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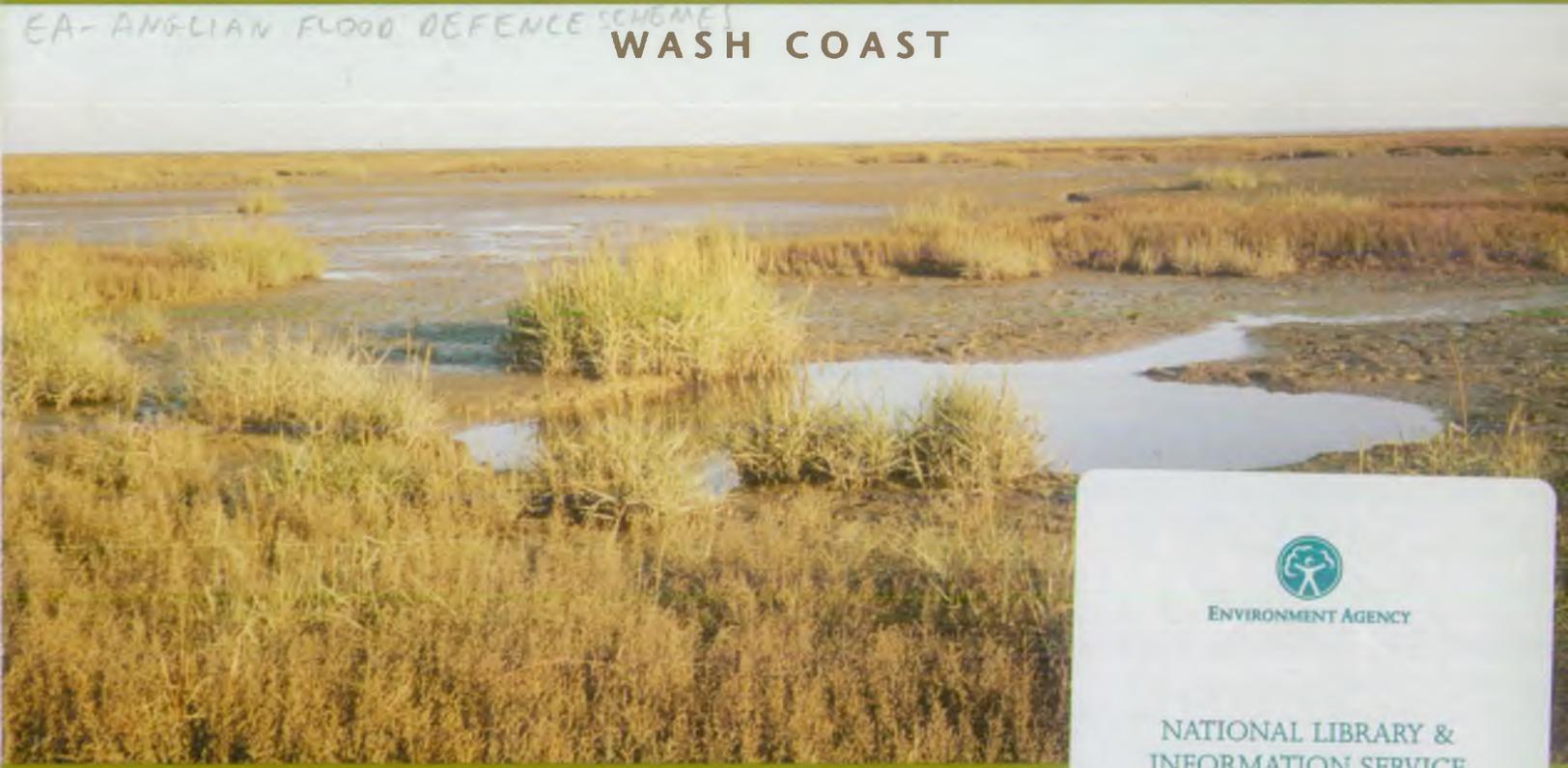
Wash Banks Scheme



# PROTECTING THE LINCOLNSHIRE

EA - ANGLIAN FLOOD DEFENCE SCHEMES

## WASH COAST



ENVIRONMENT AGENCY

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Peterborough PE2 5ZR



ENVIRONMENT AGENCY

# Planning Flood Defence - The Wash Banks Scheme

The Agency is responsible for managing, maintaining and improving flood defences, which provide protection to people and property. The provision of defences must be carried out in a way that does not damage the unique environment of the Wash, but ideally works with nature. In searching for a solution that balances all interests, the Agency is planning a strategy to compliment the Wash Shoreline Management Plan (1996), which combines natural processes with the provision of effective defences for this vulnerable stretch of coastline.



