



CLIMATE PROOF AREAS

Titchwell Marsh (UK)

Titchwell Marsh is a Royal Society for the Protection of Birds wetland nature reserve on the North Norfolk Coast of the UK. The site is currently threatened by a combination of ongoing coastal erosion and future climate change. A managed realignment scheme has been implemented to protect the majority of the internationally important freshwater habitats whilst allowing the coastal habitats space to evolve.

The focus of the CPA project has been to ensure that visitors have access to the new managed realignment scheme as it provides an unparalleled opportunity to communicate the benefits of adaptation methods like managed realignment to a wide audience. The new Parrinder Hide, a key deliverable of the project was completed (in December 2010) and it is now being used by the public.

Titchwell Marsh Water Cycle



Problem Definition

Titchwell Marsh Nature Reserve was created in the 1970's by enclosing areas of grazing marshes and saltmarshes to create a range of different habitat types. These have developed over time and include freshwater reedbeds and lagoons, brackish lagoons, sand dunes and beaches. Today Titchwell is internationally important for a range of species including breeding bittern and marsh harrier, breeding avocet and for the number of overwintering birds that use the complex of habitats to feed.

Over the time the RSPB has been involved at Titchwell Marsh it has been evident that the beaches and sand dunes on the seaward side of the reserve have been eroding. This is caused by ongoing coastal processes linked to the development of a nearby barrier beach system. However, it was clear that climate change would increase the problems of erosion at Titchwell Marsh through two main routes. Firstly the predicted increase in storminess would mean increased erosion of the sand dunes that once protected the reserve, leading to the risk of wave attack on the soft earth sea walls built in the 1970's. Secondly, rising sea levels would also increase the likelihood of the sea walls overtopping, particularly during storm surge events. This would damage much of the conservation interest of the reserve that are dependant on freshwater, particularly bitterns who rely on freshwater fish to feed.

Working with coastal process specialists, the RSPBs in house ecologists, the local community and statutory organisations like Natural England and the Environment Agency a scheme was developed to maintain parts of the reserve as freshwater habitat whilst allowing the seaward part of the reserve to evolve naturally. The only means of maintaining the reserve exactly as it was would have involved armouring the sea walls with concrete blockwork and causing damage to the intertidal habitats outside the reserve.

The managed realignment scheme used to address these problems destroyed the current public access and visitor facilities, namely a footpath and viewing hide. To allow a climate adaptation measure to have such a damaging impact at a very popular public amenity would have created an impression that adaptation is a negative process that should be resisted. The RSPB were very aware that managed realignment at a site that receives 80000 visitors a year was a fantastic opportunity to demonstrate the benefits of managed realignment and help change the perception that managed realignment was a negative policy of 'giving land back to the sea'. In order to make the changes at the reserve positive for visitors it was necessary to show that the visitor facilities would be maintained and improved, and that the RSPB and the CPA project were investing in the long term future of the site, not giving up on it!



Dune erosion at Titchwell following a storm event in 2007 - © RSPB

Process and Stakeholder engagement

As Titchwell Marsh is a very popular nature reserve with many repeat visits year-on-year it was evident that a project as unusual as a managed realignment scheme would require careful planning and stakeholder engagement. A comprehensive Communications Plan was drawn up at the start of the project and a specialist RSPB communications project team met every two months for the two years prior to implementation. This plan identified the different audiences who would be interested in the project and clarified the key messages for each audience. The audiences ranged from the local community, media, members of parliament, planning authority, statutory organisations, birdwatching clubs etc. This allowed the RSPB to be clear of the purpose of each piece of communication work. Key elements of the work have included free guided walks that explain the wider Coastal Change project for all visitors who are interested, invitations to the local parish councils to attend on site meetings to hear about what is planned, drop in events prior to the planning application being submitted to allow visitors to discuss any concerns.

In order to help determine the most appropriate solution for Titchwell Marsh an 'Historical Trends Analysis' was commissioned to determine the likely evolution of the coast based on an understanding of the changes that have occurred over the past 100 years. This helped to set some of the parameters of the project as solutions that would only last for 30 years or less were ruled out. The next step was an initial, in-house, cost benefits analysis of potential solutions, specifically addressing the costs/benefits in terms of the ecological outcomes for the reserve. The key objective was to find the least damaging solution for the reserve that balanced the needs of the different habitats and species. Initial meetings were set up at this stage with Parish Councils, the planning authority and statutory organisations to explain the problem and the range of options that were being considered. During this period many ecological surveys were undertaken to ensure that a decision could be made informed by thorough and up-to-date ecological information.



