

Dredging and the Environment — international guidance for best practice

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Introduction

Annual amount of dredged sediments in Europe: ~ 200 million m³

Country	Sea	Inland	Sum
Belgium / Flanders	5	9,2	14
Denmark	4,5		5
France	50	6	56
Germany	41	5	46
Ireland	0,8		1
Italy	4		4
Netherlands	19	9	28
Portugal	4		4
Spain	8,5		9
Sweden	1,38	0,1	1
UK	30	0,7	31
Sum			198

source: CEDA



Globally, many hundreds of millions m³ annually,

- most in coastal areas
- very most is not contaminated.



Environmental framework

Driver:

Significant decrease of aquatic ecosystems in size and function over the last 3 decades

UN Millennium Development Goal No.7:

Ensure environmental sustainability

Sustainable means:

...“meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

Corporate Social Responsibility (CSR) -

ISO 26000 Guidance on social responsibility

AA1000 Account Ability - Standard on Stakeholder Engagement



Environmental framework

Precautionary and Prevention Principle

UN Rio Declaration on Environment and Development (1992)

Principle 15:

“Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.

Sustainable Development Strategy, European Council (2006):

“Where there is scientific uncertainty, implement evaluation procedures and take appropriate preventive action in order to avoid damage to human health or to the environment.”



Environmental framework

Highly increased awareness about importance of the environment and its natural resources for the life on earth

Various environmental conventions and regulations came into force, that directly or indirectly applies for waterways and ports, e.g. in Europe

- **Birds Directive (European Union, 1979)**
- **Habitats Directive (European Union, 1992)**
- **NATURA 2000: network of over 26,000 protected areas covering all EU Member States and 20 % of its territory**

} backbone of the EU's internal policy on biodiversity protection

- **Environmental Impact Assessment (EIA) Directive (EU, 1997)**
- **Water Framework Directive - WFD (EU, 2000)**
- **Marine Strategy Framework Directive (EU 2008)**

Increased need for an integrated and sustainable management



International guidance for DM management

Established dredged material guidance worldwide:

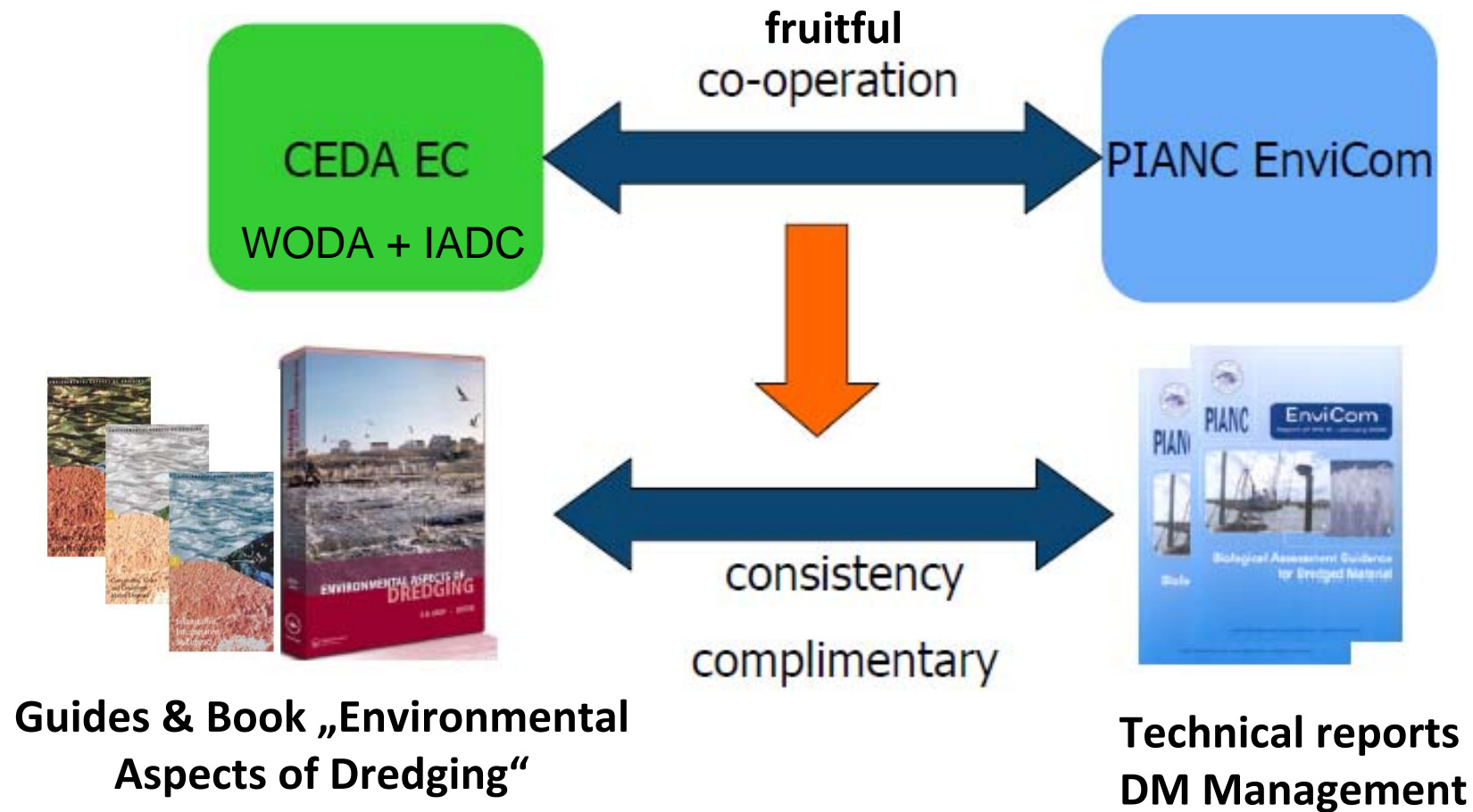
London Convention 1972:

