



Science in support of Integrated Management and the Ecosystem Approach

**Andrew Kenny (CEFAS)
on the behalf of WG-SEAMBOR**

Rich Policy Context

Green Paper on a Future Maritime Policy

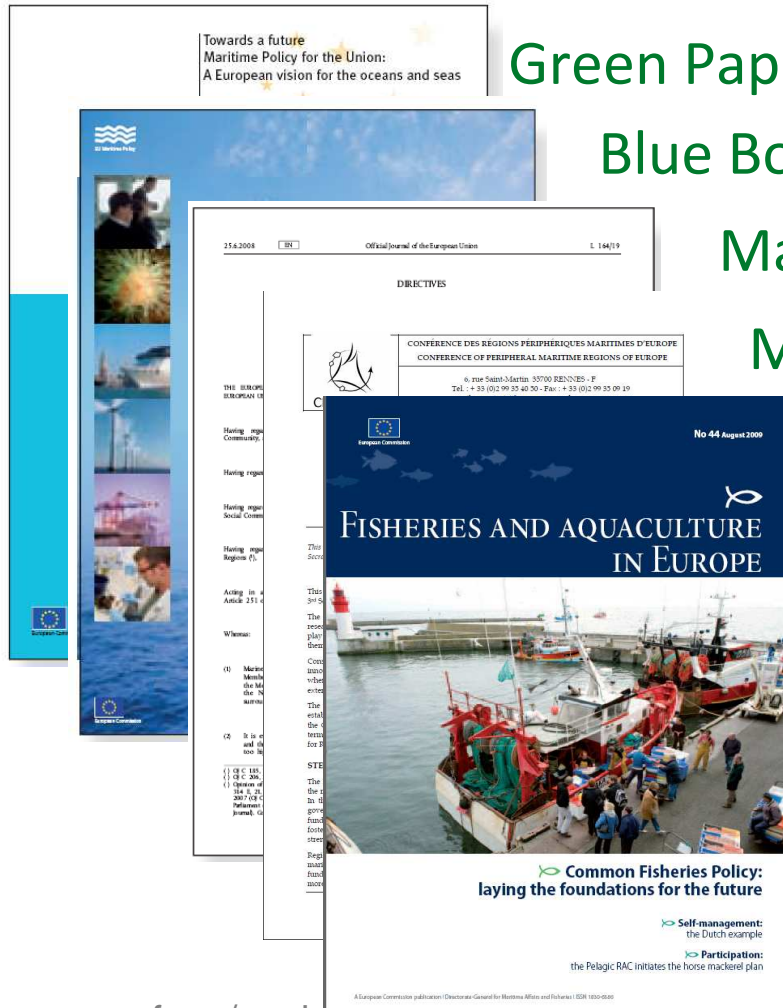
Blue Book - Integrated Maritime Policy

Marine Strategy Framework Directive

Marine and Maritime Research Strategy

Reform of the CFP

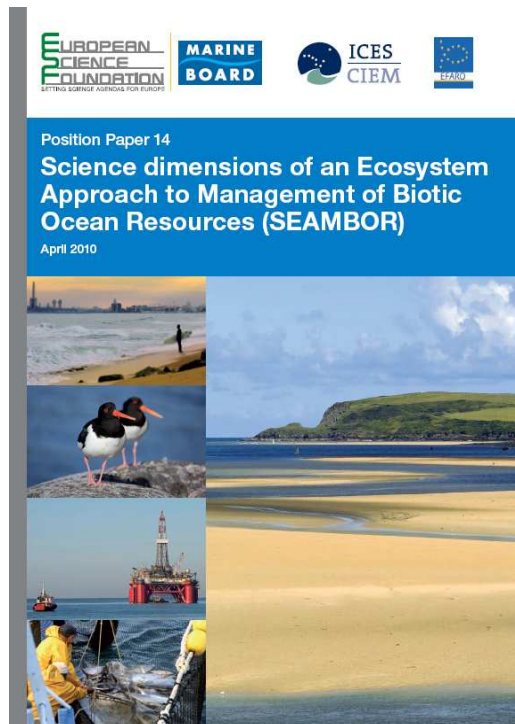
A common scientific challenge: to deliver truly multi-disciplinary science





Expert Group

“Science dimensions of an Ecosystem Approach to Management of Biotic Ocean Resources (SEAMBOR)”