Sea defences are crucial and provide a front line of defence for an area of 80,000 hectares, of low lying fenland, including scattered villages, prime agricultural land and Boston. Much of this land and property is 3m or more below surge tide levels.

Over a span of several centuries, a chain of earth banks has been constructed to claim land for agriculture and to protect settlements from flooding. Several of the banks have been in place for many years and a study has been undertaken to review the standard of sea defence provided.

This study has provided a Strategy for the Wash between Gibraltar Point and the Hobhole on the Witham Haven, a length of nearly 30km. This has been approved by the Agency's Lincolnshire Flood Defence Committee. This Strategy assesses the standard of protection provided by the embankments together with possible improvements which have been assessed for technical and economic merit. As part of this process an Environmental Assessment has been completed to ensure any proposals are environmentally acceptable.

For the section from Butterwick to Hobhole, a length of 8km, a combination of strengthening and realigning defences is proposed. Part of the works proposed includes building a 'cross bank', for which planning permission has now been granted.

Situated on part of this coastline is Her Majesty's Prison North Sea Camp, based on land which was claimed from the Wash. The proposed works will improve the defences in front of the Prison and adjacent farmland.

The northernmost section is under considerable distress, having suffered serious erosion in recent winters and is not considered to be sustainable along its current alignment. The recommendation for this section is for the Agency to strengthen the secondary line of defence for part of the section and to construct a realigned bank on the remainder, justified over a 10 year life.

The Prison Service has agreed to fund effective maintenance of the existing bank until the new defence is completed. After this the land between the lines of defences can gradually revert to saltmarsh, creating a valuable foreshore defence and habitat.

A partnership between English Nature, the Environment Agency, The Prison Service and RSPB is proposing the recreation of saltmarsh to form an integral part of the flood defence at Freiston Shore as part of the Wash Bank Strategy.

The southernmost section is not under serious stress, but it is not clear that the current alignment is sustainable in the long term. The recommendation for this section is for the Agency to improve the primary defence, justified over a 10 year life, with funding for the scheme in the form of grant in aid from the Ministry of Agriculture, Fisheries and Food, together with levies and precepts raised by the Lincolnshire Local Flood Defence Committee.



Continued monitoring of the foreshore and bank condition will be carried out so that the situation can be re-assessed following completion of the scheme.

A partnership has been set up between the Environment Agency (lead partner), RSPB, Boston Borough Council, Lincolnshire County Council and Lincolnshire Bird Club to secure Objective 5b European funding using the flood defence scheme as match funding. The 5b funding programme provides a unique opportunity to increase the nature conservation and recreation of the area that would not be readily fundable in the current economic climate.

The funding will allow a variety of enhancements to be carried out to the flood defence scheme and a number of initiatives to be progressed by the other partners, such as wetland creation, cycle routes etc.



## SALTMARSHES

Saltmarshes and their fronting mud flats are one of the rarest habitats in the United Kingdom, with just 44,000 hectares, compared to three quarters of a million hectares of woodland. They are formed by fine silts and sands, deposited in sheltered locations and colonised by specialist salt tolerant plants. The plants act as a buffer to tidal currents and waves, encouraging more silts to settle and forms integral living part of the Flood Defences.

There are 4,200 hectares of saltings in the Wash, about 10 percent of the total in the United Kingdom. For the past thousand years it has been expanding and moving seawards despite sea level rise. Since Saxon times as the marsh expanded, man enclosed and drained the marsh for farmland. By the mid 1980s, the situation changed and, although salt marsh was still generally expanding, the tidal flats had stopped moving seawards ahead of the marsh. During the period 1982 to 1997 English Nature calculated a 13 percent loss of saltmarsh along the 9 kilometre frontage of the North Sea Camp.

With a healthy salting fronting a sea wall, the costs of maintaining an effective sea defence is comparatively low. The marsh area dissipates the wave action decreasing the erosion forces acting on the sea bank.

