

Sustainable management of sediment resources: Sediment management at the river basin scale

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Introduction: One of the main outcomes of the first phase of SedNet (2002-2004) was a series of four books, published by Elsevier, entitled *Sustainable Management of Sediment Resources* [1-4]. The fourth book in that series was on the theme *Sediment Management at the River Basin Scale* [4]. This presentation describes this major findings and recommendations of this book.

Results and Discussion: Chapters in this book describe several key requirements for decision-making for the management of sediment at the river basin scale. These include:

- Identifying the many functions that sediment has within river basins, and understanding the behavioural characteristics of sediment that enable it to perform these functions;
- Developing conceptual frameworks for sediment management that address both site-specific and basin-scale needs;
- Understanding and assessing the relevant legislative and non-legislative drivers that influence why and how sediment is, or should be, managed;
- Understanding the movement of sediment and associated contaminants in terms of the sources and pathways of sediments and contaminants throughout the basin;
- Using tools to assemble the information required to understand the sediment-contaminant system, and to assist in balancing the costs and benefits of management options;
- Identifying stakeholders and involving them in the decision-making process.

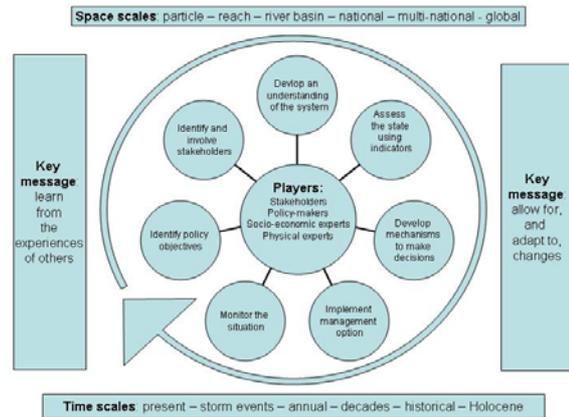


Fig. 1: An adaptive framework for sediment management (from Owens et al. (2008) in [4]).

This presentation also puts forward an adaptive framework for river basin management (Fig. 1), and presents case study examples of recent sediment management initiatives.

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References: [1] Barceló & Petrovic (Eds) (2007) *Sediment Quality and Impact Assessment of Pollutants*, Elsevier; [2] Bortone & Plaumbo (Eds) (2007) *Sediment and Dredged Material Treatment*, Elsevier; [3] Heise (Ed.) (2007) *Sediment Risk Management and Communication*, Elsevier; [4] Owens (Ed.) (2008) *Sediment Management at the River Basin Scale*, Elsevier.