

In which ways MSP can (or cannot) support implementation of MSFD?

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Outline

- MSFD and MSP
- MSP's contribution to MSFD
- Limitations of MSP in delivering GES
 - Spatiality of marine protection
 - MSP and 'descriptors' of GES
 - Cumulative effects and changes over time
 - Implementation challenges
- Conclusions and suggestions

Objectives of MSFD

- MSFD Objectives
 - protect and preserve the marine environment, prevent its deterioration or, where practicable, restore marine ecosystems;
 - prevent and reduce inputs in the marine environment, with a view to phasing out pollution..., so as to ensure that there are no significant impacts on or risks to marine biodiversity, marine ecosystems, human health or legitimate uses of the sea.
- The goal is to reach GES
 - Good environmental status shall be determined at the level of the marine region or subregion.
- The MSFD provides a mechanism to identify criteria and targets for GES. Those activities or uses of the marine environment that compromise environmental status must be considered explicitly when identifying management measures to achieve GES.

Objectives and definitions of MSP (directive)

- Definition: a process by which the relevant Member State's authorities analyse and organise human activities in marine areas to achieve ecological, economic and social objectives (Article 3)
- Maritime spatial planning aims at promoting the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources. (Article 1)
- MSP and MSFD represent different perspectives on the marine environment. MSP focuses on human use while MSFD focuses on environmental quality, but there are cross-references.

MSP's contribution to MSFD

- Does address the marine environment and explicitly supports MSFD goals
 - Maritime spatial planning should apply an ecosystem-based approach as [defined by MSFD] with the aim of ensuring that the collective pressure of all activities is kept within levels compatible with the achievement of good environmental status.
 - The approach will also allow for an adaptive management which ensures refinement and further development.
 - Due regard should be had to these various pressures in the establishment of maritime spatial plans. Moreover, healthy marine ecosystems and their multiple services, if integrated in planning decisions, can deliver substantial benefits.
- The implementation of MSP by individual nations provides an opportunity to develop maritime sectors sustainably and at the same time achieve GES.
- An unproblematic linkage between MSP and MSFD is sometimes taken almost as given.

Spatiality of marine protection

- Maritime spatial plans which identify the spatial and temporal distribution of relevant existing and future activities and uses (article 8)
- The physical forces associated with seas can cause rapid, periodic and episodic changes in physical conditions.
- Many maritime activities are mobile (e.g. fishing, shipping).
- The pressures on the environment are not constant over time and not local.
- **Pressures may derive from drivers outside a planned area and activities within a planned area may cause pressures beyond the planned area.**
- *A given plan will need review and modification if achieving or maintaining GES in the planned area is threatened.*
- *Since GES according to the MSFD is to be achieved at sub-regional or regional sea levels, MSP needs to be coherent at multiple spatial scales.*

MSP and 'descriptors' of GES

- Three place-specific GES descriptors; they have a spatial character that can directly be affected by MSP
 - Hydrographical conditions
 - Energy and underwater noise
 - Sea-floor integrity
- Partially place-specific because of their dependence on benthic habitats:
 - Biodiversity (benthic species and habitats)
 - Commercial fish and shellfish (spawning and nursery grounds)
- Five descriptors adversely affected by drivers not subject to MSP
 - Eutrophication, Contaminants, Contaminants in seafood, Marine litter, and Energy (and underwater noise)
- MSP, in its regulation of the drivers and pressures, could make a significant contribution to achieving GES.

Cumulative effects and changes over time

- Cumulative effects of human activities is a special challenge
 - Science is not quite there yet as research on human pressures has not solved the issue
- A related matter: There is a need to consider tradeoffs between environmental costs or benefits
- *Environmental impacts need to be assessed*
- Emerging threats
- All positive and negative interactions with the marine environment may not emerge during the time horizon of a plan.
- *The maritime plans need to be adaptive*
 - *Implication on regulations that establish the maritime plans; adaptive measures must be supported by the regulations*
 - *Monitoring and assessment to have an integral role in implementation*

Implementation challenges

- Some activities are more suitable to be addressed by spatial planning
 - Already existing activities and policies – now and in the future
 - Mobile activities are easier to address – but not without economic costs
- Difficulty in using MSP to regulate environmental pressures that span multiple spatial and temporal scales
- The maritime plan is 'just' a plan
 - More likely a problem in relation to MSP's economic growth aspirations than in relation to environmental goals

Conclusions

- MSP and MSFD represent different perspectives on the marine environment. MSP focuses on human use while MSFD focuses on environmental quality
- MSP can make a significant contribution to achieving GES.
- Planning at the regional sea scale will require a durable culture of continuing cross-border collaboration.
 - Beyond the Espoo Convention
- Adaptive planning to allow reacting to new knowledge and emerging threats to GES

Human pressure index

- Spatially explicit analysis of human pressures
 - à la HELCOM HOLAS and HARMONY projects
- Sensitivity of habitats to human activities
- Pressures according to MSFD categories
- Impact on key habitats and species

- Allows identification of high pressure areas
 - Linked to habitat data, if available
- Key challenge – how to link with the State
 - Modelling of nutrient runoff from rivers

Sources:

Gilbert, Alexander, Sarda, Brazinskaite, Fischer, Gee, Los, Jessop, Kershaw, O'Mahony, March, Pihlajamäki, Rees, Varjopuro (in press). "Marine Spatial Planning and Good Environmental Status: a perspective on spatial and temporal dimensions" Ecology & Society

Korpinen, Varjopuro, Nurmi, Jääskeläinen, et al. (forthcoming). "Human pressure index method. Application for spatial planning."

Thank you!



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