry**
- **How tools support the application of evidence-based approaches to reduce risk and improve planning**

Designed to evaluate potential impacts resulting from combinations of petroleum and fisheries activities



System architecture



Runs on the Norwegian National Supercomputer (STALLO)

Benefits



- Improves the scientific foundation for sustainable management
- Capable of considering the cumulative impacts of two sectors
- Capable of considering a variety of scenarios and evaluate the probability of impacts
- Supports planning of sustainable and safe marine activities
- Supports stakeholder communication
- Provides a platform to synthesize and explore scientific data and hypotheses

MSMt multi-species assessment model

An innovative way to evaluate the potential impacts of different environmental stressors?

