

WKMCMSR REPORT 2011

Report of the Joint HELCOM/VASAB, OSPAR and ICES Workshop on Multi-Disciplinary Case Studies of MSP (WKMCMSR)



2-4 November 2011

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Executive summary

The joint HELCOM/VASAB, OSPAR and ICES workshop on Multi-Disciplinary Case Studies of MSP (WKMCMSR) was held at the IPIMAR institute in Lisbon, Portugal from 2–4 November 2011.

The overall objective of this workshop was to demonstrate how HELCOM/VASAB, OSPAR, and ICES can contribute and cooperate to the further development of the process of ecosystem-based marine spatial planning.

The workshop was attended by 72 participants.

The main conclusions from the workshop were:

- There should be continued cooperation between HELCOM-VASAB, OSPAR and ICES through future joint workshops and the exchanging information and best practices. Working jointly has significant benefits and delivers more than each organisation could achieve individually. The ICES Working Group on Marine Planning and Coastal Zone Management is one significant platform to support cooperation between the four sponsoring organisations
- Transnational consultations on national planning should take place as early as possible in planning process.
- In planning multipliable use of space should be encouraged in preference to single use.
- Planning processes should be clear and transparent but it is also important that they are flexible and adaptive in order to respond to issues as they arise. Establishing milestones within the process itself is helpful as it breaks it down into manageable work packages.
- The links between marine and land use planning are important and mechanisms to achieve consistency between both should be developed. The HELCOM VASAB approach in the Baltic exemplifies this.
- Communication between scientists and planners needs to be strengthened so that planners understand what science can deliver and science delivers it in an appropriate format for use in the planning process e.g. habitat vulnerability maps rather than habitat maps and maps of goods and services.
- High-tech mapping can be useful in the planning process but can also be a barrier to participation - paper maps can be a more effective communication method and ensure wider participation.
- The realisation of ambitious goals for offshore wind farms should be accompanied by transnational ecosystem planning to ensure others users and ecological values are adequately considered.
- Changing financial environments can result in permitted developments not taking place. This makes the assessment of cumulative environmental effects difficult and methods for estimating cumulative effects need to evaluate which projects (existing, permitted and planned) should be considered.
- *MSP Challenge 2011* is an extremely useful learning and training tool and the workshop participants recommend its inclusion in national and international training courses such as the ICES training programme.

1 Introduction

The Co-Chairs of the workshop, Anita Mäkinen, Erik Olsen and Eugene Nixon welcomed the participants, who numbered 72 and covered a wide range of disciplines including natural and social science and planning.

The objectives of the workshop were to:

- Demonstrate how HELCOM/VASAB, OSPAR, and ICES can contribute and cooperate to further development of the process of ecosystem-based marine spatial planning
Reinforcing and extending the existing networks of MSP practitioners by sharing knowledge and experience between scientists, managers and planners
- Test how spatial data from the various organisations can be used in development of an MSP plan
- Explore how the socioeconomic and environmental aspects can be jointly incorporated into the development of a Marine Spatial Plan
- Share knowledge and exchange experiences on MSP
- Identify significant cross border constraints and opportunities and explore ways of resolving or capitalising on these
- Use serious gaming to stress-test the plan making process to identify the main scientific, planning and governance challenges facing development of MSP plans
- Follow-up and build on the ICES CMSP Workshop held in Lisbon, Nov 2010 as well as the work of the joint HELCOM/VASAB Working Group on MSP and the OPSAR working group on marine spatial management
- Capture and report on experiences

The host, IPIMAR, was warmly thanked for providing the excellent facilities at the IPIMAR laboratory in Lisbon and also the impressive Sophia room, Oceanario de Lisboa, Parc de Nacoes, Lisbon, which was used to play the MSP simulation game *MSP Challenge 2011*.

The first morning (2 November) was taken up by presentation from the sponsoring organisations, HELCOM/VASAB, OSPAR and ICES outlining developments on MSP in each of the organisations. In the afternoon there were four parallel “Inter-vision” sessions in which the participants introduced specific challenges they experienced with regard to the practical implementation of marine spatial planning. These were discussed by each of the Inter-vision groups and experiences and solutions shared. The facilitator of each inter-vision session provided feedback to the plenary and prepared a short report of the discussions for inclusion in this report of the Workshop.

The first day was concluded with an introduction of the *MSP Challenge 2011* from Igor Mayer of Delft University of Technology (head of the game design team) in which the principles of the game were introduced to the participants. The game centred on the fictitious “Sea of Colours” and the four countries that surround it. Each country was required to develop a marine spatial plan for the maritime area under its jurisdiction and in accordance with the provided profile for that country. Countries were required to undertake cross border consultation with a view to preparing integrated ecosystem based plans. Following the introductions participants were allocated roles in the game and initial discussion was facilitated over a working dinner.

This approach successfully avoided logistical delays in starting the game the follow day and also allowed the participants get to know each other and their roles prior to starting the game.

The second day was spent playing the MSP simulation game “MSP Challenge 2011”. The game design and attention to detail mirrored, to the extent possible, reality and the participants entered their roles in a very enthusiastic manner. The fantastic facilities at Oceanario de Lisboa added enormously to the experience and overall success of the game.



On the final day of the workshop the participants shared their experiences of the game and what lessons they had learned from the game and the workshop generally. This was followed by summing up of the workshop by Erik Olsen and a discussion on next steps and conclusions. The report of the workshop was prepared by the Co-Chairs and made available to all participants to comment prior to being finalised.

IPIMAR kindly provided rooms to each of the sponsoring organisations to hold separate meeting if they so wished.

Terms of reference, workshop programme and all presentations and reports from the workshop are available on the Workshop SharePoint at:

<https://groupnet.ices.dk/ACOMSCICOM/SIASM/STIGMSPNOV2011/default.aspx>.

The list of participants is available at Annex 1 and the programme for the workshop at Annex 2.

2 Presentations on MSP Developments in the Sponsoring Organisations:

2.1 Opening of Workshop

Erik Olsen (ICES SIASM Co-chair) welcomed the participants to the Workshop, reminded them of its objectives and introduced the agenda before inviting presentations on MSP developments from each of the sponsoring organisations.

All presentations are available at:-

<https://groupnet.ices.dk/ACOMSCICOM/SIASM/STIGMSPNOV2011/Presentations/Forms/AllItems.aspx>

2.2 Joint HELCOM-VASAB work on Maritime Spatial Planning in the Baltic Sea

2.2.1 HELCOM-VASAB Maritime Spatial Planning Working Group

The first part of this presentation outlining the work and achievements of the Group in the Baltic Sea was given by the Co-Chair of the Joint HELCOM-VASAB Maritime

Spatial Planning Working Group (HELCOM-VASAB MSP WG), Anita Mäkinen, from the Finnish Transport Safety Agency.

HELCOM-VASAB MSP WG was launched in October 2010 with a view to ensure cooperation among the Baltic Sea Region countries on coherent regional Maritime Spatial Planning (MSP). This was based on a decision by HELCOM Moscow Ministerial Meeting in May 2010 and promoted by the VASAB Ministerial Declaration in October 2009.

The Mandate for the Working Group was adopted in 2010 by HELCOM and VASAB CSPD, setting out the overall aims as well as the anticipated tasks of the Group.

The HELCOM-VASAB Baltic Sea Broad – scale Maritime Spatial Planning Principles were adopted by HELCOM and VASAB CSPD in the end of 2010. MSP is understood as a key tool for sustainable management by balancing between economic, environmental, social and other interests in spatial allocations, by managing specific uses and coherently integrating sectoral planning, and by applying the ecosystem approach as the overarching principle. Long-term sustainable management should have priority when balancing interests and allocating uses in space and time. MSP should be based on best available, high quality, up to date comprehensive information and implemented through the application of the Precautionary Principle.

HELCOM and VASAB see a need for further cooperation between HELCOM-VASAB, OSPAR and ICES. One possible way could be through future joint workshops and exchanging information and best practices. Furthermore, it was suggested that the [Black Sea Commission](#) and [Mediterranean Science Commission](#) (CIESM) could also be invited for collaboration.

2.2.2 BaltSeaPlan

Nico Nolte, representing the lead partner, BSH, Germany, presented the work done in the BaltSeaPlan. There are 14 project partners from seven countries (Germany, Poland, Denmark, Sweden, Estonia, Lithuania and Latvia). The project has a duration of three years from January 2009 to January 2012 and a budget of 3.7 m Euro.

There are eight regional and cross-border pilot marine spatial plans. BaltSeaPlan has developed “Vision 2030” towards sustainable planning of the Baltic Sea space. The transnational topics of the Vision 2030 were outlined and include:

- A healthy marine environment
- A coherent pan-Baltic energy policy
- Safe, clean & efficient maritime transport
- Sustainable fisheries and aquaculture

These topics were selected as they have the potential to affect all or several Baltic Sea states, have associated international targets and required cooperation between two or more Baltic Sea states to achieve them.

The final conference “Advancing Maritime Spatial Planning: Results from the BaltSeaPlan project and beyond” will be held in Berlin on 12 January 2012. The conference aims to show and trigger discussions on the latest MSP developments at policy as well as implementation level within the European Commission and the Baltic Sea Region. It is open to maritime spatial planning experts and decision makers around all European countries. All participants at the workshop were invited to participate.

2.2.3 Plan Bothnia

Hermanni Backer, Project Manager at the HELCOM Secretariat, presented the work of the Plan Bothnia project (www.planbothnia.org), a preparatory action project funded under the EC's Integrated Maritime Policy (DG Mare). The project involves the lead partner HELCOM Secretariat and six partners: four public institutions from Finland and Sweden, the Nordic spatial planning institution Nordregio as well as VASAB Secretariat hosted by Latvia. The project has involved 20 sub-national and national agencies in its work to develop a pilot transboundary MSP plan for the Bothnian Sea, a sub-bassin of the Baltic Sea between Finland and Sweden. The 18 month (0.5 million euro) project will conclude with a public final conference in conjunction to the European Maritime Day May 2012, where the final results will be released.