Saltmarshes provide an ideal habitat for wildfowl. Many birds spend the winter months on the saltmarshes of East Anglia as the areas provide feeding grounds to enable the birds to survive between breeding seasons.

All salt marsh plants are well adapted to cope with salt water. On stable mud flats the now rare eel grass (*Zostera*) and other salt marsh plants provides a binding root system, which combined with the leaves aids accretion to the low mud areas. Fleshy stemmed samphire, cordgrass, spartina and puccinellia grass colonise the fragile mud. Purple sea lavender, sea purslane and many species of grass all colonise particular zones and sediment type creating a colourful and diverse habitat. All are scarce plants that can be found nowhere else. All help toward sea defence stability.

With their incredible numbers of living invertebrates, mud flats and saltings create the most protein rich and productive land in the United Kingdom.

Since the end of the last ice age (10,000 BC) salt marshes have advanced and retreated as relative sea levels have decreased or increased. When sea level is falling or rising slowly, saltings can accreted and advanced. If sea levels are rising 'rapidly' they have migrated landward, providing a natural defence to higher level lands. Overall, in the Wash and North Norfolk the marshes are accreting, or stable, though there is erosion in this part of the Wash.

### FURTHER INFORMATION

#### GENERAL

For more information on the Wash Banks Scheme contact:

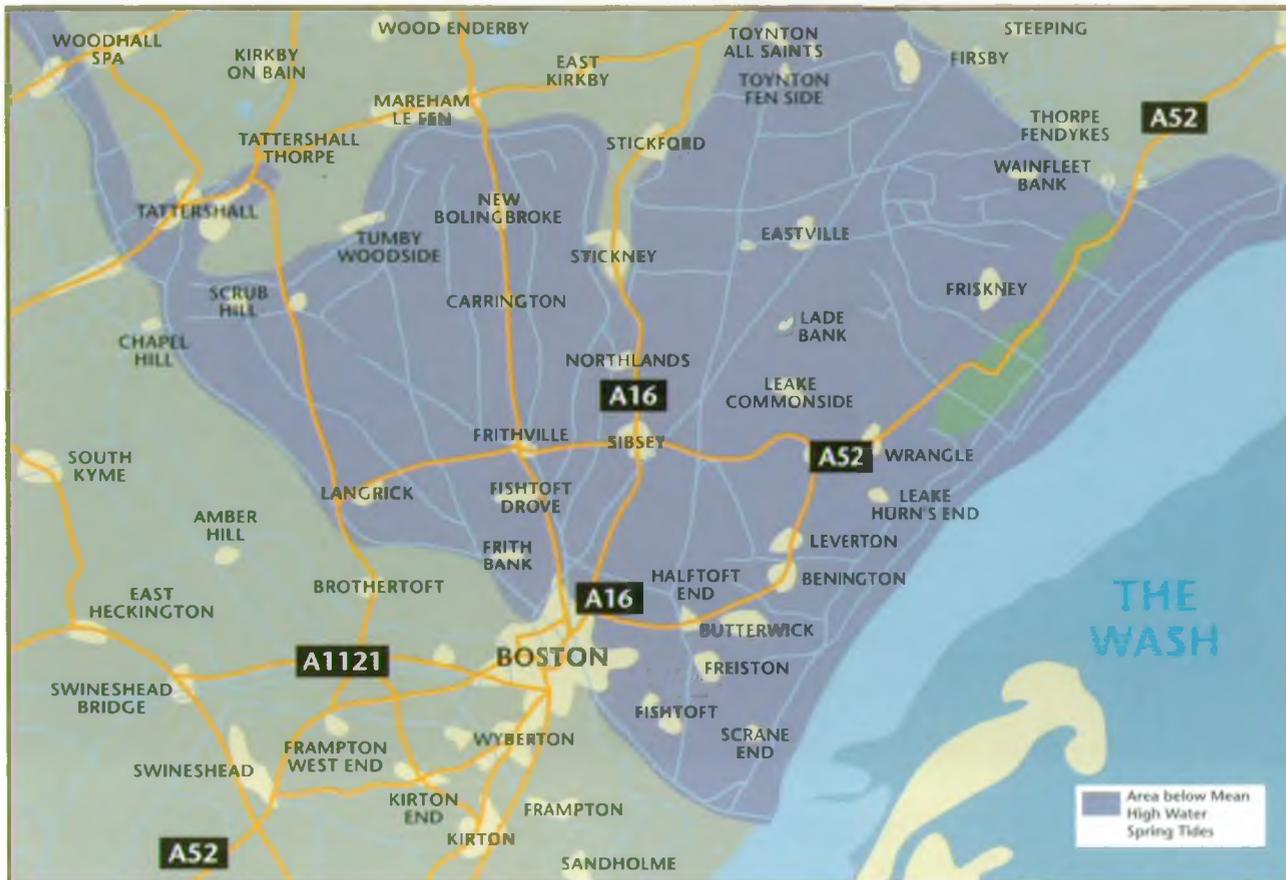
Chris Allwork, Environment Agency, Kingfisher House, Goldhay Way, Orton Goldhay, Peterborough PE2 5ZR  
Tel: 01733 464127.

