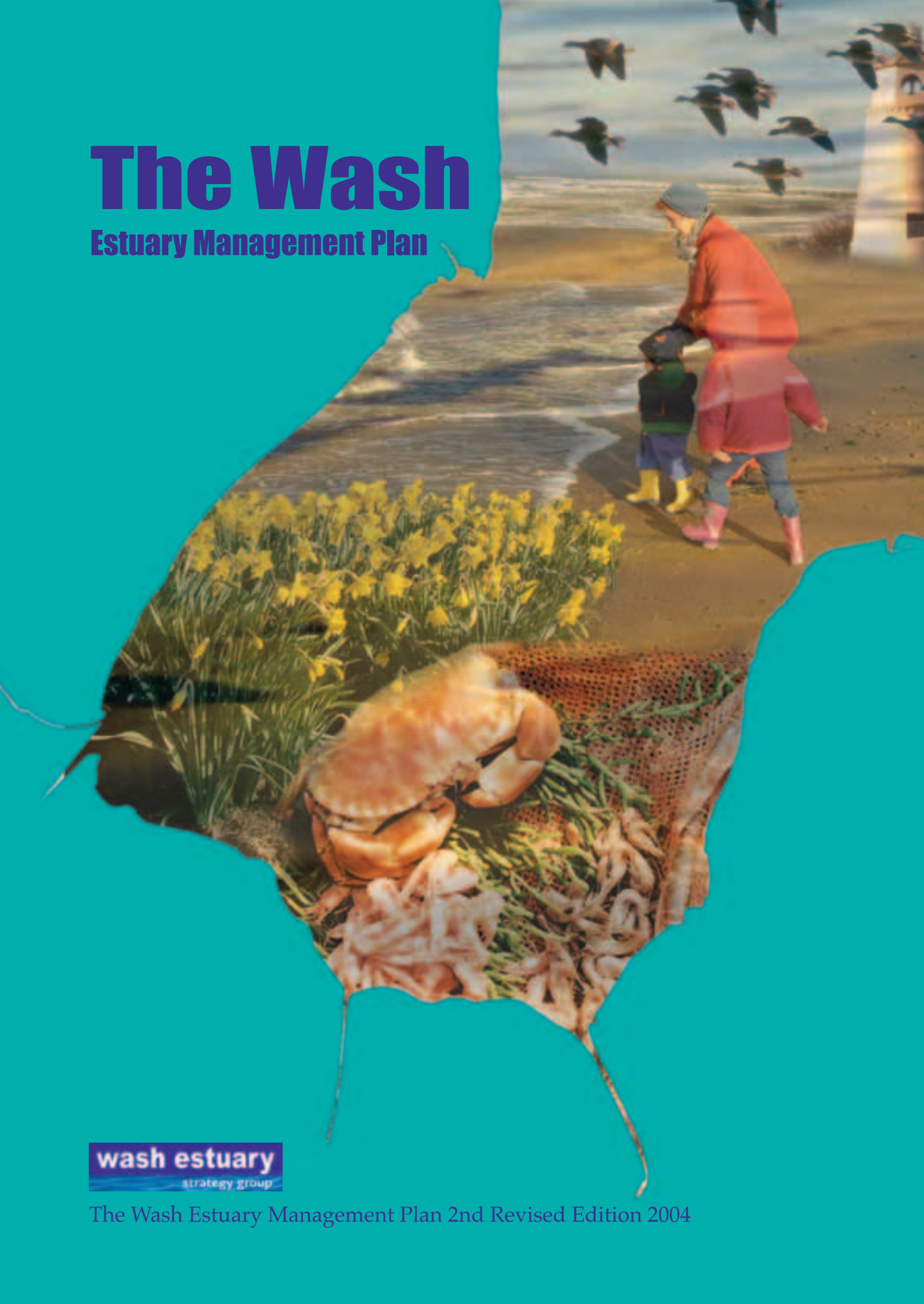


# The Wash

## Estuary Management Plan

**wash estuary**  
strategy group

The Wash Estuary Management Plan 2nd Revised Edition 2004



The background of the page is a close-up photograph of water with soft, out-of-focus ripples. The water has a warm, slightly pinkish-brown hue. A solid dark red vertical bar runs along the right edge of the page.

# **The Wash Estuary Management Plan**

2<sup>nd</sup> Revised Edition 2004

A large print version of this report is available from the Wash Estuary Strategy Group. Contact details are provided on the back cover.

Front cover picture credits:

Lighthouse courtesy: Lincolnshire County Council

Family on beach courtesy: David Smalley

Birds courtesy: Neil Smith

Daffodils courtesy: South Holland District Council

Food from The Wash courtesy: The Wash Wildfowlers

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**The Wash Estuary Strategy Group is a partnership of organisations with interests in The Wash and its hinterland:**

**Borough Council of King's Lynn and West Norfolk\***

**Boston Borough Council\***

**Department for Environment, Food and Rural Affairs**

**East Lindsey District Council\***

**Eastern Sea Fisheries Joint Committee**

**English Heritage**

**English Nature\***

**Environment Agency**

**Internal Drainage Boards of The Wash**

**Lincolnshire County Council\***

**Lincolnshire Parish Councils**

**Ministry of Defence (Defence Estates)**

**National Farmers' Union**

**Norfolk County Council\***

**Norfolk Parish Councils**

**Port Authorities of The Wash**

**South Holland District Council\***

**The Wash and North Norfolk Coast European Marine Site**

(\*Denotes funding partner)

## **Acknowledgements**

We are extremely grateful for the continued support from our partners (listed above) in the Wash Estuary Strategy Group and the bodies that fund it. In particular we would like to thank the many individuals and organisations that have assisted in the review process and production of this management plan - through responding to our postcard questionnaire; by attending a meeting, seminar or the November 2003 conference; or by providing comments on the consultation draft. Many thanks also to those who provided illustrations for this document.





## Foreword

The publication of this revised Estuary Management Plan is a major step forward for the Wash Estuary Strategy Group. It sets out our partnership's shared view on a wide range of issues associated with the sustainable use of this important estuary system.

The Wash has some of the most remote countryside in England. It contains sites of international importance for wildlife conservation and includes nationally significant landscapes. It is also home to many people and communities who depend on the area's resources for their livelihoods.

This document replaces the first Estuary Management Plan, published in 1996. Like its predecessor, this plan is also a non-statutory document. Its successful implementation will continue to depend on the goodwill of our partners.

The new plan is the culmination of a review process that started in summer 2003. Through that review we sought to clarify the characteristics that make The Wash special and identify actions needed to ensure it remains a treasure for future generations. This document reflects the findings of the review and the agreed way forward.

It is our aim for this revised plan that it continues placing the concept of sustainability at the heart of decision making in The Wash area. The policies published in this document aim to strike a balance that allows people to prosper today and safeguards wildlife and landscape for years to come.

But this plan is just the beginning, and now we must work together to achieve our aspirations. The Wash Estuary Strategy Group is committed to transforming this plan into action on the ground for the benefit of The Wash, its wildlife and the people who live here. For as long as the tide goes in and out we will continue working together for The Wash.



Photo courtesy: Lincolnshire County Council

John Fisher, Chairman of the Wash Estuary Strategy Group

*John A Fisher*

October 2004





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## Executive summary

Estuary management projects are voluntary initiatives that aim to manage and co-ordinate the wide variety of human activities that occur in and around estuaries. This management and co-ordination should aim to guide the 'sustainable use' of the estuary so that it can function effectively - physically, biologically and chemically. The Wash is covered by many administrative areas, regimes and responsibilities. Its protection and use is the subject of many different pieces of legislation. For these reasons this plan is required in order to guide the 'sustainable use' of The Wash.

This estuary management plan is intended for use by professionals working in areas associated with planning, development, social issues, environmental management and education.

The area covered by this plan has no fixed geographical boundary however its core concern is the water, shoreline and wetland beyond the sea banks/cliff

base. Consideration of boundaries is guided by the many different issues that arise in different parts of its hinterlands, the adjacent North Sea or beyond, that have the potential to affect The Wash.

The information set out within this estuary management plan is complex and wide ranging. It suggests why The Wash is a special place and then looks across all aspects of the area and puts forward a set of direct recommendations as to which steps need to be collectively taken in order to progress towards the sustainable use of this important estuary system. The plan has been guided by the findings of a varied programme of consultation.

A structured approach has been taken in setting out these steps to sustainable use. This has been done by developing four main aspirations that are concerned with: natural and cultural assets; people and property; livelihoods; and living and learning.



Photo courtesy: Lincolnshire County Council

The Wash is used for a wide range of recreational activities



Photo courtesy: Neil Smith

Grey Heron (*Ardea cinerea*) fish in the many dykes, drains and rivers that criss-cross the hinterlands of The Wash

These four main aspirations for The Wash are, respectively:

To foster widespread recognition of the wild, distinctive land and seascapes of The Wash, its wildlife and historic features.

To respect The Wash as a place where people can continue to live safely, prosperously and in harmony with their natural environment.

To work in partnership with businesses and industries, that depend on The Wash for their prosperity, in ways that are sympathetic to this special environment.

To encourage sensitive use of The Wash as a place to enjoy; and make the most of its educational potential.

Beneath each aspiration a series of policies is set out. These are intended to focus people towards the main priorities for The Wash. Each of these aspirations and policies has been developed in a collaborative way involving individuals and organisations with interests in The Wash estuary system.

The topics covered are:

Natural and cultural assets - biodiversity, historic environment, land and waterscape, water quality and resources.

People and property - flood risk management and coastal protection, military use, supporting local people and local enterprise (including tourism), planning and development.

Livelihoods – agriculture, commercial fisheries, ports and renewable energy generation.

Living and learning – recreation, traditional activities, quiet enjoyment and education.

The final section of this plan is concerned with its implementation. Information is provided on monitoring, the priorities and main mechanisms for implementation.



## Part I – Introduction

### 1.1 Background

Estuary management projects are voluntary initiatives that aim to manage and co-ordinate the wide variety of human activities that occur in and around estuaries. This management and co-ordination should aim to guide the sustainable use of the estuary so that it can function effectively - physically, biologically and chemically.

A successful estuary management plan is:

- Widely endorsed by the people who have interests in the estuary.
- Used by decision makers to guide the actions of the different organisations involved with the estuary.
- Able to overcome co-ordination issues associated with administrative areas, regimes and responsibilities.
- Easy to understand and simple to use.

In the UK, estuary management plans are non-statutory documents. However, they are fully supported by national policy (Planning Policy Guidance Note 20 – Coastal Planning) and should be produced and implemented wherever it can be demonstrated that they are necessary.



Maud Foster Mill, Boston

Photo courtesy: Lincolnshire County Council

### The Wash Estuary

The Wash, shared between Lincolnshire and Norfolk, is one of the UK's most important estuaries. Local people rely on The Wash and its hinterland for many of their economic and recreational activities, for fishing, port uses, sailing, wildfowling, and many other purposes besides. In addition, the estuary is of international nature conservation significance. Huge numbers of migratory birds stop off here, some to



Common Seal (*Phoca vitulina*)

Photo courtesy: John Heath/English Nature

breed or over-winter, others on their way to more distant places. There is a large colony of seals on The Wash, which also supports a myriad of other organisms. The mudflats teem with invertebrates and there are extensive areas of saltmarsh. The reclaimed hinterlands are crossed by a network of dykes and drains with occasional trees and copses lifting the eye skyward. The vast land and seascapes of The Wash are remote and wild.

The Wash is covered by many administrative areas, and its protection and use is the subject of many different pieces of legislation. In addition, there is widespread agreement throughout the communities of The Wash that this is a very special place. For these reasons this plan is required in order to guide the sustainable use of this important estuary system.

#### **Text box 1 – Integrated Coastal Zone Management and the European Union.**

Integrated coastal zone management (ICZM) is a process which seeks to 'join up' the different policies on the coast while bringing together stakeholders to inform, support and implement these policies.

During the 1990s, the European Commission funded a 'Demonstration Programme' on ICZM. This included 35 projects around Europe (seven in the UK), which were examined to understand the pressures and problems facing coasts. The Demonstration Programme identified a wide range of environmental and social issues at the coast, such as habitat destruction, loss of fish stocks and biodiversity, pollution, economic decline and social deprivation. Interrelated biological, physical and human issues facing European coastal zones were also investigated and the causes were traced to a number of underlying problems, namely:

- a lack of vision related to management at the coast, based on a very limited understanding of coastal processes and dynamics, and with scientific research and data collection isolated from end-users;
- inadequate involvement of stakeholders in formulating and implementing solutions to coastal problems;
- inappropriate and unco-ordinated sectoral legislation and policy, often working against the long-term interests of sustainable management of coastal zones;
- rigid bureaucratic systems and the lack of co-ordination between relevant administrative bodies limiting local creativity and adaptability;
- local initiatives in sustainable coastal management lacking adequate resources and political support from higher administrative levels.

These results provided the basis for a European Parliament and Council Recommendation concerning ICZM, which was adopted by the 15 Member States of the European Union (EU) in 2002. The Recommendation proposed that member states should conduct a national stocktake to analyse which practitioners, laws and institutions influenced the planning and management of their coastal zones. Based on the evidence gathered by the stocktaking, member states should then develop a national strategy to implement ICZM. In March 2003, the UK Government commissioned Atkins to carry out a stocktake of the current framework for management of the coastal zone in the UK. This stocktake is a contribution to the developing ICZM programme for the UK and the national strategies for England, Scotland, Wales and Northern Ireland which are due to be completed by 2006.

**As a local initiative that is working to deliver ICZM on The Wash, the Wash Estuary Strategy Group is making a constructive contribution to furthering the development of ICZM concepts and principles at the local, national and European level. We will continue to work with practitioners in this field, to share our experiences and to learn from others.**

**In particular we will seek to ensure that The Wash is fully considered within the forthcoming development of England's national coastal strategy.**



Photo courtesy: Neil Smith

Waders in flight

## ***1.2 The role and structure of the Wash Estuary Strategy Group***

In recognition of The Wash estuary's international significance and administrative complexity, The Wash Estuary Strategy Group was established in 1994. It is now a well-established partnership made up of the main statutory bodies and interest groups that are responsible for the environmental protection, commercial and social use of The Wash.

The organisations represented on the Strategy Group have different powers and responsibilities. They are all committed to exercising those responsibilities in ways that will ensure The Wash remains a special place for people and wildlife for generations to come.

In striving towards the sustainable use of The Wash, the Strategy Group recognises that working in partnership adds value. The benefits of partnership working include: sharing technical skills; the rapid establishment

of funding partnerships; better understanding of different statutory duties and cultural perspectives; the ability to commission joint research and positive conflict resolution. By working in partnership the Wash Estuary Strategy Group is able to collectively focus on what is best for The Wash, its hinterlands and communities. Occasionally the shared aspirations and policies for The Wash set out within this voluntary plan may deviate from wider priorities of the individual organisations that make up the Strategy Group. This may result in the need for a Strategy Group member to take a perspective that differs from that of the other partners. It is anticipated that this will only arise in exceptional circumstances and the Wash Estuary Strategy Group is committed to working collaboratively whenever possible.

The Wash Estuary Strategy Group is engaged in a range of activities associated with the sustainable use of The Wash. This plan forms the Group's central focus by





Photo courtesy: Richard Littlewood

One of the best ways to enjoy The Wash and its wildlife is to take a boat trip

setting out a series of agreed aspirations and policies (see Part 3). The Group is also jointly involved in a wide range of other activities, for example it organises an annual conference and co-ordinates an annual summer events programme – known as ‘Wash Week’.

The Wash Estuary Strategy Group is a body composed of representatives (members and officers) from each of the partnership organisations. This Group is supported by a secretariat drawn from the group’s funding bodies. This secretariat oversees the day-to-day work of the Wash Estuary Project Officer.