2.3 Development of marine spatial planning in the OSPAR maritime area

Deputy Secretary of OSPAR, John Mouat, presented OSPAR progress and priorities in this field.

OSPAR involvement in MSP was endorsed by the Ministerial Meeting in 2003. From this followed the establishment of ICG Working Group on MSP.

Examples of good practice within OSPAR Region were identified with a view to exchange experiences within OSPAR, i.e. the Barents Sea Management Plan and the German and Dutch Marine Spatial Plans.

Political commitment for MSP by OSPAR Contracting Parties was provided in the Bergen Ministerial Statement 2010 and the OSPAR North-East Atlantic Environmental Strategy promotes the ecosystem based approach to managing human activities using MSP and ICZM.

The OSPAR Quality Status Report 2010 states that OSPAR Contracting Parties should cooperate:

- to improve international coordination on integrated management of human activities, including marine spatial planning, building on existing experience in some OSPAR countries and in conjunction with the EU Marine Strategy Framework Directive;
- to monitor the impacts from growing human uses of the sea and to agree on methods for cumulative impact assessment.

The following key messages were highlighted:

- Marine Spatial Planning is an important tool in the implementation of the ecosystem approach
- Contributes to Member states commitments under the MSFD
- Complementary Work Strands Cumulative Effects Analysis
- Social and Economic Analysis

From a Regional Seas perspective, the 15 OSPAR Contracting Parties are at different stages of MSP development and implementation. It is recognised that national MSP frameworks need to be developed before meaningful progress at a convention wide level can take place, however, progress at a sub-regional level, involving countries that have developed MSP frameworks, is and will develop at a faster pace, e.g. the North Sea. Some of the tasks for the ICG Working Group on MSP is to consider what

are the priority issues for transnational consultation on plans and how this might take place and to exchange information on relevant projects and initiatives.

2.4 MSP development in ICES

Co-Chair of the ICES Strategic Initiative on Area Based Science and Management, Erik Olsen, gave a presentation on MSP developments in ICES. ICES got involved in 2009, when the new ICES Science and Advisory Plans were developed. The Strategic Initiative on Area-based Science (SIASM) started in 2010, and SIASM established a steering group (STIG-MSP) to help steer the initiative.

SIASM has been working with ICES Expert Groups (EGs) to heighten awareness of MSP via a questionnaire and specific MSP related ToRs given to all EGs. These ToR included to:

- provide information that could be used in setting pressure indicators that would complement biodiversity indicators currently being developed by the Strategic Initiative on Biodiversity Advice and Science (SIBAS). Particular consideration should be given to assessing the impacts of very large renewable energy plans with a view to identifying/predicting potentially catastrophic outcomes.
- identify spatially resolved data, for e.g. spawning grounds, fishery activity, habitats, etc.

So far of 48 groups, 22 have dealt with the ToRs and made specific reference to SIASM.

In recent years interest in MSP has increased significantly. This is reflected in the number of EU funded international MSP research projects ongoing in the ICES area e.g. Coastal Futures (2004–2010), MESMA (2009–2013), MASPNOSE (2010–2012), PLAN BOTHNIA (2011–2012), BaltSeaPlan (2009–2012), COEXIST (2010–2013).

A spatial facility has been set up in the ICES Data Centre and is based on distributed data but with centrally collected meta data. ICES EGs are being encouraged to use and contribute to this facility.

The 2010 WKCMCSP workshop on the scientific basis for MSP made a number of recommendations and progress on these was presented and includes:

- Theme session at the ASC 2012 has been organised
- The current workshop resulted from a recommendation in 2010
- A popularized article about ICES & CMSP was published in August 2011 in ICES Insight
- Prepare two review papers:
 - What are the tools used in natural and social sciences to develop MSP? Opinion paper based on a study of case studies is in preparation
 - A review of differences between EIA, MSP and Integrated management also in preparation.

The ICES WGMPCZM is actively involved in delivering some of these recommendations and will be the group to continue the work of the strategic initiative. WGMPCZM will meet in ICES from the 20 to 23 March 2012. This WG is also involved in organising a Workshop on Quality assurance of scientific and integrated management processes for use in marine planning and coastal zone management to be held in Halifax, Canada from 28 February to 1 March 2012.

2.5 Multi-disciplinary case study of MSP: PORTUGUESE MARITIME SPATIAL PLAN (presented by Margarida Almodovar, INAG)

Margarida Almodovar presented the ongoing developments for a MSP planning framework for Portuguese waters. This planning framework is developed to serve as a way of improving decision-making and delivering an ecosystem based approach to managing human activities in the marine environment.

This planning framework is based on the National Strategy for the Seas (RCM 163/2006) "Maritime space and activities planning", the National Strategy for Integrated Coastal Zone Management – ICZM (RCM 82/2009) and the Communication from the Commission – Roadmap for Maritime Spatial Planning (COM 2008 791 final).

The objectives of the plan are to:

- Identify the present and future uses and activities integrated with the ICZM
- Mapping Activities and determining the maritime space settled for each activity
- Ensure the sustainable use, conservation and regeneration of the maritime resources
- Promote the economical, social and environmental importance of the sea
- Establish a set of indicators to evaluate the sustainable performance of the activities and their monitoring

The plan is developed by government entities in collaboration with universities.

The Portuguese EEZ is 1.7 million km², about 18 times the continental area (without the extension area). This is an extremely large area which will be covered by the maritime spatial plan. The Maritime Spatial Plan, which not only includes the EEZ but also the Continental Shelf is being developed through a phase approach and is subjected to a Strategic Environmental Assessment. A series of thematic workshops have been held and allowed to have the involvement of all sectors of activity and helped to define and Sector General Guidelines. It has also prepared an Action Plan setting out the measures and to develop a monitoring program is being developed. A web-based GIS mapping service has also been developed.

It is intended to align the Maritime Spatial Planning to the requirements of the MSFD and to use it to improve coordinated administration and governance.

2.6 EIA/SEA/ICOM/MSP Do you know the difference? (Roland Cormier, Canada)

Roland Cormier presented the work in progress on a manuscript prepared through the WGMPCZM with the aim of reviewing the differences between Environmental Impact Assessments (EIA), Strategic Environmental Assessments (SEA), Integrated Ocean and Coast Management (ICOM) and Marine Spatial Planning (MSP) (Figures 1-4).

In terms of concepts, approaches and principals, EA, ICOM and MSP operate within sustainable development goals, precautionary approaches, ecosystem-based management approaches as well as multi-sector integration of objectives, stakeholder inclusiveness and adaptive management. Although differences could be argued in terms of the scope and the spatial extent of each, the differences lie within their intent and deliverables. EA is impact centric where the resulting management measures are

in the form of mitigation procedures, practices, and regulatory limits where the scope may be related to a specific project foot print or sector development proposals within a regional context. ICOM is sustainable development centric where the processes identify ecosystem or conservation objectives to guide multi-sectoral management strategies as well as MPA or MEQ implementation operating at a bioregional or EEZ scale. MSP is spatial centric where the resulting management measures are in the form of zoning plan that reduces conflicts between drivers of human activities occurring within a given area and exclusion zones to protect significant ecological components.

Each has a missing element that can be found in the other. The scope of an EA lacks the ecological context at the bioregional or EEZ scale limiting its capacity to deal with cumulative environmental effects. It lacks the ecosystem level management objectives found in ICOM initiatives because it is focused in reducing immediate direct impact of a given development project. In ICOM initiatives, the objectives tend to be high level ecosystem management objectives that do not easily translate into sector specific management measures and targets as would be found in an EA. On the other hand, MSP is a spatial and temporal management tools that, sometimes, lack ecosystem level management objectives that would require a broader suite of non spatial management measures.

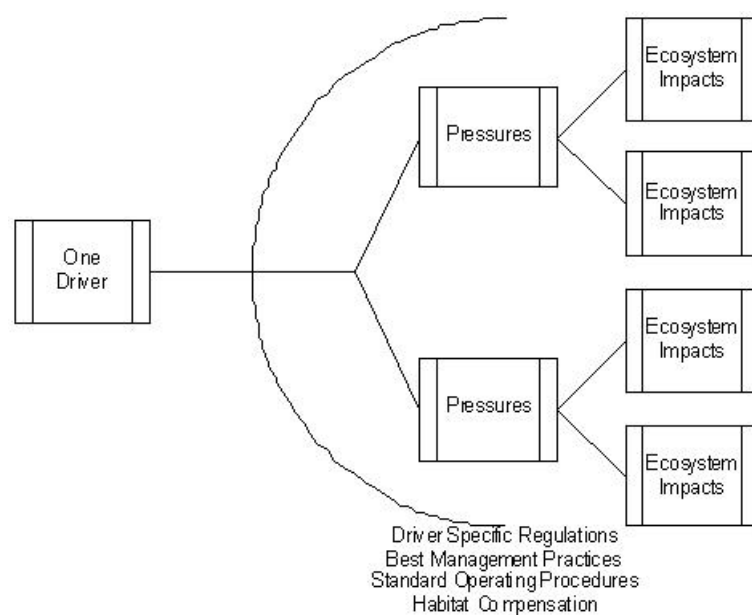


Figure 1. Environmental impact assessments (EIA) – Ecosystem Centric.

