Informing Sound Practice in Managing Sediments:

Focusing 125 years of international experience through PIANC's Environmental Commission

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  - Working with Nature
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Introduction

Annual amount of dredged sediments in Europe: ~ 200 million m^3

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 m^3 annually,

- Most in coastal areas
- Majority is not "significantly" 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 life on earth

Various environmental conventions and regulations came into force, that directly or indirectly, apply 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 integrated, 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 EnviCom

14 - 15 nations and 7 associated partners

15 – 20 participants per meeting

countries

Australia (corresp.)
Belgium
Canada (vacant)
France
Finland
Germany
India (vacant)
Italy (vacant)
Japan
Netherlands
Norway
Spain
Sweden (vacant)
UK
USA

Serbia, Vietnam, Egypt announced interest

partners

CCNR
CEDA
IAPH
IADC
INE
Ports Australia
UNEP

Chairman/Secretary:

Harald Köthe (G)/Edmond Russo (USA)

EnviCom Action Plan
Important Elements & Goals

1. Guidance and Recommendations on port and navigation related environmental issues
   - sediment and dredged material management
   - integrated approach, including environment, habitat and Environmental Awareness, Assessment and Management Techniques
   - promote sustainable navigation
   - climate change and navigation

2. Cooperation and networking
   - cooperate with sister organizations
   - communication with non-traditional navigation stakeholders
   - promote communications (external and internal)

