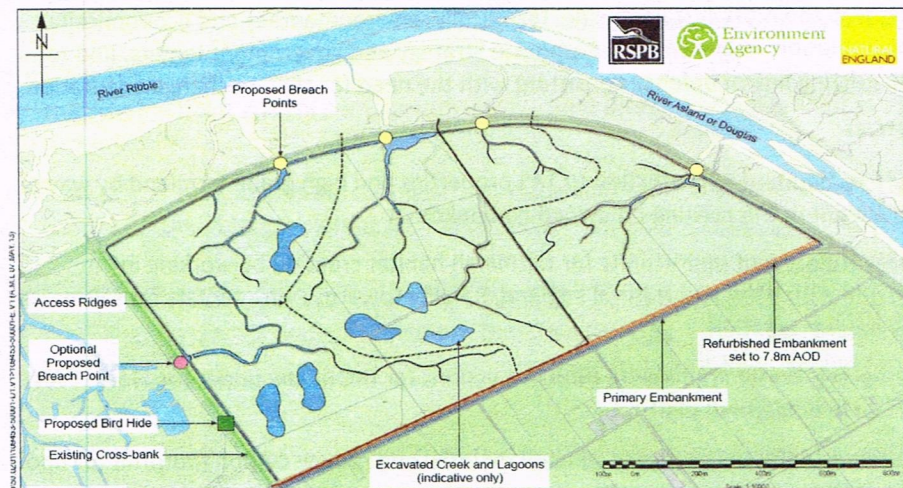


# Hesketh Out Marsh East Managed Realignment Scheme

## Background

In the early 1980s, Hesketh Out Marsh was claimed for agriculture by erection of an outer flood embankment which, with land drainage, saw inter-tidal saltmarsh habitat converted into farmland. This enclosure is separated from land to the south, Hesketh New Marsh, by a well-established flood embankment, originally erected in the 1800s, but which is owned and maintained by the Environment Agency (EA). This protects lowland areas to the south.

Ownership of the land within Hesketh Out Marsh divided this enclosure into two parcels of land: Hesketh Out Marsh West (HOMW) and Hesketh Out Marsh East (HOME). In 2008, the Royal Society for the Protection of Birds (RSPB), in partnership with the Environment Agency (EA), breached the outer flood embankment for the western half of Hesketh Out Marsh to revert 168 ha of agricultural land to inter-tidal habitat. To separate the two parcels of land, a cross-embankment was constructed. This allowed breaching of the outer western embankment to confine tidal inundation across the HOMW land parcel only. RSPB now own and manage this area as their Hesketh Out Marsh Reserve.



## Development of HOME Scheme (See proposed plan above)

Hesketh Out Marsh East project was then initiated following the opportunity to partner once again with RSPB to continue the retreated defence line and so create more national priority saltmarsh habitat - by breaching the adjacent section of outer embankment. But a crucial part of the project is the strengthening and refurbishment of the remaining 2km of EA owned defence, currently in poor structural condition, using site sourced material.



In 2008, RSPB purchased a further 54ha of land on Hesketh Out Marsh East to increase the size of Hesketh Out Marsh RSPB reserve. Following partnership working, there is now an opportunity for RSPB to enter into an option agreement to purchase all of the remaining land at Hesketh East, apart from 7ha of National Nature Reserve (NNR) which will remain owned by Natural England (NE). Once funding is secured, this will allow the entire 154ha, including the 7ha of NNR, of Hesketh Outmarsh East to become available for saltmarsh creation. Surplus material from this wider habitat creation area will then be used in the refurbishment of the Environment Agency owned embankment.

## **Main elements of Hesketh Out Marsh East Managed Realignment Scheme**

- refurbishment of 2 km of Environment Agency flood embankment, currently below standard, which will subsequently constitute the realigned primary coastal defence
- RSPB to secure the purchase of the remaining land parcels on HOME
- civil engineering works to excavate creeks and pools and use this locally sourced material to refurbish the embankment under EA project management
- breaching the outer 1980's embankment to reinstate inter-tidal conditions to the site.
- partnership working between RSPB, the Environment Agency and Natural England with anticipated delivery of the realignment and habitat creation before the end of 2017

## **Primary aim & key objectives for this managed realignment**

**Aim:** To develop the most sustainable (ie. technically, environmentally and economically appropriate) solution, in line with EA Corporate Strategy and government targets, and to retreat the existing line of defence consistent with the need for climate change adaptation.