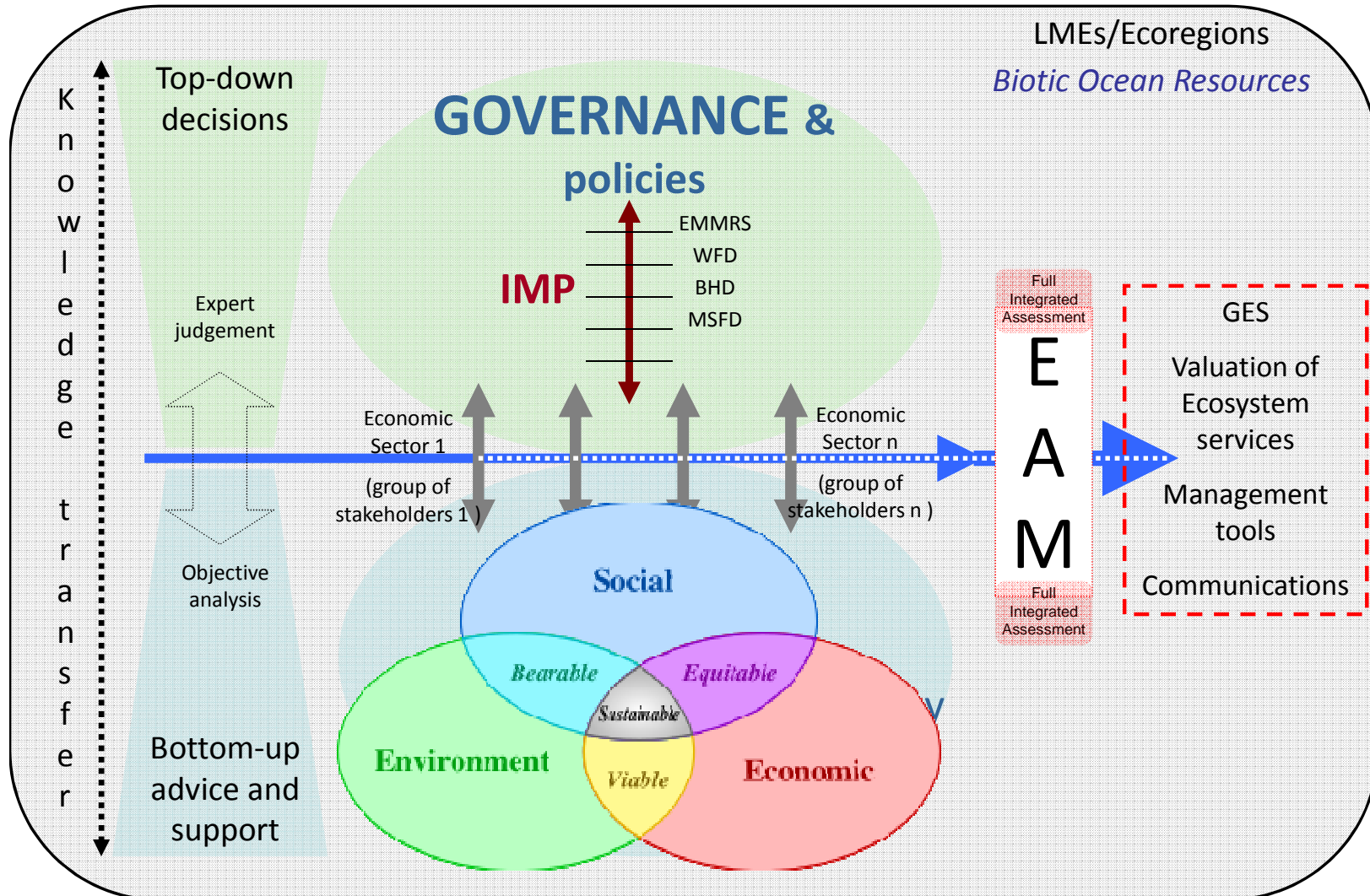


1. Gaps in scientific knowledge and capabilities - 25 pages
2. Supporting the implementation of the Marine Strategy Framework Directive – 3 pages
3. Impediments to the Ecosystem Approach to Management – 10 pages
4. Establishing a workplan – 5 pages

Central Organising Theme

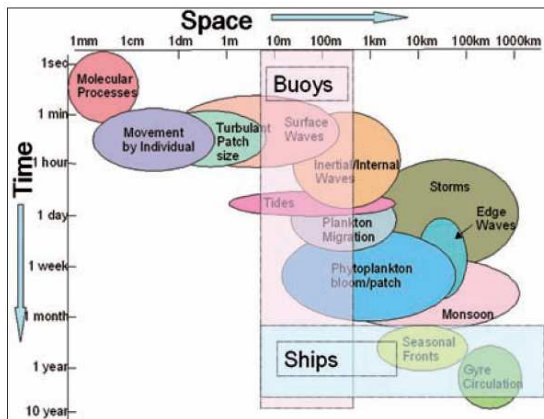
Links between the natural,
socio-economic
and
governance systems