Additionally, the Strategy Group is aided by advice supplied by working groups consisting of local stakeholders. At present there are three working groups focusing on agriculture, heritage conservation

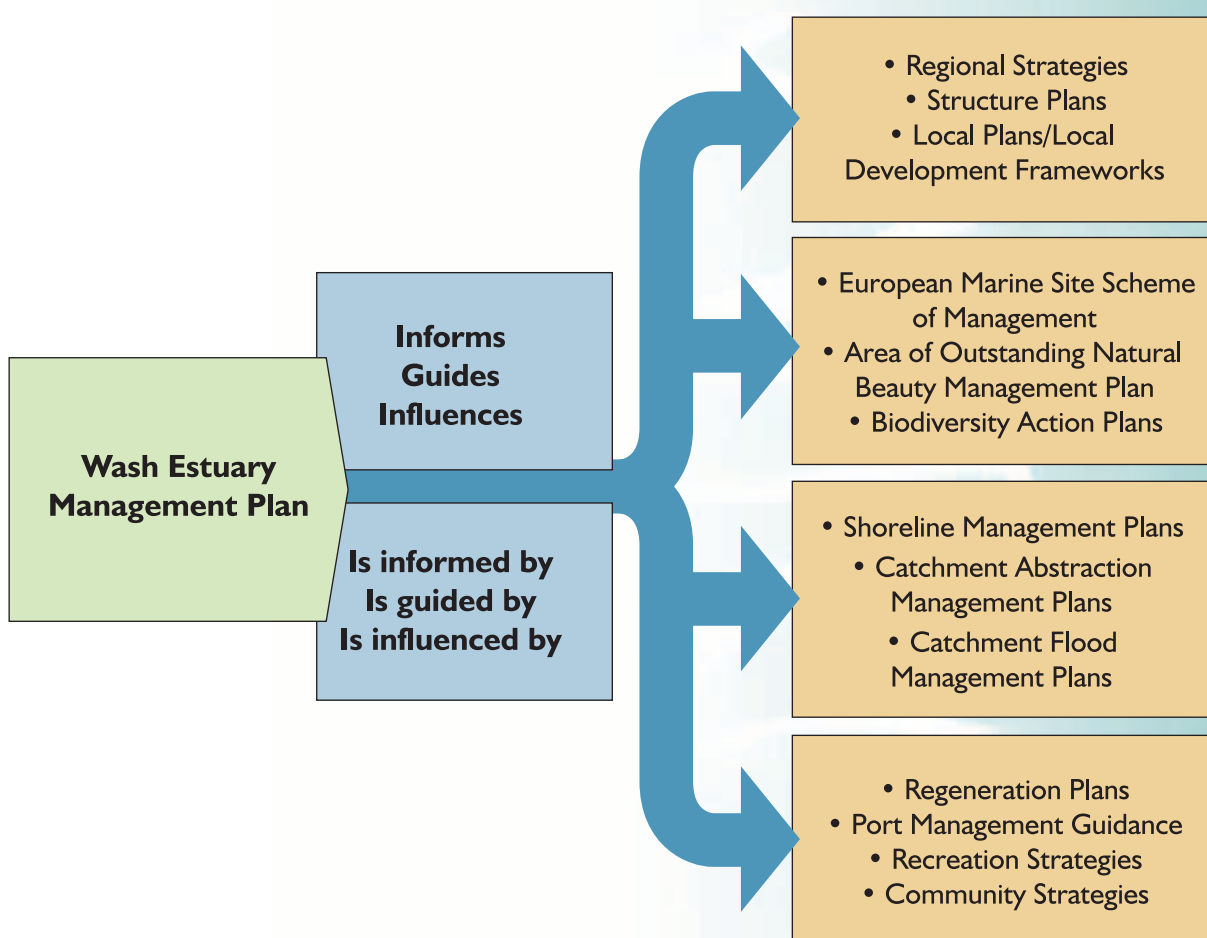
(natural, cultural and historic), and education and interpretation. As implementation of this management plan progresses it may become necessary to develop new working groups or existing ones may evolve.

While this plan sets the overall strategic direction for The Wash Estuary Strategy Group, day-to-day work is also guided by a business plan and an annual work programme. Information concerning these documents is available from the Wash Estuary Project Officer whose contact details are supplied on the back cover.

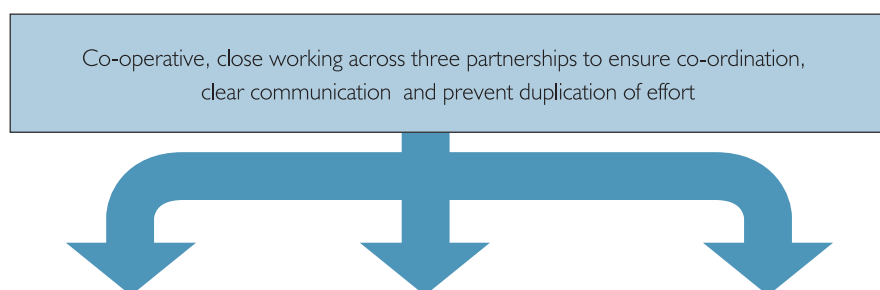
### 1.3 Relationship of this plan to other initiatives

There are other initiatives and plans that relate to The Wash and, as a result, to this estuary management plan. This plan is both guided by and aims to inform these other management plans and schemes (which are in some cases statutory).

The diagram below provides an overview of initiatives this plan will complement.



It is particularly important that this estuary management plan complements the statutory guidance set out within the *Scheme of Management for The Wash and North Norfolk Coast European Marine Site*. Also of particular significance are the priorities of the Norfolk Coast Partnership, which are set out within the *Norfolk Coast Area of Outstanding Natural Beauty Management Plan 2004 – 2009*. The table below provides an overview of these initiatives' roles and how they interrelate.



Name	Wash and North Norfolk Coast European Marine Site (EMS)	Norfolk Coast Area of Outstanding Natural Beauty (AONB)	Wash Estuary Strategy Group (WESG)
Status	Statutory, supported by European and UK legislation	Statutory, supported by UK legislation	Non-statutory, but supported by national policy
Overall Objective	The maintenance, or restoration at a favourable conservation status, of the habitats and species for which the site is designated	To conserve and enhance the essential character of the natural beauty (landscape, wildlife, and built and cultural heritage)	The sustainable use of The Wash estuary
Guiding Legislation/Policy	Conservation of Wild Birds Directive (79/409/EEC) Habitats Directive (92/43/EEC) Habitats Regulations 1994	National Parks and Access to the Countryside Act, 1949 Countryside and Rights of Way Act 2000	Planning Policy Guidance Note 20 – Coastal Planning 1992
Guided by	Wash and North Norfolk Coast European Marine Site Relevant Authorities Group	The Norfolk Coast Partnership	The Wash Estuary Strategy Group
Key documents	<i>Wash and North Norfolk Coast European Marine Site Management Scheme</i>	<i>Norfolk Coast AONB Management Plan 2004 – 2009</i>	This document: <i>The Wash Estuary Management Plan</i> , 2 <sup>nd</sup> Revised Edition 2004
Contact / website	Tel. 01553 772020 <a href="http://www.esfjc.co.uk/ems.htm">www.esfjc.co.uk/ems.htm</a>	Tel. 01328 850530 <a href="http://www.norfolkcoastaonb.org.uk">www.norfolkcoastaonb.org.uk</a>	Tel. 01406 425518 <a href="http://www.washestuary.org.uk">www.washestuary.org.uk</a>



### 1.4 The area covered by this plan

The core area this plan covers is the water, shoreline and wetland beyond the sea banks/cliff base, however no fixed geographical boundary has been set. Instead, consideration of boundaries is guided by the many issues that arise in its hinterland, the adjacent North Sea, or beyond, that have the potential to affect The Wash.

For example, an industrial process occurring within the catchment of one of the five rivers that drains into The Wash, which has the ability to change the estuary system's biology, ecology or chemistry, is a matter for consideration in this plan. Clearly activities occurring on or in The Wash itself, such as fishing, sailing or the movement of waterborne freight are also directly relevant to the well-being of this dynamic estuarine system.

By taking this open approach to considering the future of The Wash, the Wash Estuary Strategy Group aims to be receptive and responsive to change and will actively encourage all individuals and organisations whose actions influence The Wash to be responsible for its well-being.

### 1.5 Review process

This plan has been guided by the findings of a varied programme of consultation which comprised:

- A road show that visited five summer public 'fun' events around The Wash using a postcard questionnaire as a tool for focusing attention on the area and gathering data in a way that was simple to analyse. This postcard was also placed in selected libraries and public buildings around The Wash. In total, 389 completed postcards were returned.
- Three workshops for the working groups on education, nature conservation/historic environment and agriculture.
- A series of six information gathering meetings with key statutory organisations, such as the Environment Agency, and representatives from different sectors such as fisheries and ports.
- A one day 'Action Planning' conference that was attended by over 60 people.
- The production of a draft estuary management plan which has been subject to a formal public consultation exercise lasting four months.



Photo courtesy: Tammy Smailey

A Wash Estuary Strategy Group stand at events enabled people to give their views on the future of The Wash.

Additionally a range of background information held by the Wash Estuary Strategy Group was examined during the drafting of this plan. For example, reference was made to the results of the extensive questionnaire exercise undertaken during 2001.

A paper that provides an overview of the content and findings of all consultation related activities leading up to the production of this plan is available from The Wash Estuary Project Officer. Contact details are provided on the back cover.

### **1.6 Using this plan**

As outlined above, this estuary management plan has been produced following an extensive programme of consultation involving the local communities of The Wash, statutory bodies and interested individuals and organisations. This plan is primarily intended for use by professionals working in areas associated with planning, development, social issues, environmental management and education. However, many other organisations and individuals will find this a useful document.

The Wash Estuary Strategy Group hopes that this estuary management plan will be used in a variety of ways:

- Use Part 2 of this document to understand why people feel that The Wash is a special place. This section reflects the range of views expressed during the consultation process and forms a basis from which we have devised our priorities for the sustainable use of The Wash.
- Part 3 sets out the steps necessary for sustainable use of The Wash. This is expressed with the help of four overarching aspirations each dealing with a different element of sustainable development. Underneath each aspiration is a series of policies which set out the position of the Wash Estuary Strategy Group and the direction that we intend to take on each issue addressed. These policies are there to help readers understand the shared position of the Wash Estuary Strategy Group, and to encourage the development of similar standpoints within other organisations. This will facilitate joined up working towards the sustainable use of The Wash. Additional background explanation concerning aspirations and policies is provided in section 3.1.
- Part 4 provides an overview of the mechanisms for plan implementation and monitoring.
- This plan is a valuable information tool. It provides information on: The Wash estuary system; who is responsible for its management; and how different interested organisations operate and relate to one another.

*A non-technical summary leaflet has been produced to accompany this plan.*

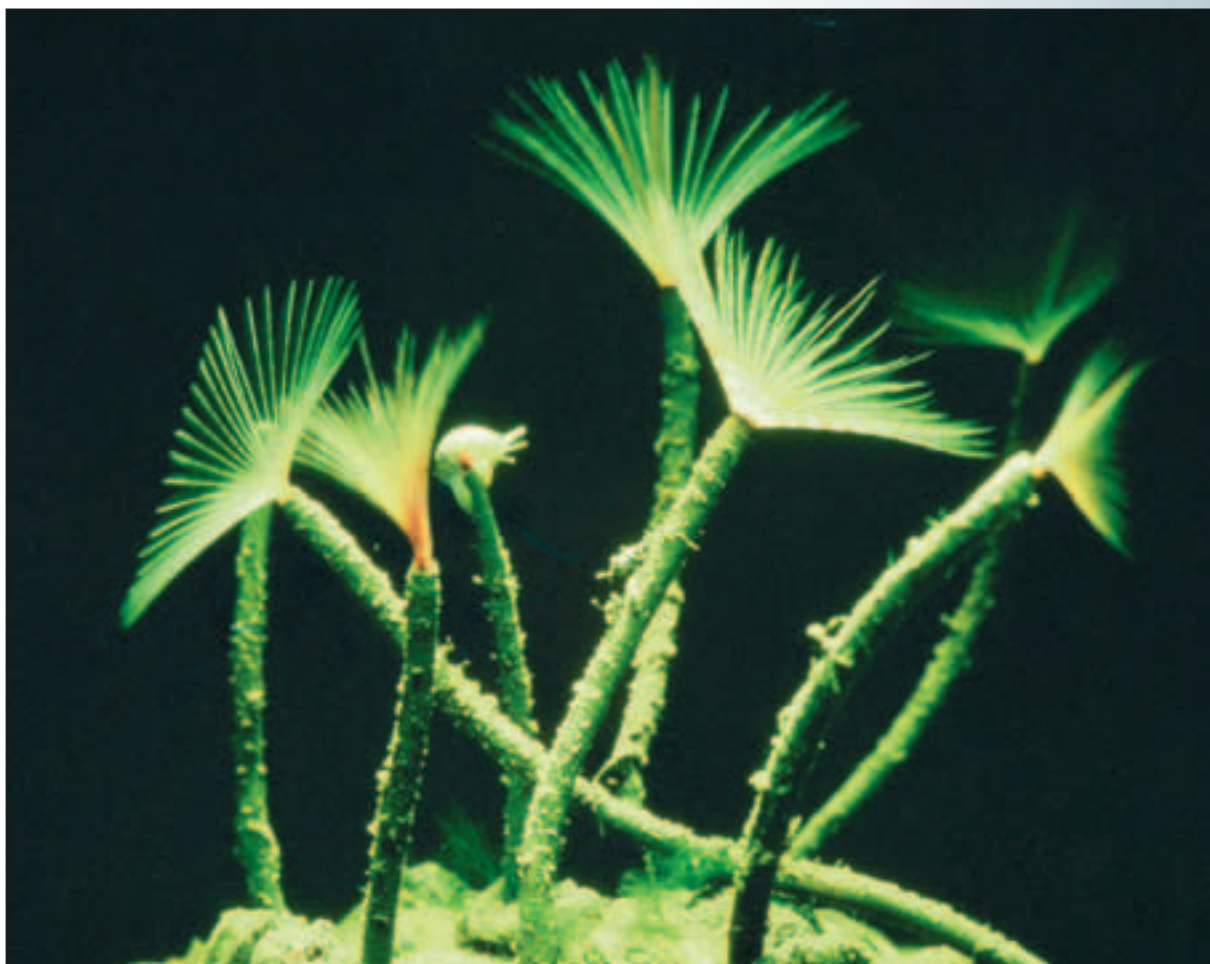


Photo courtesy: David George/English Nature

Peacock Worm (*Sabella pavorina*)

## Part 2 – The Wash: a special place

### 2.1 Introduction

When the Wash Estuary Strategy Group decided to revise the estuary management plan it was particularly keen to find out and communicate what it is that makes the estuary so special to the people who live and work there. Many characteristics of The Wash are highly visible – for example the huge numbers of birds or the area's thriving agricultural economy. Other equally important traits are far less tangible and therefore much more difficult to express – the sense of isolation when out on the marshes, or the need to feel safe from flooding, for example.

During the review process, through the postcard questionnaire and at the Action Planning conference, people were asked structured questions in order to find out what it is about The Wash that is so special. The results of this exercise are set out in the next section. This is followed in section 2.3 by some additional comments provided by members of the public. These comments, and many more, have helped shape this report and help to answer the question 'Why is The Wash a special place?'



## 2.2 A special place

Everything in The Wash seems to be on a huge scale – massive flocks of birds, the vast sky, mile after mile of shoreline and, above all, that great expanse of water that lies at its centre. A samphire gatherer or fisherman raking cockles is dwarfed by a landscape where the tide can expose sand and mud almost as far as the eye can see. You can gaze for miles across the flat, reclaimed



Sea angling on Skegness Beach

farmlands; the towers of parish churches joining St Margaret's church in King's Lynn and the Boston Stump in punctuating the horizon.