- 1996 Protocol on the Prevention of Marine Pollution by Dredging of Wastes
- Specific guidelines for assessment of dredged material (2000): conduct of a **thorough environmental impact assessment** (EIA) to identify potential effects of a given dredging project prior to its execution and to reduce uncertainty about the scales of those impacts.



PIANC & Partner Organisations

Leading technical guidance on dredged material management



Guides & Book „Environmental Aspects of Dredging“

Technical reports DM Management

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Learning from and in countries world-wide:
e.g. PIANC EnviCom meeting in Yokosuka City, Japan, 2007



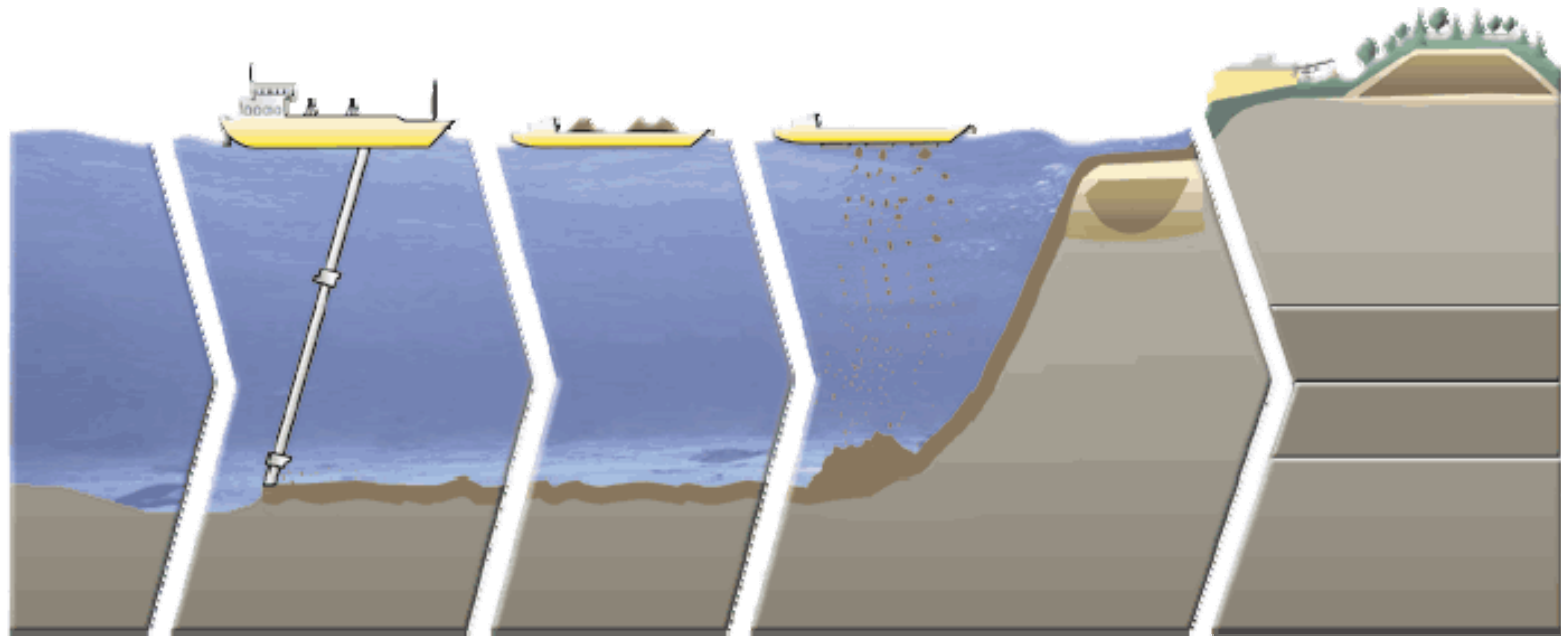
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Dredged Material Management Options

