



**Sed
Net**



Integrated Sedimentmanagement from a European Perspective

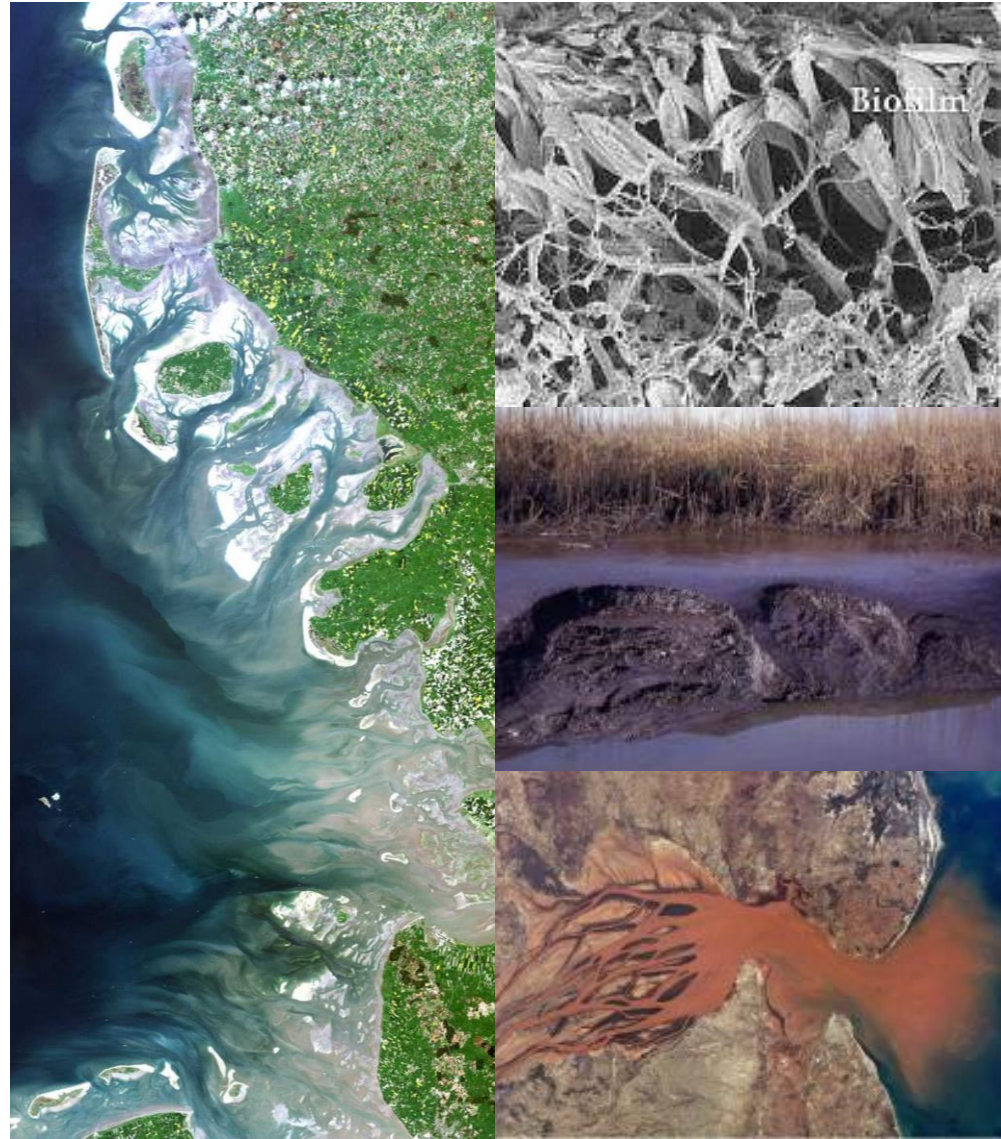
IKSE Workshop Ústí-nad-Labem

www.sednet.org

7th of December 2017

Sediment

- ❖ Like water, sediment is a cross-cutting issue, with links to - and possible consequences for - many different sectors, regulatory interests and management requirements.
- ❖ Sediment moves from the mountains to the sea and from fresh water to marine environments thus passing cultural, political, and geographical borders.