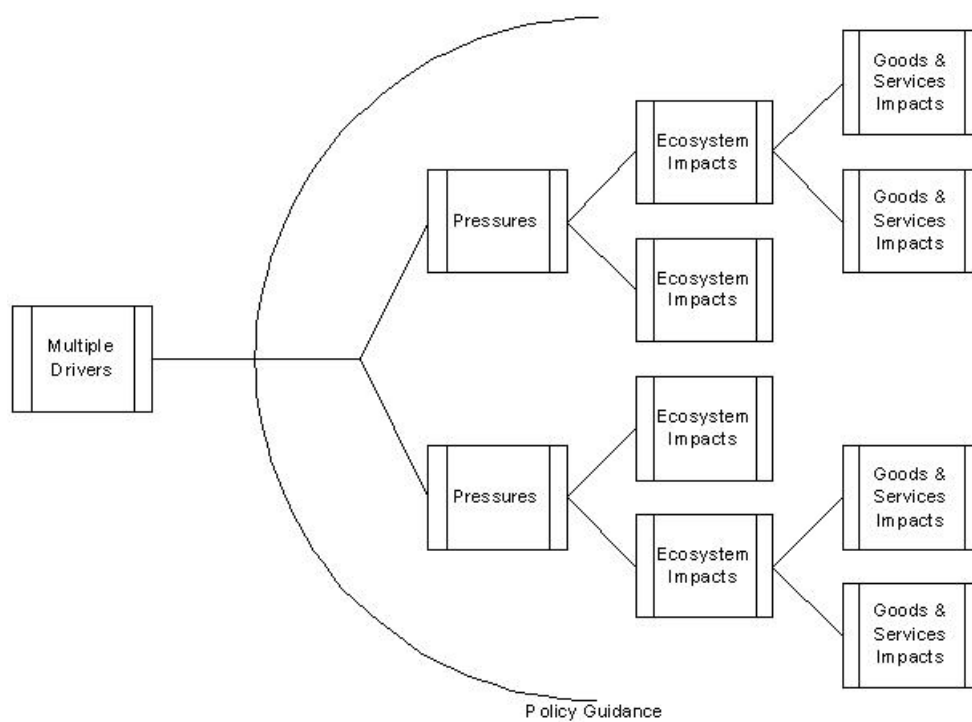


Figure 2. Strategic Environmental Assessments (SEA) – Goods and Services Centric.

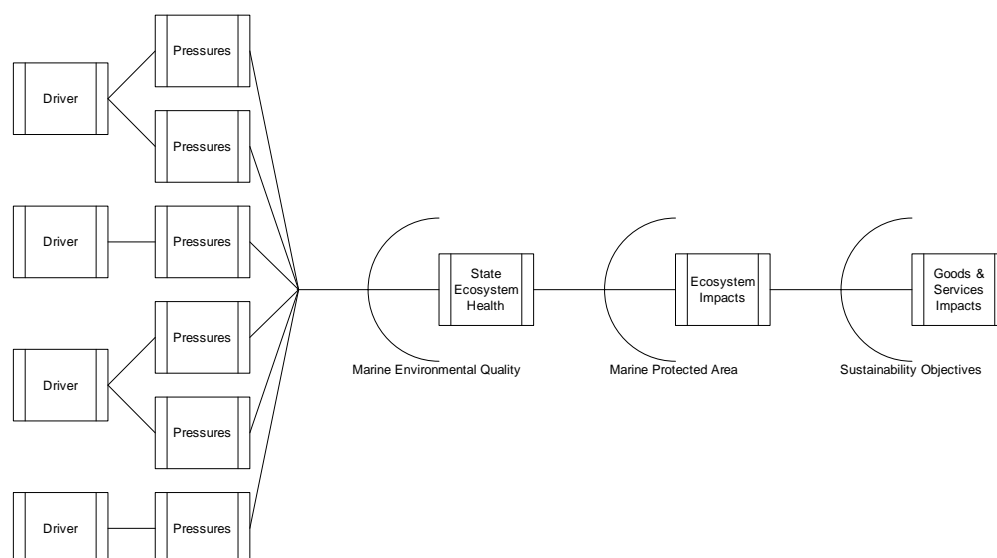


Figure 3. Integrated Coastal and Oceans Management – Sustainable Development Centric.

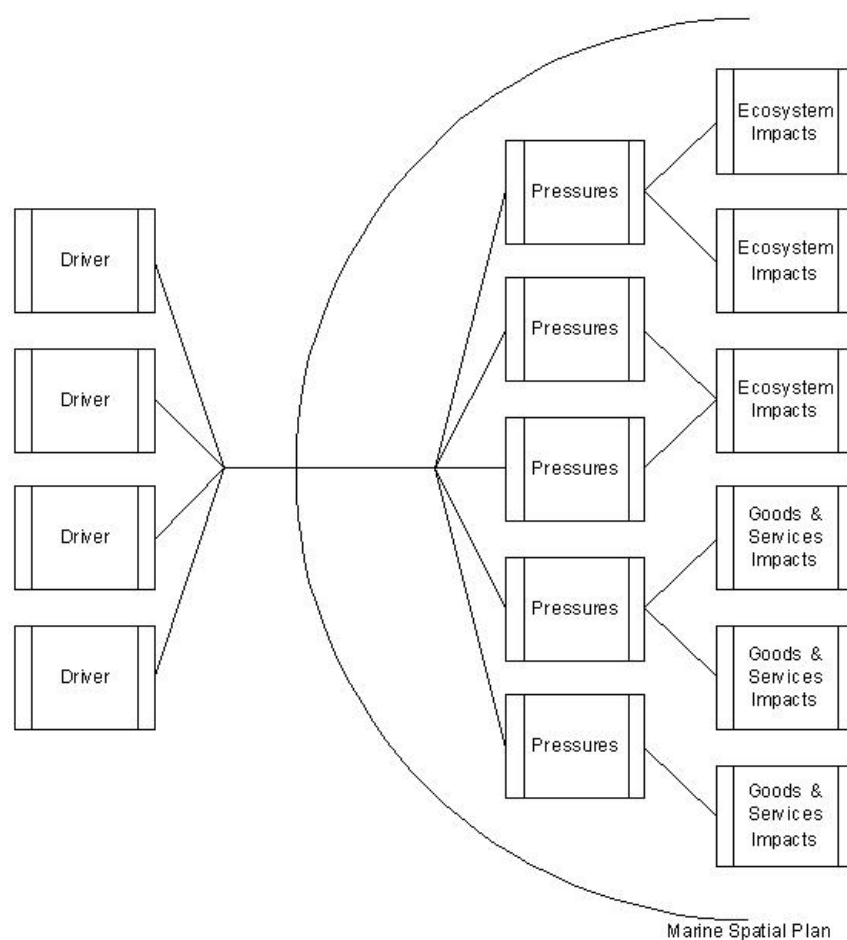


Figure 4. Marine Spatial Planning (MSP) – Spatial Conflict Centric.

By combining each approach into a comprehensive DPSI cause and effects risk assessment, the effectiveness EA style spatial, temporal and tactical management strategies against clear ecosystem management objective. In using a risk management approach, management measures (Responses) are most effective when implemented closest to the source of the risk namely the pressures that are related to drivers occurring in a given area. Management measures implemented around the impact simply

mitigates the magnitude of the environmental effects caused by pressures occurring without control mechanisms (Figure 5).

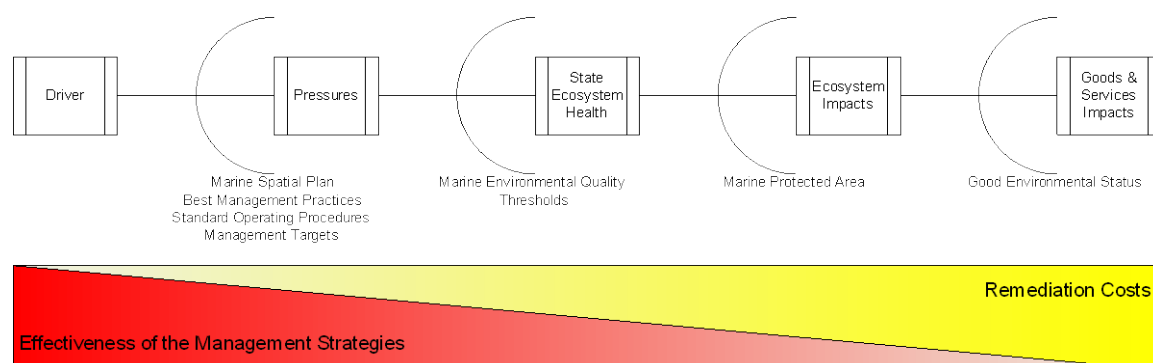


Figure 5. Ecosystem-based management DPSIR Cause and Effects Risk Assessment.

2.7 Other presentations

2.7.1 MSP and Sweden (Joachim Johannesson)

Sweden has set up a new agency: 'Swedish Agency for Marine and Water Management' (SwAM). Its main tasks are management of freshwater, the marine environment (including marine spatial planning) and fisheries. In Sweden MSP is currently limited to planning of the territorial sea by municipalities through the general plan instrument. There is recognition in Sweden that demands on sea space are increasing, both by the expansion of existing uses and also through new uses. This demand and the implementation of the MSFD require MSP.

Work is on-going on preparing new marine spatial planning legislation to be adopted in 2012. In 2010 a Government Commission recommended that the legislation should include the following:

- 1) The MSP plans should be comprehensive and holistic and be, ecosystem-based
- 2) Three plans should be developed: Gulf of Bothnia, Baltic Sea proper, Skagerrak/Kattegat
- 3) Should cover the area seawards of 1 nm from the baseline (incl. EEZ)
- 4) Should be guiding, directing and binding (for authorities in their decision-making)
- 5) SwAM should be responsible for the planning process with the assistance of the Government County Offices (linking to municipalities)
- 6) Cooperation should be sought with sector authorities and neighbouring countries
- 7) Should include an planning process of 4 years
- 8) Should be finally adopted by the government.

2.7.2 MASPNOSE (Martin Pastoors, coordinator of MASPNOSE)

This is also a DGMare Preparatory Action project similar to Plan Bothnia but for the North Sea. It is looking at cross border coordination, working on two test cases, the Thornton Bank which is shared by the Netherlands and Belgium and the Dogger

Bank, shared by Denmark, Germany, Netherlands and UK. The goal is, working with stakeholders and member states, to come up with shared, common objectives and management plans.