### **Key Objectives:**

- a) To improve standard of protection to 143 properties and high grade farmland by way of refurbishment of the existing EA owned embankment
- b) Maximise the current opportunity for saltmarsh habitat creation by working in partnership with RSPB and Natural England, helping towards Defra targets for saltmarsh priority habitat creation.
- c) Deliver agreed Water Framework Directive actions for the Ribble under the North West river basin management plan
- d) Exploit opportunity to use locally sourced material and reduce carbon footprint for flood defence works

## **Challenges**

The required funding for RSPB to secure full land purchase remains the greatest challenge to the project delivery. As a result a phased approach for land purchase has been agreed with the landowner allowing parcels of land to be secured by RSPB as funds become available.

## Overview & Details of Key Benefits of HOME Scheme

These are covered under the following headings and are detailed further below:

- ◇ Biodiversity & Habitat
- ◇ Water Framework Directive & Water Quality
- ◇ Sustainable Shoreline Management & Flood Defence
- ◇ River Estuary Morphology & Landscape Amenity
- ◇ Climate Change Adaptation & Mitigation



### ***Biodiversity & Habitat***

- ◆ Creation of 154ha of saltmarsh Biodiversity Action Plan (BAP) priority habitat brings important biodiversity benefits and delivers important national priority habitat creation under Defra's *Biodiversity 2020 strategy (Aichi targets)*
- ◆ The scheme helps the UK comply with the EU Wild Birds Directive, aimed at essential conservation
- ◆ The scale of habitat creation is important in the context of the Lancashire's Local Nature Partnership developing ecological network planning (habitat linkages)

### ***Water Framework Directive & Water Quality***

- ◆ To deliver on the EU Water Framework Directive (WFD), Hesketh Out Marsh East is a key target action for the Ribble catchment in the North West River Basin Management Plan (RBMP):
- ◆ To meet WFD objectives, the scheme implements mitigation measures proposed under the RBMP
- ◆ Ribble estuary saltmarsh contributes to meeting water quality objectives

### ***Sustainable Shoreline Management & Flood Defence***

- ◆ The reconstructed flood defence will provide a 1 in 200 year standard of protection for 143 residential properties and 3 commercial buildings



- ◆ The scheme delivers specific annex C actions of the RBMP for the Environment Agency's Flood & Coastal Risk Management (FCRM)
- ◆ The scheme supports policy and actions under the 2009 Shoreline Management Plan
- ◆ The scheme meets a key aspiration of the EA Corporate plan for sustainable flood risk management

### *River Estuary Morphology & Landscape Amenity*

- ◆ Significant river morphology improvements – naturalisation - are achieved
- ◆ An important contribution to the sub-regional landscape character is re-gained
- ◆ The RSPB reserve doubles in size providing a valuable local and regional asset and recreational amenity
- ◆ A valuable elevated visitors' observation station over the saltmarsh is achievable
- ◆ Generous crest width of the reconstructed EA embankment will allow full recreational use by pedestrians and efficient maintenance

### *Climate Change Adaptation & Mitigation*

- ◆ Setting back of the sea defence line is a much needed climate change adaptation due to sea level rise forecasts. New saltmarsh forming in front of the flood defence embankment will serve to dissipate tidal energy and achieve a defence of greater resilience.
- ◆ The scheme contributes to climate change mitigation through its carbon sequestration.
- ◆ The carbon footprint of the scheme is minimised due to earthmoving being confined within the site.

### **Selected Further Reading**

Defra (2012) *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*. PB13583. Available at:

<http://www.defra.gov.uk/publications/2011/08/19/pb13583-biodiversity-strategy-2020/>

Halcrow Group Ltd. (2011) *Shoreline Management Plan 2 - Main Document: Sub-cell 11b: Southport Pier to Rossall Point (including the Douglas and Ribble Estuaries)*, for the North West England and North Wales Coastal Group.

Available at: <http://www.mycoastline.org/index.php/shoreline-management/smp2>

RSPB (2010) *Futurescapes: Space for Nature, Land for Life*, published 4 June 2010. Available at:

<http://www.rspb.org.uk/futurescapes/>

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