Specific challenges (1)

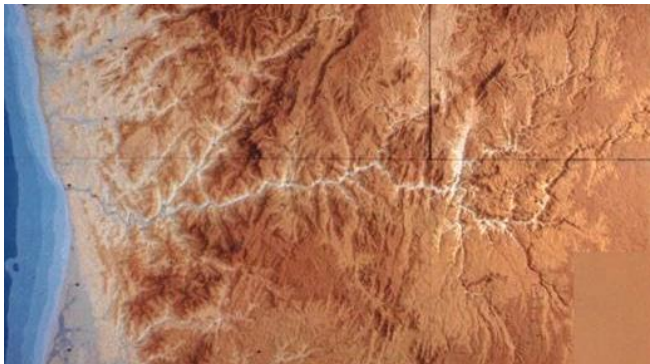
- ❖ Good water status can only be reached with a balanced sediment regime and good sediment quality. But hydromorphological modifications mainly due to navigation, hydropower or flood defence, and contamination by point and diffuse sources, are frequently cited in River Basin Management Plans across Europe as the two most important reasons for water bodies not achieving good status or potential as demanded by the EU Water Framework Directive.



- ❖ Dredging is necessary to maintain and develop ports and harbours, navigable waterways, reservoirs for drinking water or energy production, etc. Dredging and dredged material disposal along with other types of infrastructure development may affect the environment, but measures can be taken to mitigate the impacts of these activities and to enhance status.

Specific challenges (2)

- ❖ A disrupted sediment regime can cause river morphology degradation, in turn exacerbating flood risk. Moreover, flood plain aggradation in combination with riverbed degradation can contribute to the drying out of floodplain areas and hence to a reduction in their flood retention capacity. Ensuring an appropriate sediment supply can therefore also support the objectives of the EU Floods Directive.



- ❖ The relevance of sediments for achieving fundamental management goals in river basins is obvious. However, the perceived complexity often hinders the full integration of sediment issues into river basin management.

