

Saltmarsh recreation by managed realignment, Hesketh Out Marsh - UK ^[1]

Hesketh Out Marsh is the biggest managed realignment project in the UK, and is one of the country's most important estuary habitats for birdlife. The original saltmarsh was isolated from the estuary in 1980 by the creation of an outer wall, and was used for growing crops. With the sea level rising, it was necessary to create stronger sea defences. By a process known as "managed realignment", seawater has been let back in to flood the land, re-creating saltmarsh and providing space for nature. At the same time, the new saltmarsh acts as a buffer, soaking up some of the energy of the sea before it reaches the stronger, new sea defences.

Case Study Description

Challenges:

The Hesketh Out marsh lies on the southern shore of the River Ribble estuary, near Preston, and is one of the country's most important estuary habitats for birdlife. The original saltmarsh was isolated from the estuary in 1980 by the creation of an outer wall, and was used for growing crops. With the climate changing and the sea level rising, the Royal Society for the Protection of Birds and the Environment Agency recognised the need to plan for the future and create stronger sea defences against flooding.

Objectives:

The main goal of the marsh realignment was to protect existing built assets and infrastructure on adjacent sites against flooding and help the estuary adapt to the threat of sea level rise, avoiding adverse impacts on estuary processes. Other objectives included:

1. to create intertidal habitat for nature conservation;
2. to create intertidal habitat that has unhindered tidal exchange, requires minimal management and has the capacity to respond to dynamic estuarine change;
3. to avoid adverse effects on water quality and especially on bathing beaches as a result of faecal coliforms deposited in new intertidal areas by grazing animals;
4. to maintain or enhance the existing landscape character, including features of historic, archaeological and environmental importance.

Solutions:

The Royal Society for the Protection of Birds bought half of the land at Hesketh Out Marsh in 2006, to turn into a nature reserve. Since then, they have been working with the Environment Agency and other organisations to create salt marshes, creeks and lagoons. After first upgrading the original embankment inland, the Environment Agency then removed sections of an earlier (1980s) privately built embankment. This allowed high tides back on to the nature reserve to re-create 168 hectares of salt marsh habitat.

By working in partnership with the Environment Agency and with funding from Lancaster City Council, and the Lancashire Rural Recovery Action Plan, the Hesketh Out Marsh project has greatly improved the local sea defences and created 160 hectares of new saltmarsh, creeks and lagoons. Creating flood defences in this way uses more land but the initial cost is recouped over time in reduced maintenance costs of the associated sea defences. As a result of newly created habitats, wildlife in the area has more chance of thriving.

Importance and relevance of the adaptation:

Case mainly developed and implemented because of other policy objectives, but with significant consideration of CCA aspects.

Additional Details

Stakeholder engagement:

The RSPB worked in partnership with the Environment Agency and with funding from Lancaster City Council (LCC), and the Lancashire Rural Recovery Action Plan. Several other stakeholder organisations from the UK were involved in the project. The project also created facilities and a nature trail for visitors that help to disseminate the project goals and results; furthermore, RSPB frequently organizes activities such as walks in the Reserve.

Success and limiting factors:

Main success factors included:

- commitment to partnership working particularly between the Environment Agency, the Royal Society for the Protection of Birds and Lancaster City Council;
- the engagement of the several partners during the various phases of the project design and implementation, that ensured the necessary financial resources and the political will to deliver the Project;
- adoption of an ecosystem-based and adaptive management approach.

Limiting factors included:

- concerns over the impacts on the land drainage upstream of the site were raised by some local landowners and contributed significantly to the design of the scheme;
- the potential for the Project to increase the risk of bird-strike for the neighbouring aerodrome determined that the lagoon size was limited to 1ha and islands, (that might attract nesting gulls), were not included in the design.

Budget, funding and additional benefits:

The total costs of the Project are not available but the EA estimates that about £2m saving was made from the ability to use local soil for the bank improvement work. The high cost of the land meant that the Project only became economically feasible when the opportunity arose for the site to provide compensatory habitat to offset damage to the Morecambe Bay SPA. Lancaster City Council were looking for a suitable compensation site to offset lost intertidal habitat that would result from a project to improve the defences on part of Morecambe's sea frontage. LCC were able to help fund the purchase of the site as compensation for the habitat loss in Morecambe Bay SPA occasioned by the sea defence works at Morecambe.

The EA were able to contribute a significant amount towards the cost of the land in exchange for the use of the soil derived from excavating the creeks and lagoons on the site enabling them to greatly increase the size and strength of the sea defence. The availability of the material on site made the Project feasible because it meant that a hugely expensive and environmentally damaging operation to import soil to the site by road was not necessary.

Further funding from Biffaward and Natural England has enabled facilities for visitors and for the cows and sheep that graze the marshes to be provided as well as funding research into the many changes that are taking place at this exciting new reserve as it returns to the wild.

The main positive outcomes were the increased protection of the area from flooding and the creation of new saltmarsh habitat for water birds, invertebrates and fish to replace losses elsewhere. The Project also created a significant new recreational asset for the Ribble Coast & Wetlands Regional Park attracting 10,000 visitors p.a. as well as a dynamic educational resource for students of coastal change and adaptation.

Legal aspects:

Main legal aspects are related to:

- Conservation Regulations 1994, relating to the Special Protection Areas;
- Town & Country Planning Regulations;
- The Water Framework Directive;
- The Shoreline Management Plan (1999);
- The Ribble Coast & Wetlands Regional Park initiative;
- The Biodiversity Action Plans for saltmarsh and saline lagoons.

Implementation time:

Work started in 2006 with the purchase of the land and was completed in March 2009 with the final breaching of the outer embankment.

Reference Information

Contact:

Tony Baker

Royal Society for the Protection of Birds Ribble sites manager

1c Marshside road, Southport. pr9 9tl.

E-mail: tony.baker@rspb.org.uk [2]

Websites:

<http://www.rspb.org.uk/reserves/guide/h/heskethoutmarsh/about.aspx> [3]

Sources:

Royal Society for the Protection of Birds (RSPB)

Start here

What is AdapteCCa?

What is climate change?

What is the adaptation to CC?

What I can do?

Participate in AdapteCCa

Subjects and territories

Divulcation

Videos

Image bank

Infographics

Divulgative resources search engine

Interactive climate change adaptation dossier

Experiences of adaptation (multimedia resources)

Virtual classroom

Tools

Viewer of Climate Change Scenarios

Case Studies

Documentary search engine

Other

Participate in AdapteCCa

Source URL: <https://adaptecca.es/en/saltmarsh-recreation-managed-realignment-hesketh-out-marsh-uk>

Links

[1] <https://adaptecca.es/en/saltmarsh-recreation-managed-realignment-hesketh-out-marsh-uk>

[2] <mailto:tony.baker@rspb.org.uk>

[3] <http://www.rspb.org.uk/reserves/guide/h/heskethoutmarsh/about.aspx>