Gaps in Scientific Knowledge: Research Priorities

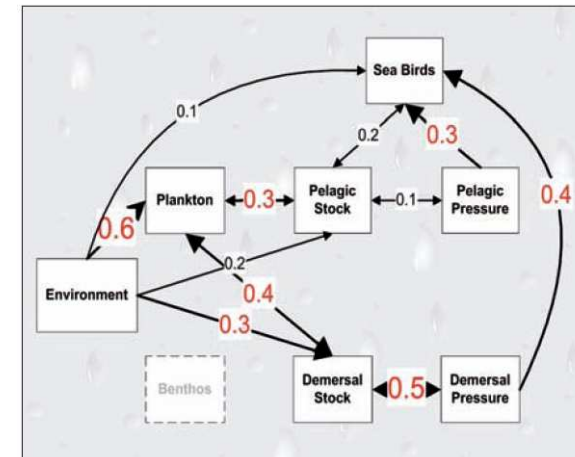
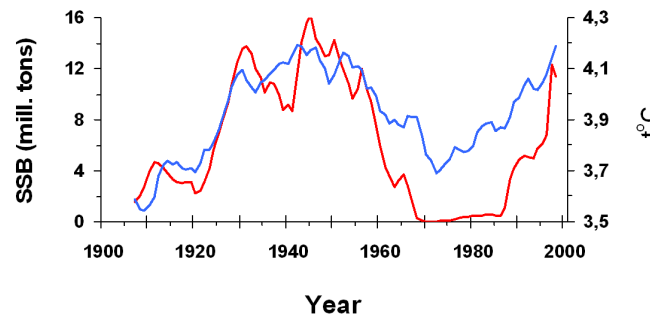
Scales of Variation