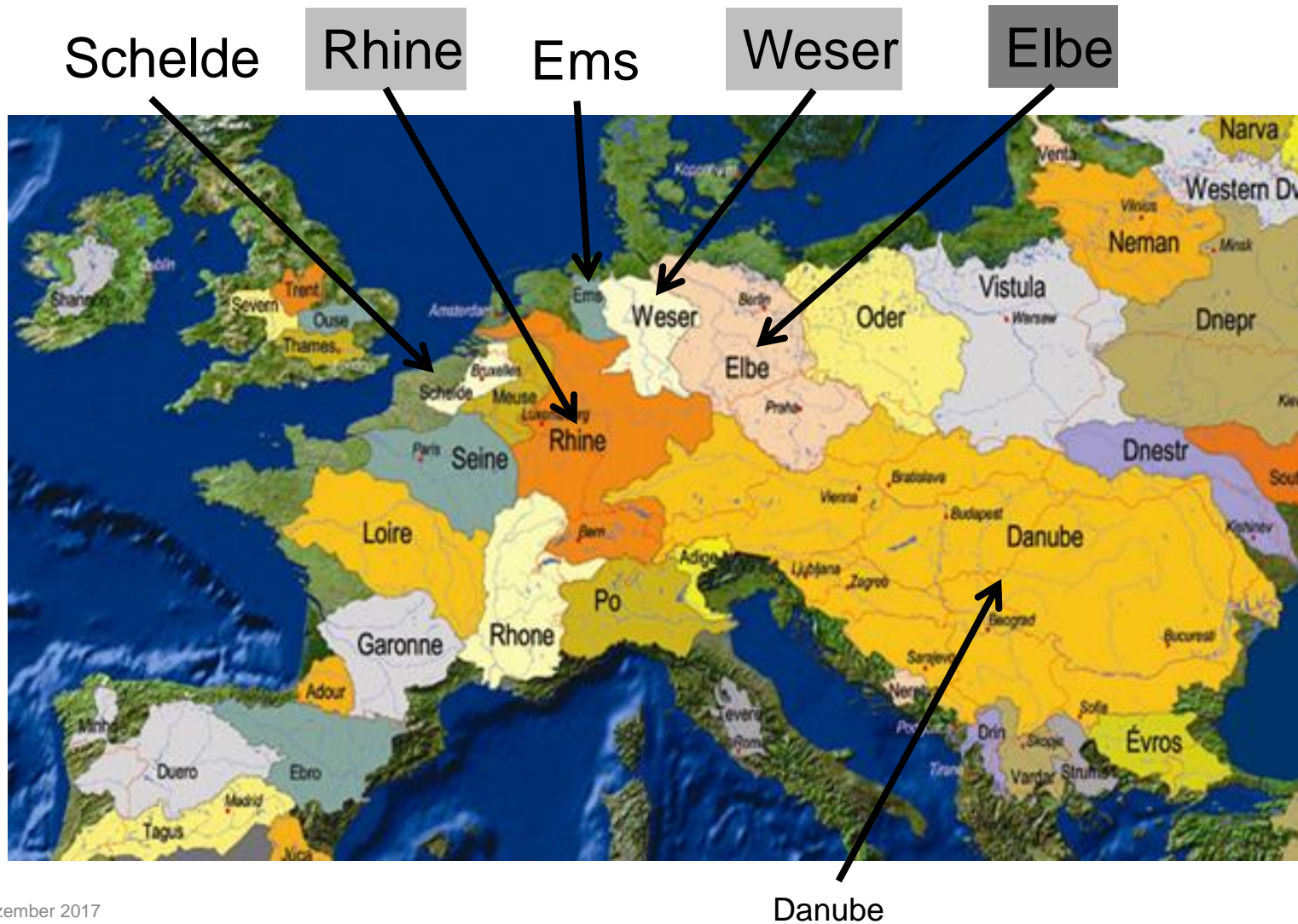
→ **Sediment management concept to address challenges**

Sediment Management Concept meets the following criteria:

- ‡ At river basin scale
- ‡ Holistic approach
- ‡ Early engagement of stakeholders.



Sediment management concept to address challenges





- ‡ Circulated by SedNet
- ‡ Purpose: to establish extent to which sediment and its management is included in second-round WFD River Basin Management Plans
- ‡ Responses received from five river basins:
 - Elbe
 - Danube
 - Ebro
 - Rhine
 - Meuse
- ‡ Presentation summarises responses received and reflects on wider context of WFD implementation



