

Facts about dredged material as a resource: Part 2

International Association of Dredging Companies, The Hague, The Netherlands

Part 1 of this article was originally published in edition 43 of *Port Technology International* and is available for download at www.porttechnology.org under journal archives.

Misunderstandings about dredged material abound: “It’s dirty.” “It’s a waste.” “Dump it, but not in my backyard!” In an effort to create clarity about the characteristics of dredged material and how it can be used to improve our environment, the IADC continues here with part 2 of its question-and-answer narrative.

Q *How can the supply of dredged material be matched with a demand?*

A Finding a supply of dredged sediment that matches the needs of a nearby construction project is no easy task. Matching supply and demand requires an overall management strategy at the earliest possible moment preferably during the project design phase. Mechanisms to coordinate linking a supply with a demand, to create a connection between the customer for a potential use and the supplier of dredged material, requires careful preparation.

One such mechanism that has been successfully applied is a specialised, so-called “incentivising” contract. This contract

establishes incentives for the dredging company itself to seek opportunities for potential uses. The essence of such a contract is to provide positive outcomes for the owners of the dredging project, the construction users and the dredging company. To be most effective, the terms of the contract should be known prior to the tendering process.

Q *What issues need to be considered when matching dredged material with a use option?*

A Several critical issues to consider when trying to match a specific dredged material with a potential use option are:

- The *quality and sufficiency* of sediments is crucial. Is the material physically and chemically suitable? Is it environmentally acceptable? Will there be enough suitable material available?
- The *time frame* of both the dredging project and the use destination must be coordinated. If they are not concurrent, are there interim holding areas for the sediment whilst waiting for a particular use? Or does the timing of the dredging project need to be adapted. Can or should the start of the project be delayed or pushed forward?
- *Location* also plays a role. Is the sediment nearby or does it



Wallasea (UK): The seawall was reconfigured and reinforced to prevent flooding. Here we see an aerial view of part of the site during construction.

need to be transported for long distances? What equipment is available to transport the dredged material?

- *Flexibility* may be necessary. Can an engineering or environmental project be modified to match the characteristics of the available supply of dredged material?
- And lastly, *costs and benefits* need to be carefully evaluated.

Q *What is the role of stakeholders in finding uses for dredged material?*

A Stakeholders do not always readily accept alternative uses of dredged material. Active guidance is necessary to maximise the consideration of these uses in order to encourage and promote more successful outcomes. Good communication is necessary to overcome negative perceptions and build trust between the industry, client, regulators and stakeholders. Fear of contamination and environmental risks leads to the “not in my back yard” (NIMBY) attitude. This attitude can be overcome by explaining policy, listening to stakeholders’ fears, paying attention to actual environmental risks, developing programmes that raise awareness amongst stakeholders and government agencies, and by involving them all at an early stage of the project.

Q *What is the role of the dredging industry in finding use options?*

A Good management of technical aspects of dredging will help avoid inconsistencies in the quality and quantity of dredged material. This includes planning and management of the design and construction phases, knowledge of site-specific characteristics, sampling and analyses of sediment. Environmental benefits and risks must be thoroughly understood and all effort should be made to find uses that enhance the environment. Monitoring can also help avoid unintended consequences. Communication and transparency will help create and maintain public trust.

Q *Is there regulation concerning the use of dredged material?*

A The London Convention on the Prevention of Marine Pollution (1972) is the prevailing guidance on assessment of dredged material for disposal at sea. Regional conventions exist as well, including the OSPAR Convention (2004), the Helsinki Convention (2002), Barcelona Convention (1976) and the Bucharest Convention (1992). These regional conventions also regulate disposal at sea and thus require the consideration of options other than sea disposal. In that way they can lead to encouraging the search for alternative uses of dredged material. In fact, very few countries have developed specific regulations to define the use of dredged material. Instead authority is spread out over various regulatory agencies for coastlines and marine areas, agriculture and fisheries, and nature reserves and recreation.

Q *Can better legislation encourage using dredged material as a resource?*

A Basically, the stigma that dredged material is a waste persists. This can result in unnecessary legal obstacles to obtaining licences. It often increases the requirement for monitoring programmes, even where prior tests have established the viability of the designated use. This “red tape” increases costs and time and works against using dredged material as a management strategy. It works against long-term sustainability.

The lack of specific legislation that addresses the use of dredged materials also complicates finding uses. If there is no legislation or a patchwork of regulations from national, provincial and local government, it may lead to confusion. Sometimes legislation is even contradictory.

Legislation that views dredged material as a resource, not a waste, should be encouraged on all levels. Striving to modify legislation that classifies dredged material as a waste by default is essential. In addition, legislation which supports source control is a strategy which will produce higher quality dredged material



The dredged material was brought to Wallasea by dredger from a maintenance-dredging project at the Port of Harwich.



At same time as the seawall reinforcement in Wallasea, new wetlands were created, as required by regulations, which were designed to be a bird habitat.

and increase the available quantity of dredged material for use without pre-treatment. The better the source control, the less contaminated the dredged material will be, the greater the chances for creating sustainable long-term solutions.

Q *Is using dredged material as a resource always a suitable solution?*

A Contrary to popular beliefs, the vast majority of dredged material around the world is not significantly different from the sediment found naturally in rivers, estuaries and seas. In many cases the dredged material is actually the sediment that forms part of the dynamics of the river, estuary or coastline in which it resides. In such cases, it may be preferable to return it to the same sedimentary system at an appropriate location. Whether the dredged material is from a dynamic or static part of a sedimentary system, its relocation must be carefully considered from an engineering and environmental viewpoint.

ABOUT THE ORGANISATION

Facts about dredged material as a resource was based on contributions from many sources. Special acknowledgement is given to the work of Lindsay Murray and Pol Hakstege. It is one in a series of information updates entitled "Facts About" published by the International Association of Dredging Companies (IADC). The series is part of an on-going effort to support clients and others in understanding the fundamental principles of dredging and maritime construction.

IADC is the global umbrella organisation for contractors in the private dredging industry. As such IADC is dedicated to not only promoting the skills, integrity and reliability of its members, but also the dredging industry in general. IADC has over hundred main and associated members. Together they represent the forefront of the dredging industry.

Q *Is it worth the effort to use dredged material as a resource?*

A Disposal and placement of dredged material remain one of the most difficult discussion points in planning a dredging project. Viewing dredged material as a resource and finding suitable uses for it changes the perception of dredged material and usually leads to win-win situations. The necessary dredging of the port, harbour or waterway is accomplished and an added value of a restored beach, new natural habitat or other use is achieved.

Economically and environmentally a holistic approach where dredged material is utilised contributes to a more sustainable system. Primary resources such as sand at sea will be preserved. Therefore, although constraints exist, creating a management strategy to use dredged material as a resource is well worth the effort and, despite the challenges, is usually possible. Indeed, to paraphrase an old saying: "Where there's a (political) will, there's a way".

ENQUIRIES

All "Facts About" brochures are available as downloadable PDFs at the IADC website www.iadc-dredging.com

PO Box 80521
2508 GM The Hague
The Netherlands

Tel: +31 (0)70 352 33 34
Fax: +31 (0)70 351 26 54
Email: info@iadc-dredging.com