Dynamics and resilience of populations, communities and ecosystems

Complex System Dynamics and Production

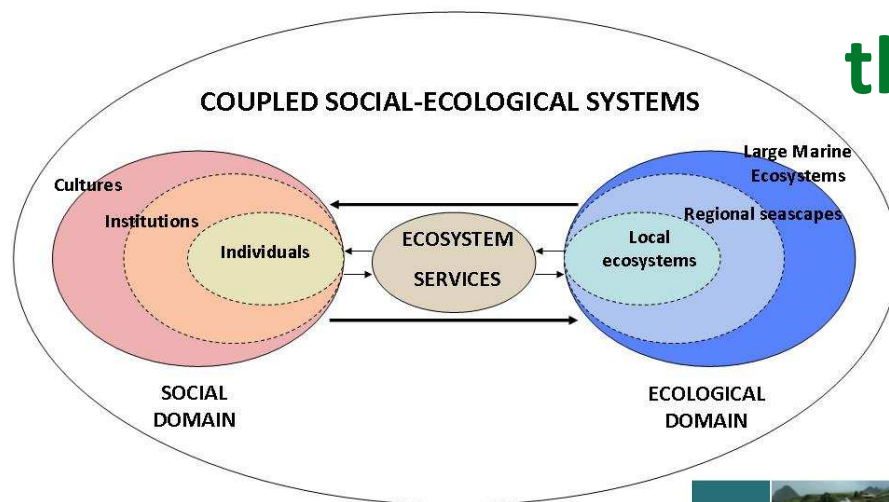
Climate Change and Ecosystem Processes



Gaps in Scientific Knowledge: Research Priorities

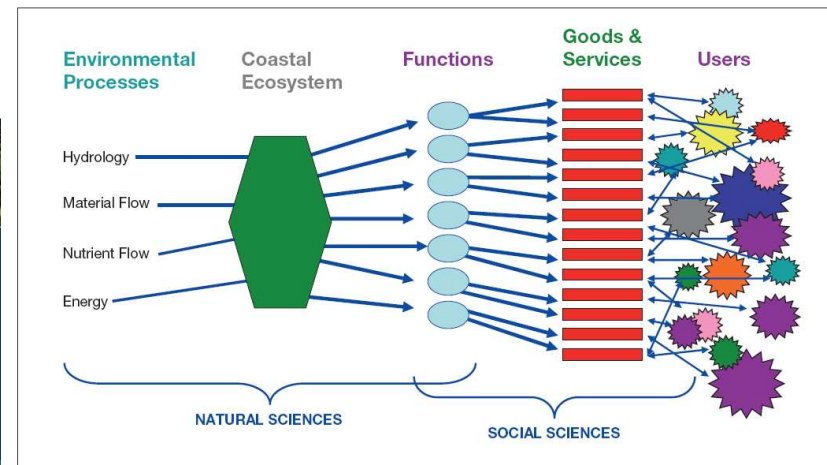
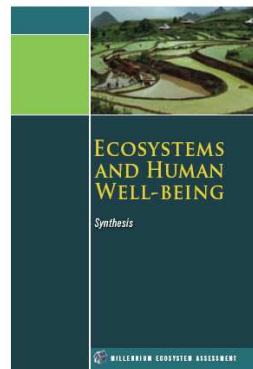
Dynamics of coupled social-ecological systems

Human interactions with the marine environment



The state of ecosystems and human well-being

Millennium Ecosystem Assessment



Gaps in Scientific Knowledge: Research Priorities

Evaluating Governance Processes



1. Inclusiveness
2. Transparency
3. Timeliness
4. Review & Evaluation

Management and governance systems

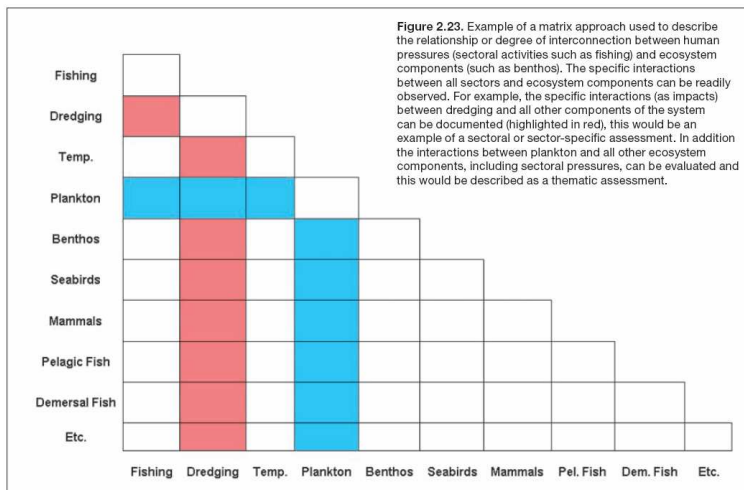
Evaluating Management Systems



1. Strong social science foundation
2. Improved communication strategies
3. Improved performance evaluation

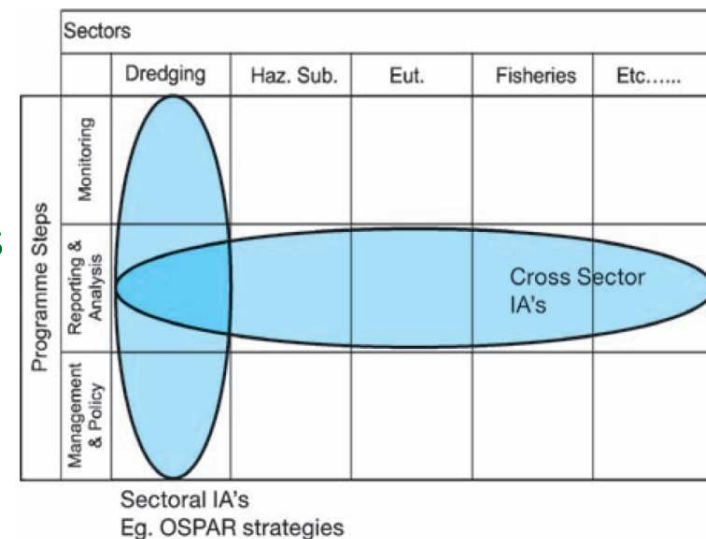
Gaps in Scientific Knowledge: Research Priorities

Fully Integrated Assessments



Assessments to support the Integrated Maritime Policy

1. All Social, Economic, Ecological components
2. Standard approaches for integration of different types of information & data
3. Standard approaches for integration of sectoral monitoring programmes