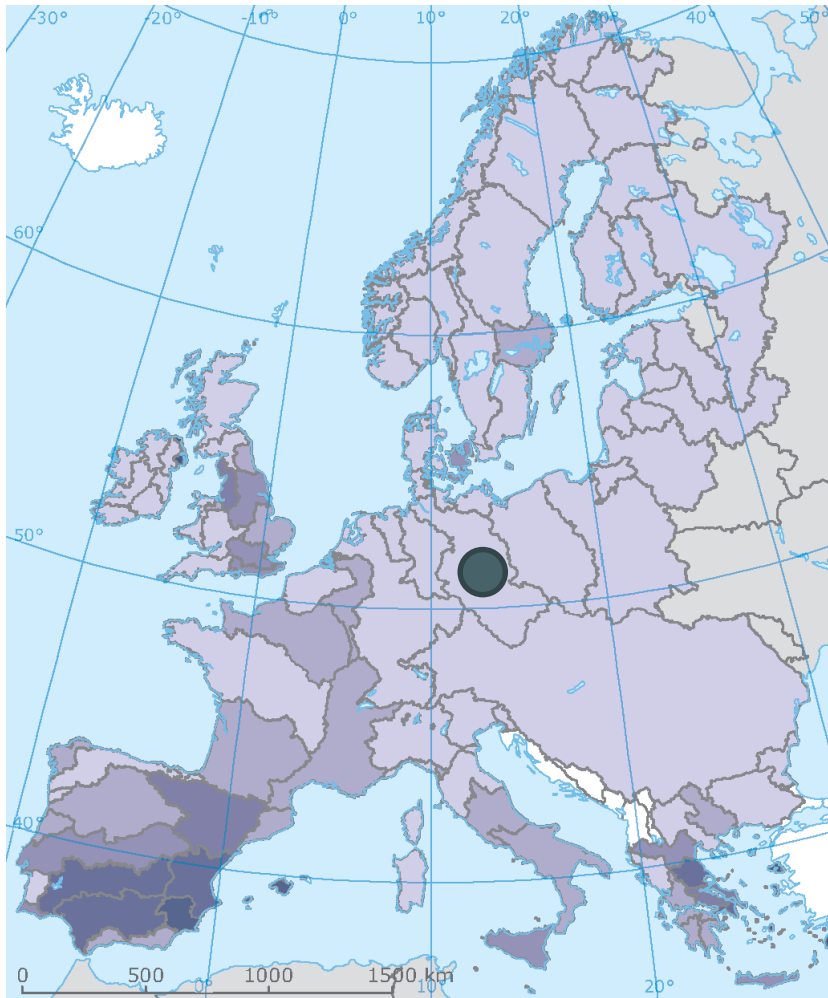
Question 1

A - What are the **identified significant water management issues** that challenge the current and potential future uses and benefits of the water environment in your river basin?

B - Are there issues of sediment management and/or particulate matter pollution already considered?



Significant water management issues - Elbe



1. Improvement of hydromorphological structure and conditions of surface water bodies including connectivity
2. Reduction of significant pollutions from nutrients and contaminants
3. Development of a sustainable water quantity management
4. Reduction of the impacts of regional mining
5. Consideration of the effects of climate change



Significant water management issues in river basins: overview

Significant water management issues	Elbe	Danube	Meuse	Rhine	Ebro
Hydromorphology	X	X	X	X	
Contaminants, nutrients	X	X	X	X	X
Water quantity	X		X	X	
Impact of mining	X				X
Climate change	X		X		
Flood protection				X	
Governance				X	
Harmonisation of water uses					X



Is there a holistic plan for the Elbe?



- ICPER holistic sediment management concept 2014
- Makes recommendations for a good sediment management practice in the Elbe
- Concept is briefly described in river basin management plan
- Some practical measures from concept already implemented, but not yet realised
- River basin management plan focuses on two priority pressures, flow and morphology; 15,500 specific measures are identified to improve status
- 2,050 measures deal with pollution from diffuse sources: many of these also relate to sediment management.
- Measures to reduce pollution from point sources also listed

Sediment management concept to address challenges

- ❖ In the Elbe, for the first time a comprehensive sediment management concept has been developed in support of management planning in a large international river basin. A main conclusion of the Budapest Round Table was that the Elbe provides an inspiring example on how to integrate sediment in river basin management.



Internationale Kommission zum Schutz der Elbe
Mezinárodní komise pro ochranu Labe




SEDIMENTMANAGEMENTKONZEPT DER IKSE
Vorschläge für eine gute Sedimentmanagementpraxis im Elbegebiet
zur Erreichung überregionaler Handlungsziele



3rd Round Table Discussion

Bringing Together Experiences in Sediment Management Concepts - Elbe meets Danube



