

The Killingholme Marshes

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The opportunity for change....



The South Humber Bank near Immingham is synonymous with heavy industry and broken skylines. It is perhaps therefore surprising that amongst Killingholme's container ports, storage facilities and oil refineries lies a small ecological 'oasis' of special scientific interest.

Two former clay working pits provide contrasting freshwater and saline habitats, and have been nominated to receive Ramsar status to reflect their

emerging International importance. The pits are sensitive to the nature of the drainage catchment, both in terms of the intrusion and dilution from floodwaters and the risk of pollution from the industrial run-off. The hydrology of the area is however complicated, and reliant on three of the few remaining gravity only outfalls to the Humber.

The North Killingholme, South Killingholme and Killingholme Marshes catchment are subjected to tide locking on each tide cycle, and during intense events the flood plains inter-connect to form a complex hydraulic regime.

Recognising the importance of the ecology in the area, and the drive for development and economic growth, the North East Lindsey Drainage Board (the

Board) commissioned Hannah-Reed to undertake a Strategic Catchment Review of the South and North Killingholme catchments, funded by DEFRA grant aid. These studies included the development of a hydrodynamic model of the key watercourses within the catchment, identifying opportunities to improve the flood protection and water management within the area.

However, a stand-alone sustainable solution for the problems within each of these catchments could not be economically justified. The reviews therefore identified the need to adopt a more holistic approach, working with the potential developers in the area to develop a strategic solution

Strategic approach to surface water disposal....

The catchments are identified for industrial development in the South Humber Bank Development Brief. Whilst the existing flood protection standards are appropriate to sustain low quality agricultural land use they are not commensurate with the quite different requirements of a developed area.

Mindful of the development pressure the Board are promoting the implementation of a strategic solution. In the absence of such adequate infrastructure there would be a proliferation of on-site control arrangements, costly to

developers, but more significantly all in need of long term sustainable maintenance. The preferred scheme proposes the following measures:



- Divert flow from the upper north catchment to minimise the risk of pollution and flooding to the pits.
- Hydraulically separate the freshwater & saline pits.
- Improve flow conveyance across the Killingholme Marshes through channel widening and culvert enlargement.
- Increase the size of the gravity outfall and supplement with a pumping station.
- Develop flood meadows and wetland areas within the developing catchment.

Implementation....

Landowners within the catchment have welcomed the proposals, and are developing their drainage proposals in co-ordination with the strategy, assisted by Hannah-Reed. This co-operation will help the Board to implement the diversion and conveyance improvements required within the marshes.

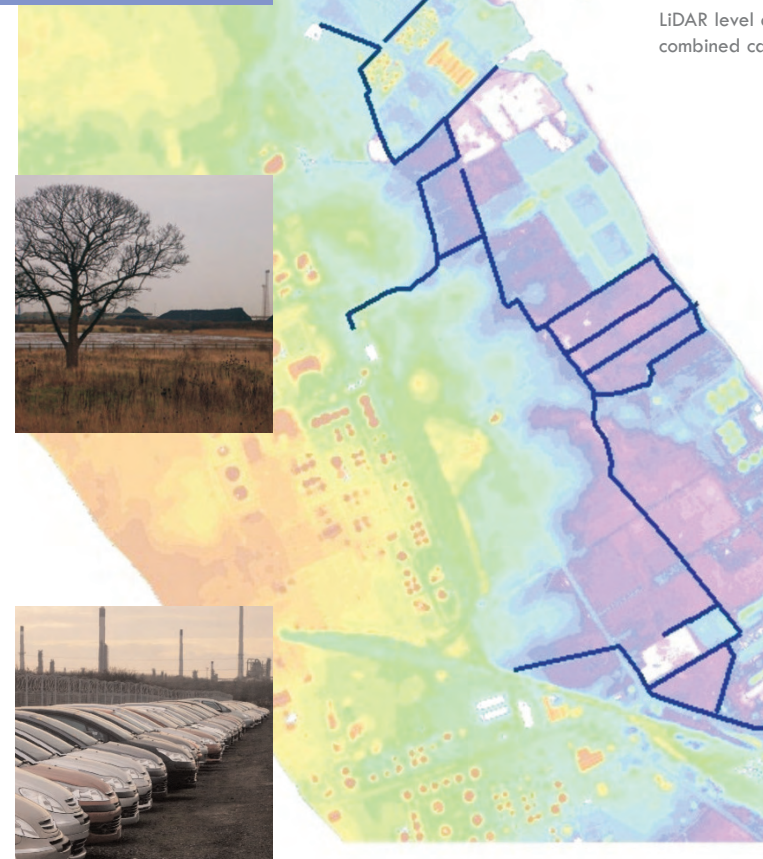
An initial ecological assessment has been undertaken to assess the impact and benefits of the strategy, and the proposals are supported by English Nature.

The Board are currently seeking funding for the estimated £3.2M cost of the initial phase of the strategy. Whilst the scheme as a whole does not meet DEFRA's economic criteria, specific elements relating to the protection of the SSSI and Ramsar designated sites may be eligible for grant aid.

Other funding streams are also being explored in order to promote this comprehensive and sustainable solution, facilitating development at the same time protecting valuable habitats.

Scheme Objectives

- ASSESS THE FLUVIAL FLOOD RISK TO THE CATCHMENT
- IDENTIFY A STRATEGY FOR MITIGATING THE IMPACT OF PREDICTED CLIMATIC CHANGE
- REMOVE THE RELIANCE ON THE SSSI PITS AS A FLOOD ATTENUATION FACILITY & PROTECT THE SENSITIVE SALINE HABITAT
- INCREASE THE STANDARD OF FLOOD PROTECTION TO THE CATCHMENT COMMENSURATE WITH THE CHANGING LAND USE.
- IDENTIFY A SUSTAINABLE STRATEGIC APPROACH TO FLOOD MANAGEMENT TO AVOID PIECEMEAL SOLUTIONS



LIDAR level data of the combined catchments

