



 enabling delta life



**Deltares**

# Comparing the governance of Schelde, Elbe, Ems, Humber Overview

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North Sea Region  
**IMMERSE**  
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# Comparing four estuaries

- Situation: what is comparable and what isn't?

Environmental aspects, user functions (accessibility ports, safety, N2000)

More ? E.g. reports TIDE project (<https://www.tide-toolbox.eu/>)

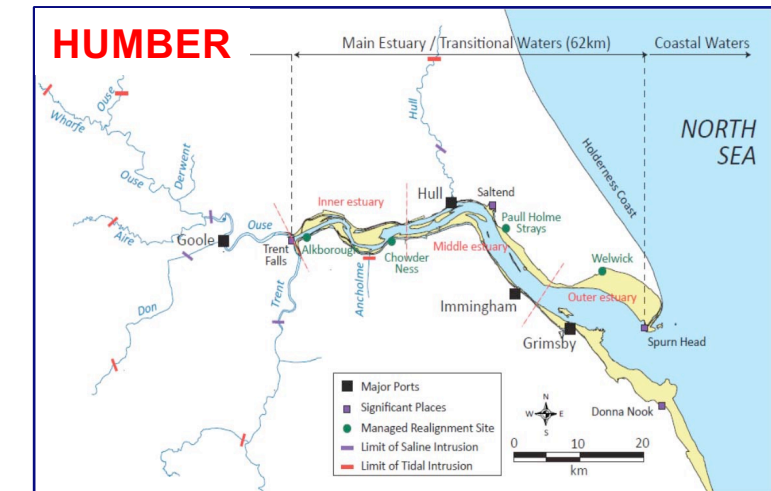
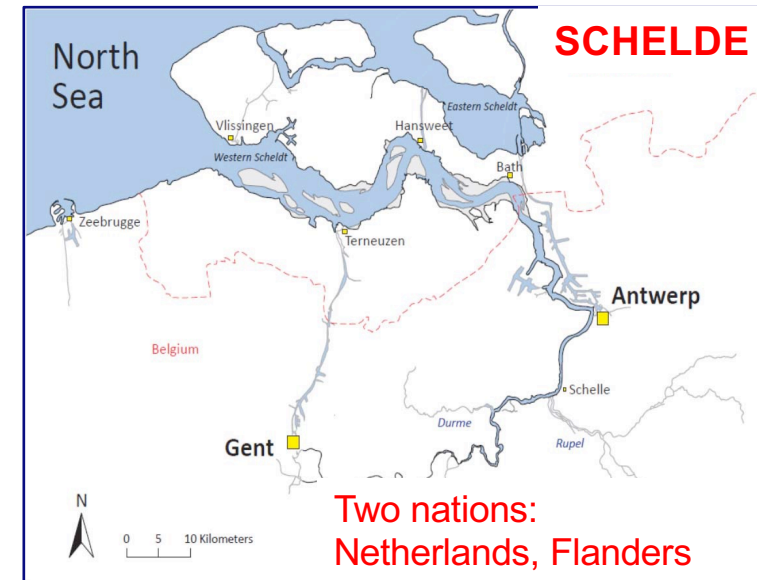
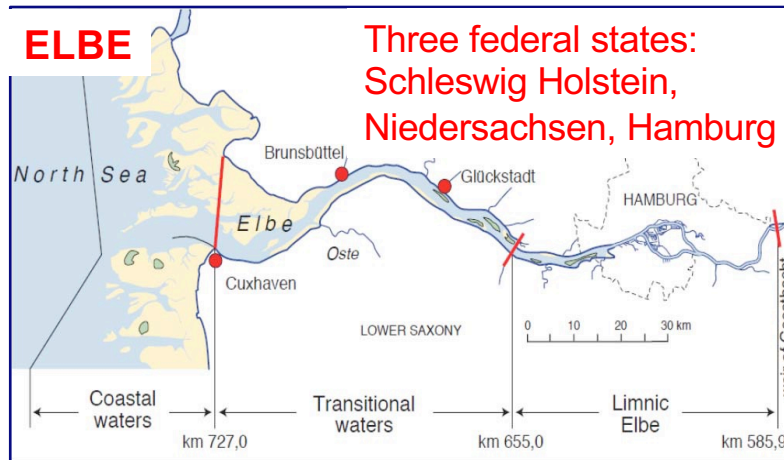