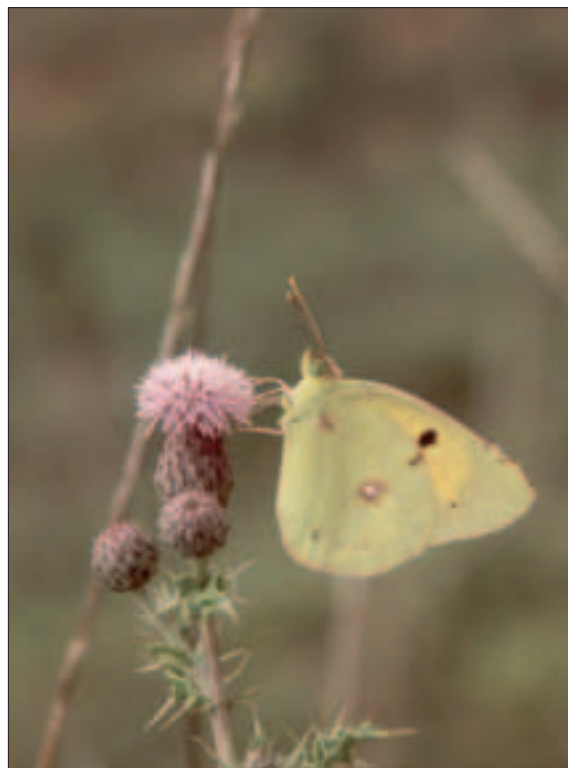
There are also areas where the scale is more intimate, such as in the small towns and villages that are dotted throughout its hinterland. People have lived by The Wash for centuries, drawn here by fertile arable land, the bountiful seashore and fisheries. Land and sea continue to provide livelihoods for communities today,



Pink Footed Geese (*Anser brachyrhynchus*)

traditions that make communities proud. But people who live here also want to see more variety developed in the local economy.

It is special not only to the people who live here. Every summer you will find beaches - from Skegness to Hunstanton - busy with families enjoying the grand traditions of a bucket-and-spade, seaside holiday. Each year thousands of birds fly great distances across land and sea to feed and breed here. For them it is not just special – it is crucial to their survival.



Clouded Yellow Butterfly (*Colias crocea*)

Photo courtesy: Lincolnshire County Council

Photo courtesy: Neil Smith

Photo courtesy: Neil Smith



Photo courtesy: Borough Council of King's Lynn &amp; West Norfolk

Historic riverside: Great Ouse, King's Lynn

From muddy tidal creeks to rolling sand dunes; from farms to ports – there is great diversity here. A suite of coastal and marine habitats is found; where internationally important mudflats, sandbanks and saltmarshes support an array of animals and plants including common seals, samphire and over 300,000 water birds. Beneath the surface of The Wash lies a myriad of corals, worms and sea anemones.

Its wilderness is something to be celebrated; it's a quality that is fast disappearing in England - yet it provokes a mix of feelings. Many cherish the tranquillity; value it as a place to find peace, inspiration, space and dramatic sunsets. Others find it desolate, lonely, and dangerous.

While it is remote, factors from far away do influence The Wash. The rivers that flow into it bring water that fell as rain upon more than a tenth of England. Great quantities of North Sea flow in and out of the mouth of The Wash every day. The Wash is not an easy place to define boundaries, especially where the land meets the sea. People need the reassurance that the risk of flooding is being managed. When we look to the future, there is much about The Wash that is unpredictable.

This is a plan that will be receptive to change, it looks at The Wash as a whole, regardless of administrative boundaries. It aims to champion The Wash, move it up the political agenda. Above all it forms the basis of this partnership's commitment to promoting a living, working coastline that can be enjoyed in ways that are in harmony with this special environment.



Photo courtesy: Jon Watson

Fishing boats at the quayside, Boston



Photo courtesy: Lincolnshire County Council

The River Steeping, which enters The Wash south of Gibraltar Point.

### **2.3 About The Wash**

On Map A opposite you will find a sample of statements made by members of the public during the review process. The aim is to provide a little more information about what different people think about The Wash.

#### ***The Wash: a special place***

The quotations within the speech bubbles on Map A provide an insight into statements people made about The Wash during the review of this plan.

As would be expected there is a diversity of views, beliefs and values. The variety and strength of feeling about The Wash are in themselves a very good reason why The Wash is a special place.

As far as is possible, this range of comments has been taken into consideration within this plan.



## Map A: About The Wash

"I think that more could be done in this area with renewable sources."

"Surprisingly The Wash's defences are the envy of the coastline and full of natural beauty."

"I think offshore wind turbines are a good idea - I believe they should be at least 5 miles from shore... How does this affect wildlife?"

"Promote the identity and qualities of The Wash"

"We are custodians of a valuable natural resource which should be tapped for the benefit of all."

"Just leave the sea to itself, let nature take its course."

"The Wash has for years supported man as well as wildlife. So keeping the balance between the two should in my opinion be the aim of those who love The Wash."

"I grew up by The Wash and regret where the 'wildness' of The Wash has been lost to being 'tidied' up. Management must preserve the wildness."

"The Wash should be protected at all costs. The Wash and its environs are not ours - they are only loaned to us and must be protected for future generations."

"I have lived in Holbeach for three years and love it. I wouldn't like to live anywhere else."

"It is important to restrict development. Holiday houses are raising prices and leaving dead villages in winter."

"We need alternative sources of energy but at what cost to wildlife? Eg migratory birds and shipping? How vulnerable would it be in the event of war?"

"The Wash is an incredible resource, but we don't know enough about its management and wider problems. There is always a fear of flooding in low-lying areas of Lynn."

"Safeguard fishing, encourage more boating trips in The Wash."

"Water quality and environmentally sustainable policies should further enhance the area and lead to enhanced areas for wildlife and marine ecosystems."

**wash estuary**  
strategy group

Map designed and illustrated by Sam Ely from aerial photographs supplied by the Environment Agency  
© Wash Estuary Strategy Group





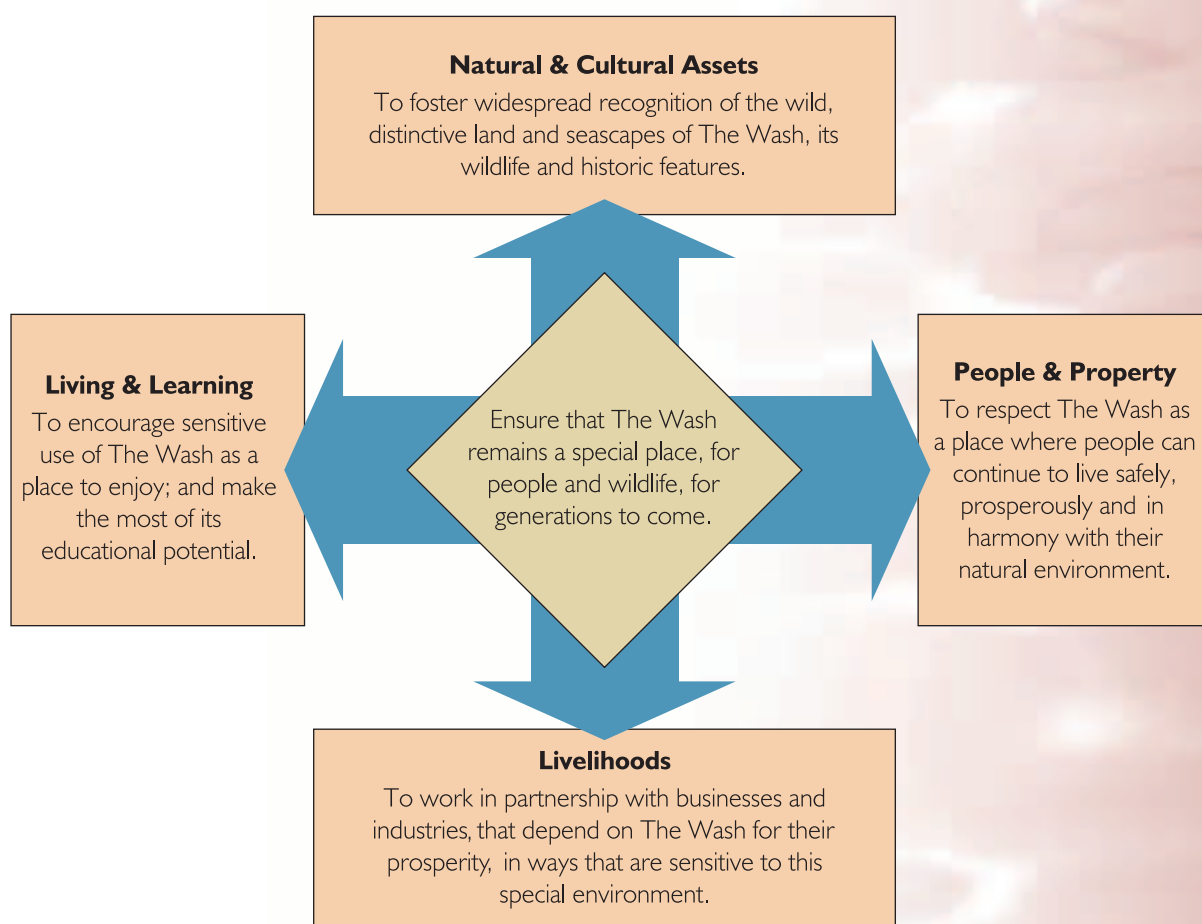
## Part 3 – Taking steps towards the sustainable development of The Wash

### 3.1 Our main aspirations and policies

The key principle underpinning this management plan is a commitment to sustainable development through balancing the current needs of society, the economy and the environment without compromising the needs of future generations. Four interrelated topics provide a framework for this plan. An aspiration has been identified for each topic representing the Wash Estuary Strategy Group's overarching goals for The Wash.

An aspiration is an eager or overall desire – something high to aim for. Presented in the diagram below are four main aspirations for The Wash.

Beneath each aspiration and presented within the remainder of Part 3 of this plan is a series of topic specific policies for The Wash and its surrounding hinterland. All policies were devised following extensive consultation.



For the purposes of this estuary management plan a **policy is a statement setting out The Wash Estuary Strategy Group's agreed position on a given topic and what should be done.**

For ease of reference, some policies also contain supporting text providing essential background information. The 'core' of each policy is presented in bold.

Some policies require action by The Wash Estuary Strategy Group, others will require us to influence other bodies to ensure successful policy implementation.





### 3.2 Natural and cultural assets [NCA]

The Wash is an outstanding natural asset. It is of international, national and local wildlife importance and has a unique historic environment and cultural heritage. In addition, The Wash has generally good water quality. It is one of the last remaining 'wilderness' areas in England. Its immense environmental value should not be underestimated as a potential catalyst for sustainable regeneration of The Wash area.

**Main aspiration** – To foster widespread recognition of the wild, distinctive land and seascapes of The Wash, its wildlife and historic features.

#### 3.2.1 Biodiversity

The Wash is a highly productive complex of inter-dependent habitats that is made up of a system of intertidal and sub-tidal sands, reefs, mudflats, saltmarsh, dunes, grazing marsh, saline lagoons, dykes and drains. This system supports a diverse fauna, which includes a notable seal population, a diverse range of invertebrates and an important fish spawning and nursery ground. Of particular significance is the contribution that The Wash



The network of rivers and dykes supports a multitude of insect life

Photo courtesy: Neil Smith



Photo courtesy: Neil Smith

Barn Owl (*Tyto alba*) hunt and breed throughout the hinterlands of The Wash

makes to the conservation of water birds (wading birds and wildfowl). In the winter the estuary supports over 300,000 water birds, this is more than any other British estuary. The sheer diversity of fauna and flora of The Wash provides great enjoyment for many, past and present. The expanse of the various habitats and the wealth of wildlife is breathtaking.

Despite centuries of modification, the seaward habitats of The Wash remain remarkably intact and the fact that the estuary is of international significance for wildlife reflects this. The heavily designated nature of The Wash is recognition of its great importance. The Wash is internationally designated as a European Marine Site, candidate Special Area of Conservation, Special Protection Area and Ramsar site. It is also recognised nationally with designation as a Site of Special Scientific Interest and, in part, a National Nature Reserve. More information concerning the details of these designations is set out within Appendix A and on Maps B and C. Many opportunities exist for people to visit The Wash and observe and learn about its wildlife. This is aided by the existence of an excellent network



of nature reserves, which are open for all to enjoy - including those at Gibraltar Point, Frampton Marsh, the newly created Freiston Shore, Moulton Marsh and Snettisham.

Detailed management measures, legal obligations, and nature conservation guidance for The Wash are set out within the *Wash and North Norfolk Coast European Marine Site Scheme of Management*. This Scheme of Management also sets out the protocol for condition monitoring, compliance monitoring and the assessment of significant effects on favourable conservation status.

*Working with the grain of nature: a biodiversity strategy for England* was launched in 2002. This strategy seeks to ensure biodiversity considerations become embedded in all main sectors of public policy and sets out a five year programme to make the changes necessary to conserve, enhance and work with the grain of nature and ecosystems rather than against them. The Strategy is a Government strategy, but it has been prepared with

the active partnership of a broad range of stakeholders in the public, voluntary and private sectors, and follows on from the production of the *UK Biodiversity Action Plan* in 1995.

Linked closely with the national biodiversity strategy is a series of Local Biodiversity Action Plans. These have been produced for Cambridgeshire, Norfolk and Lincolnshire. For more information visit their website links at the end of this section. A Local Biodiversity Action Plan for The Wash will shortly be produced. The Wash Estuary Strategy Group will act as the main catalyst for plan production and subsequent implementation. The plan itself will contain a series of Species or Habitat Action Plans for The Wash with clear targets and guidance on a variety of issues and projects. This will be achieved through partnership working and will be closely linked with the Biodiversity Action Plan progress already made at county level in Norfolk, Lincolnshire and Cambridgeshire.



Photo courtesy: Andy Horton/English Nature

Anemone (*Sagartia troglodytes*)

This estuary management plan aims to champion the biodiversity of The Wash and will act as the primary vehicle for working towards the sustainable use of this important area. In addition the Wash Estuary Strategy

Group is a useful focus for finding creative solutions to land and water use related conflicts, especially when it is inappropriate to resort to statutory means.

Want to know about?	Talk to:	Look at:
The Wash and North Norfolk Coast European Marine Site: management measures, guiding legislation and detailed monitoring requirements for marine habitats.	The European Marine Site Project Manager on: 01553 772020	<a href="http://www.esfjc.co.uk/ems.htm">www.esfjc.co.uk/ems.htm</a>
The Wash and hinterland local biodiversity targets and habitat re-creation priorities.	The Wash Estuary Project Officer on: 01406 425518	<a href="http://www.washestuary.org.uk">www.washestuary.org.uk</a>
Steps towards the sustainable use of The Wash.	The Wash Estuary Project Officer on: 01406 425518	<a href="http://www.washestuary.org.uk">www.washestuary.org.uk</a>

### Policies

**NCA1 – The Wash Estuary Strategy Group will work to promote widespread recognition of the fact that The Wash is a highly productive complex of inter-dependent marine and terrestrial habitats that are of international, national and local wildlife importance.**

**NCA2 – The Wash Estuary Strategy Group will seek to ensure that the biodiversity of The Wash is maintained and enhanced and that all proposals which may affect The Wash should respect the obligations and commitments set out in the Wash and North Norfolk Coast European Marine Site Scheme of Management and The Wash Biodiversity Action Plan.**

**NCA3 – The Wash Estuary Strategy Group will champion the ecological value of The Wash and act as a focus for finding creative solutions to land and water use related conflicts, especially when it is inappropriate to resort to statutory means.**

**NCA4 – The Wash Estuary Strategy Group will seek opportunities to use biodiversity as the catalyst for sustainable economic regeneration.** This should be a two-way relationship and economic development projects should also seek to deliver gains for biodiversity. New initiatives relating to economic development and biodiversity improvements will need to be supported by local communities.

### Links

More information on biodiversity can be found at:

English Nature - [www.english-nature.org.uk](http://www.english-nature.org.uk)

Royal Society for the Protection of Birds - [www.rspb.org.uk](http://www.rspb.org.uk)

The UK Biodiversity Action Plan - [www.ukbap.org.uk](http://www.ukbap.org.uk)

Wash Biodiversity Action Plan - [www.washestuary.org.uk](http://www.washestuary.org.uk)

Wash and North Norfolk Coast European Marine Site - [www.esfjc.co.uk/ems.htm](http://www.esfjc.co.uk/ems.htm)

Lincolnshire Wildlife Trust - [www.lincstrust.co.uk](http://www.lincstrust.co.uk)

Norfolk Wildlife Trust - [www.wildlifetrust.org.uk/norfolk](http://www.wildlifetrust.org.uk/norfolk)

Cambridgeshire Biodiversity Action Plan - [www.cambridgeshire.gov.uk/sub/cntryside/biodiv/index.html](http://www.cambridgeshire.gov.uk/sub/cntryside/biodiv/index.html)

Lincolnshire Biodiversity Action Plan – [www.lincsbap.org.uk](http://www.lincsbap.org.uk)

Norfolk Biodiversity Action Plan – [www.norfolkbiobiodiversity.org](http://www.norfolkbiobiodiversity.org)

### **Text box 2 - The biodiversity of The Wash**

The Wash is of outstanding importance for wildlife. It has the second largest area of intertidal mudflats and sandflats in Britain and supports the largest numbers of migrating waterfowl of any site in the UK. It has the largest colony of common seals in England and is an important nursery ground for flatfish. As well as its large-scale subtidal and intertidal habitats, The Wash has a number of valuable fringing habitats of conservation significance, such as saline lagoons, shingle structures and dune complexes.