SedNet Policy Brief

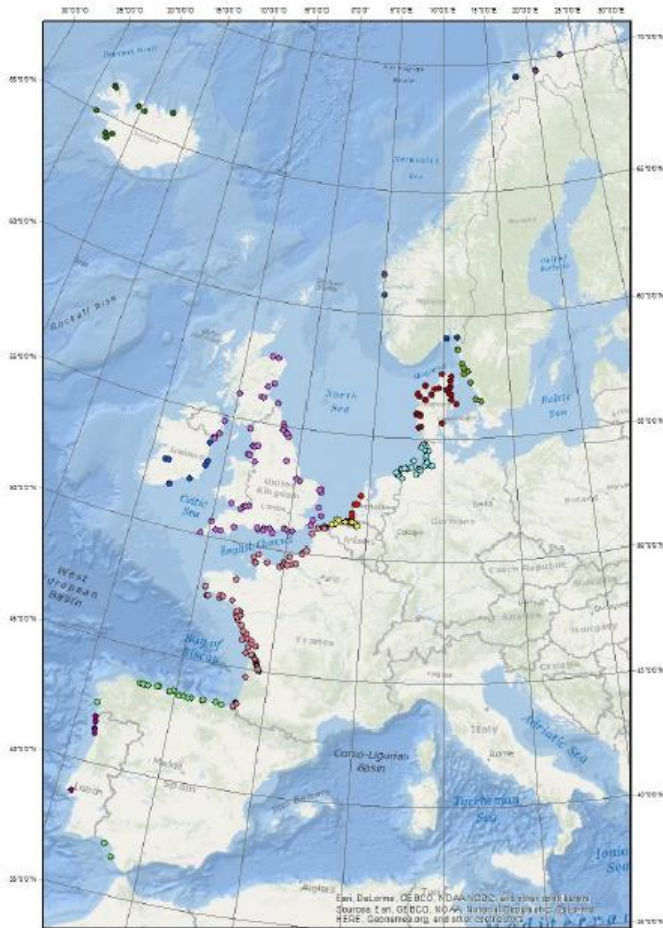
- ❖ One result from the 3rd Round Table Discussion, November 2016, Budapest

<http://sednet.org/sednet-policy-brief-on-sediment-management/>



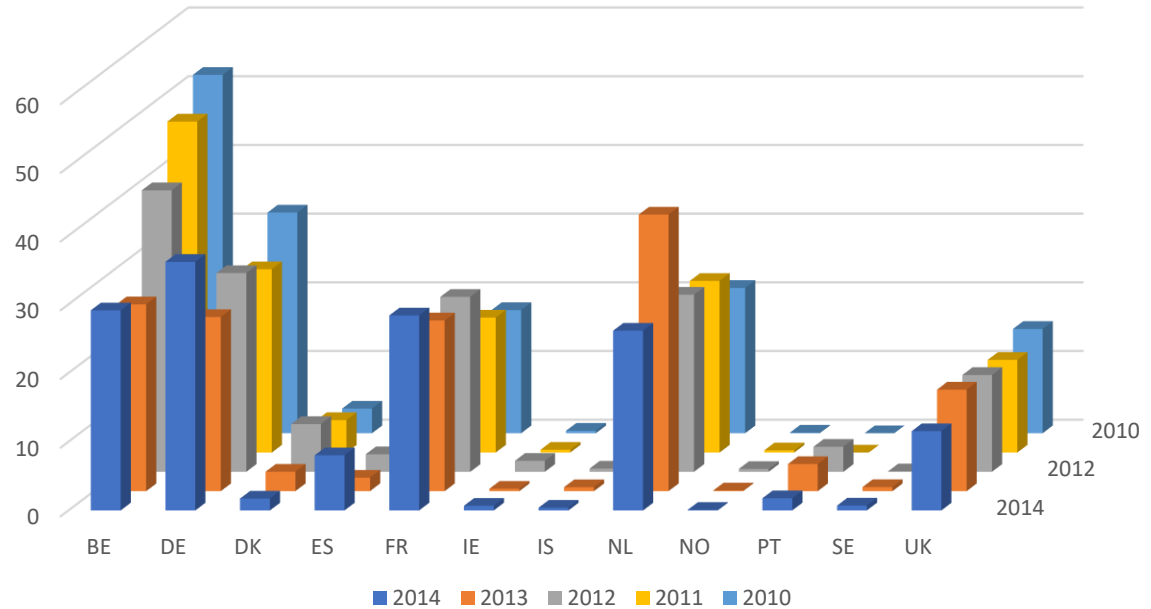
European water policy objectives will only be achieved by also integrating sediment in River Basin Management Planning. Underpinned by the work of SedNet, the Elbe provides now for the first time an example on how to integrate sediment. SedNet is delighted with this milestone and is happy to share its experience with other European river basins.