PIANC & Partner Organisations

Leading technical guidance on dredged material management

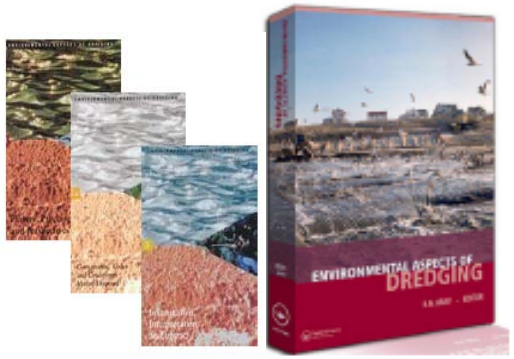
CEDA EC

WODA + IADC

fruitful

co-operation

PIANC EnviCom



Guides & Book „Environmental Aspects of Dredging“

consistency

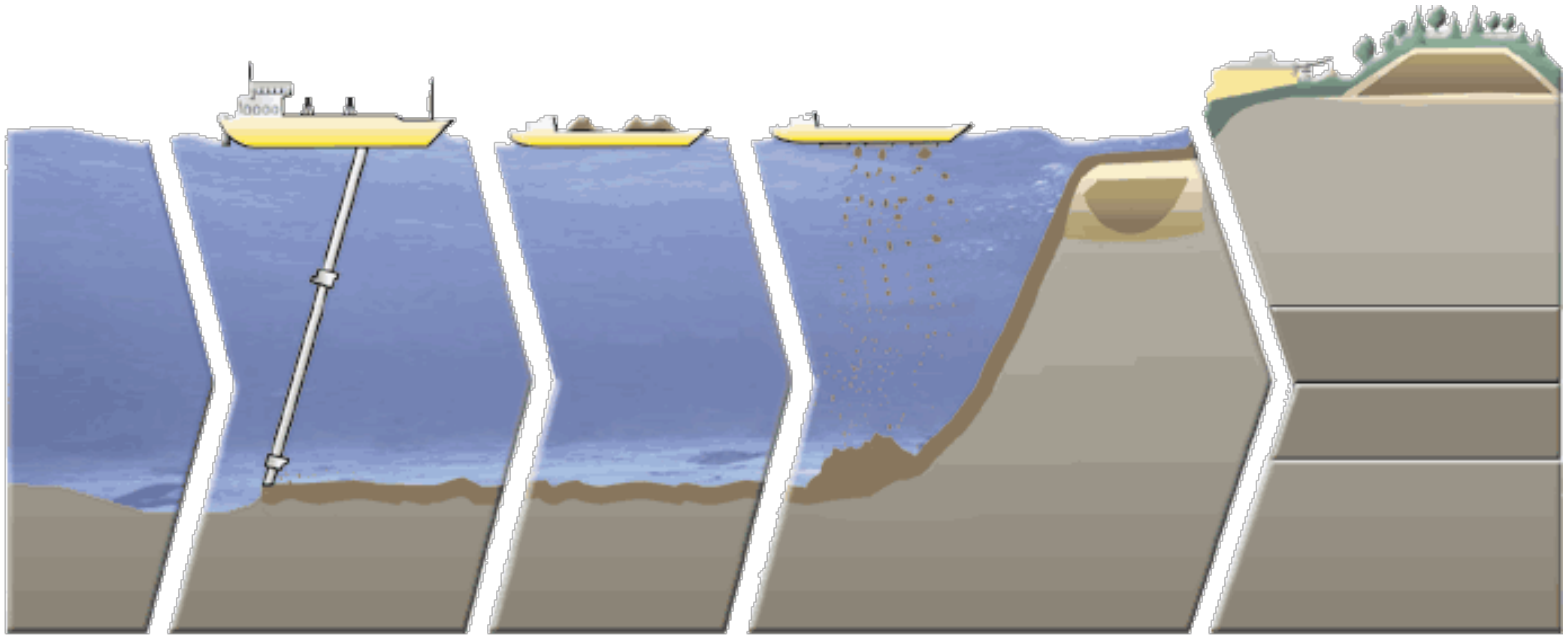
complimentary

Technical reports DM Management

Dredged Material Management Options

Management in the aquatic system

Upland



Dredging

Transport

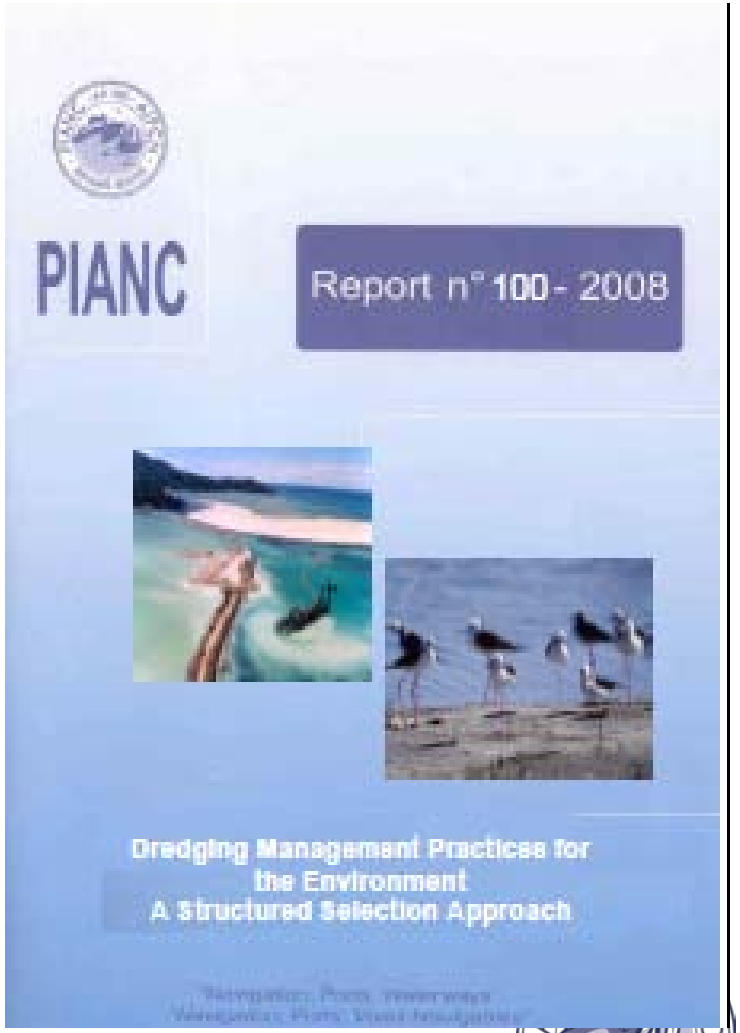
Relocation, Placement. Beneficial use

Beneficial Use, Treatment, Waste Disposal

Technical Guidance for
- the whole management chain and
- specific aspects/parts of the use and handling

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)