The main habitats and physiographic features, all of national, and some of international significance, include:

- Coastal saltmarsh - Intertidal vegetation on soft sediments, consisting of salt-tolerant plants, able to withstand regular submersion by seawater.
- Coastal sand dunes - Accumulations of wind-blown sand particles that have been deposited above the high water mark, where they are trapped by specialised dune-building grasses.
- Coastal vegetated shingle - Sediments that are deposited above high water mark and which are colonised by specialist vegetation.
- Earth heritage - The rocks, fossils, minerals and landforms of geological interest, together with the natural geomorphological processes that continue to shape the landscape.
- Inshore underwater rock - Rocky habitats that occur below the low water mark and which are permanently submerged below seawater. These habitats are colonised by a variety of underwater species including corals and sea anemones.
- Inshore underwater sediment - Soft sediments (e.g. sands, muds, gravels) below the low water mark and which are permanently submerged below seawater. These habitats are colonised by a variety of underwater species including worms and bivalves.
- Littoral sediment - Sediment shores that are regularly inundated by the tide, forming intertidal mudflats, sandflats and shingle beaches
- Reedbeds - Wetlands dominated by areas of common reed, where the water table is at, or above, ground level for most of the year.

#### **Significant birds and animals:**

Enormous numbers of migrant birds such as grey plover, knot, dunlin, oystercatcher and bar-tailed godwit arrive in the autumn to feed on the rich supplies of invertebrate foods found in the sands and mudflats. The best time to see large flocks of waders is on a rising tide between September and early May as the birds are pushed by the incoming water off the mud and saltmarsh onto the surrounding land. As winter approaches, duck and geese move into The Wash. Pink-footed and brent geese, wigeon, pintail and mallard are found throughout The Wash until the onset of spring.

The saltmarsh represents a valuable area for breeding birds, especially redshank, oystercatcher and avocet. Finally, common seals pup on the sandbanks during the summer.

Once produced The Wash Local Biodiversity Action Plan will set targets to maintain and enhance the area and numbers of these important habitats and species.

#### **Useful information sources:**

Web pages on The Wash Natural Area and National Nature Reserve at [www.english-nature.org.uk](http://www.english-nature.org.uk)

*Wash and North Norfolk Coast European Marine Site Scheme of Management. (2002).*

*Lincolnshire Biodiversity Action Plan (2000).*

*Cambridgeshire Biodiversity Action Plan 2000 (some action plans updated 2003).*

*Norfolk Biodiversity Action Plan 2003.*

The Wash Wader Ringing Group [www.wwrg.org.uk](http://www.wwrg.org.uk)

### 3.2.2 Historic environment

The historic environment comprises all past traces of human existence. It includes evidence of past environments, archaeological sites, historic buildings and the historic aspects of the wider landscape. These assets are unique and, once damaged or destroyed, cannot recover or be re-created. They are of value as repositories of evidence of human activity over millennia; for their contribution to landscape character, sense of place and community identity; and as economic assets which underpin leisure and tourism.

In its current form, The Wash is an embayment (tidal) of the North Sea, which has been progressively submerged by rising sea level over the last 10-12,000 years. Offshore there are submerged peats and land surfaces, with associated human artefacts. The submerged sediments are continuous with the land area known as the Fens, although in places early deposits have been eroded by deep channels. It is likely that many historic wrecks are preserved beneath



Batemans Brewery, Wainfleet All Saints

Photo courtesy: George Bateman and Son Ltd



Greyfriars Tower, King's Lynn

Photo courtesy: Borough Council of King's Lynn & West Norfolk

the seabed, but these remain undiscovered due to the shifting nature of the sands and muds of The Wash.

The Wash and its hinterland are made up of many metres of sediments that have been gradually deposited since Mesolithic times (period between 10,000BC to 5000BC) due to a combination of estuarine and freshwater conditions reflecting periodic sea level rise and fall across the original dry, wooded basin landscape. Across and within the deposits of the Fens lies a record of human history, showing evidence of Neolithic, Bronze Age, Iron Age and Roman habitation, industry and communications. Archaeological treasures include pottery, flints and ceremonial monuments of Neolithic age (5000-2000 BC) and Bronze Age field systems, settlements and round burial barrows. The highly significant site at Flag Fen (near Peterborough) provides a fascinating insight into Bronze Age life. During the Iron Age a salt production industry developed around The Wash.

There is still evidence today of both the Car Dyke and the Fen Causeway which were built by the Romans,





Photo courtesy: Lincolnshire County Council

Boston Stump

who were also responsible for extensively cultivating the Fens. There is evidence of increased colonisation of the Fens from the Middle Saxon period (from around 650 AD). The earliest sea defence – The Sea Bank – is thought to be of Late Saxon date. By the Middle Ages the wetland resources of the Fens were widely utilised and were a centre of productivity for fishing, wildfowling, grazing, peat extraction and salt production.

In addition to the buried remains, there is a variety of historic buildings whose nature reflects the surrounding landscape and past activities. Some of the earliest surviving buildings include twelfth century castles at Castle Acre and Castle Rising.

Boston and King's Lynn were amongst the largest ports in the country during the medieval period, mainly due to the wool trade. This generated a prosperity reflected by churches in the hinterland led by buildings such as, Boston Stump with its medieval lantern tower, as well as

producing priories, manor houses, guildhalls and historic port structures.

The active trade across the North Sea also brought knowledge and expertise in the use of brick which was originally a prestigious material. Boston's 14th century Guildhall is one of the earliest brick buildings in the country and remains of a number of 15th century brick buildings survive around Spalding and King's Lynn. Lincolnshire's geology provided a good local resource and brick has been in use around this part of The Wash since that time for both large and small houses. However, Norfolk has a different geological heritage and flint and stone were widely used, famously seen in Trinity Guildhall in King's Lynn.

Past economies of The Wash and its location have also produced a multitude of more practical buildings from port and warehouse buildings to lighthouses and World War II pillboxes on the coast to windmills, bridges and waterway buildings in the Fens. The dense drainage of the Fens and coast dominates the settlement pattern which is largely of dispersed farmsteads within the coastal area and nucleated villages on higher ground in the hinterland; most towns were established historically as coastal or inland ports.

Of cultural significance are legends such as, King John and his lost treasure. Also, landmarks dedicated to important events form part of the area's heritage including the memorial to the Pilgrim Fathers on the banks of the Haven (River Witham) near Boston, where they were captured while attempting to escape from England. In addition to this, various important and colourful characters are linked to The Wash area such as Sir Peter Scott who founded the Wildfowl and Wetlands Trust and Mackenzie Thorpe, a local character of whom many a tale is told.

Key issues for this management plan associated with historic and cultural assets are:

- The need for decision makers to understand the significance of the known historic and cultural assets of The Wash and to recognise the importance of the historic environment in modern settlements, from small towns to the major port towns.
- Recognition that an enormous amount is still not known and that there is a need for systematic survey of the historic environment of The Wash.

- Ensuring the level and timing of consultation with relevant experts is sufficient to guarantee that historical assets are not accidentally destroyed due to, for example, engineering works.

Finally, it is especially important that the potential value of the historic assets of The Wash is realised as a trigger for education, interpretation and regeneration.

### Policies

**NCA5 – The Wash Estuary Strategy Group will support the work of local authorities to maintain Sites and Monuments records and Historic Environment records and will collaborate with others to protect and manage the historic environment and to widen the knowledge of how this network relates to the current form and uses of The Wash.**

**NCA6 – Due to the masking nature of its sediments, there is still a lot about the history and archaeology of The Wash that remains undiscovered. The Wash Estuary Strategy Group will promote the fact that organisations engaged in engineering activities, including coastal protection and marine developments, should consider the historic environment throughout the life cycle of any works.**

**NCA7 – Opportunities will be sought by The Wash Estuary Strategy Group to raise awareness of, and interpret, the historic environment and cultural heritage of The Wash.**

**NCA8 – Opportunities will be sought by The Wash Estuary Strategy Group to use the historic environment as a catalyst for sustainable economic regeneration with the support of local communities.**

### Links

More information on the historic environment can be found at:

English Heritage - [www.english-heritage.org.uk](http://www.english-heritage.org.uk) (Includes guidance concerning coastal defence and the historic environment).

Heritage Trust of Lincolnshire - [www.lincsheritage.org](http://www.lincsheritage.org)

Norfolk Museums and Archaeology Service – [www.museums.norfolk.gov.uk](http://www.museums.norfolk.gov.uk)

Lincolnshire County Council Built Environment and Heritage Services - [www.lincolnshire.gov.uk](http://www.lincolnshire.gov.uk)



Photo courtesy: Barrie Wilkinson/Lincolnshire Wildlife Trust

Sea Lavender (*Limonium vulgare*)

### 3.2.3 Land and waterscape

Populated by huge flocks of water birds, this exposed and large-scale landscape is bleak, remote and wild, the only evidence of human influence being the prominent

sea bank which forms the tidal land boundary. Running unconstrained into the open sea of The Wash, the landscape is characterised by an extensive blanket of saltmarsh, its features continually changing with the ebb and flow of the tides. A network of meandering creeks cuts through the marshes; together with the green and brown mosaic of marshland plants and mud, plus the sea's salty tang, this creates a characteristic inter-tidal landscape. Contrasting starkly with this natural landscape, the sea defence bank sits prominently.

A little inland, the dark, peaty nature of the soil makes the area highly productive for farming and a rich and varied modern agricultural landscape dominates, exhibiting a wide range of arable, root crops, bulbs, vegetables and livestock. Horticultural glasshouses and other agricultural buildings break up the view.

To the north of the estuary system, the dunes and saltmarshes of Gibraltar Point form a significant feature, complemented on the eastern coastline of The Wash by the nationally significant Norfolk Coast Area of Outstanding Natural Beauty. This area exhibits a coastal landscape of great variety in texture and detail; including intertidal sand and mudflats, sand dunes, shingle banks, saltmarsh, reedbeds and tidal creeks. Further inland is a contrasting large-scale arable and grassland landscape

#### Text Box 3 - Good practice in relation to landscape impacts

- ✓ Discourage planting of trees and shrubs on or beyond the outer sea bank, they are not appropriate to the marsh environment.
- ✓ Blocks of planting which disrupt the open character of the landscape should not be encouraged.
- ✓ Keep permanent fencing to a minimum.
- ✓ Dig and profile borrow pits so that they are in keeping with the marshland landscape.
- ✓ Value reed/grassland buffer strips along watercourses.
- ✓ Recognise the importance of dunes.
- ✓ Retain traditional maritime features (e.g. groynes).
- ✓ Retain traditional 'seaside features' (e.g. beach huts)
- ✓ Resist attempts to 'gentrify' or 'urbanise' wilderness areas.

on a more upland terrain. Management of the land by large estates gives this part of The Wash hinterland a unified and well-managed quality.

Central to this management plan is the influence of the sea - wild, remote and open. The Wash itself is a dynamic seascape, full of the smell of salt winds and echoing with the sound of seabirds.

The settlement pattern of The Wash hinterland follows the historical development of the area. The main centres of population are at Skegness, Boston, Spalding, Holbeach, Wisbech, King's Lynn and Hunstanton. People also live in villages, set remotely or within mixed ribbon developments along the main roads.

Much of the information set out above is taken from information supplied by the Countryside Agency's Countryside Character Initiative, which helps to provide some landscape classification for The Wash area. In terms of making decisions about how activities and developments can potentially impact on the landscape, it is critical to remember that landscape is not used here simply as a term to describe 'scenery.' Instead The Wash landscape reflects the history, settlement patterns and, most importantly, the local communities of The Wash - which have helped, over the centuries, to shape the land as it appears today. When making decisions about the appearance of this area these complexities need to be taken into consideration and the section of this plan relating to livelihoods is of particular significance.

Parts of the eastern coastal areas of The Wash are of national importance for their landscape, a feature recognised by their designation as the Norfolk Coast Area of Outstanding National Beauty (AONB) by the relevant government agency. This area is shown within Map C and includes the coastal areas north of Hunstanton and between the Great Ouse and Snettisham Scar. There is a statutory obligation under the Countryside and Rights of Way Act (2000) for all



Photo courtesy: Borough Council of King's Lynn & West Norfolk

The cliffs of Hunstanton add a degree of elevation to The Wash coastline

relevant bodies to have regard to conservation and enhancement of the natural beauty of the AONB in the discharge of their duties.

A detailed management plan for the AONB was completed and launched in 2004. The management plan and its implementation is co-ordinated by the Norfolk Coast Partnership which consists of local authorities, English Nature, the Countryside Agency and others, and includes a detailed Action Plan for landscape, people and wildlife.



Some of the local authorities within the Wash Estuary Strategy Group have recently been working to deliver landscape assessment work for their areas of jurisdiction. This has been a very useful, but largely reactive exercise necessitated by the heightened focus on wind farming (on and offshore) across The Wash area. The Wash Estuary Strategy Group sees the value of widening this approach in order to deliver an integrated strategic landscape assessment study for the whole of The

Wash, drawing together all existing landscape character information and other relevant studies. This will allow a more proactive approach to decision-making about adverse landscape impacts and will eliminate existing constraints associated with administrative boundaries. It is important that this task is undertaken in partnership with other interested parties, especially the AONB, to make sure that resources are pooled and efforts are not duplicated.

### Policies

**NCA9 – The Wash Estuary Strategy Group will raise awareness of, and work to ensure, that the unique, distinctive and remote nature of The Wash is recognised and valued at all levels.**

**NCA10 – Decision makers should make sure that new proposals, projects, developments and landscaping will not result in the deterioration of the remote and wild landscapes of The Wash.**

**NCA11 – The Wash Estuary Strategy Group will support the implementation of the Norfolk Coast Area of Outstanding Natural Beauty (AONB) Management Plan within the Wash area. Where there are decisions that may affect the AONB, the Wash Estuary Strategy Group will have regard to the purpose of conserving the natural beauty of the AONB. Where applicable we will consult the Norfolk Coast Partnership.**

**NCA12 – The Wash Estuary Strategy Group will promote the need to undertake a strategic landscape assessment for the whole of The Wash area that incorporates relevant existing work. Such an assessment will greatly assist decision-making and help to eliminate adverse landscape impacts across administrative boundaries.**

**Links -** More information on land and waterscape can be found at:

The Countryside Agency – [www.countryside.gov.uk](http://www.countryside.gov.uk)

The Norfolk Coast Partnership – [www.norfolkcoastaonb.org.uk](http://www.norfolkcoastaonb.org.uk)



Photo courtesy: Lincolnshire County Council

The foreshore at Gibraltar Point National Nature Reserve - where the landscape blends into the seascape



Photo courtesy: Andy Horton/English Nature

Water quality is an important factor for the shellfisheries

### 3.2.4 Water quality and resources

The Wash is an embayment of open coastal water and, with its five main tributary estuaries, forms the largest estuary system in Britain. The surface area of The Wash is about 700 km<sup>2</sup> at high water on a spring tide and about 350 km<sup>2</sup> at low water on a spring tide. The five main rivers that discharge into The Wash - the Steeping, Witham, Welland, Nene and Great Ouse - have a catchment of 15,650 km<sup>2</sup>, about 12% of the area of England. Sewage treatment works, agricultural discharges and trade effluent discharges affect the tributary estuaries and The Wash itself.

The Steeping estuary, which runs to the east of Spilsby, flows into The Wash at Gibraltar Point. The Witham estuary is 11 km long and runs from the Grand Sluice in Boston to Tabs Head in The Wash. The main effluent discharge to the tidal Witham is from Boston sewage treatment works. There is also a surface water discharge into the Witham from a timber treatment works.

The Welland estuary is about 22 km long and runs from Spalding Sluice to Tabs Head, where it shares a common lower channel with the Witham. The main effluent discharge to the tidal Welland is from Spalding sewage treatment works.