Explaining the problems facing the reserve to visitors

A comprehensive Environmental Impact Assessment was undertaken to confirm that managed realignment was the most sensible course of action. This was particularly important as the reserve is designated as a Site of Special Scientific Interest under the 1981 Wildlife and Countryside Act and a Special Protection Area under Directive 79/409 EEC on the Conservation of Wild Birds

Further discussions were held with a wide range of stakeholders once the Environmental Impact Assessment had confirmed that a managed realignment scheme was the most appropriate course of action, in order to explain the rationale behind the decision. At this stage the RSPB decided to make the proposals public and issued a press release announcing the project. This generated a great deal of media interest with several TV news programmes broadcasting live from the reserve and several articles in major newspapers. The planning application was submitted shortly afterwards and was granted with no objections having been received by the planning authority.

Methods

- ▶ Drop in sessions to allow the public to understand the problems and proposed solutions for the reserve on a face to face basis (not public 'meetings').
- ▶ Artists impression of new viewing hides as technical drawings are very difficult for most people to understand.
- ▶ Digital video of water levels rising and falling within realigned area to help the public understand the plans.
- ▶ Guided walks around the reserve with RSPB staff allowing the problem areas to be pointed out and the proposed solution discussed.
- ▶ Face to face meetings with interested parties and statutory organisations.



Bittern, one of the freshwater species at Titchwell Marsh
© RSPB

Products and results

Products generated by the Titchwell project that may have wider applicability

- ▶ Communications plan
- ▶ Environmental impact assessment
- ▶ Historical trends analysis (allows prediction of future coastal change and incorporates climate change scenarios eg future sea level rise)
- ▶ Risk Registers (allows risks in project development to be highlighted and assessed on a continuous basis during project development).

Main results

The new viewing hides will ensure that Titchwell Marsh becomes the prime managed realignment demonstration site in the UK. Visitors can watch the new habitats develop over time and see that managed realignment can be a positive change. It will help to reduce the concern generated currently by managed realignment schemes as many people assume that it leads to an increased risk of flooding, when the opposite is usually true. Without CPA's investment, the managed realignment could have resulted in a major loss of public amenity, sending negative messages about the impacts of adapting to future climate change.



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Policy recommendations

The key policy recommendation arising from this project is that it is beneficial to ensure that climate adaptation measures result in improvements or maintenance of public amenity, not reductions, as this helps their implementation be received favourably by the public and statutory bodies. By building an improved public amenity / facilities as part of a climate adaptation measure it is possible to encourage a favourable public response to a proposal.

In addition, one lesson learned from the project is the benefit of sharing a problem with stakeholders at an early point in the process. As stakeholders understood the problems that Titchwell Marsh faced they were perhaps more receptive to the proposed solution when that was determined. If they had only been presented with the solution at the end of the process they may not have been so willing to accept it.



Background documents

- ▶ Historical Trends Analysis
- ▶ Environmental impact assesment
- ▶ Planning Consent

EU inspiration

- ▶ ComCoast (2004 - 2007) combined function in Coastal Defence Zones
- ▶ Safecoast (2005 - 2008) Sustainable Coastal Risk Management in 2050

What is Climate Proof Areas?

Climate is changing and Europe needs to adapt. Scientists and civil servants from Belgium, England, Germany, Sweden and the Netherlands united in one project: Climate Proof Areas, funded by European North Sea Region Program. Their goal? Creating safer, more natural and more prosperous land use options for future development.

Thirteen partners from these five different countries joined forces to develop new and innovative methods and help render threatened areas 'climate proof'.

Since 2008, the team has gained insights on:

- ▶ the regional effects of climate change on the North-Sea Region
- ▶ the implementation of innovative measures in 8 pilot sites
- ▶ recommendations for gaining political support
- ▶ the necessary tools for building your own climate proof area

Please visit our website to find our results ...
Time to adapt!

Colophon

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Titchwell Marsh Reserve

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Investing in the future by working together for a sustainable and competitive region

