# Beneficial Use of Dredged Material: Development of a New PIANC Standard

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**PIANC Working Group 214: Beneficial Sediments Use**

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## The Working Group

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## Goals of the PIANC Report & WG

- Guidance on increasing the consideration of BU practices globally
- Develop strategies to overcome barriers to BU
- Advance sustainability goals by managing sediment as a resource

- BU is not new, just hasn't reached its full potential

Port of Brisbane's Fisherman Islands Development

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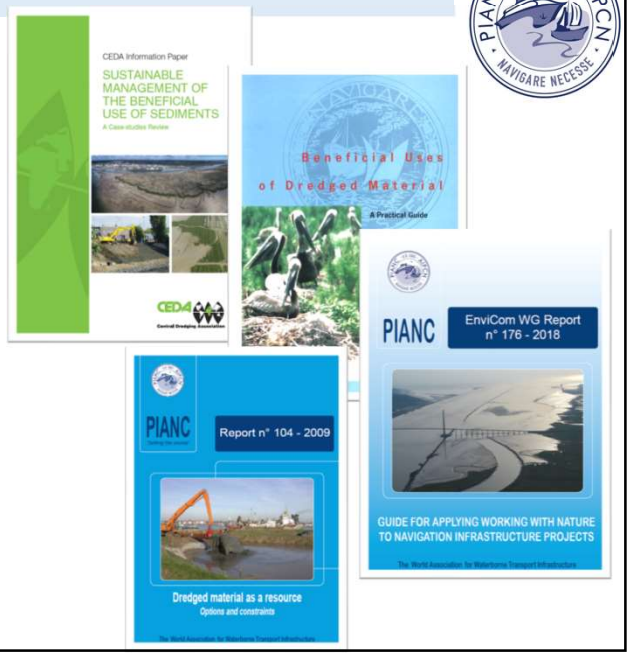
## Overall Appraoch of the WG

**Create a framework for users to promote sediment as a beneficial resource**

- Build on existing knowledge
  - –CEDA, USACE, PIANC
- Focus on governance than technologies
- Identify key barriers / catalysts
- Understand regional differences
  - –Country / continent / region
  - –Learn from different regions and case studies

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## A New Approach

- Engage stakeholders early and often
- Address environmental protection in parallel with project development
- Identify win-win solutions that respect nature and are acceptable to project proponents and stakeholders
- Facilitate adaptation of projects to climate change (reduce vulnerability and improve resilience)
- Shift the technical discussion and design to a later stage in the project lifecycle

Engineered development in Egypt

Natural beach in Portugal

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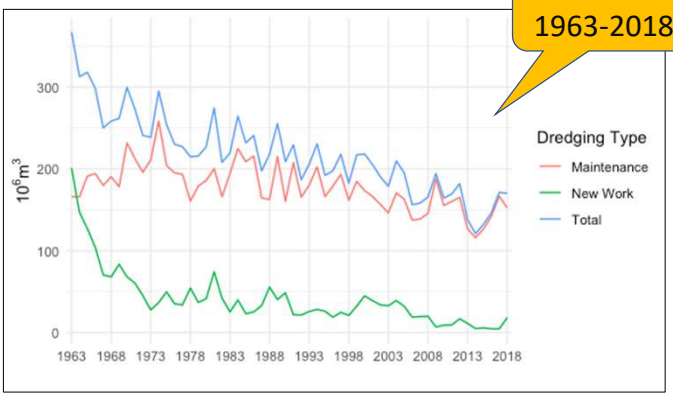
## Scale of the Problem

- Various human activities has resulting in supply of or demand for dredged sediment
  - Improving navigation;
  - 'management' of watercourses and riverine water flow;
  - creation of land
  - etc
- Past and Present Perceptions
  - Waste
  - Disposal challenges
  - Contamination

US data 1963-2018

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## Opportunities

- Re-establish natural process which have been disrupted by human intervention
- Deliver environmental, societal and economic benefit
- Working with Nature
- Circularity
- Contribute to UN SDGs

Prins Hendrik Zanddijk project in the Netherlands

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## UN Sustainable Development Goals


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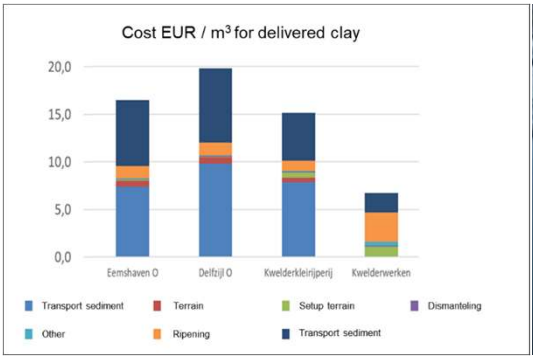
## Best Practice examples




Kleirrijperij – Clay Ripening project in Netherlands

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## Best Practice examples

Ports in Queensland utilize a framework to ensure best practice management of port sediment, recognizing that a "one size fits all" is not appropriate to manage port sediments.

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## Ecosystem Services

- Nature represents value to humans and that value is measurable.
- Address perception that this is a waste product
- Better decisions by providing insights into true cost and benefits of BU

Reducing Climate Impacts. Horseshoe Bend Project, Louisiana (US)

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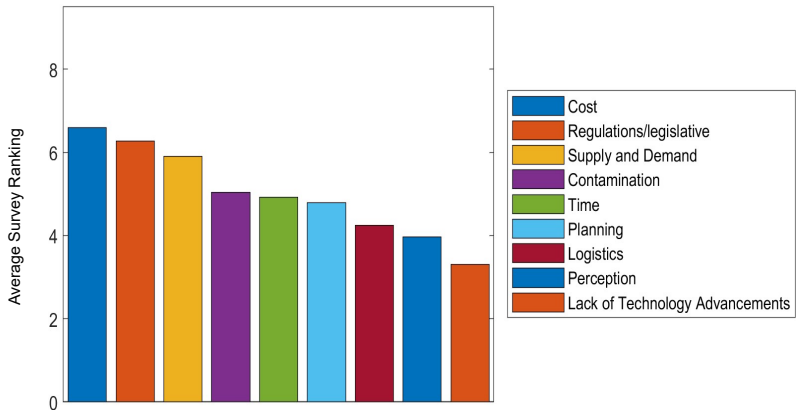
## Barriers to Catalysts

- Economic – Account for all the costs and benefits
- Social – Early stakeholder engagement to deal with perceptions
- Regulatory – policy makers and governments are important stakeholders
- Environmental – not all sediment is contaminated.




Potential barriers to sediment BU. Survey results from over 100 responders from all continents

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## The Way Forward

- There is no “One size fits all” BU solution
- BU is not BAU
- Consider sediment as a (limited) resource
- Comprehensive evaluation of BU and conventional options focussing on value creation & ecosystem services
- Multicriteria C/B analysis – cost and non cost criteria
- Improve perceptions, engagement and governance
- Leverage natural processes
- Work with authorities early


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## Thanks you! Questions?

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