3 Inter-visions: 2 November from 13:30–16:30

3.1 PlanBothnia (conveners: Hermanni Backer and Manuel Frias)

Participants: Cristina Silva, Alberto Murta, Andrey Lappo, Gonçalo Carneiro, Hugo Mendes, Jose Cruz, Juan L Suárez, Margarida Almodovar, Maria Fatima, Maria Quadrado, Martin Pastoors, Sharon Thompson, Steven Vandendorre, Victor Henriques, Xander Keijser, Sarah Twomey.

The session was organized by the PlanBothnia project. The 17 participants contributed to the session by doing a hands-on planning exercise as well as through general comments to the project activities following an introduction by Project Manager Hermanni Backer and Project Officer Manuel Frias.

3.1.1 Results of group exercise and general comments received



Figure 5. Right: Result of group number 1 (South Bothnian Sea). Green refers to environmental priority areas and MPA, blue to fisheries priority areas, red to renewables and black to military areas and shipping. Left: North group in action.

South:

The group prepared a sketch map of the South Bothnian Sea (Figure 5) based on the following assumptions

- The formally designated MPAs and other environmental sites were taken as fixed.
- Current areas delineated for use as military areas were assumed to be fixed.
- Present TSS (Traffic Separation Scheme) and IMO routing measures were assumed as fixed. These can be moved, as experiences from Portugal have shown, but this is a long and complex process. Also, there is much more space in the Atlantic to make changes compared to Bothnian Sea.

- Sandbanks were treated as areas of conflicts as they are the interest of sand extraction, are targeted by MSFD descriptor 6 and commonly fish spawning areas. These were protected as far as possible.
- Renewables to be produced in areas of "less interest".
- The traffic lanes can be flexible.

North:

The group did not produce a similar map for the North Bothnian but came to the following comments and conclusions for the Plan Bothnia process:

- Important issues are missed if coastal zone is not included in the planning process
- The link to planning on land could be made more explicit
- There seem to be no clear conflicts in the planning area, overlaps perhaps - but they seem to be manageable
- Specified objectives from both the Finnish and Swedish point of view are needed for the plan. One possible link to the landside might be tourism, especially recreational fishing.
- In addition to the comments above the group raised the following points during a general discussion of the PlanBothnia Project: The project could propose ways and procedures on how to deal with eventual conflicts between interests in the planning area.
- IMO routing (including TSS etc) can be changed even if it is a difficult process. Such changes can and should be indicated/suggested in the plan.
- Objectives are important for the further process. However, it should be noted that different meaning of the word objective exist as "sectoral aim" and as "aims of plan". The latter is the most important for planning itself.
- The used maps largely define the point of view adopted. It should be kept in mind that other information /maps than those selected/presented might be just as relevant.
- The rationale behind Plan Bothnia – i.e. why are we doing planning in the Bothnian sea could be better defined. The possibilities of the plan, what exactly we can influence with it, could also be better defined.

3.2 Strategic Environmental Assessments (SEA) (chaired by Nico Nolte) and Setting ecological value (chaired by Erik Olsen)

Participants: Erik Olsen, Norway; Nico Nolte, Germany; Leo de Vrees, DG Environment (previously the Netherlands); Samantha Horsey, DEFRA (England); Lorraine Gray, Shetland Isles (Scotland); Beatriz Mendes, Portugal; and Joanna Piwowarczyk, Poland.

3.2.1 Strategic Environmental Assessments (SEA) (Chair: Nico Nolte)

Session question: What does SEA mean in the planning process? How is it applied? What is the relationship between SEA and EIA and MSP and MSFD?

SEA Directive: The main aim is to integrate environmental considerations into the planning process: What are the likely significant effects of the Plan on the marine environment? SEA is an integral part of the planning process; drafting the plan and the SEA report run parallel and are influencing each other.

Experiences from participants: SEA report on structure of the planning process. Shetland Islands did SEA retrospectively because the first draft MSP preceded the SEA obligations. Because stakeholder participation was so high, there were not really many issues highlighted through SEA.

The minimum requirements for SEA are given in article 5 and annex 1 of Directive 2001/42/EC of the EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

It was clear that different member states had interpreted the Directive differently; especially regarding socioeconomics. In the UK socio-economics can be assessed under the SEA directive to an extent. In England the Marine Management Organization (MMO) are assessing socioeconomics as part of the sustainable appraisal process. Germany has taken the position that socio economics are not included, but should be covered in the MSP process and in the Netherlands the SEA process does not fully address socio-economic issues. Regardless, the consensus of the group was that either in the SEA environmental report or in the MSP documents socioeconomics should be covered (and that planners were responsible for this). Similarly, there were differences in the interpretation of transboundary obligations between member states.

SEA was used for the Dutch North Sea spatial plan and there were some lessons learned: 1. Defining the scope for the SEA: SEA has to deal with likely significant effects of the plan; there is a challenge on how to distinguish it from EIA for a project, there you look into all aspects; 2. It is unclear what thresholds to apply especially in the light of the requirements by Marine Strategy Framework Directive (targets such as GES); 3. A big challenge is the assessment of cumulative impacts because there is so much uncertainty on this; and 4. The transboundary issues, how to handle it in practice.

In the case of the Shetland Isles MSP, a lot of the conflicts had been dealt with already during the planning process (prior to a formal SEA process) e.g. intensive stakeholder participation, the use of the information in the Marine Atlas as the environmental baseline, the planning process identified the environmental responsibilities of the different authorities, etc. The important output is the policy objectives – it establishes a baseline on which to monitor the added value of the Plan.

There is presently no marine spatial plan in Poland. The BaltSeaPlan project is used to write a SEA report for Gulf of Gdansk, but no MSP plan is ready for this area either. The spatial plan and the SEA were prepared by the same team, but it does not include alternative scenarios.

Norway is not bound by the SEA directive and therefore SEAs are not done the same way as in the EU, instead the strategic environmental issues are considered in the plan making process. Socioeconomics are lacking here too. Generally, MSP processes are led by natural scientists, they are more technically inclined and there is a knowledge barrier on socioeconomics (getting the right team together is a challenge). The socio economic part has to some degree been hijacked by interest groups, e.g., oil and gas / politics - what is best for the human population becomes very political.

Defining boundaries and borders was also recognised as a challenge, e.g. Norway coastal overlap with WFD requirements, and so MSP does not deal with nearshore which is very contentious.

There was a common agreement in the group that fisheries should be included in SEA and MSP processes.

Scoping – what should be the content of the SEA Environmental Report? It was recognised that the knowledge gaps are the most challenging aspect. Who should do the SEA? There was a difference in opinion as to whether the same people writing the MSP should do SEA or whether it should be contracted out. This really depended on the resources available to the MSP team. Germany has had good experiences with inviting agencies and NGOs to discuss the scope of SEA report.

Concerning the relation between SEA and EIA it was most common to delegate some responsibilities to EIA process because this can more specifically target the relevant specific knowledge gaps. There was consensus within the group that SEA should be done prior to developing MSP plans, and checks should be done on the EIA to ensure it has fulfilled the SEA criteria.

3.2.2 Valuing the ecosystem (Chair: Erik Olsen)

In this topic the group discussed their experiences and explored thoughts on the theoretical approaches to valuing ecosystems. CMSP involves evaluating different spatial management options. The first part of the discussion revolved around prioritising different species and habitats that were important to an area. The last part of the discussions discussed how to understand the monetary costs and benefits of different spatial management options including ecosystem goods and services (Cost Benefit Analyses).

Some key questions that should be asked are: How do you define ecological value? What criteria are used? How do you analyze ecological value empirically? How do you translate ecological value to monetary value? How do you combine ecological value across components? How do you communicate ecological value in an MSP process? What role should ecological value play in an MSP process?

Erik Olsen shared his experience from Norway on the designation of valued areas – challenges in data quality (how to treat knowledge gaps) and lack of consistency on scale / resolution meant that there was a risk of misinterpretation (e.g. not every user understanding patterns in breeding seasons or foraging behaviour).

In the case of the Shetlands it was recognised from the beginning that it was a challenge to present boundaries on mobile species. Caveats had to be clear on static maps and pre-application consultation was encouraged. The most authoritative data was used but this varied from standard monitoring to anecdotal evidence and local experts then scrutinised the areas and decided on boundaries.

In the Shetland and Netherlands MSP processes the sensitive / important areas were identified and their importance specified.

It was recognised that without having criteria, the process of prioritisation would be impossible.

Germany used MSP for status quo analysis to be able to compare if an area is better suited for certain activities than others. Standard monitoring procedures are a tool used for this.

Portugal is at the survey stage regarding seabed habitats (to EUNIS level).

Poland is in a process of differentiating between important habitats and species – some are more important than others and this was based on criteria such as rarity or invasiveness. They are also mapping the seabed biodiversity (effort came after the Natura 2000 areas were designated - the group conceded that many member states had some failings regarding the designation of these sites).

There are many efforts currently trying to put a value on goods and services. How to take qualitative information and turn it into monetary value: it is relatively easy to put monetary figures on market goods (like commercial fish), but harder to put a price on an important species or habitat. It is a growth area and as a support for political decisions on GES, it was recognised that scientists have to get involved in this. Member states are all busy making socio economic analysis of the use of the sea. This is a very big methodological process. Economic value... Free horizon value? Healthy environment – how is that valued?

The methods to assess the cost of degradation were mentioned: 1. comparing the value of the activity and the cost of the measures and 2. Total economic value. Both methods are reviewed in an EU-MSFD Working Group ESA report (finished in April 2011). It will be a living document and will be developed further. At this stage, there are differences between the approaches taken by different member states. There were differences in opinions among the participants on whether the choice of framework should be coherent between all member states or whether it should be flexible.