- Governance
  - Schelde, Elbe, Humber: compared in recent report, made under IMMERSE (Wing consultancy)
  - Ems: additional information (experts)



# Geometry, user functions, issues sediment management

- Embanked, N2000
- Inland ports
  - \* Hamburg
  - \* Antwerp
  - \* Emden / Papenburg
  - \* a.o Hull, Goole
- Weirs
  - \* Geesthacht (140)
  - \* Gent (160)
  - \* Herbrum (95)
  - \* Trent & Ouse
- Sediment management
  - \* Keep sediment in the system (SLR?!)
  - \* Locations / sediment quality
  - \* Hyperturbidity
  - \* ....



# Comparing major (sediment) issues

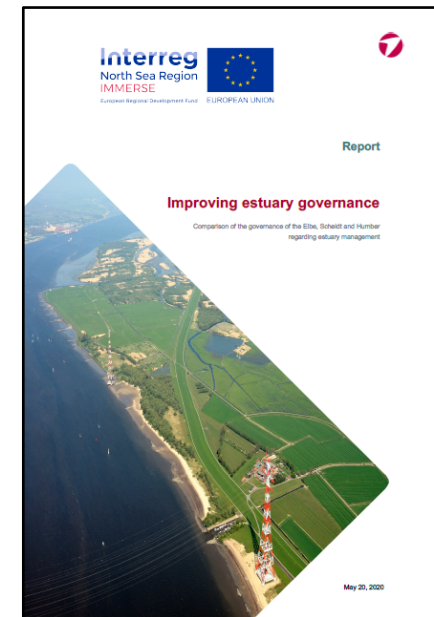


- Schelde & Elbe:
  - Important port that is situated relatively far inland,
  - Strong sedimentation processes, and
  - Several deepening of the fairway, leading to tensions between stakeholders Coordination challenges at highest level (two nations / three federal states)
- Humber
  - Other types of tensions between ecology and economy. It has a self-maintaining shipping channel !
  - Major issue: flood risk management and depolderisation or realignment
- Ems:
  - Like Schelde an estuary in two nations. Border is along the estuary, not across (and disputed)
  - Agreements on common management (like Schelde), less on policy, no treaty in place
  - Instead of an important port, an important wharf inland. Requires *relatively* the largest deepening
  - Development of a hyperturbid system (large problem) seems related with the deepening.



# Comparative study within IMMERSE: objectives

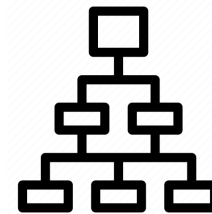
- **Description of governmental decision-making**, including historical developments that resulted in the **current governance system**
- **Analysis of best practices and barriers regarding stakeholder participation and collaborative approaches** including reflection on transferability of good practices.
- **Recommendations** for improvements for the management and decision-making structures of the estuaries **with emphasis on the Elbe**



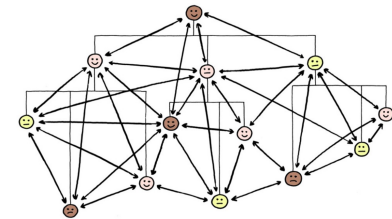
# Variables used for comparison governance & results in short (1)

1. Hierarchy versus self-organization  
= Top-Down or possibilities for initiatives bottom-up?

comparison: Schelde and Elbe strongly top-down

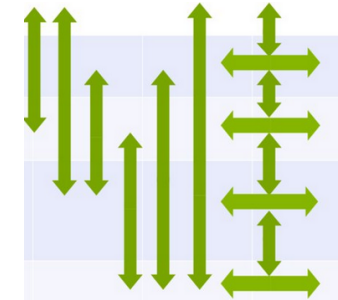


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2. Extent of fragmentation and coordination  
= How much coordination?

comparison: Scheldt most developed, low at Humber (with also lower levels of conflict, making a more centralised platform –felt?– less necessary)



3. Extent of stakeholder involvement  
= What is formally organised?

comparison: Scheldt has platform with broadest objective, Elbe platform since 2013, Humber is well organized on projects, has Humber Nature Partnership



# Variables used for comparison governance & results in short (2)

## 4. Rule compliance

= How much of decision-making is steered by formal procedures?