Management in the aquatic system

Upland



Dredging

Transport

Relocation,
Placement,
Beneficial use

**Beneficial Use,
Treatment,
Waste Disposal**

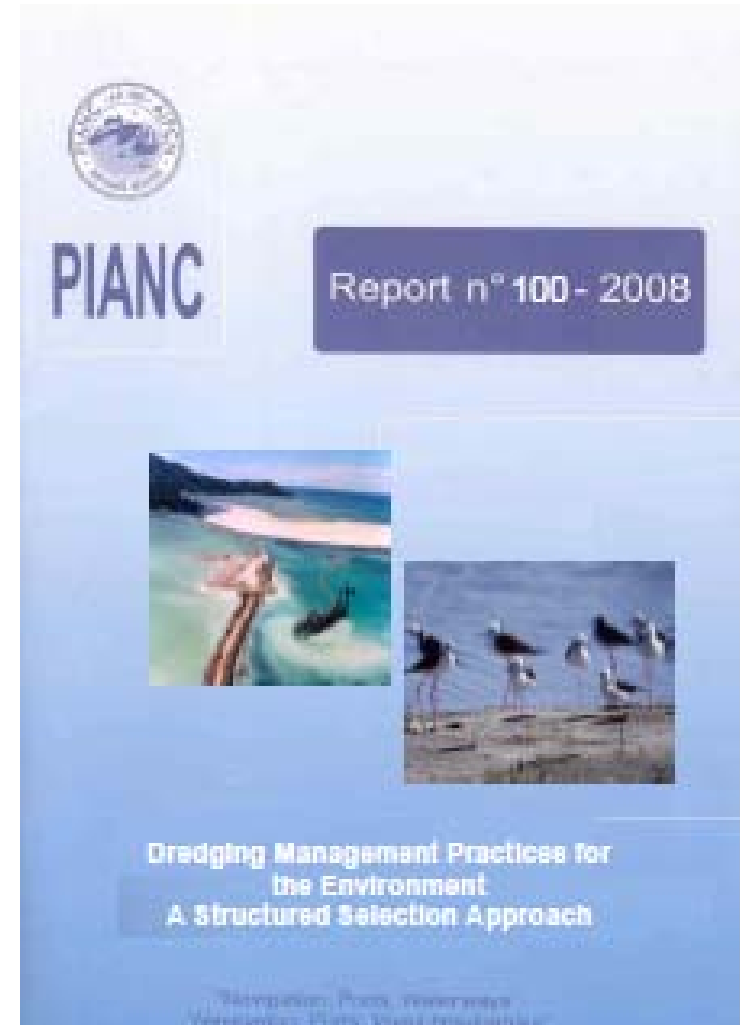
Technical Guidance for

- the whole management chain and
- specific aspects/parts of the handling chain



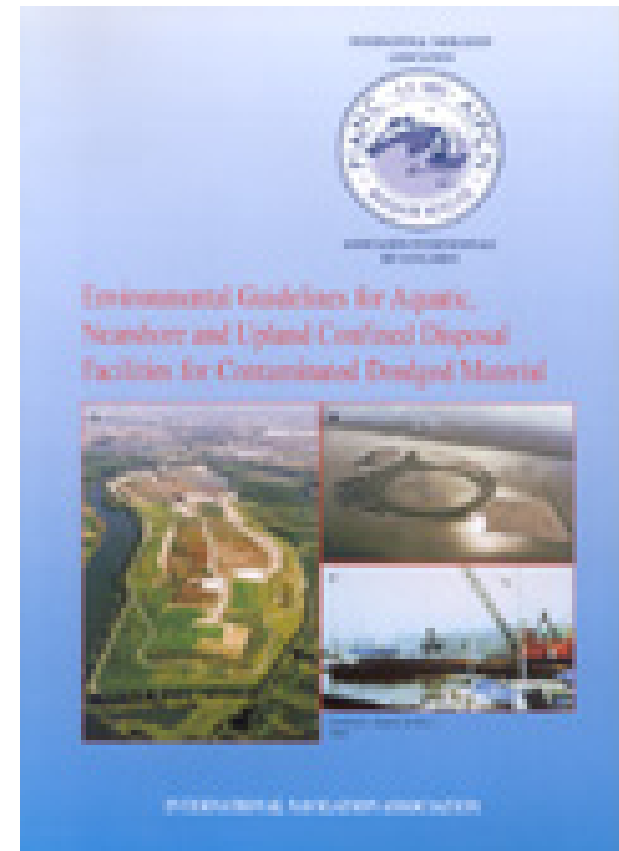
PIANC EnviCom Technical Guidance on Management