The question of scale was also discussed, it was agreed that whatever method was chosen it had to be applied at the local level.

In Norway, where oil industry has considerable resources, it becomes difficult to match the wealth of oil production, and this is when the discussion on monetary figures on the environment becomes difficult. Environmentalists are concerned that they are being dragged into a method that only benefits the industry without taking due consideration of the indirect costs. Where do we as a society get the biggest benefit for our money? Now they are forced to communicate and come up with results.

Leo De Vrees pointed out that the oil industry are taking part in the discussion on their impacts and are now investing money for surveys on underwater water noise (report due Jan 2012).

3.3 Transboundary planning in the Southern North Sea (chaired by Titia Kalker and Lodewijk Abspoel)

Participants: Dorina Iuga, Andreas Kännen, Sarah Thompson, Kasper Jespersen, Saskia Hommes, Odile Ganne, Betty Queffelec, Sandra Vöge, Steve Brooker, Ollie Payne, Bettina Käppeler, Thomas Kirk, Joacim Johannesson, Sarah Twomey, and Antonio Santos.

Introduction

Titia Kalker introduced the intra vision session with a brief explanation of the themes which she identified for cross border discussion when making an integrated planning map for the southern North Sea. The map was made in the context of the OSPAR working group on MSP and illustrates current and proposed uses of the sea area.

The following topics were discussed:

- 1) Cross border cooperation on wind energy.
- 2) Co-use of wind farms by recreational use or fisheries.
- 3) Cumulative effects and the impact of this issue on planners.
- 4) Uncertainties - in actual use of sea space.
- 5) Managing cross border nature conservation areas.

3.3.1 Cross-border cooperation in relation to MSP and wind energy

- In general different uses of MSP can be distinguished: to solve conflicts between different uses of the sea; to achieve sustainable use of the sea, to anticipate on future issues and resolve them before they occur. A MSP is not a driver in itself, but a vehicle to achieve societies' aims.
- If the driver is not strong enough to gain political interest, it is up to the regulators and planners to identify one of the three reasons mentioned above. Newcomers and those with vested interests can be helpful in driving a process to address the issue(s).
- With regard to the question of planning of wind farms in the context of a possible future offshore grid, there are choices to be made. At present the transnational focus is on the short term and countries are consulting each other when making spatial plans and when licensing wind farms. From a long term perspective, especially when ambitious goals are set for offshore wind energy, joint efforts are required to make sure that others users and ecological values will be adequately considered. In general planning further ahead and back casting is the appropriate way to go forward. Future (medium to long term) planning gives more possibilities for addressing cumulative effects. International consultation, even before the planning process has actually started, can help neighbouring countries make their interests explicit. Subsequently, those interests can be taken into account in research, information sharing, the draft plan, and finally in the SEA consultations.
- Within each country, establishing the authority with responsibility for planning is vital for addressing cross border issues.
- Ideally the starting point of a new planning phase should be to bring all needs and aims of society to the table. Ideally the starting point of a new planning phase should be to bring all needs and aims of society to the table. Informal contacts and a close network of marine spatial planners, wind energy planners, ecologists, fishers, shipping experts and will help to start international cooperation in early stages.

3.3.2 Co-use of wind farms

- The question here is how to deal with access of vessels, both fishing and recreational, to wind farms. In the Netherlands the need to keep the cost of wind farms developments as low as possible was one of the main drivers and this has resulted in the construction of wind farms in which individual turbines were separated by a distance of not more than 1 km apart. This, coupled with the regulatory requirement to have safety exclusion zones of 500 meters around each turbine, has resulted in an effective ban of access to wind farms. In the Netherlands that approach is not considered suitable for future wind farm developments as the multiple use of space is seen as important in the planning process.
- The Dutch government could introduce measures to force the multiple use of space and only grant a permit if co-use is possible. This could encourage the co-use by having parties with an interest negotiate the terms e.g. wind farm developers and recreational use and/or fisheries. Therefore, at a strategic level there would be a preference in both planning and permitting towards multiple use of space as opposed to single use. This would encourage innovation and the use of modern technique(s) accurate vessel

positioning and recording systems such as AIS in with accuracies in the order of meters. The example of the pipeline in the Baltic was referred to where a new use was willing to invest in accurate positioning systems to be used by the fishing industry which would minimize exclusion zones and promote the co-use of marine space.

- With developments in turbine technology leading to larger turbines the distances between turbines and the size of exclusions zones will increase pointing to the need for an iterative approach to planning and regulation. In general, innovation is the key to promoting multiple use of marine space in MSP processes.

3.3.3 Cumulative effects

- The issue of cumulative effects of different human use in the sea is proving difficult to resolve. Many human activities can result in the same or similar effects on the marine environment and its ecosystems. The techniques required to attribute or separate out such effect to a particular single use in multi-use areas has not yet been developed. This equally applies to separating the effects of natural disturbance from that caused by human activities e.g. separating the effects on benthic habitats caused by storm events from those caused by bottom trawling. This was a major issue for OSPAR during the preparation of the QSR and will also be a significant challenge for EU Member States during the implementation of the MSFD. There is a lack of empirical data and modelling methodologies to undertake the integrated assessments needed to manage cumulative effects of human activities.
- One possible approach that could help manage cumulative effects is to develop plans at a large, ecosystem scale such as proposed in the Windspeed Roadmap¹. This considers constructing 135 GW of wind power in the North Sea as a maximum, but deliverable result. The use of qualitative assessment and strategic environmental assessment for such plans could allow for better assessment of the relevant and cumulative effects.
- In relation to environmental assessment of offshore wind farms, both strategic and project assessments, the issue of incorporating planned or permitted wind farms into the assessment is proving to be a contentious issue. Should the effect of planned and permitted projects be taken into the assessment of cumulative impacts for new development applications? Due to the current financial environment it could be argued that where all planned or permitted developments are taken into account it would probably lead to an overestimation of overall ecological effects as some permitted developments will not take place. Therefore, methods for estimating cumulative effects need to evaluate which projects should be considered.

¹ Roadmap to the deployment of offshore wind energy in the Central and Southern North Sea (2020–2030). Available from:

<http://www.ecn.nl/docs/library/report/2011/o11065.pdf>

3.3.4 Uncertainties in planning

- Planning is about dealing with uncertainties in a practical manner. It is important to identify all possible options and use them to facilitate discussion and debate among stakeholders. This should be done in a forward looking manner, e.g. what-if scenarios.

3.3.5 Managing cross border nature conservation areas

- Fisheries are a major issue when defining management measures for nature conservation. In fisheries, regional management organizations (e.g. NEAFC, EC) play a major role, while fisheries – conservation issues are often dealt with at a transnational regional level. This leads to difficulties in dealing with fisheries in spatial planning.
- Good practical transnational experience is currently obtained in the North Sea in both the Dogger and Thornton Banks. On the Dogger Bank, the UK, Netherlands and Germany each have designated Natura 2000 sites and Dogger Bank Process is attempting to develop fisheries measures to ensure the impact of fishing activities does not prohibit the delivery of the Natura 2000 conservation objectives for each of these protected sites. An internationally coordinated fisheries management proposal from the relevant Member States will have a better chance of successful adoption under the Common Fisheries Policy than three separate proposals from each of the states.

3.4 Assessing total human impact (chaired by Roland Cormier)

In Coastal and Marine Spatial Planning all human activities in an area are managed in an integrated manner. Understanding the total and integrated human impacts in the area is central to the planning process. What methods exist/are used to add up impact, assess cumulative impacts and evaluate secondary or tertiary ecological effects? Assessing total impact is a tricky question as one is basically struggling with understanding effects in a complex ecological system and trying to compare very different components and effects. Although the session followed a set of questions, the discussions were rather focused on clarifying or defining various aspects of the topic.

Total human impacts (cumulative effects) were defined as the “Net effect of cumulative pressures” as a result of the residual effects of implemented management measure. To develop effective management strategies, pressures and their related drivers implicated in these effects must be able to be ranked in terms of the related ecosystem, social, cultural and economics vulnerabilities.

Direct effects versus indirect effects

Direct effects are considered as effects that are directly linked to Driver/Pressure combinations. These form the basis for the development and implementation of operational, spatial and temporal management measures to reduce the risk of Direct Effects. Direct Effects are ecosystem, social, cultural and economic impacts. Monitoring program of Direct Effects should track the effectiveness of the management measures while auditing of implemented measures should track the implementation of the management measures. Based on the results of these monitoring activities, adaptive management would include enhancements or redesign of the management measures.

Indirect Effects are considered as secondary effects occurring once a Direct Effect has occurred (see Figure 6). These would include impacts to ecosystem processes and components as well as socio-economics impacts. Indirect Effects are difficult to model or predict because their occurrence may also be amplified by natural variations of ecosystem processes. Effective management measures cannot be developed to avoid Indirect Effects. Indirect Effects can be used to formulate ecosystem-based management objectives and provide the basis for a precautionary approach for socio-economic development. Monitoring of Indirect Effects at the ecosystem and socio-economic levels would provide the basis for changes in objective setting and needed adaptive management strategies in response to changes at these levels.

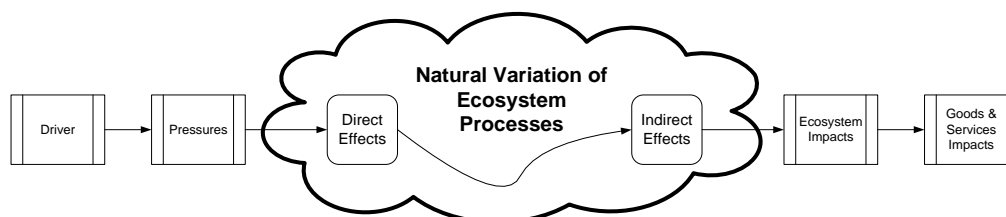


Figure 6. Direct and indirect effects of drivers and pressures (human activities).