The Nene estuary runs for about 40 km from the Dog-in-a-Doublet Sluice to Crab's Hole in The Wash. There are two major inputs of treated sewage effluent to the estuary, one from Flag Fen in Peterborough and the other from Wisbech. There are two other major discharges into the estuary from food processing factories at Wisbech and Sutton Bridge.

The Great Ouse estuary is about 60 km in length and runs from Brownhill Staunth near Earith to Cork Hole in The Wash. The major input of treated sewage effluent to the estuary is from King's Lynn. There are also two significant trade effluent discharges located at King's Lynn.

The public perceive water quality to be a very important issue for The Wash. Responses to the postcard questionnaire undertaken at the start of this review process ranked it the second most important issue. As water quality is generally good, an important challenge for the Wash Estuary Strategy Group is the need to work with relevant partners not only to maintain a high standard of water quality in The Wash, but also to raise awareness about the progress that has been made towards cleaner water. This could be done by promoting water quality improvements generally and focusing upon the following important water quality related 'messages':

- Reminding people that much of the immediate Wash hinterland is sparsely populated.
- Providing information about the system's high sediment load and that brown, 'discoloured' water is not necessarily an indication of poor water quality.
- Highlighting the high wildlife value of The Wash.
- Recognising high standards of water quality are essential for recreation, tourism and shellfisheries.

Appendix B presents a technical overview of water quality of The Wash that demonstrates that in recent years water quality in the rivers and estuaries which drain into The Wash has improved significantly.

Although nutrient levels in The Wash (especially nitrates) are high and the estuary system may be described as 'hyper-nitrified', adverse effects, such as phytoplankton blooms, rarely occur due to the turbid nature of the water which reduces light penetration. Nevertheless initiatives are in place to reduce nutrient inputs. These include phosphate removal at large sewage treatment works, and the extension of the Nitrate Vulnerable Zone designation to most of The Wash hinterland.

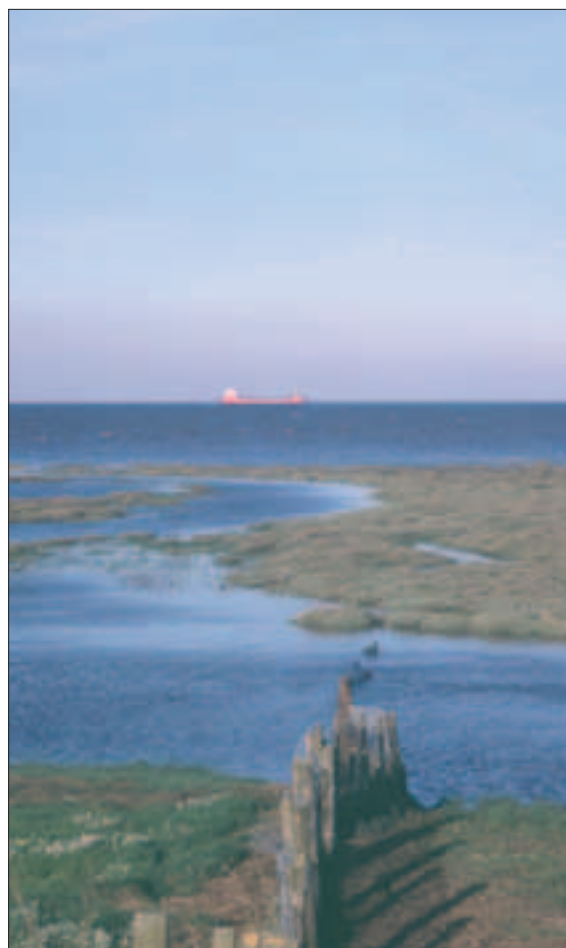


Photo courtesy: Lincolnshire County Council

High tides sometimes immerse the whole of the saltmarsh

### Water resources

The Wash hinterland is a relatively dry, low rainfall area, like much of the east of England, and it is intensively used for agriculture. At present there is some uncertainty as to whether current levels of surface and groundwater abstraction are having an adverse impact upon the environmental quality of The Wash. As part of the 'review of consents' required by the EU Habitats Directive, the Environment Agency is currently undertaking studies on the impact of surface and groundwater abstractions on the Wash and North Norfolk Coast European Marine Site. This review forms part of a national programme within which The Wash is of medium priority. Once this work for the European Marine Site is complete, much more will be known about the situation regarding the adequacy of

water resources in relation to the requirements of The Wash as a whole. However, initial results indicate that the quantity of freshwater entering The Wash could potentially be a factor limiting the diversity, distribution and abundance of birds using the estuary; the habitats upon which they rely and the invertebrates upon which they feed. This work is not yet at a conclusive stage and, although further investigations will be necessary, the review of consents may lead to future abstraction licence changes in The Wash area.

Catchment Abstraction Management Strategies are currently being produced for the freshwater areas surrounding The Wash. Once completed these strategies will assist the abstraction licensing process.

The water resources of south Essex are limited and it is anticipated that more water will be required to meet a predicted increase in demand over the next 25 years. Additionally, high levels of population growth are anticipated in the south east of England associated with the realisation of governmental aspirations for the regeneration of the Thames Gateway, leading to even more pressure on water resources. An implication of this for The Wash and its hinterland is the likelihood that there will be an increase in the number of proposals to create new, or extend existing, water transfer schemes to Essex (and elsewhere). For example, proposals already exist to increase the capacity of the Ely-Ouse Transfer scheme via plans to extend the size of the storage volume of Abberton Reservoir in Essex. The Wash estuary relies upon inputs of freshwater from its five rivers to support wildlife and sustain its function as a primary nursery area for the southern North Sea fishery. It is therefore important that freshwater inputs to The Wash are not further reduced as a result of any water transfer schemes.

The EU Water Framework Directive is wide ranging and challenging, setting out for the first time a detailed, integrated framework for the improved protection

and management of all Europe's water resources and aquatic systems. It is likely that the implementation of this Directive will have an impact on many of the individuals and organisations involved in The Wash and its hinterland, especially as it requires the full implementation of other existing European Directives, including the Urban Waste Water Treatment Directive, the Bathing Waters Directive and the Nitrates Directive. A key part of the Water Framework Directive, that is central to its successful implementation, is the requirement to achieve 'good' status for most European surface water bodies by 2015.

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 were laid before Parliament at the end of 2003. The regulations include:

- The framework for delivering the Directive's environmental objectives. The quality of rivers, lakes, estuaries, coastal waters and groundwaters must be protected and enhanced by 2015.
- Wetlands depending on groundwater must be safeguarded and water related requirements of other European Community legislation taken into account.
- Integration into packages of measures and plans based on river basins, which must be drawn up with full public participation.

The Environment Agency as competent authority for these Regulations has responsibility to:

- Characterise river basin districts.
- Identify bodies of water used for the abstraction of drinking water.
- Prepare, review and keep up to date a register of protected areas for each river basin district.
- Establish programmes to monitor water status, so as to establish an overview within each river basin district.



- Prepare and submit to the 'appropriate authority' (Secretary of State and/or National Assembly for Wales) environmental objectives for each body of water and programmes of measures.
- Prepare and submit to the appropriate authority a river basin management plan for each district (including consultation, publicity and taking account of views) and supplementary plans.

### Policies

**NCAI3 – Awareness of the water quality of The Wash and how this relates to use by people and wildlife needs to be increased at all levels, and vigilance is required to ensure that these high standards of water quality are maintained. The Wash Estuary Strategy Group will work to raise this awareness.**

**NCAI4 – The Wash Estuary Strategy Group will work to raise awareness of the physical and chemical nature of The Wash estuary system.** In particular, more understanding is needed of the balance required between freshwater inputs and the influence from the North Sea.

**NCAI5 – The Wash Estuary Strategy Group will monitor the situation regarding proposals for the development of new water transfer schemes as well as any proposed extensions to existing schemes. If proposals for new or extended schemes are likely to have an adverse effect on The Wash, The Wash Estuary Strategy Group will object to them.**

**NCAI6 – The Wash Estuary Strategy Group will increase understanding of the Water Framework Directive, and will work with relevant authorities and industries to ensure The Wash and its tributaries achieve good status.**

### Links

More information on water can be found at:

The Environment Agency - [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

The Department for Environment, Food and Rural Affairs - [www.defra.gov.uk/environment/water/index.htm](http://www.defra.gov.uk/environment/water/index.htm)



Photo courtesy: RSPB

Managed realignment is just one of the available methods for managing flood risk

### 3.3 People and property [PP]

People from many walks of life, live and work in the area around The Wash. The towns of Skegness, Boston, Spalding, Holbeach, King's Lynn and Hunstanton are the main centres of population. The people of these communities, and others living in more rural locations, are very much a part of the fabric of The Wash – they have helped to shape the area for centuries and their well-being is fundamental to the sustainable development of the region.

Some of The Wash hinterland is below sea level and the coastline is particularly dynamic. Effective and creative flood management is critical to local communities. This challenge is heightened by climate change - giving rise to increased storminess and contributing to sea level rise.

In addition, there are two Royal Air Force (RAF) weapons ranges located on The Wash. These are of national military significance.

**Main aspiration – To respect The Wash as a place where people can continue to live safely, prosperously and in harmony with their natural environment.**

#### 3.3.1 Flood risk management and coastal protection

In common with other parts of the Lincolnshire and Norfolk coastline, the more than 100km of coast surrounding The Wash estuary is highly dynamic, with coastal waters transporting high levels of sediment.

Saltmarshes and mudflats front more than three quarters of The Wash coastline. Gibraltar Point, at the extreme north-western margin of The Wash, forms the southern most tip of a shingle ridge and sand dune complex which extends along the Lincolnshire coast. The western shore of The Wash, between Wainfleet and Frampton, is backed by a wide belt of mudflats and saltmarsh. The shoreline along the southern and eastern sides of The Wash, as far as Wolferton,



Photo courtesy: Lincolnshire County Council

Works being undertaken on the miles of sea bank that surround The Wash

is of a similar character but between Snettisham and Hunstanton the upper beaches are composed of gravelly sand and adjoin a maintained shingle sea bank. The southern part of Hunstanton is protected by hard sea defences while the northern end of the town sits upon a low cliff composed of lower greensand and chalk.

Large areas of the Fens are more than 3m below Mean High Water Spring Tide Level. The relative level of sea and land around The Wash is changing. The sea is

rising at a forecast rate of 6mm per year, due to global warming (see Appendix C on climate change) and the tilting downwards of south-eastern England. There is, therefore, an increasing risk of tidal inundation to large areas of the Fens. In 1953, areas around The Wash suffered devastating flooding and the community was reminded of the continuing threat in 1978, when major inundation occurred. Since 1978, conditions which could have caused flooding have re-occurred and the



threat is ever present, as was highlighted in 2000 when many people across the UK were affected by flooding. This continuing threat to the lives and livelihoods of the communities around The Wash means this management plan emphasises the importance of maintaining standards of sea defence that reduce the risk to people and property from flooding. In setting out standards for sea defence, this plan also aims to ensure that the sea defences are technically, environmentally and economically sustainable.

In order to continue to tackle flooding effectively, the Environment Agency has recently taken a new approach moving away from the traditional method of 'defending' against floods to 'managing flood risk'. This change means that although flood defence will continue to play a vital role (especially in the low-lying Wash hinterland), additional work will include:

- Understanding current and future flood risk.
- Continuing to plan for the likely impacts of climate change.
- Preventing inappropriate development in flood risk areas.
- Exploring wider opportunities to reduce the sources of flood risk, including changes to land use and land management practices and the use of sustainable drainage systems.
- Taking a lifetime approach to managing flood defence assets.

The need for continued prevention of inappropriate development in flood risk areas across The Wash hinterland is key to ensuring the long-term sustainable development of the area. Planning Policy Guidance Note 25 on Development and Flood Risk sets out national level guidance on this matter. This guidance is due to be updated during 2005. In addition, the local authorities of the Wash Estuary Strategy Group have delivered Strategic Flood Risk Assessments for

their areas of jurisdiction. These strategies will aid Development Control decision-making as it relates to flood risk.

Shoreline Management Plans are the primary mechanism for strategic decision-making in relation to coastal flood risk management. The shoreline management plan for The Wash, which advises on the flood management requirements for the whole estuarine system, is produced by the Environment Agency in consultation with others. Shoreline Management Plans determine the preferred strategic flood management options for the coast of England and Wales using the following four options:

- hold the existing defence line
- advance the existing defence line
- managed realignment
- no active intervention



Cattle grazing on the sea bank

Photo courtesy: Jon Watson

The Shoreline Management Plans for The Wash and the north Norfolk coast are shortly to be reviewed. Once reviewed these plans will present a policy framework to reduce the risk to people and property in a sustainable manner across The Wash hinterland.

Where it is technically, economically and environmentally acceptable to do so (as will be clarified within the forthcoming reviews of Shoreline Management Plans), managed realignment should be considered along The Wash coastline. In relation to this matter discussions leading up to the production of this estuary management plan have resulted in the following observations:

- It is the view of The Wash Agriculture Working Group that Grade 1 agricultural land is too valuable to convert to intertidal and saltmarsh habitat via managed realignment - and that this value is moral as well as monetary. However, the group feels that opportunities for managed realignment may exist on lower grades of land with the landowner's agreement and where adequate financial compensation can be agreed.
- The managed realignment at Freiston Shore in 2002 was widely publicised with extensive consultations in Boston with public exhibitions and newspaper advertising. However, despite this, the interests of an oyster fisherman were not discovered. This problem reaffirms the need to ensure that adequate levels of consultation regarding proposed flood management works occur with local communities. Such consultation mechanisms need to be designed in such a way as to allow local people to feel that they are able to influence decision-making in an informed and equitable way.
- Extra care is also needed to ensure that flood management works do not adversely impact upon the historical assets of The Wash.

In the low lying areas of The Wash hinterland Internal Drainage Boards (IDBs) work to improve and

maintain pumping stations, key drainage channels and watercourses that are not classified as 'main rivers'. Part of this work, which is guided by conservation advisory groups, includes the regular dredging and control of vegetation. These boards are empowered by the Land Drainage Acts 1991 and 1994, and are locally based, with elected council members in the majority.

Most IDBs recognise that some drainage channels are more important than others, in terms of the number of people and property at risk from flooding and the number of protected wildlife species and habitats at risk from over zealous maintenance. As a result some Internal Drainage Boards have sought to prioritise maintenance works. Clearly where large numbers of people and property are at risk, those channels will benefit from more regular maintenance than will those where protected species and habitats are known to exist. For example the South Holland IDB prioritises channels according to nationally recognised criteria: where if 50 or more households (or household equivalents) are adjacent to, or otherwise at risk of flooding, per linear km of watercourse those channels and their downstream lengths are considered to be critical. These channels were known as COWs (Critical Ordinary Watercourses) and are now known as SOWs (Strategic Ordinary Watercourses).

In addition to setting out drainage channel priorities, an IDB's Maintenance Programme will usually set out the types of operation necessary to maintain drainage channels and consider mechanisms to minimise the environmental impact of various operations by, for example, carefully timing operations. Additionally the channels over which the IDBs have jurisdiction are also being surveyed to identify the locations of protected species. The IDBs are committed to working with English Nature and others to ensure that operations are environmentally responsible.

It is important to note that a small stretch of The Wash coastline at Hunstanton is made up of higher cliffs that are not at risk of flooding. Decisions relating to the protection of the coast here are guided by different legislation associated with protecting land from erosion and encroachment by the sea, namely the Coast Protection Act 1949.

Additionally, the results of the public consultation exercise (responses to a postcard questionnaire) linked with this review generated an interesting response to a question relating to flood management<sup>1</sup>.

