



Project part-financed by the European Union (European Regional Development Fund)

The Interreg IVB
North Sea Region
Programme



'Training Walls at Trent Falls'

Measure analysis 37
in the framework of the Interreg IVB project TIDE

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Table of contents

Table of contents.....	1
List of figures	2
Part 1: Measure description	3
1.1 Description of the issue and measure	3



List of figures

Figure 1: 1925 Bathymetry	4
Figure 2: Stages of Trent Falls training wall construction	4
Figure 3: 1936 Bathymetry	5



Part 1: Measure description

Measure category: Hydrology/Morphology

Estuary: Humber

Salinity zone: Polyhaline

Pressure: Habitat loss and degradation during the last about 100 years: Intertidal

Country: United Kingdom

Specific location: Confluence of the River Ouse and the River Trent

Responsible Authority:

Costs:

Measure technical factsheet (link):

Downloads:

Links:

1.1 Description of the issue and measure

The records for the Training Walls at Trent Falls are very sparse, but various reports and charts indicate that they were constructed in a piecemeal process between 1926/1927 through to 1939, with most of the work being done in the early 1930s. The works were started at the upstream end of the River Ouse and continued to the Apex at Trent Falls. The work was done in stages, with no reclamation behind the walls and caused no changes in the tidal prism. There is still no reclamation to this day, but saltmarsh has built up behind due to natural reclamation.

The reason for the walls was that the main channels originally moved, due to the relative strengths of flow from each tributary entering into the Humber Estuary, which caused the main channel to move. When the Trent flows were more dominant, the main channel was pushed north wards. When the Ouse flows were more dominant, the channel was pushed into a more central location. The purpose of the Training Walls was to help stabilise the banks and channels in the entrance to the Trent and Ouse in order to aid navigation, as the channels were continually changing and becoming hazardous to navigation. The walls created an apex to the Trent flowed into the lower estuary to match the Ouse flow to stabilise the channel and ensure more consistent and stabilised bed levels, which made this section of the estuary easier to navigate. The works effectively created a flow in and out of the Trent, which merges with the Ouse flow at small (acute) angle, before the intersection was more obtuse and, depending on relative flow conditions from each river, the banks moved.

From the historical analysis undertaken around the period, which is also when echosounders replaced lead line, it has not been possible to establish a clear influence on the geomorphological parameters which can be attributed to the training works.

From bathymetric evidence post works, the bathymetry has become much more stable within the Whitton Reach and Whitton Sands has been seen to naturally accrete over the years and is now saltmarsh. The Broomfleet Channel is now also filled in.

At Blacktoft, a reduction water levels did occur after the period of the works, but it is difficult to be sure this was the cause.



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Changes in and around Reeds Island are still fluctuating, much further so downstream. North of Alkborough, there is a bit of erosion stress, which could be attributed to the Training Walls.