#### ENVIRONMENTAL

For information on environmental issues concerning the scheme, please contact:

Chris Durdin and John Sharpe, RSPB East Anglia Regional Office, Stalham House, 65 Thorpe Road,  
Norwich NR1 1UD Tel: 01603 661662.

Ian Paterson, English Nature, The Maltings, Wharf Road, Grantham NG31 6BH Tel: 01476 568431.



# Protecting the Lincolnshire Wash Coast

Managing the Wash on the Lincolnshire Coast is a major task for the Environment Agency. As one of the most powerful environmental regulators in the world, it has a duty to work towards sustainable management of land, air and water. The Agency has a wide-ranging interest in managing the Wash. It has responsibility for flood defence, water resources, water



quality, air quality, fisheries, recreation, conservation and waste regulation.



## CONSULTATION

The Agency has consulted with a wide range of people and organisations about the proposals included in the strategy. As well as statutory consultees like English Nature, the Agency is liaising with other interested parties, including the Royal Society of the Protection of Birds, Parish Councils, individual landowners and tenants.

## ENVIRONMENTAL ASSESSMENT

The environmental sensitivity and importance of the Wash require careful study in order to assess the possible impacts of flood defence proposals. Therefore the Agency produced an Environmental Assessment which shows that there will be no significant impact on the environment. Indeed the creation of 70 plus hectares of salt marsh represents a major environmental benefit.

## PROGRAMME

DATE	Scheme Programme
Autumn 1999	Upon receipt of approval, construction of crossbank and bank raising
2000	Completion of bank raising work
2002	Managed breach of old seawall to create new salt marsh

## SHORELINE MANAGEMENT PLANS

Our coast is a living and moving shoreline. Weather, wind and tide are continually changing its shape as vast quantities of sand, shingle and silt are moved to and fro. In this moving and fragile environment, man-made coastal flood and erosion protection measures can alter and interfere with the natural process of sediment movement. The result can be protection in one area at the cost of erosion in another. A strategic approach, which builds on our knowledge of coastal processes and considers the coastline as a whole, is vital to avoid piecemeal attempts to protect one area at the expense of another.

Shoreline Management Plans are intended to provide the vehicle for the long term, sustainable protection of our coastline. They are part of a national initiative on the future planning for our coastline, backed by the Ministry of Agriculture, Fisheries and Food, Association of District Councils, English Nature and the Environment Agency.

While it is essential that we consider our coastline as one living coast, it would be physically impossible to prepare one plan for the entire length of coastline. Fortunately, nature provides us with convenient methods of subdividing the coast into manageable lengths. Using our knowledge of coastal processes and having regard to existing land use, we have identified lengths of coast ('cells') that are reasonably self-contained in terms of net sediment transport. One of these cells covers the coastline of the Wash from Gibraltar Point to Snettisham.

The Wash Shoreline Management Plan recommends at present to 'hold the line', but identifies uncertainties concerning the shoreline between Hobhole on the Boston Haven and Gibraltar Point and isolated areas where current erosion is threatening the existing banks. A monitoring programme was recommended to collect data for use in the review of the Plan after five years. Consequently any works prior to the review will be carried out with a view to not prejudicing this outcome. This is achieved by a short economic justification period.

## MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including Government.

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For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

#### ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

**0645 333 111**

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

#### ENVIRONMENT AGENCY EMERGENCY HOTLINE

**0800 80 70 60**



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