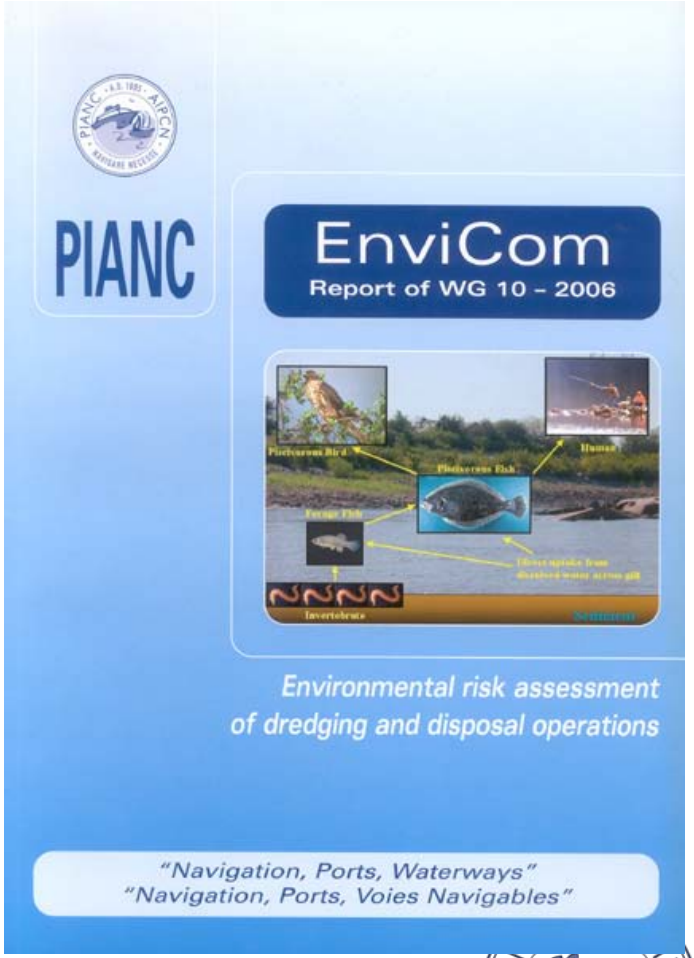


PIANC EnviCom Technical Guidance on **Contaminated Dredged Material**

- 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)

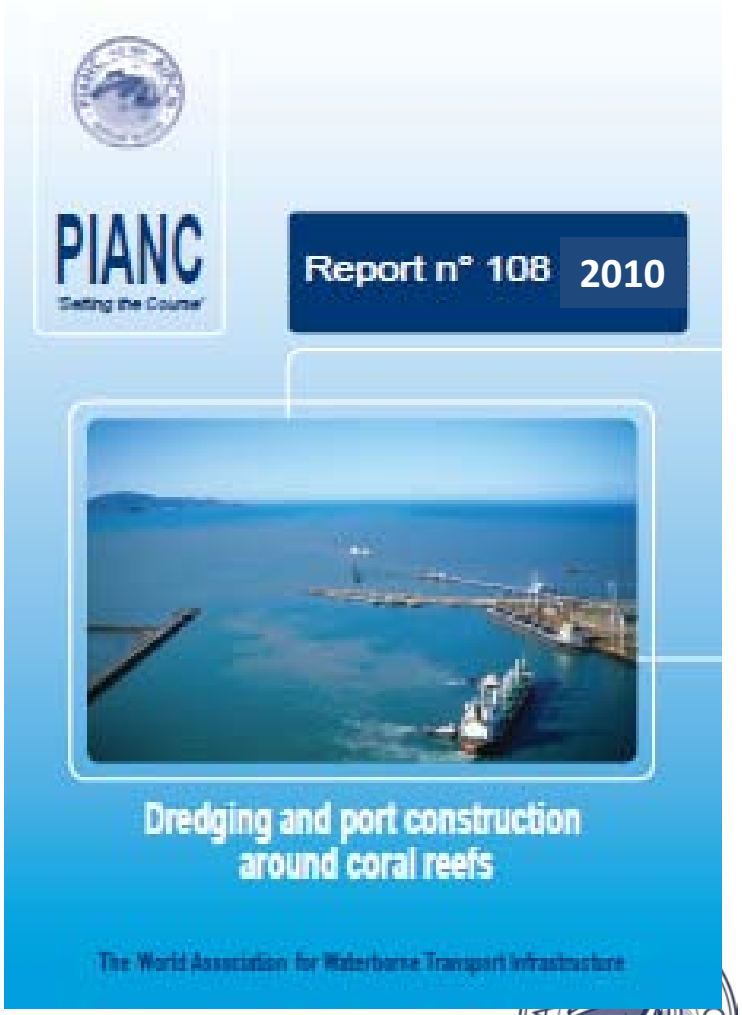
PIANC EnviCom Technical Guidance on **Risk Assessment**

