

# Where river basin management meets the European Marine Strategy

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## Introduction:

The European Marine Strategy (EMS) is an important driving policy framework for future coastal zone management. Together with other national and international (WFD, Nature 2000) recognized policy requirements and objectives the protection of marine resources should be guaranteed.

As stated by Salomons (2005) [1] by “the catchment-coast continuum” the connectivity of river catchments and the sea can be represented by sediment quality and quantity. Modifications on either part on the river catchment scale can have its influence on the coastal area.

In earlier SedNet conferences (e.g. Venice 2006) this issue has been identified as an important issue for management plans on river catchment scale. However, the influence of rivers in coastal areas, and visa versa, is still ignored in many cases (i.e. the recently published Blue Book of the European Policy makes no mention of the relevance of riverine inputs.)

We would therefore like to encourage this discussion by presenting our vision on this issue from the marine and coastal zone perspective. In this way we want to link each others drivers, pressures, and impacts in order to strengthen management (responses) plans for both river catchments and coastal zones. Meeting the requirements as set by the different European policies should be leading aspects.

## Methods:

The concept we want to present is an adaptation of the DPSIR approach, a so called quadrant approach in order to communicate the importance of Natural (dynamics and susceptibility), human (socio economic activities), policy (at different scales) and science (effect assessment) related aspects. This approach is the basis for ecosystem impact assessment of pressures and is used as a tool to identify suitable measures (from the viewpoint of sustainability).

As stated above, in order to link river basins and coastal zones we need to focus on sediment related issues, from which the following have been defined as most relevant:

- Temporal and spatial scale; upstream modifications on flow regime can have long term impact on coastal zone habitat quality (grain size and thus biodiversity implications) and dredging implications in e.g. harbors
- Ecosystem approach; species and habitat quality requirements for survival; e.g. “sand” hunger of the Waddensea and fish migration from sea to river and visa versa for important life stages (reproduction). But as well the unique biodiversity in estuaries should be taken into account.
- Climate change; the autonomous change of the world’s new climate boundaries and its dynamics force management plans to be adaptable or flexible (worst case).

## Results and discussion:

A view on the links between river basin management and the EMS is an attempt to provide consistent ecosystem management. At least it will provide a communication framework to bridge river catchments with coastal zones in order to meet European objectives in ecosystem quality.

**References:** [1] Salomons W (2005) Sediments in the coastal zone continuum *J Soils Sediments* 5:2-8