Another Perspective




OSPAR Report on dumping at Sea, 2014

Amount of dredged material deposited at sea from 2010 to 2014 in million tones- dry weight



Data as reported to OSPAR by Member States

Another Perspective



OSPAR COMMISSION
Protecting and conserving the North-East Atlantic and its resources

OSPAR annual report on dumping and placement of wastes or other matter at sea in 2014

Environmental Impacts of Human Activities Series

2016

Table 4. Amount and chemical characteristics of dredged material deposited exceeding action levels.

Contracting Party	Deposit site	Pollutant exceeding action level	Average concentration (mg/kg)	National upper action level (mg/kg)	Amount deposited dredged material (tonnes - dry weight)	Remarks
DE	D/55	α HCH	0,0019	0,0015	1 082	
DE	D/57	HCB	0,0076	0,0055	145 000	
DE	D/57	ppDDD	0,0120	0,0060	145 000	
DE	D/57	ppDDE	0,0038	0,0030	145 000	
DE	D/57	HCB	0,0120	0,0055	85 000	
DE	D/57	ppDDT	0,0068	0,0030	85 000	
DE	D/57	ppDDD	0,0190	0,0060	85 000	
DE	D/57	ppDDE	0,0058	0,0030	85 000	
DE	D/57	HCB	0,0057	0,0055	205 000	
DE	D/57	ppDDD	0,0100	0,0060	205 000	
DE	D/88	ppDDD	0,0099	0,0060	4 224	
DE	D/88	ppDDE	0,0049	0,0030	4 224	
DE	D/101	ppDDD	0,0062	0,0060	519 662	
DE	D/103	ppDDD	0,0100	0,0060	135 480	
DE	D/103	ppDDE	0,0037	0,0030	135 480	
DE	D/105	ppDDD	0,0100	0,0060	112 072	
DE	D/105	ppDDE	0,0037	0,0030	112 072	
DE	D/109	ppDDD	0,0096	0,0060	1 374 195	
DE	D/109	ppDDE	0,0034	0,0030	1 374 195	
DE	D/121	ppDDD	0,0064	0,0060	739 517	
DE	D/127	γ HCH	0,0059	0,0015	4 734	
FR	F/05904	Cd	2,68	2,40	89 000	Ecotoxicological testing has been conducted to allow the dumping
IE	IRL/61	Cu	248,40	110,00	56 273	Material was capped
IE	IRL/61	Zn	700,35	410,00	56 273	

What SedNet can offer

SedNet offers to support the integration of sediment in river basin management by sharing its experience in:

- ❖ Understanding sediment processes and behaviour at strategic and local levels;
- ❖ Developing and implementing good sediment management practice concepts;
- ❖ Developing and facilitating the practical implementation of good practice sediment management measures;
- ❖ Identifying and evaluating measures designed to ensure that new physical modifications and other new sustainable developments do not adversely affect the natural sediment regime.

An aerial photograph showing a coastal landscape. A prominent dike runs along the edge of a large body of water, separating it from a series of agricultural fields. The fields are divided into various colored sections, likely representing different crops or stages of land use. The water is a deep blue, and the sky is clear and light blue. In the background, more land and water are visible, suggesting a large coastal area.

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Thank you!