- Generic Biological Assessment Guidance for Dredging and Disposal (WG 8, 2006).
- Environmental Risk Assessment in Dredging and Dredged Material Disposal (WG 10, 2006)



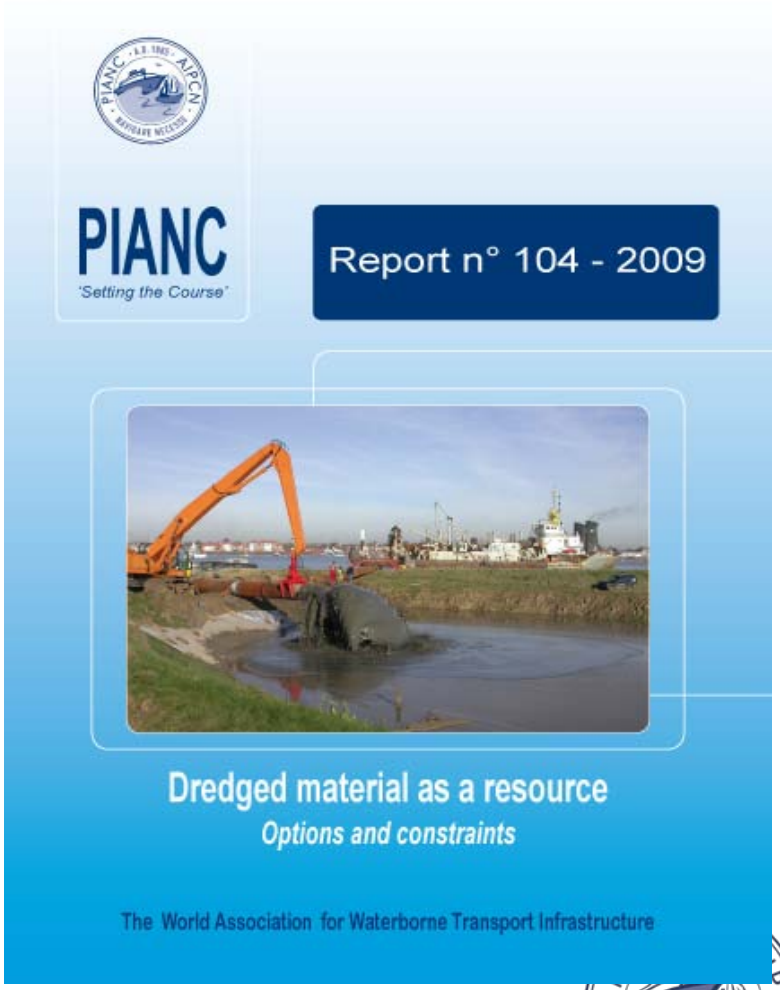
PIANC EnviCom Technical Guidance for **Sensitive Areas**

- 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).



