



CEDA Secretariat
RADEX Building, Rotterdamseweg 183c
2629 HD Delft, The Netherlands
Phone: + 31 (0)15 268 2575
Fax: + 31 (0)15 268 2576
E-mail: ceda@dredging.org
Web: www.dredging.org

Terms of Reference for CEDA Working Group on Beneficial Use of Sediment (WGBU)

Introduction

Dredging is essential for the maintenance and development of ports, harbours and waterways for navigation, remediation and flood management. This generates large volumes of sediment. Historically the most common sediment management approach employed in many countries has been disposal at sea. However, over the last few decades there has been an increasing recognition that sediment is a resource that can be used to provide benefit in environmental and engineering programmes. This has been promoted through publications by PIANC (2009), CEDA (2010) and IADC (2009) which have highlighted the many possibilities for increasing the use of sediment whilst also identifying the constraints that restrict such use.

More recently there have been considerable advances in knowledge about the natural environment and its processes and dynamics which has facilitated innovative uses of sediment. Attitudes towards the environment have become a more proactive where environmental considerations, nature-based approaches, value engineering and win-win solutions (i.e. benefits / value for all parties) are increasingly considered as an integral part of dredging projects from an early stage. This is reflected in a number of recent and ongoing national and international programmes and initiatives such as “*Working with Nature*” (PIANC) ‘*Building with Nature*’ (EcoShape) and ‘*Engineering with Nature*’ (USACE) all of which aim to support the sustainable development of infrastructure through better alignment and integration of engineering and natural systems to produce more socially acceptable, economically viable and environmentally sustainable projects.

Government’s current emphasis on sustainable development reinforces the importance of this approach and a key sustainable use practice in the marine environment involves the co-ordinated and beneficial use of sediments derived from dredging projects.

The CEDA Environment Commission has decided to initiate a Working Group to prepare a CEDA information paper on the Beneficial Use of Sediment that highlights the recent advances in support of sustainability.

The CEDA Environment Commission (CEC) proposes the following Terms of Reference for the Working Group. The TORs will be formally established by the Working Group at their first meeting.

Understanding Dredging

Objective

The Working Group is tasked with preparing a CEDA information paper on Beneficial Use of Sediment in the context of sustainability. The aim of the information paper is to facilitate knowledge exchange on, and promote, the beneficial uses of sediment through highlighting current best practice. A companion position paper will also be prepared.

Scope

Issues to be addressed in the information paper include:

- Focus the paper on the design parameters for a range of BU applications; chemical status would be a secondary consideration with recommendations to modify the sediment so that it could be accepted for the BU
- Socioeconomic benefits will also be discussed
- Highlight recent advances and best practices in the beneficial use of sediment in the context of sustainable development through the use of relevant case studies
- Identify new lessons learned from recent case studies
- How to promote effective terminology and communication about beneficial use of sediment (e.g., [sustainable] relocation of sediment)
- Consider strategic approaches to beneficial use (coordinated efforts among small ports/harbors, system-wide/regional optimization, examples – U.S. Cal task forces and USACE DMMP)
- Identify and direct readers to national and international initiatives that facilitate and promote the beneficial use of sediment (e.g. *SMOCS*, *SetArms*, *SIGMA project*, *Working/Building/Engineering with Nature*, *Prisma*, *USAR*, *SedNet*, *CEMAS*, *Surigates*, *USACE*, *DredgeDikes*) – can be done as part of the introduction
- Consider the use of the environmental flows (inclusive of both water and sediment flows) and the sustainable relocation concept as a part of beneficial use that is consistent with sustainable development
- Consider the most appropriate ways to encourage the expansion, internationally, of beneficial use as an alternative to disposal at sea
- Follow up on recommendations and guidance given in the PIANC (2009) publication. Using lessons learned from recent case studies to demonstrate how to design a project around the following success factors:
 - Communication
 - Economics
 - Legislation
 - Supply/demand coordination
 - Good technical and management aspects
 - Understand environmental benefits/risks

Thesis for the position paper:

- Policies regarding beneficial use of sediments should be based on the appropriateness of the BU option relative to the ability to manage risk and create socioeconomic value and not limited by precautionary legal standards.

Deliverables

The Working Group will prepare two papers:

- An information paper that will focus on the design parameters for a range of beneficial use (BU) applications. It will discuss socio-economic benefits, effective terminology and communication about and strategic approaches to BU. It will follow up and expand on the recommendations and guidance given in the PIANC (2009) publication using lessons learned in the past 10 years.
- A companion position paper, which will discuss the appropriateness of BU options relative to the ability to manage risk and create socioeconomic value.

WGBU will communicate about its milestones to the CEC and via social media. The group will also consider if it would be beneficial to provide further information on the case studies identified via the CEDA website.

Length of the documents

Four-eight pages plus relevant case studies.

Timetable

The Working Group had their first meeting on **18 January 2017** at the CEDA HQ in Delft, the Netherlands, when they finalised their Terms of Reference, elected their Chair and Secretary and developed Work. The Working Group is expected to deliver their papers one year after their first meeting.

References

CEDA information paper Dredged Material as a Resource: Options and Constraints. June 2010. Available from:

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PIANC 2009. PIANC report no 104-2009: Dredged Material as a Resource: Options and Constraints. Available from <http://www.pianc.org>

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