

Create compensatory habitat to offset impacts

Project Summary

Title: Greatham Managed Realignment Scheme

Location: Greatham Creek, Hartlepool, England

Technique: Managed realignment

Cost of technique: £££££

Overall cost of scheme: ££££££

Benefits: £££

Dates: 2011 – 2014

Mitigation Measure(s)

Create compensatory habitat to offset impacts

How it was delivered

Delivered by: Environment Agency

Partners: Natural England, RSPB



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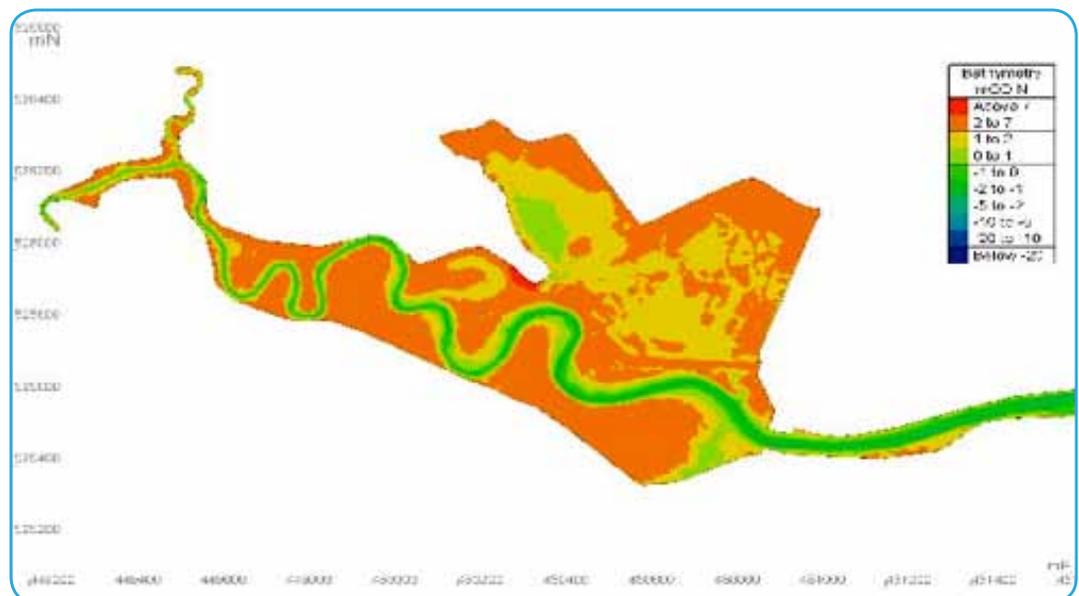
Background / Issues

The Environment Agency identified that the implementation of the Tees Tidal Flood Risk Management strategy would result in the loss of intertidal habitats which form part of the Teesmouth and Cleveland Coast Special Protection Area (SPA) and Ramsar site. In addition, the need for further coastal defence works necessary as part of the Redcar Flood Alleviation Scheme also has the potential to cause a loss of SPA habitats.

The Environment Agency therefore had a legal requirement to deliver at least 20 ha of intertidal habitat within the Tees Estuary as compensation for the impact predicted as part of its flood and coastal risk management projects. The Environment Agency purchased 77 ha of land alongside Greatham Creek (part of the Greatham North flood cell) in order to

implement a managed realignment scheme and create the required habitats.

The Greatham Managed Realignment Scheme allows future work to the tidal flood defences of the Tees Estuary to continue whilst providing long-term environmental benefit through the conservation of the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar site. The scheme aimed to create a range of complementary habitats of benefit to a variety of wildlife, and ensure better access to for the public was available.



Bathymetry in the vicinity of the managed realignment site

Step-by-step

The creation of compensatory intertidal habitats as part of the Greatham Managed Realignment Scheme was achieved through the:

- Construction of a new embankment alongside the inland limits of the managed realignment area. Embankments were constructed with a height of approximately 2.5 m and with 1 in 3.5 m to 1 in 4 m side slopes (dependent upon local ground conditions). The materials used to construct the embankments were partly obtained from a borrow site within the area of land that was purchased, although some materials were imported.
- Construction of two breaches along the original Greatham Creek flood embankment to allow for tidal flooding and creation of a new area of intertidal habitat.
- Restoration of borrow pits to freshwater and grassland habitats.

Benefits

- The scheme delivered 22 ha of intertidal habitat, comprising a mixture of saltmarsh and mudflats. In addition, other parts of the site delivered areas of saline and brackish water, rough grasslands and coastal and floodplain grassland.
- The borrow pits were restored to provide a minimum of 12 ha of freshwater habitat for species such as great crested newt, common frog and aquatic invertebrates and species rich and meadow grassland.
- No significant adverse impacts to the hydromorphology and sediment regime in the Tees Estuary are expected.
- Features of historic significance, such as salterns (sites historically used for salt making), will be returned to their pre-reclamation situation, reducing current pressures from erosion by burrowing and grazing animals. The regrading of the relic drainage system on site and the location of the breaches were designed, in part, to reduce erosion of the salterns.

Lessons Learnt

- Cumulative benefits can be achieved through undertaking managed realignment schemes for habitat improvements which also form part of the local areas flood defence strategy.

Project contact: Fisheries and Biodiversity Team, Yorkshire and North-East Region, Environment Agency