- Dredged Material Management Guide- special guide (1997)
- Management of Aquatic Disposal of Dredged Material (WG 1, 1998)
- Booklet “Dredging: The Environmental Facts” (2001)
- Dredging Management Practices for the Environment – a structured and selected approach (WG 13, 2008)



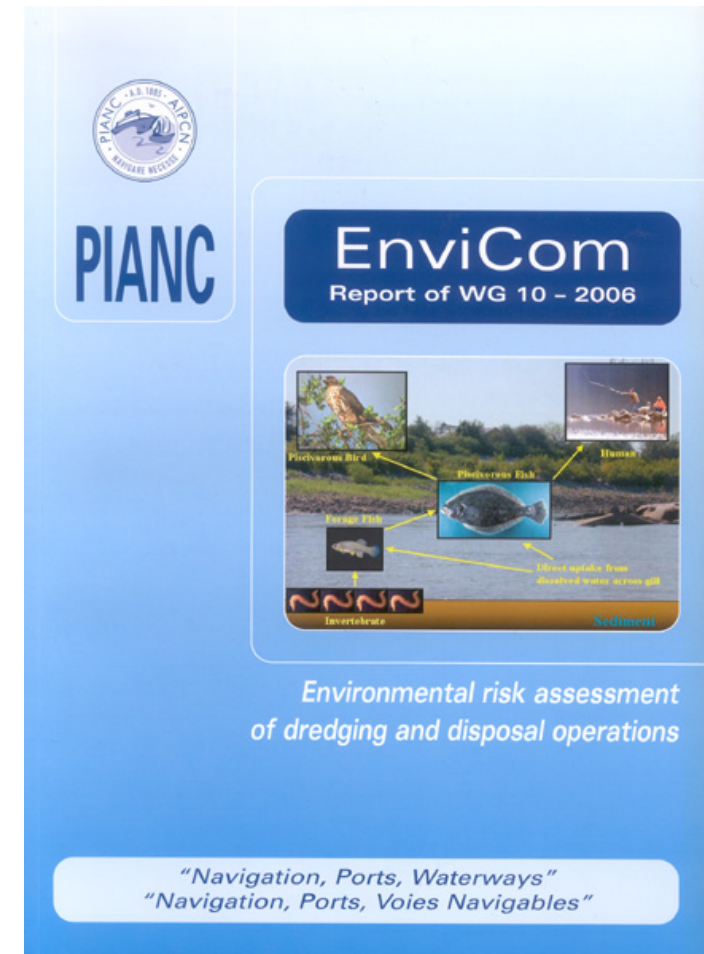
PIANC EnviCom Technical Guidance on Contaminated Dredged Material