4 MSP Challenge 2011

The second day (3 November) was spent on MSP Challenge 2011, an interactive serious game (developed by the University of Delft) where the WK participants were split into four teams, each team representing a fictitious country



(red, blue, green and yellow) who all bordered a common sea area called 'the Sea of Colours', Figure 7. As can be seen the Sea of Colours loosely resembled the Kattegatt/Skagerrak area. Each participant was given a role, either as a planner, scientist, maritime user or NGO. The aim of the game was for all countries to develop a spatial plan for their sea area. Planning was carried out on a dedicated game system running on PCs where the map of the area and different layers of information could be overlaid and edited. At the outset the different roles had access to a limited, but often different, number of information layers e.g. the fishermen had access to the information layer showing where different fisheries activities took place. A key challenge within each country was to bring the information about the sea areas together and based on this develop their country specific spatial plans. No objectives for the plan had been set, but all countries adopted an approach seeking agreement between interests and trying to achieve pre-defined international obligations regarding protection. Each country had different focuses with some have a strong dependence on fossil energy production while others had an aim of becoming carbon neutral. To the extent possible the game represented the diversity found in reality in terms of different national profiles and objectives.

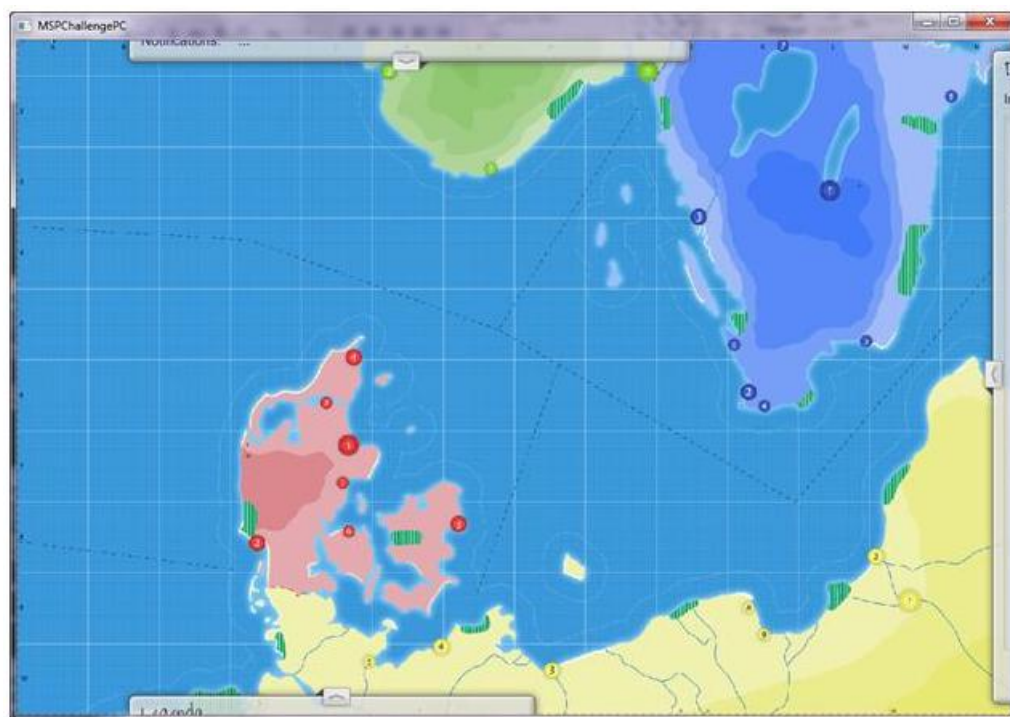


Figure 7. Map of the Sea of Colours with the four countries surrounding it (red, green, blue and yellow).

International collaboration between the countries, maritime sectors and NGOs were encouraged and through several 'international convention' meetings during the game play, countries were expected to apply a transnational ecosystem based approach to developing their plans. At the end of the game each country had successfully developed a marine spatial plan for the waters within its jurisdiction. These were presented in plenary to the participants where there were discussed and critically reviewed.

There was unanimous agreement amongst the participants that the game contained many of the elements of real life marine spatial planning particularly in terms of the mimicking the different, often strongly held, views of the different stakeholders and participants in the planning process. It was a very useful training experience on preparing marine spatial plans. In this regard the departure from the traditional way of working at scientific workshops proved very successful and there was strong support to rerunning the game as an ongoing training exercise in marine spatial planning.

5 General discussion and conclusions

The simulation game, MSP Challenge 2011, will be reported on elsewhere and TU Delft are currently preparing publications on the game. In terms of the Joint HELCOM-VASAB/OSPAR/ICES Workshop the purpose of the game was to provide the participants with an experience that was as close as possible to real life marine spatial planning. The game succeeded in this and resulted in some very incisive comments from the participants that it was considered important to include in this report. The game is an excellent training tools and interest was highlighted for it to be brought into the ICES training programme and to Canada. Practical experience in actual planning is very important as marine zoning is at the core of MSP. The discussion below reflects many of these comments but it is important to keep in mind that these are the views of the participants and do not represent views or positions of any of the

sponsoring organisations. The format of the workshop was novel in many respects and did not conform to the normal workshop format of the sponsoring organisations. For that reason the recommendations and conclusions of the workshop were limited to those listed below.

5.1 General discussion

Marine spatial planning is relative new but its application as a tool to promote sustainable development and the ecosystem based approach to the planning and management of all human activities in the marine environment is supported by each of the sponsoring organisations. That said, integrated marine planning is difficult and transnational integrated planning is even more difficult. Different legal, administrative, planning systems; planning systems at different stages of development, from none to well established; and planning systems in different phases are significant barriers to ecosystem based marine spatial planning.

Access to data/knowledge/information has the potential to improve the delivery of evidence based planning but it can also overwhelm practitioners and stakeholders. Thinking of the planning process as an activity with different phases can help manage the complexity. These phases can be seen as:

- inputs to the process such as policies, spatial resolved data, information and stakeholder desires;
- the planning process itself where conflicts are resolved and synergies identified (identifying opportunities);
- the outputs of the process which include spatial plans and decisions; and
- the outcomes of the process such as the development of networks, new ideas and approaches, capacity building, monitoring systems.

During the game the use of questionnaires to monitor the experience of participants at different stages of the planning process provided useful feedback and identify where it works well or otherwise for the different participants. It was observed that during the different stages of the plan making process the relationship between planners and stakeholders and between stakeholders can switch between collaborators and competitors.

5.1.1 Stakeholders

A number of the participants identified the need to carefully consider whether a plan for a particular sea areas was needed or not and the focus should be on areas where marine planning is needed. Within the game the process started with an emphasis on the ecosystem based approach, defining clear visions and objectives, but as the process proceeded and difficulties and complexity increased a emphasis changed to resolving conflict between users and allocating space to particular uses. This identified the need for planners to keep an open mind and avoid the risk of listening to and appeasing the stronger and more vocal stakeholders. It also resulted in a focus on national priorities and away from transnational ecosystem based planning. These shortfalls can be avoided by defined a planning process with clear objectives and responsibilities and ensuring it is delivered in an open participatory manner. Otherwise it is easy to make a plan that suits the stakeholders, but that overall is not the best solution for society as a whole (although maximizing benefits for all stakeholders is a tremendous challenge in itself). Also, some stakeholders were less successful in achieving their objectives than others. These were the losers of the planning process and one must carefully consider how to manage such losses in a polite and

considerate way to ensure societal backing. Estranged stakeholders can easily launch massive and long-lasting negative public campaigns that can compromise the success of a plan.

In the plans made in the MSPChallenge there was a tendency to plan exclusive use zones, thereby separating different uses and reducing future conflicts. This was probably a result of the time-pressure in the game. In a real-world setting it is unlikely that users will give up areas to others as easily as in the game therefore creating a greater incentive for finding multiple-use solutions to marine space.

5.1.2 Governance and planning the process

The process of planning should be clear and transparent but it is important to be flexible and adaptive within the planning process itself as different issues arise. This is central to getting broad buy-in for the plan, engaging society and securing responsibility for the plan. Establishing milestones within the process is helpful as it breaks the whole process down into manageable work packages.

Governance of the planning process was another key learning point. Roles and responsibilities should be established and made transparent at a very early stage in the planning process, in particular who are the decisions makers and leaders in the process. This means involving all parties, including NGOs from the start of the process. Similarly, the expectations of all parties in the process should be clarified at the start in order for them to be managed and taken into account. This includes setting rules and procedures on how input to the planning process is to be handled – in particular ensuring that all relevant data are considered (if not used).

Setting of goals and objectives early on in the process is important to identify and highlight the most important issues at stake in any given MSP process i.e. how major economic activities are handled, conservation of unique habitats or species, trans-boundary issues that need international collaboration etc.

It is also important to identify the links between MSP and land based planning. The relevance of this depends of course on the boundaries of the planning process. Plans that border on land need a closer and more direct link to land-based planning than oceanic MSP plans with no land border.

5.1.3 Roles, use of data and knowledge

The participants were given clear roles at the start of the game, but as it progressed these roles became more unclear. Especially the scientist roles changed from being purely advisors to the process to actual being planners as, in many cases, they were the ones with the most detailed data and knowledge of the marine environment. This is a realistic result as has been seen in real-world MSP developments where scientist have taken on the role of marine planners simply because they have the knowledge and skills necessary to develop a zoning plan for the marine environment.

Although scientists were drawn into the planning process very actively the scientific information was underutilized by many of the teams who rather concentrated on user needs rather than the requirements for conservation etc. This illustrated that planning processes are anthropocentric, focussing on the human activities. It also illustrates that scientific input into a planning process needs to be of a format and type that is directly useful to planners and can be directly spatially compared to be to the human uses. Habitat vulnerability maps to human activities are more useful than just habitat maps in themselves.