### Policies

**PPI - The Wash Estuary Strategy Group will champion the fact that The Wash is a highly dynamic system that needs to function as naturally as possible.**

**PP2 - The Wash Estuary Strategy Group will remain an active partner on relevant Shoreline Management Plan working groups and will fully engage in the review process.**

### Links

More information on flood risk management can be found at:

Environment Agency - [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

Department for Environment, Food and Rural Affairs - [www.defra.gov.uk](http://www.defra.gov.uk)

Anglian Coastal Authorities Group – [www.northnorfolk.org/acag](http://www.northnorfolk.org/acag)

Association of Drainage Authorities – [www.ada.org.uk](http://www.ada.org.uk)

South Holland District Council - [www.sholland.gov.uk](http://www.sholland.gov.uk)

Boston Borough Council - [www.boston.gov.uk](http://www.boston.gov.uk)

East Lindsey District Council - [www.e-lindsey.gov.uk](http://www.e-lindsey.gov.uk)

Borough Council of King's Lynn and West Norfolk - [www.west-norfolk.gov.uk](http://www.west-norfolk.gov.uk)

<sup>1</sup> Respondents were asked their opinion as to whether flood management on The Wash adequately protects people and property. Respondents were given a choice of 'yes', 'no' or 'don't know'. After isolating the views of residents, the results showed a higher percentage of 'no' responses by residents in the Norfolk area relative to the other two areas:

Location	Yes	No	Don't know
Norfolk	41	21	38
Lincolnshire (Central Wash hinterland)	55	5	39
Lincolnshire (Northern Wash hinterland)	50	7	43

An initial investigation suggests that the differences in 'yes', 'no' and 'don't know' responses between the three locations is statistically significant (at the 1% level).





Photo courtesy: Royal Air Force, Holbeach

Geese in flight over Holbeach weapons range

### 3.3.2 Military use

The Wash has been used by the military since the 1890s, with flying commencing in 1914, and now supports two weapons ranges at Holbeach and Wainfleet which serve the Royal Air Force (RAF) and North Atlantic Treaty Organisation (NATO) air forces. Routine training for both fixed wing aircraft and helicopters on RAF Air Weapons Ranges is essential in order to keep a minimum number of aircrew and aircraft at the peak of their performance using the most up-to-date technology. The Wash ranges, being arguably the best in the country in terms of efficiency and safety, contribute markedly towards this end. They are thus of national and international importance to the Ministry of Defence (MoD) and their military use is considered a matter of priority.

The MoD is one of the Relevant Authorities responsible for ensuring that the Wash and North

Norfolk Coast European Marine Site is compliant with the requirements set out by the European Union Habitats Directive 92/43/EEC. As a result, maintaining the nature conservation value of both Wash ranges is a statutory priority for the MoD that is superseded only by the necessity to manage range operations safely, effectively and in line with Ministry policy. Range operators are well assisted in nature conservation related decision making by established Royal Air Force Conservation Groups and management strategies are in place for both ranges.

Where public rights exist within the ranges, they are respected and, from an overall MoD policy viewpoint wildfowling is licenced by the MoD. However other traditional activities such as bait digging and samphire gathering are not encouraged. Public safety is a major consideration and therefore activities are controlled as necessary for operational, safety and ecological reasons and in certain circumstances are restricted.

## Policies

**PP3 – The Wash Estuary Strategy Group recognises the importance of The Wash air weapons ranges and supports their safe and efficient management at all times.**

**PP4 – Any adverse environmental impact from range operations needs to be minimised with control exercised under the Habitat Regulations and the Countryside and Rights of Way Act. The Wash Estuary Strategy Group will support Defence Estates in its work to achieve this.**

**PP5 - The benefits that the ranges bring to The Wash need to be emphasised and communicated to the public. The Wash Estuary Strategy Group will support Defence Estates in its work to achieve this.**

## Links

More information on military use can be found at:

Ministry of Defence - [www.mod.gov.uk](http://www.mod.gov.uk)

Defence Estates - [www.defence-estates.mod.uk](http://www.defence-estates.mod.uk)



Photo courtesy: Lincolnshire County Council

Tourism is a vital element of the economy in some areas, including Skegness (pictured)

### 3.3.3 Supporting local people and local enterprise

The Wash hinterland is diverse in social and economic terms. In general, the area is sparsely populated by rural communities. The market towns of Spalding, Holbeach, Wainfleet and Wisbech help to serve these rural areas as centres for local employment and services. The large

historic port towns of King's Lynn and Boston are of particular significance to the area. Broadly, the more affluent areas of The Wash hinterland are located along the south Lincolnshire coastline and west Norfolk coast in the eastern section of The Wash, with the small town of Hunstanton functioning as a vibrant, traditional seaside resort.

**Text box 4 – A snapshot of the social fabric of the area.**

The Index of Multiple Deprivation (IMD) is a measure of social exclusion, deprivation and poverty for a particular area that looks at a wider picture than a simple measure of income. It includes factors that relate to individuals (e.g. employment) and also the provision of services to the community (e.g. barriers to housing and services).

In order to be meaningful to this estuary management plan, information is supplied from both the 2000 and 2004 IMDs for England, enabling the presentation of information firstly at the district level (based upon 2004 figures), and also at the ward level (based upon 2000 figures). This is because 2004 figures are published at neighbourhood level (referred to as 'Super Output Areas') rather than ward level and are too detailed to inform this strategic plan.

Table A shows the relative positions on the national Indices of Multiple Deprivation for each district in The Wash area. The following weightings are considered in the 2004 calculations – income (22.5%), employment (22.5%), health deprivation and disability (13.5%), education, skills and training (13.5%), barriers to housing and services (9.3%) and living environment (9.3%). The districts ranking highest and lowest in England are provided for comparison.

**Table A**

Districts within The Wash area	Score	Ranked (England)
Boston	21.86	111
East Lindsey	24.62	89
King's Lynn and West Norfolk	19.09	150
South Holland	15.27	210
<b>Highest and lowest scoring districts in England - for comparison</b>		
Hart (Hampshire)	4.17	354
Liverpool (Merseyside)	49.78	1

The Indices of Multiple Deprivation (IMD) 2004

Table B shows the relative positions on the national Indices of Multiple Deprivation for selected wards in The Wash area. The following weightings are considered in the 2000 calculations – income (25%), employment (25%), health deprivation and disability (15%), education, skills and training (15%), housing (10%) and geographical access to services (10%). In addition, some data drawn from elsewhere are provided for comparison.

**Table B**

Selected Wash area ward	Score	Ranked (England)
Frampton (Boston Borough Council)	17.59	4,066
Gedney (South Holland District Council)	24.79	2,968
Hunstanton (King's Lynn and West Norfolk)	28.52	2,179
Lynn North (King's Lynn and West Norfolk)	66.33	139
New Leake (East Lindsey)	45.90	765
Old Leake and Wrangle (Boston Borough Council)	26.39	2,434
Snettisham (King's Lynn and West Norfolk)	20.68	3,428
Fenside (Boston Borough Council)	43.18	923
<b>Selected wards from elsewhere – for comparison</b>		
Dalston (Hackney)	57.93	309
Everton (Liverpool)	82.10	4
Penzance East (Penwith, Cornwall)	56.84	336
Royal Hospital (Kensington and Chelsea)	7.08	7,426

The Indices of Multiple Deprivation (IMD) 2000 (with rank 1 being the most deprived ward in England and rank 8414 being the least deprived).



Work has been undertaken by the East Midlands Regional Assembly to examine issues and priorities for the region associated with social exclusion. In Lincolnshire, the most socially deprived areas are situated higher up the coast from The Wash and this matter is afforded some priority within draft Regional Planning Guidance for the East Midlands. While some of the areas around The Wash are thriving, it is important to recognise that social exclusion does impact on rural areas and is often less visible by comparison with urban communities - with transport problems, social isolation, elderly populations and, for some, declining agricultural incomes. Additionally, a notable proportion of jobs in The Wash hinterland are seasonal.

The East Midlands Development Agency has published, in wide consultation with others, its *Economic Development Strategy for the East Midlands 2000-*

*2010*. This work provides 'a route-map for regional prosperity', via the identification of a vision for the region together with a set of key drivers of economic success. The principles of sustainable development are seen as instrumental to successful prosperity across the region. The strategy recognises 'the quality of the East Midlands natural and built environment is an important factor in creating the right conditions for inward investment, regeneration, tourism development and overall quality of life'. It also notes that, 'the maintenance and enhancement of biodiversity is a key test for sustainable development and that in recent years the East Midlands Region has not had a good track record in this area'.

#### **Text Box 5 – Green tourism**

The effects of tourism can be negative as well as positive. Inappropriate tourism development and practice can degrade habitats and landscapes, deplete natural resources, and generate waste and pollution. In contrast, responsible tourism can help to generate awareness of, and support for, conservation and local culture, and create economic opportunities for local communities.

An effective green or eco-tourism initiative should take action to reduce negative impacts, and to encourage responsible tourism that enhances not only the quality of life, but also natural and cultural resources in destinations.

The World Wide Fund for Nature (WWF) advocates a four step approach in the development of eco-tourism initiatives:

1. Consider whether eco-tourism is an appropriate option
2. Plan eco-tourism with communities and other stakeholders
3. Develop viable community-based eco-tourism projects
4. Strengthen benefits to the community and the environment

Eco-tourism is a frequently debated term. Sometimes it is used simply to identify a form of tourism where the motivation of visitors, and the sales pitch to them, centres on the observation of nature. Increasingly, this general sector of the market is called 'nature tourism'. True 'eco-tourism', however, requires a proactive approach that seeks to mitigate the negative and enhance the positive impacts of nature tourism.

The International Eco-tourism Society defines eco-tourism as responsible travel to natural areas that conserves the environment and sustains the well-being of local people.

Information source: *Guidelines for community-based eco-tourism development*  
WWF International July 2001.

Existing Regional Economic Strategy for the East of England notes that, 'the quality of its natural and built environment will play an important part in the region's economic success. All business sectors will realise the potential of environmental technologies, waste minimisation and recycling. A real measure of success will be a decrease in income inequality and increased convergence of employment rates, with a high quality of life for everyone living in the East of England'. In addition, it emphasises that the East of England should not lose sight of the principles of sustainable development and good business practice when implementing the strategy.

As part of the review of this estuary management plan a new emphasis has been placed on the economic and social factors of sustainable development. With these in mind the following activities are being prioritised.

- The need to have more of a presence at the regional level via key organisations such as the East of England Regional Development Agency and the East Midlands Regional Development Agency, as well as relevant Sub-Regional Strategic Partnerships.
- Exploring strategically the economic opportunities available to the partnership via regional, national and European funding instruments in order to secure greater economic diversity for The Wash area and raise levels of inward investment for actions that accord with the wider objectives of this management plan.

Locally, there is the potential for the Wash Estuary Strategy Group to focus on and assist small businesses. This can be done via establishing networks, joint marketing opportunities and environmental training initiatives. Particular emphasis will be placed upon the potential value of aiding environmental initiatives within the tourism business sector, using appropriate supporting information and experience gained by related initiatives, for example the Norfolk Coast Partnership.

Real involvement of local communities is seen as key to the delivery of greater sustainable economic benefits to The Wash area. Local authority Community Strategies are an important link for this plan.

## Policies

**PP6 – The Wash Estuary Strategy Group will seek greater recognition of the potential of The Wash as a focus for sustainable economic growth within relevant decision making bodies.** Support will be sought via the accessing of appropriate funding instruments, where this will promote the wider interests of this management plan.

**PP7 – The Wash Estuary Strategy Group will seek to establish effective 'Wash focused' local business networks, which will combine the environmental objectives of this plan with socio-economic benefits.**

**PP8 – The Wash Estuary Strategy Group will work with the local tourism sector to develop Wash focused initiatives that are aimed at sustainably raising levels of inward investment and are also beneficial to local communities and the environment.**

## Links

More information on local people and local enterprise can be found at:

The East of England Development Agency - [www.eeda.org.uk](http://www.eeda.org.uk)

The East Midlands Development Agency - [www.emda.org.uk](http://www.emda.org.uk)

Neighbourhood Statistics - [www.neighbourhood.statistics.gov.uk](http://www.neighbourhood.statistics.gov.uk)

Lincolnshire Development and Lincolnshire Enterprise – [www.lincolnshire.gov.uk](http://www.lincolnshire.gov.uk)

Lincolnshire Tourism - [www.lincolnshiretourism.com](http://www.lincolnshiretourism.com)

Fens Tourism - [www.visitthefens.co.uk](http://www.visitthefens.co.uk)

Norfolk Tourism – [www.visitnorfolk.co.uk](http://www.visitnorfolk.co.uk)

Norfolk County Council - [www.norfolk.gov.uk](http://www.norfolk.gov.uk)

### 3.3.4 Planning and development

The Wash and its hinterland is located within the counties of Lincolnshire and Norfolk. District governance is the responsibility of four authorities – East Lindsey District Council, Boston Borough Council, South Holland District Council and the Borough Council of King's Lynn and West Norfolk. All of these authorities have collaborated as partners in the production of this estuary management plan. Cambridgeshire County Council and Fenland District Council will also require due consideration for a variety of issues, particularly strategic ones.

The most important planning and development control message for users of this plan is the need to acknowledge The Wash as a single system that functions in terms of its hydrology, geomorphology and ecology without regard to administrative boundaries. This fact is recognised within Planning Policy Guidance Note 20 on Coastal Planning, which is the main national policy basis for estuary management plans.

The importance of The Wash as a system is reflected by the number, extent and level of international designations placed upon it, including Special Protection Area, Ramsar



Map B. Nature conservation designations

Illustrative map © Wash Estuary Strategy Group

and European Marine Site. Part of the Norfolk coast is also nationally recognised as an Area of Outstanding Natural Beauty. The Wash is also a Site of Special Scientific Interest and, in part, a National Nature Reserve. In addition, it has several locally important wildlife sites. Information on designations is set out in Appendix A and on maps B and C.

Land-based development control on The Wash is overseen by the four district authorities listed above, all of which are responsible for planning and development down to mean low water. There is a complex range of guidance relating to planning and development control in The Wash, including below Mean Low Water. An overview

of this guidance is provided in Appendix D. In addition, Appendix E sets out a checklist to show factors relevant to The Wash that should be considered in development control decision-making. This checklist, which is based on hypothetical development proposals, aims to aid development control decision-making.

The Wash Estuary Strategy Group recognises reform of the planning system is an integral part of delivering the Government's Sustainable Communities Plan. The provisions set out within the Planning and Compensation Bill will change the way strategic and forward planning is undertaken at the regional, county and local level.



Illustrative map © Wash Estuary Strategy Group

Map C. Nature conservation (continued), landscape and historic environment designations



The Wash Estuary Strategy Group will work to ensure recognition of the importance of The Wash as a single system is maintained during and after the change over to Regional Spatial Strategies and Local Development Frameworks.

Below mean low water, central Government is responsible for sea bed development control and, for most of The Wash, the Crown Estate is the owner of the sea bed out to the 12 mile limit. Offshore developments, such as marine dredged aggregate operations or oil and gas explorations, have the potential to impinge upon The Wash area. Applications for aggregate dredging operations are made to the Crown Estate, but the decision whether or not to permit the proposal is reached through a consultation process known as the Government View Procedure co-ordinated by the Minerals and Land Reclamation Division of the Department for Environment, Food and Rural Affairs. It is Government policy to ensure that marine aggregate extraction is not permitted if it would cause damage to sea fisheries or the marine environment, or if there is a risk that coastal erosion would result.

Petroleum production licences governing oil and gas exploration and production are issued by the Department of Trade and Industry (DTI). Environmental concerns are taken into account. Any sensitive areas are generally protected by the imposition of appropriate conditions. The actual development of an oil or gas field for production carries potential risks for oil spill. All licensees operating within 25 miles of the coast, or in other environmentally sensitive areas, are required to carry out an Environmental Impact Assessment in consultation with all interested parties including local authorities and English Nature.

In 2003 the Crown Estate, in close consultation with the DTI, identified 'The Greater Wash' as a potential location for offshore wind farm development. The area being considered is very large and no wind farm development will be allowed within 8 kilometres of the Lincolnshire coast and 13 kilometres of the north Norfolk coast. Additional information concerning wind energy is set out within section 3.4.4 on Renewable Energy.