comparison: In Elbe most formal setting (need for collaboration recognized but constrained partly due to the governmental system of powerful federal states and a legalistic governance culture)

## 5. Conflict resolution

= structures for dealing with conflict

comparison: Humber is strongest on bottom-up, Elbe is most formal, Scheldt best using joint knowledge base

## 6. Encourage change and adaptation

= common long term goals as basis, which can be implemented for decisions on measures; possibility to integrate policy issues

comparison: Scheldt has a long term vision and treaty. In other estuaries more focus on concrete, present (short-term), problems



# Take home: Lessons about estuary governance

1. **Know the situation** and only then try to adapt the governance
  - Mutual dependencies between actors. These determine the feasibility of a collaborative approach;
  - The same holds for cultural differences (e.g. how important are formal procedures felt?)
2. **Things take time** and money, be aware of that
  - It includes deal-making, finding compromises and trust building
3. Can the **relationship made stronger** between decision-making and stakeholder participation?
  - This attributes to a longer standing involvement of stakeholders;
4. **Integrated (long term) visions** help to integrate policy issues
  - however applicability of this kind of intervention is culturally dependent;
5. A joint developed and maintained **knowledge base** is a very powerful instrument
  - for conflict resolution
  - and as basis for stronger collaboration
  - more conflicts can be resolved in an earlier stage (less legal struggles) and extra time and money is relative (comparing the collaborative approach to high legal cost caused by -seemingly endless- court appeals)



# Recommendations for Elbe

Recommendations strongly promoted **joint fact finding**

- Start consultation to develop a joint research agenda
- Strengthen the position of the existing stakeholder platform (“Forum Tideelbe”)
- Execute the research agenda in the form of a joint knowledge program
- Assign “Forum Tideelbe” with a specific task concerning the knowledge program



# Have a look at the report (use link in invitation)

	Elbe	Scheldt	Humber
<b>hierarchy vs. self-organisation</b>	Hierarchical, with large role for governmental actors		Hierarchical, with room for bottom-up initiatives
<b>Fragmentation and coordination</b>	High levels of fragmentation		
	coordination is present but not fully developed	coordination is present and further developed	Coordination is at a low level
<b>Stakeholder involvement</b>	Overarching stakeholder platform is in place with limited scope	Overarching stakeholder platform is in place with a broader scope	Stakeholder participation is organised at the level of concrete projects
<b>enhancing rule compliance</b>	Formal procedures through permitting is the basis for rule compliance		
	In some cases treaty agreements are closed and some informal meetings exist	Joint development of knowledge enhances 'voluntary' compliance	Lower tensions between different activities and ecological goals
<b>structures for dealing with conflict</b>	A combination of court appeals, and political deals are the dominant mode		
	A broad stakeholder platform is organised with a limited scope	More collaborative mode developed over time based on joint development of knowledge	Bottom-up resolution at level of board of directors
<b>encouraging adaptation and change</b>	No broad long-term vision focus on concrete problems and measures	Broad long-term vision, medium term plan and concrete measures	No long-term vision focus on concrete problems and measures