Similarly, the sectoral knowledge and expertise is often underutilized in MSP processes. This was also reflected in the game where the experience and spatial data of different sectors were not brought into the process in a timely fashion. Sectoral knowledge and expertise should therefore be recognized and included early on in MSP.

The applicability of spatial management to the activities of different sectors varies considerably. The sedentary ones like wind-farming, petroleum developments etc are more easily managed spatial than transitory and more dynamic activities like fisheries which occurs where the highest aggregations of fishable resources are at any given time and shipping which tends to take the shortest most economical route. Managing fisheries in ways to avoid conflicts with other activities and environmental issues can often be achieved through other means than spatial management, e.g. technical regulations, covering cables, making installations trawl-proof, etc.

5.1.4 Transboundary issues

Dealing with transboundary issues in the game proved a challenge. Although the game had several “international meetings”, throughout the game there was no governance established for these meetings. Therefore the outcome was not clear or decisive. Intergovernmental organizations, treaties and conventions play an important role in these issues in the real world, and the game’s lack of these duly illustrated the necessity in establishing functioning marine management on trans-boundary issues. Additionally, international collaboration did not start at the beginning of the game and most of the teams came to the international conventions with clear views on how their own MSP should be developed. This is not unlike the real world situation and clearly demonstrates the need for international coordination and exchange of views at a very early stage of the planning process and plan making. While there is a requirement for transnational consultation on projects (EIS) and plans (SEA) this quite often happens at later stages of the planning process. Therefore, at the start of a transnational MSP process it would be useful for national plans to be aligned, however, this seldom happens in reality for many reasons including the fact that countries start their MSP processes at different times. However, sectoral trans-national coordination can be more easily achieved as the sectors often have common goals and objectives across boundaries.

5.1.5 Socioeconomics

Socioeconomic issues need to be clarified and established early on so that tradeoffs between different planning options can be properly evaluated. The game had no metrics to measure this – it only concentrated on space allocation to different uses. In the real world the socioeconomic implications of the plans are at the centre of the process. Strategic Environmental Assessments (SEA) is required for MSP in the EU and this will consider the ecological and socioeconomic consequences of the plan.

The game map layers provided good data on uses and ecosystem components and habitats, but there were no maps or information on ecosystem goods and services or the blue infrastructure available. Information on goods and services is necessary to make the connections between ecosystem and socioeconomics and in turn have the best basis for management decisions balancing different uses and conservation.

5.1.6 Cumulative effects

There is a need to consider both direct and indirect effects and the net effect of cumulative pressures from different activities. Direct effects can be measured but indirect

effects are more difficult – therefore focus should be on direct effect to monitor, mitigate and modify plans. Indirect effects can still be monitored but an adaptive management process is needed to respond to them.

5.1.7 Implementation, monitoring and evaluation

The end-point of the game was the establishment of MSP plans for the four countries, while the implementation, monitoring and evaluation of the effectiveness of the plans were not evaluated. In real-world MSP planning for the implementation and revision phase is of equal importance as establishing the plan itself.

5.1.8 Visual aspects (limits of the game)

The nature of the game was very visual, focusing on the map and the zoning planning. MSP is more than just zoning and preparing spatial maps. Issues like governance, establishing objectives and goals are essential. One needs to keep in mind both developing the actual plan and managing the process at the same time. However, it is around the map that the spatial conflicts have to be resolved, tasks that have been proven to be the most challenging in real-world MSP developments. Therefore it is positive that the game stressed these most challenging parts of MSP development, highlighting the needs for good objectives and aims and governance to achieve these.

The technical aspects of the game – planning and zoning on a computer system proved a challenge. Even though the system was intuitive and fairly easy to use, paper maps proved to be more effective communication method to ensure wider participation. The experience in the game was that technical tools, however simple they are designed, add complexity and limits participation.

5.2 Conclusions

Marine Spatial Planning is a field under rapid development with many new planning processes under way or in the pipeline around the North Atlantic and the Baltic Sea. It was a general consensus that regular meetings between the sponsoring organisations to share experiences and to develop the science and methods for MSP is of significant value. The WKCMCSP is a continuation of a strategic process started by ICES in 2010 leading to the Workshop on the *“Science for area-based management: Coastal and Marine Spatial Planning in Practice”* (WKCMCSP) in 2010 and to the current workshop. Further cooperation between HELCOM, VASAB, OSPAR and ICES in organising workshops and meetings is strongly supported.

5.2.1 Further the collaboration between the organizers

The workshop has shown that all four IGOs can cooperate successfully to achieve joint objectives. This success should be built on and the workshop participants recommend that the collaboration should continue in the future through participation in each other's working groups and further joint meetings and workshops. The network created is unique and places the sponsoring organisations in a central position for leading the development of MSP in the ICES, OSPAR, HELCOM and VASAB areas. The challenge now is to capitalize on the connections and network that has been established to maximise the benefits of these networks and use them in an efficient way to develop and promote MSP. Working jointly has significant benefits and delivers more than what each organisation could achieve individually.

5.2.2 Stress-testing MSP through the serious game

One of the major aims of the workshop was to stress-test the plan making process to identify the main scientific, planning and governance challenges facing development of MSP plans. Through the professional guidance of the serious gaming team of TU Delft (Igor Mayer *et. al.*) we were able to simulate the MSP planning process for four countries around the fictitious “Sea of Colours”. The game was well prepared and organized and it was a valuable learning experience for all participants. The focus was on the actual spatial zoning part of an MSP process and showed clearly how challenging it is to allocate marine space while taking into account NGOs, users, conservation needs, national environmental and socioeconomic objectives, international regulations and cross border issues all within a limited time frame. In addition to taking into account all these overlapping and conflicting interests the game showed the need to properly organise and run the planning process.

Several of the participants and organising institutions thought the game was such a novel and good way to learn and test MSP that they consider setting it up again in national or international meetings and training courses.

5.2.3 Key science needs

The inter-vision sessions and the game highlighted some very concrete needs for scientific development to support MSP such as:

- 1) Vulnerability and ecological risk assessment. Focus on pressures and risks (e.g. further develop Scottish sensitivity matrix)
- 2) Total and cumulative effects of multiple human activities occurring in the same area
- 3) Ecosystem goods and services, especially methods for setting value to these
- 4) Merging socioeconomic information with ecological spatial data into an integrated analysis
- 5) Identify spatial claims by different sectors to map the effects of that sector. Especially important for the transient activities fisheries and shipping.

MSP should be seen as the practical implementation of the ecosystem approach to management through holistic and integrated analysis of the entire ecosystem including all human activities, pressures and impacts within the planning area. Holistic and integrated analysis requires much better understanding of the interconnectedness of the ecosystem, its goods and services and the socioeconomic factors affecting human activities therein than traditional sectoral management. The key science needs outlined above are challenging and difficult ones to get to grips with. Although we have been aware of these for a long time, heretofore we have been able to circumvent the holistic approach through pragmatic sectoral and single species management. To succeed in Marine Spatial Planning the scientific community must take up these challenging questions and find methods solutions on how to deal with them.

6 Additional information provided by participants

6.1 Upcoming meetings and activities

Andreas Kannen, Chair of the ICES Working Group for Marine Planning and Coastal Zone Management (WGMP CZM) announced a workshop to be held under WGMP CZM. This is a joint DFO, KnowSeas and ICES Workshop: *Quality assurance*

of scientific and integrated management processes for use in marine planning and coastal zone management (WKQAMSP), chaired by Roland Cormier, Canada, and Andreas Kannen, Germany, to be held in Halifax, Canada, in 28 February to 1 March 2012. All WKMCMSPP participants are welcome to participate. The need for the workshop had arisen through the increasing importance of marine spatial planning throughout the ICES area, and more widely. It is largely an untested process, and as yet there is little guidance available on how to assess the quality of the output of plans and management activities. The quality of the advice (e.g. scientific data, modelling of environmental processes, proposals for management actions) entering the planning process will inevitably affect the quality of the outputs, as will the intermediate stages of data processing, consultations etc. The purpose of WKQAMSP is to bring together and document best current practice in the quality assurance of all stages in the marine spatial planning process, so that practitioners have guidance available on how to assess, and challenge, quality throughout the MSP process.

WGMPCZM is preparing an ICES Cooperative Research Report (CRR) covering the output from Theme Session B (Marine spatial planning) of the ASC 2010 and is planning another CRR publication covering a discussion of risk assessment approaches and their application in form of a Handbook on Risk Assessment which will be submitted for approval next year. The group also submitted a theme session for the ICES Annual Science Conference 2012 to be held in Bergen, Norway, on Multidisciplinary perspectives in the use (and misuse) of science and scientific advice in Marine Spatial Planning. The abstract deadline will be announced on the ICES website. It is possible to apply for membership of WGMPCZM, either via nomination by the national delegate or by Chair-invitation.

HELCOM-VASAB, announced the next meeting of the HELCOM-VASAB MSP group in February 2012, we would like to invite representatives from OSPAR and ICES to establish further contacts. ICES can add scientific knowledge, perhaps together with BONUS.

7 Acknowledgements

The organizers would like to thank IPIMAR for hosting the workshop, providing excellent meeting rooms and support. TU Delft is also thanked for developing the MSPChallenge 2012 game within a very limited time-frame. The Ministry of Infrastructure and Environment in the Netherlands is also thanked for providing funding for development of the game and running the workshop. We would also like to acknowledge the HARMONY project for providing data on the Skagerrak – Kattegat area that was used as a basis for developing the MSPChallenge 2012 game.