### Policies

**PP9 – The Wash Estuary Strategy Group will seek to ensure that all planning and development control decision-making, as it relates to The Wash, should recognise that the estuary is a single system that is a special place with its own identity.**

**PPI0 – The Wash Estuary Strategy Group will seek to ensure that The Wash is adequately considered in all elements of forward planning.**

**PPII – The Wash Estuary Strategy Group will seek to ensure that due regard is given to the wide range of factors, as set out in Appendix D, that should be considered in development control proposals which have the potential to impact on The Wash.**

### Links

More information on planning and development can be found at:

The Department for Environment, Food and Rural Affairs - [www.defra.gov.uk](http://www.defra.gov.uk)

The Department of Trade and Industry - [www.DTI.gov.uk](http://www.DTI.gov.uk)

The Office of the Deputy Prime Minister – [www.odpm.gov.uk](http://www.odpm.gov.uk)

Norfolk County Council - [www.norfolk.gov.uk](http://www.norfolk.gov.uk)

Lincolnshire County Council - [www.lincolnshire.gov.uk](http://www.lincolnshire.gov.uk)

South Holland District Council - [www.sholland.gov.uk](http://www.sholland.gov.uk)

Boston Borough Council - [www.boston.gov.uk](http://www.boston.gov.uk)

East Lindsey District Council - [www.e-lindsey.gov.uk](http://www.e-lindsey.gov.uk)

Borough Council of King's Lynn and West Norfolk - [www.west-norfolk.gov.uk](http://www.west-norfolk.gov.uk)

In addition, the Marine Consents & Environment Unit (MCEU) acts as the regulating authority for the control of marine construction works. It has its own web site at [www.mceu.gov.uk](http://www.mceu.gov.uk)







Photo courtesy: South Holland District Council

Agriculture makes a significant contribution to the economy of The Wash area

### 3.4 Livelihoods [L]

This section is about those businesses and industries that depend directly upon The Wash and its hinterland for their prosperity. They by no means represent the whole of the area's economy and there are many different thriving businesses supported by other local and regional economic strategies and policies. Here the focus is on those industries that have, over generations, helped to underpin the economy of The Wash area – agriculture, commercial fisheries and ports.

Looking to the future, this section also dwells upon the newer technologies associated with renewable energy generation.

**Main aspiration – To work in partnership with those businesses and industries, that depend on The Wash for their prosperity, in ways that are sympathetic to this special environment.**

#### 3.4.1 Agriculture

Lincolnshire and Norfolk are two of England's prime agricultural counties, each with a long tradition of farming, which is still going strong today. Lincolnshire is more dependent on agriculture than any other county in the UK. Production of food in the county is worth in the region of £250 million. Norfolk is particularly important for the growing of sugar beet and cereal crops, mainly wheat and barley.

The farmland on the landward side of The Wash sea banks is some of the most productive anywhere, having the highest concentration of Grade 1 agricultural land in the country. Between Gibraltar Point and the River Nene the land is capable of producing the highest value arable and horticultural crops, as well as potatoes, sugar beet, onions, flower bulbs, brassicas and other field and salad vegetables. The agricultural land dips to Grade 2 on the Norfolk side of the estuary with combinable cereal crops inland and grazing taking place on marshes. The grading, packing and processing of bulbs and vegetables for the main retailers is a major industry in the area, taking place in facilities on and off farm. The area has the greatest concentration of vertically integrated vegetable packers and processors in the country, generating a high level of employment. These businesses have in turn led to a large support industry including transport, distribution and packaging. Much of the local economy is reliant on the farming of the Grade 1 and 2 agricultural land in the area.

In June 2003, The European Union Council of Ministers agreed a further package of Common Agricultural Policy

(CAP) reforms. This will radically alter the way in which farm support is paid after January 2005. Payments will be 'decoupled' from production, allowing greater emphasis and focus on the market. The new payment mechanism is a flat rate payment per hectare, which will be available across most commodities, including eligible horticultural and vegetable land. Deduction from CAP payments will continue to help fund the England Rural Development Programme (ERDP) and agri-environment schemes. This includes the new Entry Level Scheme being introduced in 2005. A key aspect of future payments will be the need to meet cross compliance conditions of good agricultural and environmental practice, and statutory EU Directives.

The ERDP aims to help farmers respond more effectively to consumer requirements and become more competitive, diverse, flexible and environmentally responsible. It also provides help to rural businesses and communities which need to adapt and develop. Between 2000 and 2006 the ERDP will make £1.6 billion available to farmers for environmental protection and improvement, and rural development.



Photo courtesy: South Holland District Council

The farmland on the landward side of The Wash sea banks is some of the most productive in the UK



At present the following schemes are of particular relevance to The Wash agriculture sector and the Wash Estuary Strategy Group is keen to see an increase in successful participation in them:

- The Arable Stewardship Option - which allows for the creation of new habitats for declining birds and plants on arable farms.
- The Organic Farming Scheme - the funding for which totals £40 million over the life of the current ERDP (2000-6).
- The Vocational Training Scheme - offering grants of up to 75% of eligible costs for training that contributes to an improvement in the occupational skills of farmers and others involved in agricultural activities.
- The Rural Enterprise Scheme - aimed at providing targeted assistance to support the development of more sustainable, diversified, enterprising rural economies and communities to assist the changing role of agriculture.
- The Energy Crops Scheme - establishment grants for short-rotation coppice and miscanthus in appropriate areas, in order to grow crops to produce heat and/or electricity as a renewable energy substitute for fossil fuels.
- The Processing and Marketing Grant - aimed at developing better processing facilities for primary agricultural products.
- Subject to European Union approval, the Environmental Stewardship Scheme (ES) is due to be launched in early 2005. There will be three elements:
  - Entry Level Stewardship (ELS)
  - Organic Entry Level Stewardship (OELS)
  - Higher Level Stewardship (HLS)

The Entry Level Scheme aims to encourage a large number of farmers across a wide area of farmland to deliver simple yet effective environmental management on their farms. A national pilot area for this scheme was located around Market Deeping in Lincolnshire. Higher Level Stewardship is also being introduced; this will replace the existing Countryside Stewardship Scheme.

It is important to note that across The Wash hinterland, the Farming and Wildlife Advisory Group (FWAG) plays a valuable role in increasing awareness about biodiversity issues within the farming community and assists with participation in agri-environment schemes. Many farmers find the ERDP application process long and complex and FWAG is particularly well placed to assist in this area.

## Policies

**L1 – The Wash Estuary Strategy Group recognises that agriculture makes a significant contribution to the economy of The Wash area, and will support the agricultural sector in its work towards delivering farming systems that are environmentally sustainable and socially responsible.**

**L2 – The Wash Estuary Strategy Group will work in partnership with the agricultural sector to ensure that associated infrastructure adheres to best practice in terms of location, landscaping, building design and environmental efficiency. Steps to reduce travel, and associated waste, between farm and processing facilities are also supported.**

**L3 – The Wash Estuary Strategy Group recommends that further support is sought for local farmers via the England Rural Development Programme and associated mechanisms, so socio-environmental initiatives can become incorporated at a larger scale throughout The Wash hinterland.**

## Links

More information on agriculture can be found at:

The Department for Environment, Food and Rural Affairs - [www.defra.gov.uk](http://www.defra.gov.uk)

The National Farmers' Union - [www.nfuonline.com](http://www.nfuonline.com)

The Farming and Wildlife Advisory Group - [www.fwag.org.uk](http://www.fwag.org.uk)



Photo courtesy: Eastern Sea Fisheries Joint Committee

The fishing industry plays an important role in many communities around The Wash and is monitored by the Eastern Sea Fisheries Joint Committee

### 3.4.2 Commercial fisheries

In 2001 some 738,000 tonnes of sea fish were landed into the UK and abroad by the UK fleet with a total value of £574 million. In addition this country imported £1,432 million of fish, while it also exported fish and fish products to the value of £700 million. Nationally there is a substantial fish processing industry of around 550 businesses employing in the region of 22,000 people.

The Wash supports commercial cockle, mussel, shrimp, lobster and crab fisheries. In addition, it is an important nursery area for fin and flat fish, including cod, skate and bass. During 2002 the returns generated for The Wash fisheries (first sale value) totalled £3,714,514, even though molluscan fisheries were restricted in operation due to environmental legislation and an outbreak of Diarrhetic Shellfish Poisoning (see text box 6).

The Department for Environment, Food and Rural Affairs (DEFRA), is responsible for administering fishing activity in English waters. Research, assessment and advice on fisheries management, aquaculture and environment protection is also provided by the Centre for Environment, Fisheries and Aquaculture Science (CEFAS), an executive agency of DEFRA.

Twelve Sea Fisheries Committees regulate local sea fisheries around virtually the entire coast of England and Wales out to 6 miles. These committees were established at the end of the nineteenth century and are empowered to make by-laws for the management and conservation of their districts' fisheries. In 1995 their powers were widened to include the control of fisheries in their districts for environmental reasons. The whole of The Wash is managed under the jurisdiction of the Eastern Sea Fisheries Joint Committee (ESFJC), whose district broadly extends from the Humber estuary to the Essex coast.

#### Text box 6 - Diaherritic Shellfish Poisoning (DSP)

DSP is a toxin derived from algae that has been found in The Wash and is also affecting other estuaries around the UK, for example the Burry Inlet and the Thames. Evidence of this toxin is gathered via tissue sampling. In response to this toxin appearing in The Wash and the associated potential risk to human health, the local Environmental Health departments have placed a prohibition order on the harvesting of cockles in infected areas. Some fishermen think that this is a decision taken by the Eastern Sea Fisheries Joint Committee (ESFJC). However, it is a matter for the Environmental Health departments of district authorities.

The monitoring programme for algal biotoxins such as DSP is a requirement of the Shellfish Hygiene Directive 91/492/EEC. This is implemented in England and Wales by the Food Safety (Fisheries Products and Live Shellfish Hygiene) Regulations 1998. Within England and Wales monitoring for algal biotoxins is divided into two programmes. The flesh monitoring programme tests samples of commercially harvested shellfish from each harvesting area. The water monitoring programme investigates fixed water samples collected from selected harvesting areas.

The Food Standards Agency (FSA) as the competent authority has overall responsibility for ensuring that this monitoring programme is effectively carried out. The CEFAS Weymouth Laboratory is responsible for identifying the sample areas and coordinating the programme.

Cockle condition (meat yield) was significantly lower in 2003 than in other years, and there is speculation over a possible link with DSP. The ESFJC is promoting the inclusion of cockle condition studies as part of ecological surveys in The Wash undertaken by the British Trust for Ornithology.



Photo courtesy: Eastern Sea Fisheries Joint Committee

Harvesting cockles



The long-term aspiration of the ESFJC is to develop sustainable fisheries, taking into account the wider environment as well as stock levels. This includes working with nature conservation organisations to recognise any impacts fisheries might be having on The Wash and identifying improvements that could be made.

There is a 1992 Fishery Regulating Order in place that sets a framework for the management of bivalve shellfish stocks in The Wash. This needs to be reviewed due to developments in the fisheries and enforcement issues leading to pressures on stocks. In addition to this review, ESFJC is developing a new cockle and mussel policy associated with new management measures. Future changes are likely to be either an amendment to the existing Regulating Order or by-laws.

The Habitats Regulations (1994) and The Countryside and Rights of Way Act (2000) require formal consultation with English Nature and assessments with regard to the opening and closing of shellfish beds. In the interests of efficiency ESFJC will be aiming to manage this aspect of its work via new fisheries proposals including the production of a 'Memorandum of Understanding' with English Nature that has a six-year review cycle. The cockle and mussel policy will form the basis of this memorandum.

It is important to note that the North Sea has experienced severe depletion of fish stocks in recent years. This situation is mirrored by shellfish stocks in The Wash, where over-fishing in the late 1970s and 1980s resulted in the collapse of the stocks in the 1990s. Shellfish stocks have only shown signs of limited recovery in recent years and, in particular, mussel stocks are still significantly below pre-1990 minimum stock levels. In relation to this, the role of The Wash as a fish nursery and spawning ground for replenishing those various fish stocks, and thus the longevity of the industry, is of particular importance to this estuary management plan. Safeguarding the fish nurseries in The Wash is a

task that must be shared by all who are responsible for maintaining the environmental quality of the estuary. The urgency of this matter is backed up by the consultation with the general public during the review of this management plan, when respondents highlighted the maintenance of fish stocks as being of particular importance.

A major issue faced by The Wash fishing industry is the pressure of economic competition that has given rise to an unsustainable; 'boom-bust' approach to fishing. This is linked to the industry's dependence on continental markets (in particular Dutch, French and Spanish).

In 2001 a £22.5 million package of aid to the English fishing industry was announced by the Government. It comprised:

- £11 million of grants already allocated over three years to improve the quality and value of the fish catch and promote the use of environmentally-friendly gear.
- £6 million of additional DEFRA funding for decommissioning.
- £5.5 million from the DTI for retraining and rejuvenation at fishing ports.

This money formed part of a European Union (EU) grant programme. Projects are co-financed by EU funds and national payments. The EU programme is called Financial Instrument for Fisheries Guidance (FIFG). It is important that the Wash Estuary Strategy Group stays up-to-date with any future EU or Government funding to support the fisheries sector and ensures that this part of the UK is able to compete effectively for funding assistance.

Central to supporting the needs of The Wash fishing industry is the need to understand fishing as a way of life and not just a job. Any possibilities for initiating change within this industry need to acknowledge the cultural importance of fishing to the local communities around The Wash.



While work may be required to build the capacity for diversification outside the fishing industry, other more positive options for the industry should also be explored. Possibilities include branding, to achieve an identity for Wash shellfish produce (this could include Marine Stewardship Council accreditation) and using farmers' markets to promote the development of local outlets for fish from The Wash. Additionally, the potential 'heritage' value of The Wash fishery as a contributor to increased inward investment in the area's growing tourism sector should be explored. The fishing industry is interested in developing a commercial razor shell fishery on The Wash. DEFRA has identified the need for economic feasibility and sustainable harvesting studies. Any exploitation should be subject to

Environmental Impact Assessment and would have to receive consent from English Nature.

The fishing industry on The Wash, like all industries, has representatives with differing perspectives. Some parts of the industry have quite a traditional approach to fishing and by contrast other elements are more focused towards high investment. Therefore these differing perspectives need to be understood, respected and managed. Additionally, the fishing industry also needs to maintain a good working relationship with those organisations responsible for management of stocks, associated habitats and the European Marine Site.

### Policies

**L4 – The Wash Estuary Strategy Group will work in partnership with the fishing industry and relevant bodies to develop: sustainable work practices in a manner appropriate to The Wash environment; research into fish stock levels and what affects them; and programmes for the sale of sustainably managed stocks.**

**L5 – The Wash Estuary Strategy Group understands the importance of maintaining relationships within the fishing industry, with regulators and other interested groups. This should be widely recognised, with differing perspectives respected.**

### Links

Further information on fisheries is available at:

The Eastern Sea Fisheries Joint Committee - [www.esfjc.co.uk](http://www.esfjc.co.uk)

Centre for Environment, Fisheries and Aquaculture Science - [www.cefas.co.uk](http://www.cefas.co.uk)

The department for Environment, Food and Rural Affairs - [www.defra.gov.uk](http://www.defra.gov.uk)

### 3.4.3 Ports

There are four commercial ports operating on The Wash, located at Boston, Sutton Bridge, Wisbech and King's Lynn. Together they make an important contribution to the local and regional economy forming an essential link in the trade corridor between the near continent and the Midlands - with goods passing either way. The agriculture sector particularly relies on the trade throughput of these ports. Between them, the ports handle approximately 3,600 ship movements per annum (1,800 vessels). After the Port of Fosdyke ceased operating as a commercial port it re-opened as a yacht haven. Text box 7 below provides an overview of each port and its primary commodities.

In recent years the numbers of recreational craft have been increasing in relation to commercial traffic. There is a need to raise awareness among the users of recreational craft about the environmental impacts of recreational boating and the safety risks associated with sailing on The Wash and the five estuaries that feed

into it. This information is being disseminated via the production of Voluntary Codes and Small Craft Guides.

It is also important to note that this increase in the waterborne recreational use of The Wash may add to the existing navigational challenges faced by commercial craft. The tidal window, for example, is of limited extent.

By its nature the ports industry is hazardous and has the potential to damage the natural environment in a range of ways. As a result it is a highly regulated industry that must comply with wide-ranging legislation that operates across all aspects of port operations including pollution control, waste management, dredging, disposal of dredgings and emergency planning. It is not the role of this management plan to repeat legislative information. However, Appendix F provides a general list of the various requirements that port and harbour authorities must adhere to in discharging their duties.

All of The Wash port authorities are members of the Lincolnshire and Norfolk Oil Pollution Forum (LINCOF).