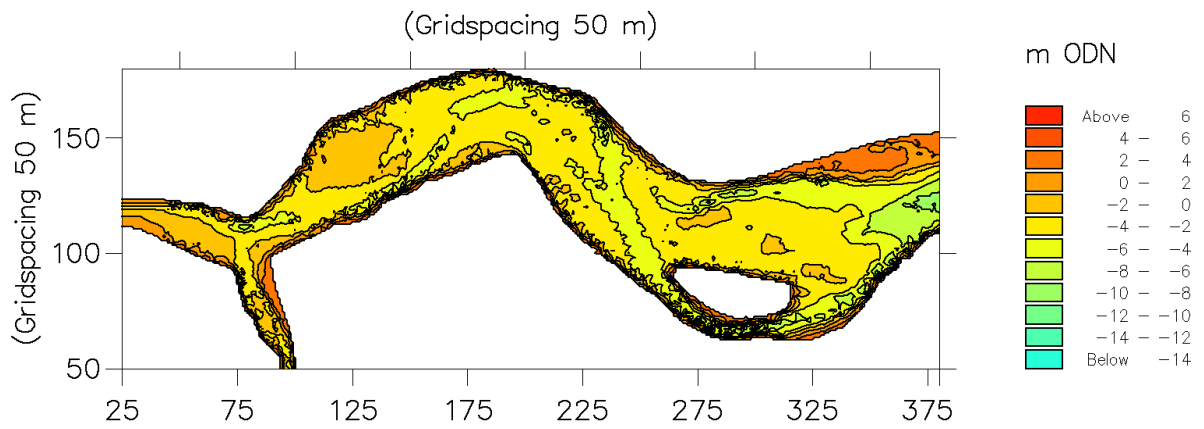


Figure 1: 1925 Bathymetry

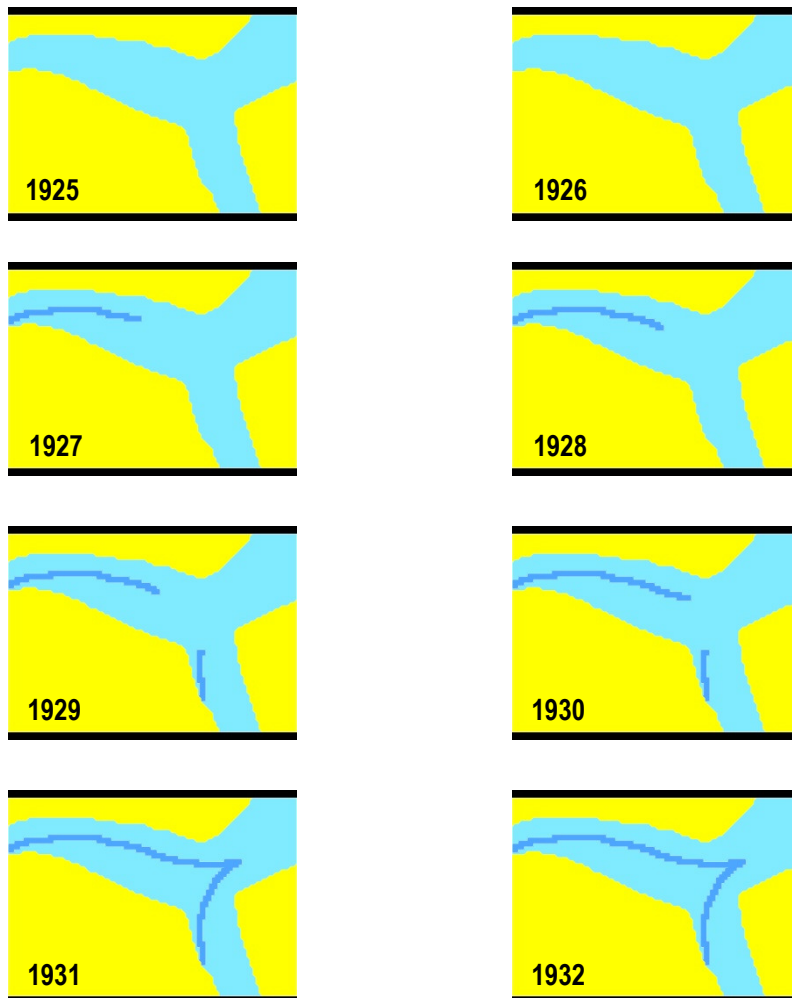


Figure 2: Stages of Trent Falls training wall construction



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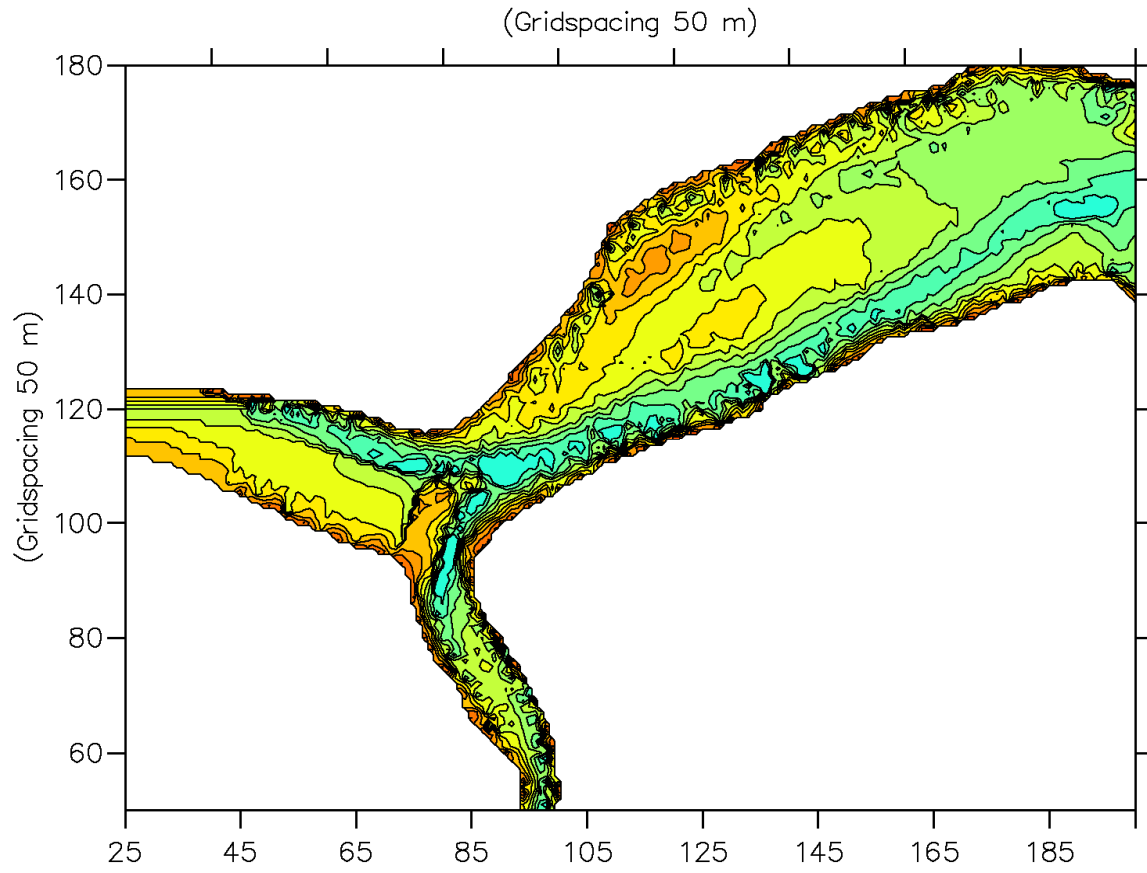


Figure 3: 1936 Bathymetry



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