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Annex 2: WKMCMSPP Programme



PROGRAMME

Joint HELCOM/VASAB, OSPAR and ICES
Workshop on Multi-Disciplinary Case Studies of MSP

Date: 2–4 November 2011
Venue: IPIMAR, Lisbon, Portugal

Objectives: The following are the main objectives of the workshop

- Demonstrate how HELCOM/VASAB, OSPAR, and ICES can contribute and cooperate to further development of the process of ecosystem-based marine spatial planning
- Reinforcing and extending the existing networks of MSP practitioners by sharing knowledge and experience between scientists, managers and planners
- Test how spatial data from the various organisations can be used in development of an MSP plan
- Explore how the socioeconomic and environmental aspects can be jointly incorporated into the development of a Marine Spatial Plan
- Share knowledge and exchange experiences on MSP
- Identify significant cross boarder constraints and opportunities and explore ways of resolving or capitalising on these
- Use serious gaming to stress-test the plan making process to identify the main scientific, planning and governance challenges facing development of MSP plans
- Follow-up and build on the ICES CMSP Workshop held in Lisbon, Nov 2010 as well as the work of the joint HELCOM/VASAB Working Group on MSP and the OPSAR working group on marine spatial management
- Capture and report on experiences

Detailed Program

Wednesday 2. November		Thursday 3. November		Friday 4. November	
Venue: IPIMAR		Venue: Sophia room, Oceanario de Lisboa, Parc de Nacoes		Venue: IPIMAR	
10:00	Start of Workshop	09:00	MSPChallenge2011	09:00	Discussion of experiences from MSPChallenge2011. What did we learn?
10:00 - 12:00	Presentations on the development of MSP in HELCOM/VASAB, OSPAR and ICES	- 17:00	Simulation game on marine spatial planning in the "Sea of Colours"	- 11:00	
12:00 - 13:30	Lunch	17:00 - 18:00	Summing up of experiences from MSPChallenge2011	11:00 - 11:50	Conclusions. Recommendations and Next Steps. How do we take on the experiences in developing the science, advice and planning?
13:30 - 16:20	Group discussions and reflections session (inter-vision): Sharing and discussion of challenges for practitioners (small groups w moderator)	20:00	Dinner at your own expense. WK will book tables at a suitable restaurant.		
16:20	Coffee break	There will be two coffee breaks and a lunch break during the game (0900-1700) and snack + beverages will be served after the end of the simulation game. The exact times will be determined during the game to fit with what is going on to avoid interrupting important events.		11:50	Closing of WKCMCSP
16:40 - 18:00	Preparations for the Case Studies/Simulation (plenary information initial discussions). First meeting of the Simulation groups			12:00	Coffee break
20:00	Groups meet for working dinner. (50% sponsored by WK)			12:10 - 14:00	ICES STIG-MSP meeting An opportunity for the HELCOM/VASAB/OSPAR to meet.

Group discussions (Inter-vision), 2 November, 13:30–16:20

The aim of the afternoon session on the first day is to discuss and share experiences of challenging topics central to the science and implementation of MSP through group discussions called Inter-vision.

The participants will be split in small groups of maximum 8 to 10 people. The time for the session is shared among the participants who present their experiences in relation to the overall cases, get replies, suggestions, questions and comments from the other people in the group.

Below are short overviews of the different sessions. More detailed descriptions can be found at the end of this document.

You are asked to sign up for one of the sessions before the workshop by filling out the following on-line poll: <http://www.doodle.com/ysr9k55fn3cprg5b> .

Inter-vision topics

PlanBothnia (chaired by Hermanni Backer)

By November Swedish and Finnish planning authorities and national agencies, facilitated by the Plan Bothnia project (www.planbothnia.org) coordinated by the HELCOM Secretariat and in partnership with VASAB, have identified sectorial interest areas and discussed overlaps of uses for offshore Bothnian Sea, a ca. 80,000 km² sub-basin of the Baltic Sea. The final end-product is a transboundary MSP plan proposal by May 2012.

Focus of this session will be on practical (and fun!) hands-on work around maps and on interactions between windpower, fisheries, marine traffic and nature protection -even if also other material is available through the project online map service.

Strategic Environmental Assessments (SEA) (Chaired by Nico Nolte)

Strategic Environmental Assessment for MSP plans is compulsory homework because of the EU-Directive . SEA report is **the** fundamental environmental report covering all aspects (analysis of status quo, assessments of impacts, monitoring, Natura 2000 assessment), and a foundation for all CMSP plans.

Transboundary Planning in the Southern North Sea (Chaired by Titia Kalker & Lodewijk Abspoel)

Based on a combined activity map of the Southern North Sea to identify and discuss important transnational issues relevant to forward planning and space allocation. Combining the spatial plans from different countries has brought into focus some import issues for maritime sectors, planners and regulators. Main issues are: (1) how to improve cross border cooperation when it comes to spatial claims for windenergy and co use of wind farms, (2) how to deal with "empty" spatial claims (eg when no finances are available for realization), (3) how to deal with cumulative effects and the total ecological carrying capacity of a sea basin when elaborating a marine spatial plan for a part of the sea region, (4) how to improve cross border cooperation when it comes to nature conservation and management plans, (5) how to include fisheries into marine spatial planning.

Setting ecological value (Chaired by Erik Olsen)

CMSP planning involves evaluating different spatial management options. Understanding the monetary costs and benefits of these options involves comparing the value of ecosystem services in relation to the socioeconomic effects of different management options (development scenarios for differing sectors. In this topic we will explore the experiences, thoughts and ideas of the participants from real world cases as well as from a theoretical approaches.

Assessing total human impact (Chaired by Roland Cormier)

In Coastal and Marine Spatial Planning all human activities in an area are managed in an integrated manner. Understanding the total and integrated human impacts in the area is central to the planning process. What methods exist/are used to add up impact, assess cumulative impacts and evaluate secondary or tertiary ecological effects?

Inter-vision topics – Detailed description

PlanBothnia

Joint HELCOM/VASAB, OSPAR and ICES Workshop on Multi-Disciplinary Case Studies of MSP (2–4 November 2011, IPIMAR, Lisbon, Portugal) afternoon (13:30 – 16:30) day 1 (2 November 2011)

Interactive session on day 1, 13:30 – 16:30:

Plan Bothnia -a test of joint MSP across the Swedish-Finnish border

By November Swedish and Finnish planning authorities and national agencies, facilitated by the Plan Bothnia project (www.planbothnia.org) coordinated by the HELCOM Secretariat and in partnership with VASAB, have identified sectorial interest areas and discussed overlaps of uses for offshore Bothnian Sea, a ca. 80,000 km² sub-basin of the Baltic Sea. The final end-product is a transboundary MSP plan proposal by May 2012.

Focus of this session will be on practical (and fun!) hands-on work around maps and on interactions between windpower, fisheries, marine traffic and nature protection -even if also other material is available through the project online [map service](#).

Programme:

1. General context, map material and planning questions emerging from the Plan Bothnia process are presented to participants (ca. 30min)
2. Division to small groups and hands-on work on planning on map material provided by organisers (two 45min sessions with 20+20 min plenary discussions)
3. Discuss the initiative in the European and global context (ca. 20min)

Background:

Plan Bothnia is the Baltic Sea transboundary Maritime Spatial Planning (MSP) “preparatory action” funded by EU Commission DG MARE Integrated Maritime Policy and runs from December 2010 until June 2012 (18 months). The project will test ecosystem based Maritime Spatial Planning in the offshore (baseline +1nm) Bothnian Sea as a case between Sweden and Finland. The project is contributes to fulfillment of HELCOM Ministerial Declarations from 2007 and 2010 as well as to the work of the joint regional HELCOM-VASAB MSP WG working since 2010.

Contact: Project Manager Hermann Backer, Email: Hermann.Backer@helcom.fi Mobile: +358-468509199. www.planbothnia.org .

Strategic Environmental Assessments

Starting point for Maritime Spatial Planning is the guiding principle of sustainable spatial development, which brings the social and economic demands regarding space in harmony with its ecological functions and leads to a permanent, large scale balanced order. In the process of planning it is very important to have sufficient knowledge of the marine environment, because it constitutes a special large-scale planning area, and to identify the needs of the marine environment which must be safeguarded in the future plan. That requires in the first place a sound information and knowledge base regarding the marine environment and its features. This task can be performed in the framework of the Strategic Environmental Assessment (SEA) which is compulsory according the SEA-Directive for plans and programmes.

Therefore a SEA report must inter alia cover a description and assessment of the marine environment (status quo analysis), a description and evaluation of any substantial impacts on the marine environment that are likely to be caused by the implementation of the plan, measures aiming at preventing or reducing such substantial impacts as best possible including monitoring, and a compatibility assessment regarding Natura2000 areas.

Session aims to discuss on how to carry out SEA in practice, how to manage transboundary participation in the SEA-process and, if time allows, to discuss the potential benefit of the SEA for the Marine Strategy Framework Directive.

Setting ecological value

CMSP planning involves evaluating different spatial management options. Understanding the monetary costs and benefits of these options involves comparing the value of ecosystem services in relation to the socioeconomic effects of different management options (development scenarios for differing sectors). In this topic we will explore the experiences, thoughts and ideas of the participants from real world cases as well as from a theoretical approaches.

Some key questions that we would like to explore are:

- How do you define ecological value?
- What criteria can you use?
- How do you analyze ecological value empirically?
- How do you translate ecological value to monetary value?
- How do you combine ecological value across components?
- How do you communicate ecological value in an MSP process?
- What role should ecological value play in an MSP process?

Assessing total human impact

In Coastal and Marine Spatial Planning all human activities in an area are managed in an integrated manner. Understanding the total and integrated human impacts in the area is central to the planning process. What methods exist/are used to add up impact, assess cumulative impacts and evaluate secondary or tertiary ecological effects?

Assessing total impact is a tricky question as one is basically struggling with understanding effects in a complex ecological system and trying to compare very different components and effects. There session will deal with how total impact been dealt with in different areas:

- How does one deal with direct vs. indirect effects (effects through ecological interactions)?
- How does one add up effects across different components and pressures? (eg. How do you compare apples and pears)
- How do you determine whether the effects are additive or cumulative?
- How do you treat differing opinions and uncertainty?
- To what degree can total impacts be measured/analyze empirically?
- How do you communicate this in an MSP planning process?