# Feeding the discussion

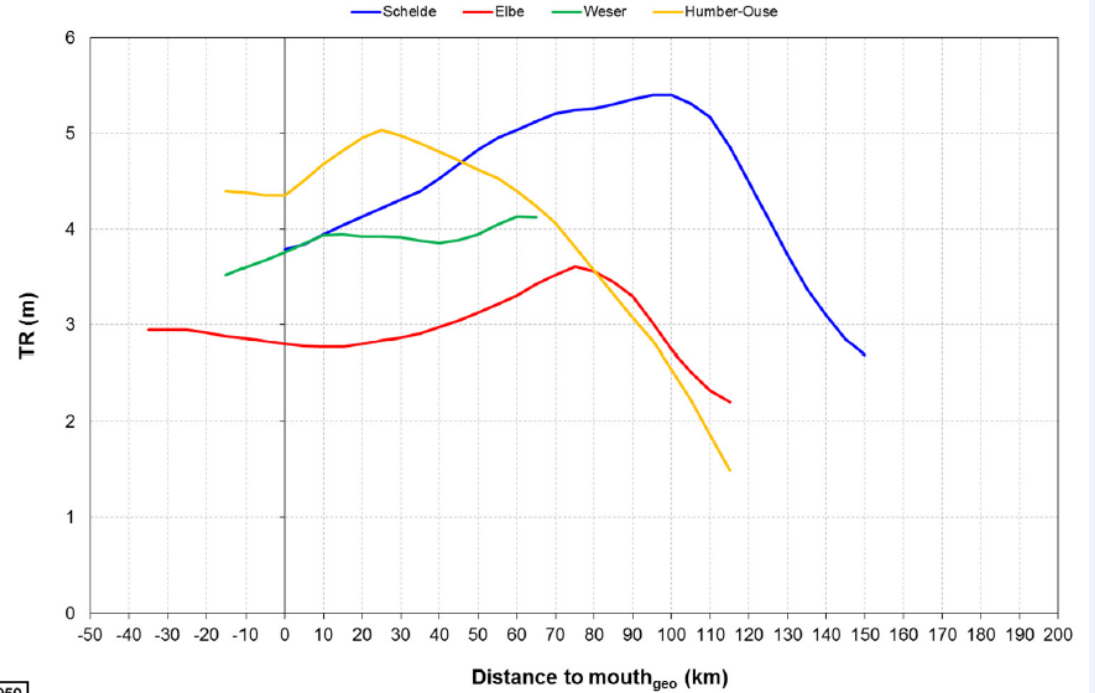
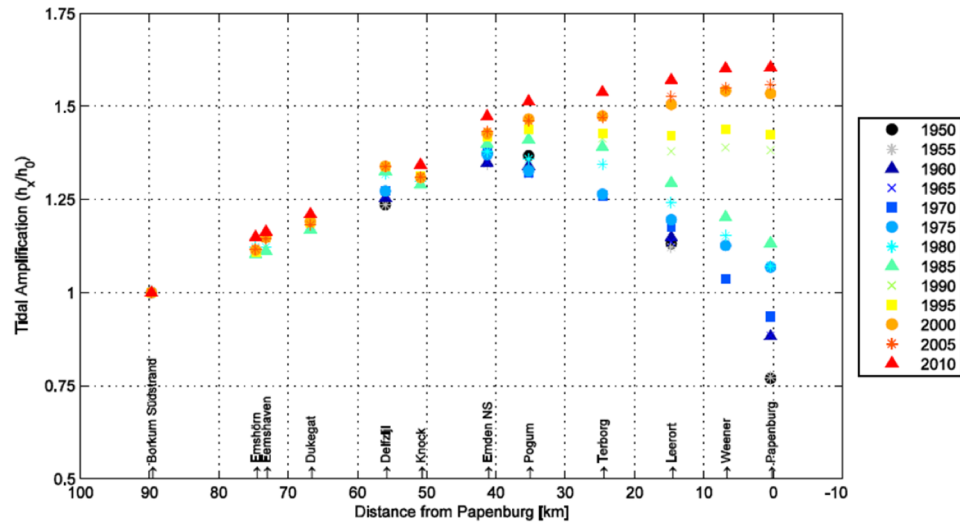


- Increasing problems for ports that are more inland.
  - Dredging vs resilient systems
  - Uncertainties in Sea level Rise:  
can they be used to increase collaboration or should we fear that this will become harder?
- Governance: Learning of **best practices** makes more sense than making recipes
- Invest in the **acceptance and dissemination** (and not only in creating knowledge)
- The importance and power of pilots, especially well possible in sediment management
- ..... The Scheldt shows that a treaty (= very strong juridical basis) really helps
  - No escape from the necessity to collaborate
  - No debate on the investments in knowledge and joint fact finding