- Handling and Treatment of Contaminated Dredged Material from Ports and Inland Waterways (1996)
- Environmental Guidelines for Marine, Near shore, and Inland confined Disposal Facilities for Contaminated Dredged Material (WG 5, 2002)



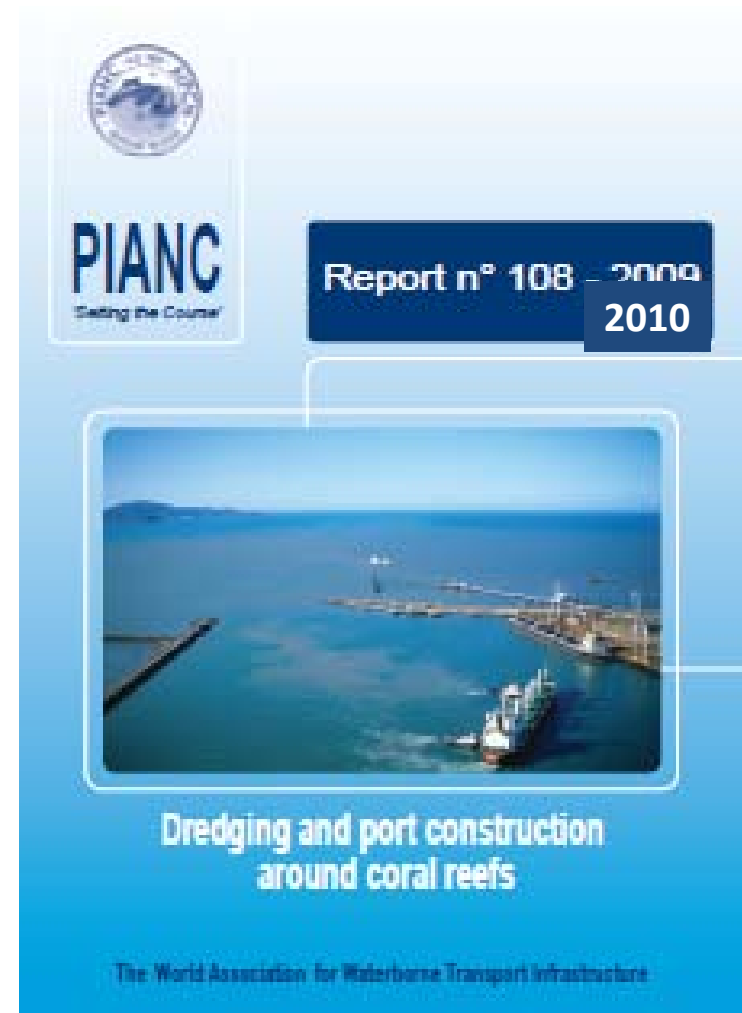
PIANC EnviCom Technical Guidance on Risk Assessment

- Generic Biological Assessment Guidance for Dredging and Disposal (WG 8, 2006).
- Environmental risk assessment in dredging and dredged material disposal (WG 10, 2006)