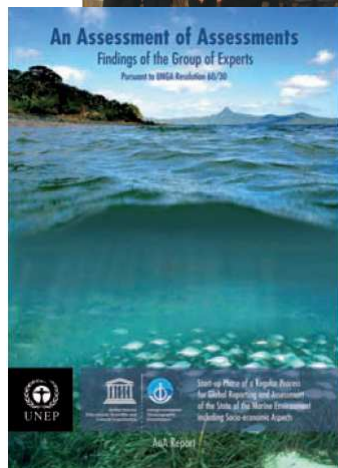


Gaps in Scientific Knowledge: Research Priorities

Critical Pathways

1. Exchanging scientific knowledge among scientists
2. Communication for governance
3. Outreach to public & society

Developing tools for knowledge transfer

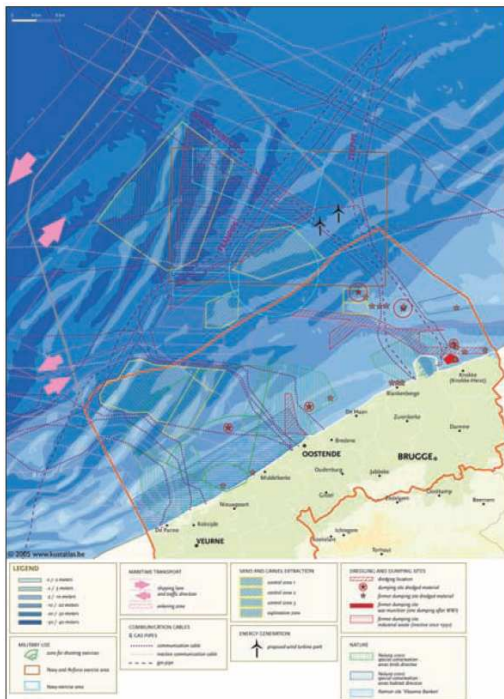


Best Practices Identified

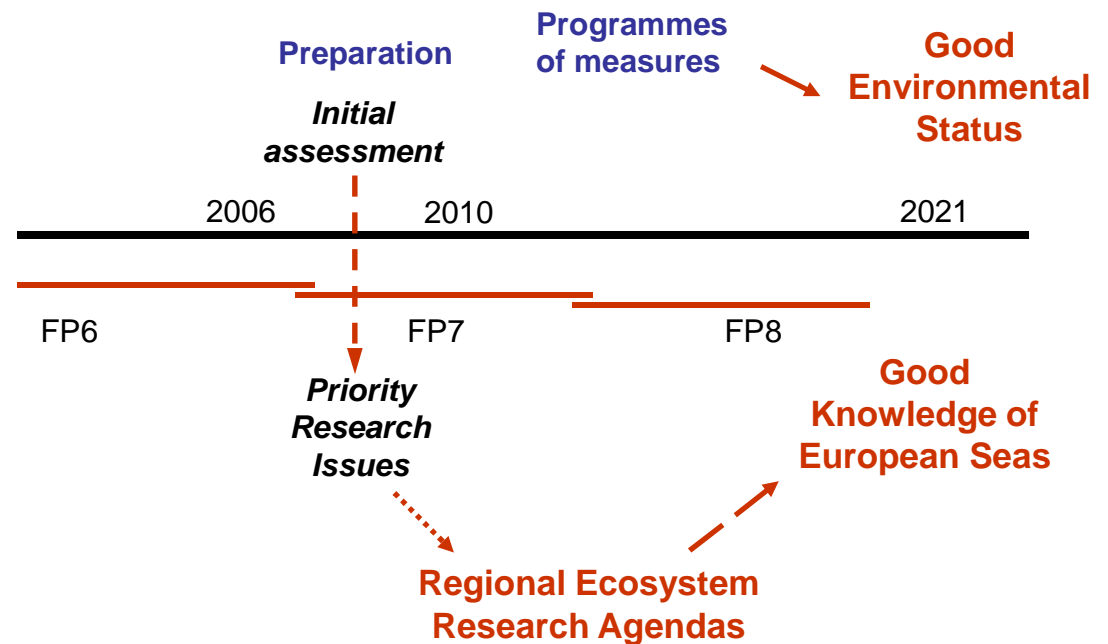
1. Objectives, scope and conceptual framework;
2. Data and information;
3. Science/policy relationship;
4. Nomination and selection of experts for assessments;
5. Treatment of lack of consensus among experts;
6. Peer review;
7. Cyclic review and evaluation of advice; and
8. Communication.