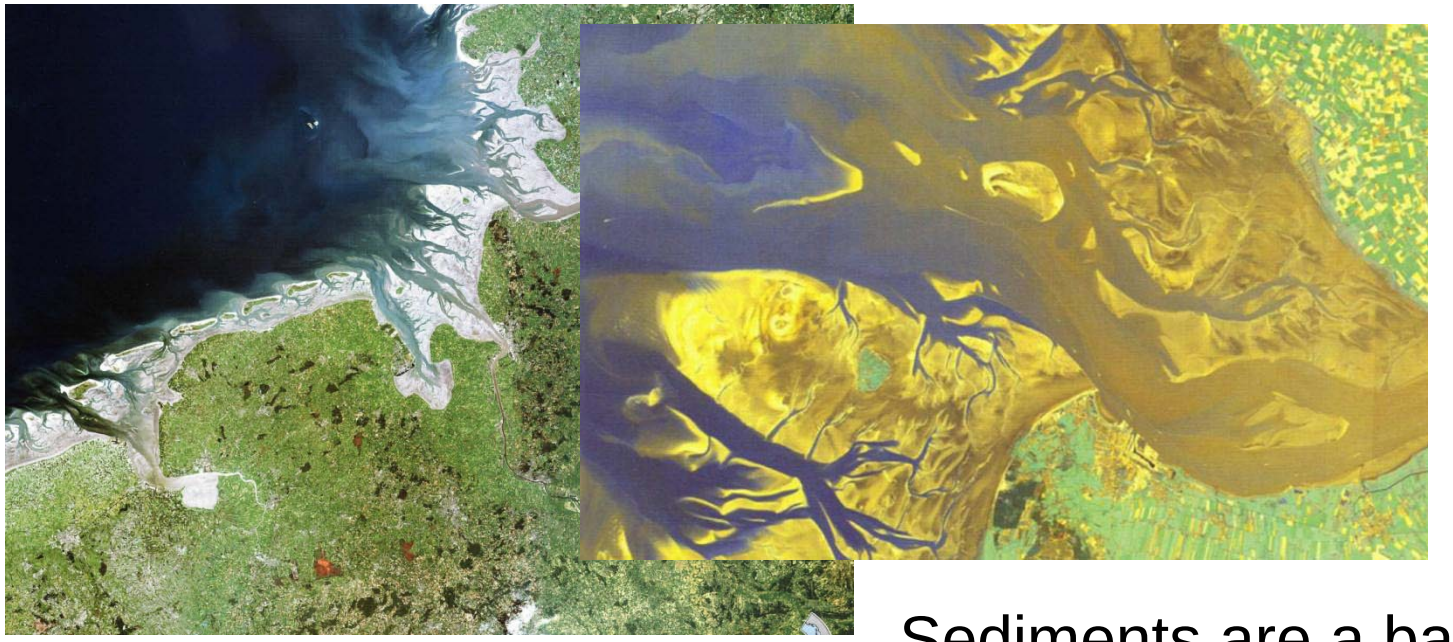
PIANC EnviCom Technical Guidance
Beneficial Use

- 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 !

- Sediments are a necesary component of aquatic ecosysmtems
- Dredged sediments can become waste, if they are contaminated so as to produce unacceptable environmental risks or harm
  - However, this doesn‘t eliminate beneficial use!
- There are different methods and criteria for the aquatic (water law) and land environment (soil/waste law) to assess the environmental risk
- Sustainable practice requires a necessary shift in the concept of „wastes and resources“

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:

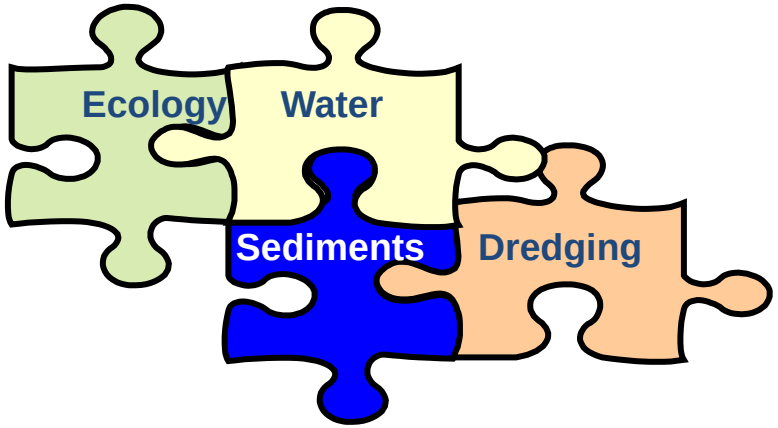
1. establish project objectives
2. understand the environment
3. engage stakeholders to identify possible win-win opportunities
4. prepare initial project design to benefit navigation *and* nature

Working WITH Nature - WWN

A new way of thinking

Requires an important **evolution** in the way we approach project development

The technical guidance for dredging is available!



PIANC

"The global organisation providing guidance for **sustainable** waterborne transport, ports and waterways"

Visit the PIANC homepage:

http://www.pianc.org