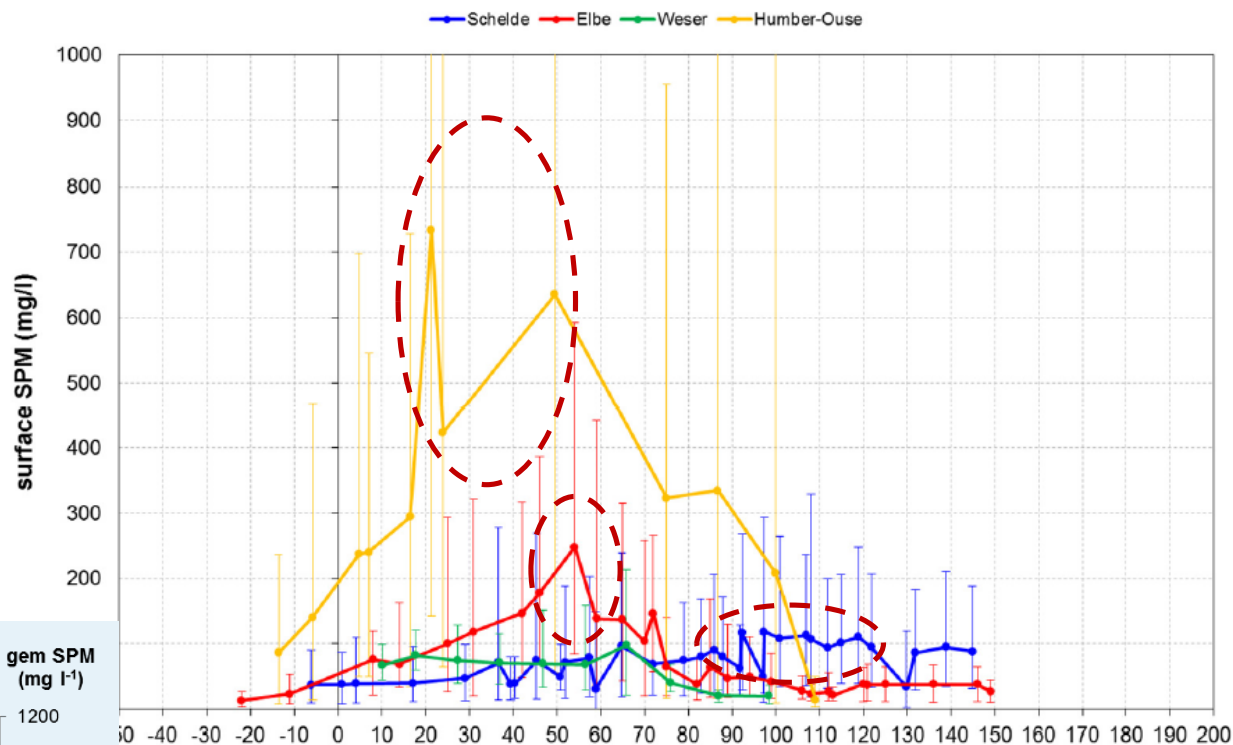
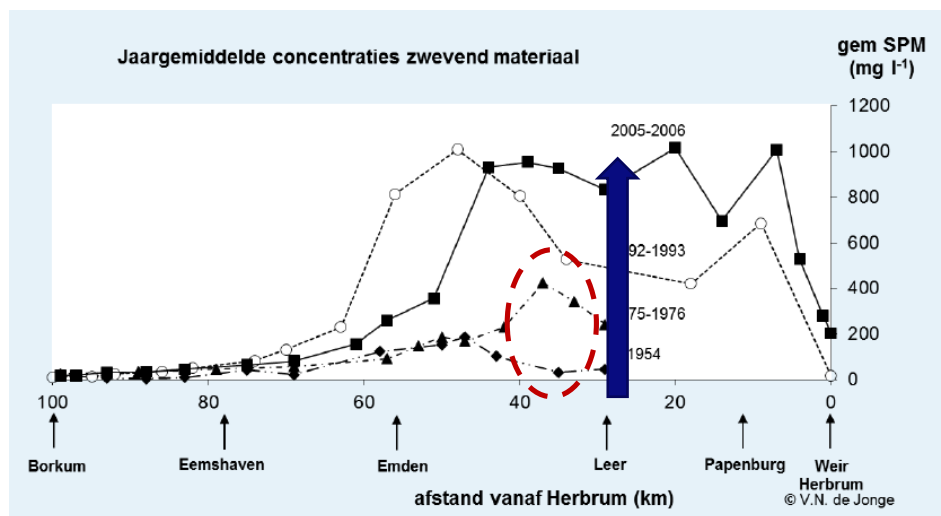
# Tidal range


- Elbe 2,9 – 3,6 – 2,2
- Schelde 3,8 – 5,5 – 2,5
- Eems 2,2 – 3,2 -> 3,6 (no decrease any more)
- Humber 4,3 – 5 – 1,3





# Turbidity



 = zone of maximum turbidity