PIANC EnviCom Technical Guidance for Sensitive Areas

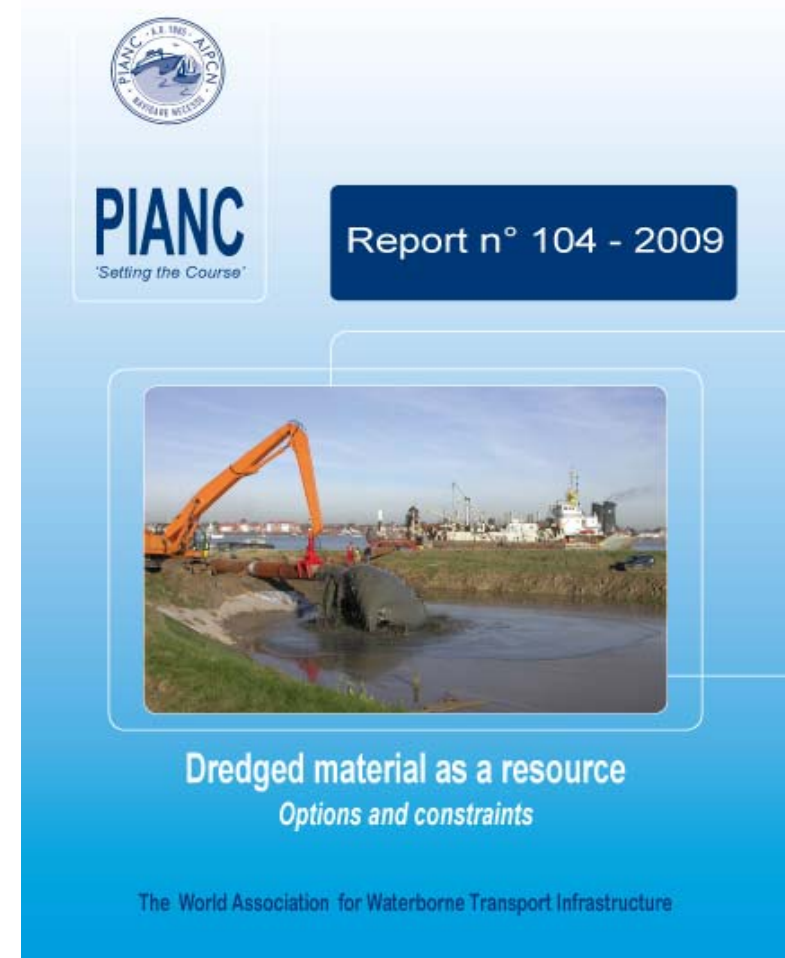
- Ecological and engineering guidelines for **wetlands restoration** in relation to the development, operation and maintenance of navigation infrastructures (WG 7, 2003)
- Environmental Aspects of Dredging and Port Construction Around **Coral Reefs**” (WG 15, 2010).



