

## Case Study: Beneficial Use of Sediments

<b>Project</b>	<b>Coastal Defence and Habitat Restoration at Horsey Island</b>
<u>Classification code</u>	R4B_2021_UK
Major function	Restoration
Other functions	Resiliency
Major technique	Floating pipeline
Other technique	
Location	Horsey Island, Essex, UK
Volume	49,585 m <sup>3</sup>
Contaminants	No/Low contamination
Granulometry	Sand and shingle
Scale	Project
Client	EU Life+, Environment Agency, Harwich Haven Authority
Executor	Harwich Haven Authority (HHA)
Research program	Previous campaigns of marsh recharging under Interreg Project (ComCoast)
Contact name	Jim Warner
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Year start - end	September 2021- November 2021

### Description of the project

Horsey Island is important in protecting the wider area (Walton Backwaters and shoreline) from wave action causing erosion. Dredged sediment had been placed directly on intertidal habitats between 1990 and 2006 in some of the largest sediment placement projects in the UK. Since the first recharge project, the placed sediment has remained stable and created mudflat, marsh and shingle pit habitats. The resulting habitat mosaic has turned hard foreshore muds into habitats hosting nesting birds, denser quantities of invertebrates and higher level saltmarsh.

Since the initial recharge in 1990's, Horsey Island has become the most important habitat for little terns in Essex. Over time, the recharge area has flattened, making it less suitable for the little terns and more vulnerable to high tide events. New depositions of sand and shingle were undertaken in 2021 to raise the beach area and restore the little tern habitat.

The project will also protect the saltmarsh and absorb wave energy to slow erosion rates. Over time, the new area of deposited material will move towards the land with the tide and join the existing beach.

The sand and shingle from Harwich Haven Channel Deepening was delivered by the vessel *Sospan Dau* from the contractor Boskalis Westminster/ Van Oord Joint Venture. The material was placed on the recharge area using floating pipelines. The total amount placed was 49,585 m<sup>3</sup> with D50 size between 1 mm and 6 mm. Some challenges that were overcome were gaining permissions from the Marine Management Organisation and physical placement of the sediment. The floating pipeline technique had to be used where areas were too shallow for the vessels to place sediment through rainbowing.

This project was made possible by the careful coordination of multiple organisations looking to achieve a common goal; the beneficial placement of sediment which would have alternatively been taken to a disposal site.

**Graphical information**



*Figure 1: Pre-placement (left) and post-placement (right) taken by Harwich Haven Authority*



*Figure 2: Post placement 10/11/2021. Aerial image © Jim Pullen UAV Surveys*

**References/web links**

1. ABPmer Report No. R.2606 - 8 March 2016 (omreg.net)
2. <https://hha.co.uk/wp-content/uploads/2021/09/NEW-27-2021-Channel-Deepening-Dredging-and-Beneficial-Placements.pdf>
3. Horsey Island recharge project - LIFE ON THE EDGE (LOTE) PROJECT (projectlote.life)