Supporting the implementation of the MSFD

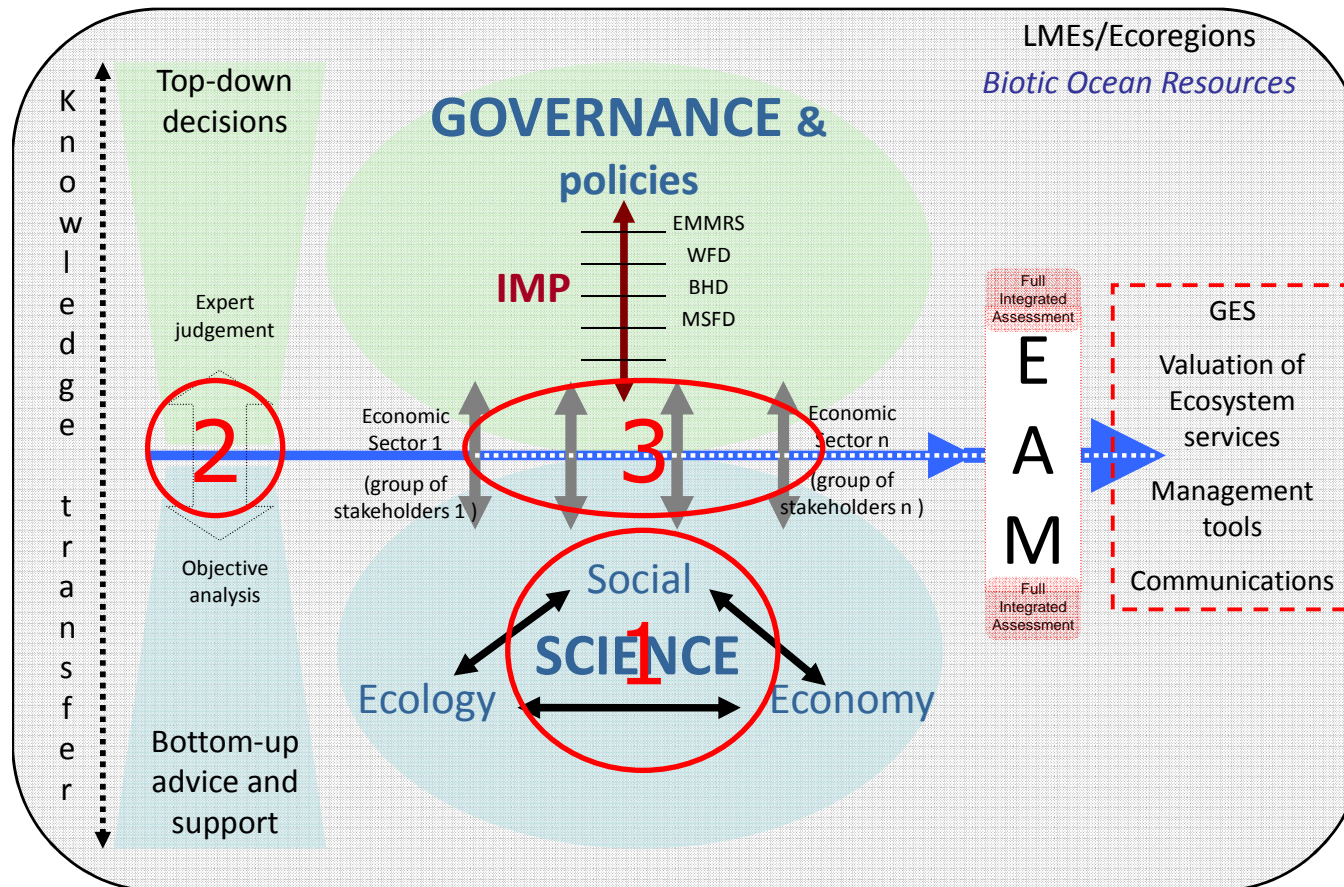
Status and trends of Biotic Ocean Resources & Human Activities



Marine Strategy Framework Directive



Impediments to the EAM



1. Doing the right science and doing the science right
2. Knowledge transfer
3. Science-policy mismatches in timing

Establishing a workplan: Science priorities

Piecing it all together!



1. Research on status and uses of Biotic Ocean Resources - issues of scale
2. Research on interactions between human activities and conservation of Biotic Ocean Resources – issues of welfare
3. Development of operational tools to support management and policy - issues of evaluation & adaptation

But.....only effective if impediments are fully addressed!

Special Thanks

Chair

Jake Rice

Editor

Aurelien Carbonniere

Contributors

Maria de Fátima Borges, Anthony Grehan, Andrew Kenny, Harald Loeng, Francesc Maynou, Ricardo Serrão Santos, Hein Rune Skjoldal, Olivier Thébaud, Vassiliki Vassilopoulou, Filip Volckaert