PIANC EnviCom Technical Guidance

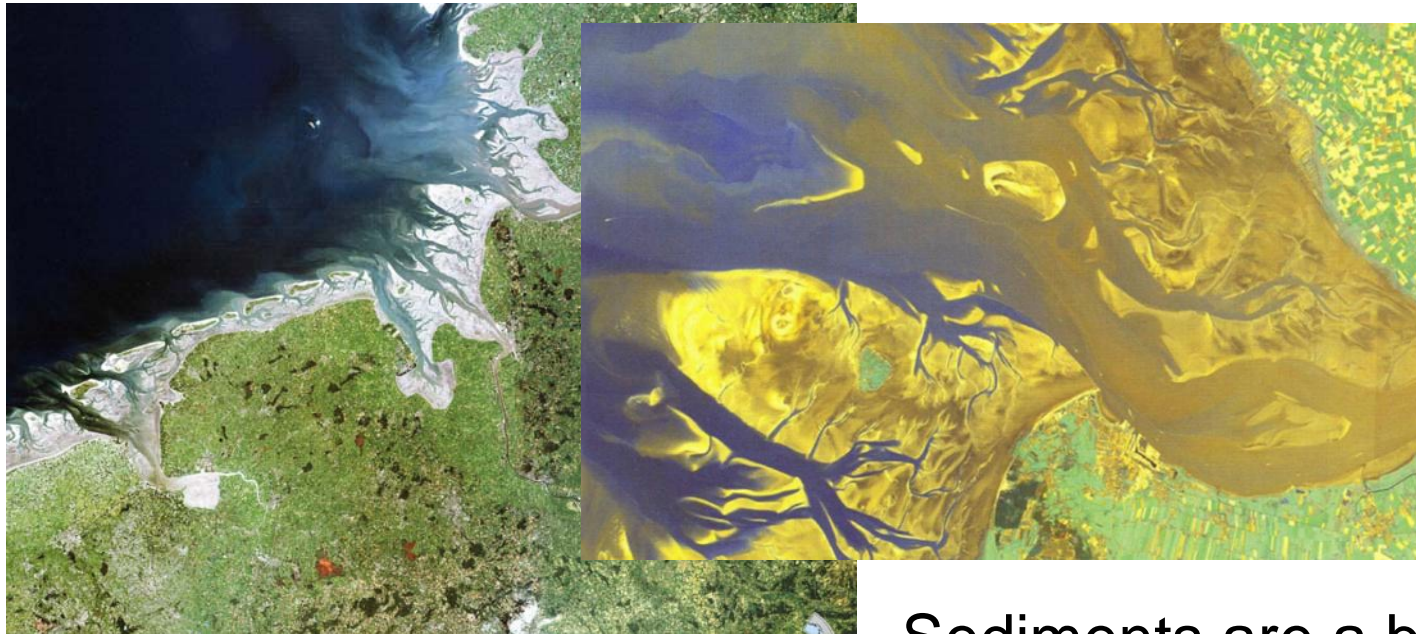
Beneficial Use

- Beneficial uses of dredged material - a practical guide (1992)
- Long term management of Confined disposal facilities (WG 11, 2009)
- Dredged Material as a Resource – Options and Constraints (WG 14, 2009)



Dredged Sediment is a Resource !

Sediment is an essential, integral and dynamic part of waters.



Sediments are a basic component of habitats that support aquatic life.

Dredged Material is not Waste per se !

- Dredged sediments can become waste, if they are contaminated and if there are evident risks that they damage the ecosystem.
- There are different methods and criteria for the aquatic (water law) and land environment (soil/waste law) to assess the environmental risk.
- In any case dredged sediments are not waste per se! This definition has to be changed in the Protocol of the London Convention because this creates a wrong (negative) impression over an overwhelming amount of dredged material.



Dredging is essential part in the **Working WITH Nature – Philosophy** (PIANC 2008)

Maximising opportunities

WWN is an integrated process which involves identifying and exploiting **win-win solutions** which are acceptable to both project designers and environmental stakeholders early in a project when flexibility is still possible.



reducing frustrations, delays and costs.

By adopting a determined and **proactive approach** from pre-design through to project completion, opportunities can be maximised and - importantly - frustrations, delays and associated extra costs can be reduced.

Working WITH Nature - WWN

What do we mean?

**A different process considering environmental impacts:
Fully integrated approach *before* initial design.**

Doing things in a different order:

1. establish project objectives
2. understand the environment
3. engage stakeholders to identify possible win-win opportunities
4. prepare initial project design to benefit navigation *and* nature

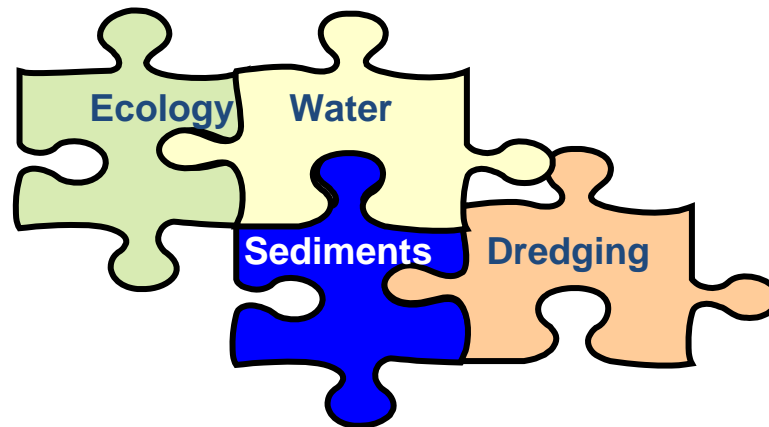


Working WITH Nature - WWN

A new way of thinking

Requires a subtle - but important - **evolution** in the way we approach project development

The technical guidance for Dredging is available!



PIANC is
“The global organisation providing guidance for **sustainable**
waterborne transport, ports and waterways”.



Visit the PIANC homepage:
www.pianc.org

Thank you for your attention !

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