#### **Text box 7 – The operational Wash ports**

**King's Lynn** - The King's Lynn Conservancy Board is the Statutory Port, Harbour and Pilotage Authority for King's Lynn, and Associated British Ports (ABP) King's Lynn is the port operator. The port has more than 1,300m of quay in enclosed docks and at Riverside Quay. Additionally there is also a separately operated riverside silo facility that can accommodate vessels up to 95m. Vessels of 119m in length and draughts of 5.5m are regularly handled on suitable tides. In 2002, the Port of King's Lynn handled 1,019,172 tonnes of cargo carried by 566 vessels. Commodities were cereals, fertilisers, fuels, pulses, salt, scrap, soya, steel, stone, sugar beet and timber. Forty two people are directly employed by ABP King's Lynn.

**Boston** – The Port of Boston can accommodate vessels of up to 4,500 tonnes with a usual length limit of 95m in its main dock, and at its Riverside Quays a normal limit of length of 80m is observed. The port can accommodate up to 11 vessels at any one time. It can handle 30,000 containers per year and has paper, steel and grain terminals as well as a rail link.

**Sutton Bridge** - Sutton Bridge Port is on the River Nene. The port facilities here comprise a ship turning bay and 350m long sheet piled quay, together occupying some 750m of river frontage. The port provides four berths for vessels of up to 5,000 tonnes. Sutton Bridge Port has the capability to handle almost any dry cargo with a particular focus on steel, timber, bulk commodities and agricultural products.

**Wisbech** - The Port of Wisbech historically was one of the country's foremost ports. Today, although the River Nene is still busy with commercial shipping, Wisbech has developed as a centre for small recreational craft and in 2000 Wisbech Yacht Harbour extended its pontoon moorings. Both local and visiting yachtsmen use Wisbech Yacht Harbour's secure facilities.



Photo courtesy: Wash Estuary Strategy Group

Between them, The Wash's four ports (including Boston pictured above) handle around 1,800 vessels per year

As such the ports respond to oil and chemical spills and have a detailed oil spill contingency plan (as required by the Oil Pollution Preparedness, Response and Co-operation Convention 1990). For major spills, the Maritime and Coastguard Agency (MCA) will become involved in the clean up, as detailed in the national contingency plan. Additionally the MCA has responsibilities for aspects of the Port Marine Safety Code.

In accordance with Annex V of the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol 1978 (MARPOL 73/78), the North Sea, and therefore The Wash, is a Restricted Area. Hence dumping of any commodity is prohibited. Similarly the port authorities seek to prevent the illegal dumping of ship borne waste and general rubbish in The Wash and provide the legally required Port Waste Reception Facilities to all ships using their ports. Pleasure boats should also be encouraged to use

such facilities (although mandatory charges are imposed for this service).

In order to ensure adequate draught for safe passage into all Wash ports, a limited amount of maintenance dredging is necessary. With the exception of ABP King's Lynn, which has an annual licence, all of The Wash port operators currently hold three-year licences (issued under the Food and Environment Protection Act 1985) to dispose of maintenance dredgings within two allocated disposal grounds.

If beneficial uses for dredgings could be found, The Wash competent harbour authorities would be happy to consider alternative uses of dredging material. The Wash ports are Relevant Authorities for The Wash and North Norfolk Coast European Marine Site and the management scheme for this site is a good platform from which the ports could become involved in mutually beneficial environmental enhancement projects.

### Policies

**L6 – The Wash Estuary Strategy Group will promote the fact that operators of recreational craft on The Wash need to be aware of safety issues, relationships with commercial craft and the potential environmental impacts of their activities on The Wash.**

**L7 - When port activities do have the potential to enhance the natural environment, competent harbour authorities on The Wash are amenable to working with partners to realise environmental enhancements whenever it is practical to do so.**

### Links

Further information on ports can be found at:

The King's Lynn Conservancy Board - [www.portauthoritykingslynn.fsnet.co.uk](http://www.portauthoritykingslynn.fsnet.co.uk)

Associated British Ports - [www.abports.co.uk](http://www.abports.co.uk)

Port of Boston - [www.portofboston.co.uk](http://www.portofboston.co.uk)

Port of Sutton Bridge - [www.hsterminal.com](http://www.hsterminal.com)

Port of Wisbech - [www.fenland.gov.uk/wisbechport](http://www.fenland.gov.uk/wisbechport)

Maritime and Coastguard Agency – [www.mcga.gov.uk](http://www.mcga.gov.uk)





Photo courtesy: Amec

The Greater Wash has been identified as a site for offshore wind farms, but no development will be allowed within 8km of the Lincolnshire coast and 13km of the north Norfolk coast

#### **3.4.4 Renewable Energy Generation**

Renewable energy is the generation of energy from non fossil-fuel sources including wind turbines, wave generators, biofuels, solar power and wood fuel burners. The Wash and its hinterland have been

identified as potential locations for the generation of renewable energy. This prospect has created a great deal of interest across The Wash area. The people who live and work here have a range of perspectives relating to the environmental, landscape and economic

changes that are associated with renewable energy generation. The public consultation exercise (responses to a postcard questionnaire) linked with this review, generated a range of comments relating to renewable energy, especially wind power, and these comments have been taken into consideration in the production of this section<sup>2</sup>.

Traditional energy generation, through the burning of fossil fuels, is unsustainable. Coal, oil and gas are finite resources and the environmental impacts of their exploitation are very significant. Most importantly, emissions from energy generation are a major cause of climate change – arguably the biggest threat to the global environment (see Appendix C).

If its introduction is well managed, renewable energy generation offers great economic benefits to the area, and will aid industrial diversification. However, The Wash is highly sensitive in terms of wildlife, landscape and the historic environment. Therefore a number of important hurdles will need to be overcome before renewable energy generation can become widely accepted here. With this issue, the role of this estuary management plan is simply to support and assist the decision-making process with respect to renewable energy generation by summarising key considerations and policy background.

In essence, the challenges presented by this topic are associated with balancing the global need to generate energy from renewable sources to reduce damaging fossil fuel burning processes (see Appendix C), against immediate and diffuse impacts of renewable energy generation at a more local level. The latter will need to be managed and the diverse perspectives on this topic respected.

The overarching Government policy relating to renewable energy generation aims to 'stimulate the exploitation and development of renewable energy sources wherever they have prospects of being economically attractive and environmentally acceptable'.

This policy is supported by a range of international, national and regional guidance, that includes:

- the international Kyoto Protocol, adopted in 1997, which requires industrialised countries to reduce their greenhouse gas emissions by an average of 5.2 per cent below 1990 levels by the period 2008 – 2012. Under a European Union burden sharing agreement, the UK has been allocated a reduction target of 12.5 per cent.
- the Energy Bill (2003), which sets out a new strategy for the long-term, based upon four goals: environmental protection, energy reliability, competitive markets and affordable energy for all. This bill implements a range of commitments made in the Energy White Paper: Our energy future - creating a low carbon economy (2003). This White Paper sets out a strategy to reduce carbon emissions over the next 50 years through the expansion of renewable energy and energy efficiency. It sets out four goals for the Government's energy policy:
  - to work toward cutting emissions of carbon dioxide by 60 percent by 2050.
  - to maintain the reliability of energy supplies.
  - to promote competitive energy markets in the UK and beyond.
  - to ensure that every home is adequately and affordably heated.
- Planning Policy Guidance Note 22: Renewable Energy (now PPS 22).

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<sup>2</sup>Respondents were asked their views on 'whether The Wash and its surroundings are appropriate sites for sensitively located schemes to generate energy from renewable sources?' Respondents were given the choice of indicating a preference for 'yes', 'no' or 'don't know' for wind energy. The breakdown of responses was as follows: Yes (284), No (48), Don't Know (41). Total Counts (373). The majority of respondents have expressed an opinion in favour 'yes'. Of the comments recorded on the postcards, 31 out of a total of 119 made reference to the location of schemes for generating energy from wind power. The majority of these comments (22) came from respondents who had ticked the 'yes' box for Wind - half of these (11) were unequivocally positive comments about exploiting renewable energy and the rest indicated that visual impact and effect on wildlife (migratory birds/sea life) needed to be taken into account when considering sites for wind turbines. Four responses gave negative comments relating to wind power.

- Regional Planning Guidance for both the East Midlands and East of England.
- County Structure Plans and Local Plans.

In addition, and of equal importance to this plan, some of the local authorities that cover The Wash area are also working to develop their own Supplementary Guidance on related renewables topics such as wind energy. This plan aims to both inform and complement relevant local strategy.

Taking the considerations and guidance set out above into account, the Wash Estuary Strategy Group, in line with regional and national policy, is broadly supportive of the introduction of various new renewable energy initiatives to The Wash and its hinterland. Although it is important to note that the merits of any proposals, whatever the nature of the renewable energy generation mechanism, will be dealt with on a case by case basis.

The remainder of this section examines in more detail the range of options for generating renewable energy that is available and makes a brief assessment as to which options are likely to prove acceptable in The Wash and its hinterland. The bulk of this information is presented on the following page in matrix format.

Therefore as is made clear in the matrix, the Wash Estuary Strategy Group is minded that there are two methods for generating renewable energy that are most appropriate to The Wash area, provided that a wide range of technical constraints and environmental impacts can be overcome. These energy generation methods are wind energy and biomass.

### **On and offshore wind energy.**

The scale, siting and cumulative effects of wind energy infrastructure will require careful consideration especially on land and in the vicinity of designated sites. Additionally, the Wash Estuary Strategy Group advise

that sea banks and drainage banks are inappropriate locations for onshore wind turbines. Offshore there is no scope, for environmental protection reasons, for the construction of wind turbines within The Wash itself. However, further out to sea within The Greater Wash<sup>3</sup>, there is more development opportunity, provided that the complex range of considerations is considered and where applicable overcome (see Appendix G). This accords with the Government's identification of 'The Greater Wash' as a potential location for offshore wind farm development. It is important that this area is not confused with The Wash embayment – which is the primary focus of this plan. The Greater Wash area is further out to sea and is very large. **No wind farm development will be allowed within 8 kilometres of the Lincolnshire coast and 13 kilometres of the north Norfolk coast.**

### **Biomass energy produced using wet waste, anaerobic digestion, poultry litter and energy crops.**

It is important to note that Wash Estuary Strategy Group recognises concerns relating to the creation of an 'energy crop monoculture' in The Wash hinterland, and will work to ensure that this type of land use pattern does not develop. However, bearing in mind the high agricultural value of existing crop patterns, and the high landscape significance of parts of the area, it seems unlikely that such a land use pattern will emerge. Additionally, careful consideration is required of the potential transport impacts from exploiting waste and energy crops.

A checklist showing the possible impacts for these two most technically feasible and potentially acceptable forms of renewable energy on The Wash area are set out in matrix form within Appendix G.

It should be noted that some impacts of renewable energy generation are dependent upon the scale and

<sup>3</sup>This potential resource area is 8,337km<sup>2</sup> and is located at 52 50N – 53 50N latitude and 00 24E – 02 00E longitude. The boundary of this area is indicative and not rigidly defined (*Future Offshore*, DTI 2002).

Energy generated by:	Technically feasible for The Wash area	Potentially acceptable for The Wash area	Notes
Onshore wind power	✓	✓	See below and in the Considerations checklist (Appendix G).
Offshore wind power	✓	✓	
<u>Marine:</u> Wave power	✓	✗	While it would be technically possible to generate energy in The Wash using waves and tides, the large structures that would need to be built inside the embayment and five estuaries could alter the dynamics of the system and disturb the highly sensitive environment, resulting in significant damage to the integrity of internationally designated wildlife sites. Therefore it is the view of the Wash Estuary Strategy Group that this type of energy will not be an option in The Wash in the foreseeable future. However, technological developments in this area will be monitored.
Tidal power (barrage)	✓	✗	
Tidal power (stream/flow)	✓	✗	
<u>Biomass:</u> Wet waste/anaerobic digestion	✓	✓	See below and the Considerations checklist (Appendix G).
Poultry litter	✓	✓	
Energy crops	✓	✓	
Renewable incineration	✓	✗	The impacts on air quality of this type of renewable energy make it unattractive for The Wash area. However, technological developments resulting in reduced emissions will be monitored.
Hydroelectricity	✗	✗	The topography and geology of The Wash area are inappropriate for this type of energy generation.
Solar power: Thermal	✓	✓	Renewable energy generation by solar power is a positive contribution to renewable energy generation that can be made by individual households. As such activities do not closely relate to The Wash itself, this type of energy generation is supported by this plan but not considered further in any detail.
Photovoltaic	✓	✓	



intensity of development. Caution should also be exercised with regard to cumulative impacts and, in the case of offshore wind power, distance from the coast.

Ancillary development associated with renewable energy generation should be considered at the time of the proposals. All on or offshore renewable energy developments, however remote, have to be physically connected to the national grid, sometimes resulting in the installation of transmission systems over considerable distances. All new power lines need to be carefully routed to take in to account relevant planning, amenity and environmental considerations. Ideally power lines should be placed underground.

As stated previously, The Wash Estuary Strategy Group will consider each renewable energy generation application on a case by case basis and will provide a strategic local level response taking into account cumulative impacts within and across all sectors. Also, The Wash Estuary Strategy Group:

- Recognises that potential adverse affects on bird life is a particular concern.
- Will pursue investment in local communities from those industries which benefit from renewable energy generation opportunities in and around The Wash area.
- Will stipulate that suitable monitoring and data collection occurs. For example, before and during operations, and throughout decommissioning for wind turbines.

Finally, the Maritime and Coastguard Agency provides the expert view to the Secretary of State for Transport on navigational safety issues relating to offshore renewable energy generation.

## Policies

**L8 – Encouragement will be given by the Wash Estuary Strategy Group to the sensitive development of renewable energy in The Wash and its hinterland providing the scale and type of such proposals do not individually or cumulatively impact adversely on environmentally designated areas and the overall character of the area.**

**L9 – The development of schemes to generate energy using offshore and onshore wind power will be supported within The Wash area where they are considered to be of proven environmental benefit and environmentally acceptable. Particular care will be taken to ensure no adverse impacts occur to The Wash and North Norfolk Coast European Marine Site, nationally designated wildlife sites and the Norfolk Coast Area of Outstanding Natural Beauty.**

**L10 – The development of schemes to generate energy using waste and energy crops will be supported in The Wash hinterland where they are considered to be of proven environmental benefit and environmentally acceptable. Particular care will be taken to ensure no adverse impacts occur to The Wash and North Norfolk Coast European Marine Site, nationally designated wildlife sites and the Norfolk Coast Area of Outstanding Natural Beauty.**

## Links

Further information on renewable energy can be found at:

The Crown Estate - [www.crownestate.co.uk](http://www.crownestate.co.uk)

The Department of Trade and Industry - [www.DTI.gov.uk](http://www.DTI.gov.uk)

Maritime and Coastguard Agency – [www.mcga.gov.uk](http://www.mcga.gov.uk)



### 3.5 Living and learning [LL]

This policy section is focused on The Wash's enormous value as a place for people to spend their free time and for its educational potential. As far as its use for leisure is concerned, The Wash is primarily a quiet place where individuals and groups should be able to participate in both organised and informal pastimes in ways that are compatible with the many other uses of the embayment, estuaries and hinterland.

Educationally, there is a range of opportunities to capitalise on - including strengthening links with the National Curriculum, lifelong learning initiatives and maximising the great informal learning potential that The Wash offers to people from all walks of life.

**Main aspiration – To encourage sensitive use of The Wash as a place to enjoy; and make the most of its educational potential.**

#### 3.5.1 Recreation, traditional activities and quiet enjoyment

Lots of people use and value The Wash as an area for recreation. Local people and visitors regularly enjoy walking, horse riding, bird watching and windsurfing – to name but a few activities. By and large these pastimes occur at different established centres, or 'honey pots', such as Gibraltar Point, Freiston, Heacham, Snettisham and Hunstanton. Other more isolated activities, such as wildfowling and bait digging, occur in more remote parts of the embayment and estuaries. The Wash and north Norfolk coast are also popular destinations for recreational sailing with yachts and other small craft arriving along inland waterways, from further along the coast and beyond. Increasingly, ports such as Wisbech are providing modern facilities for sailing.

It is important that recreational activities are enjoyed in ways that are compatible with both wildlife and other leisure users. Self-regulation and education are key to successful management of recreation on and around



Photo courtesy: Lincolnshire County Council

The Wash has enormous value as an area for enjoying 'quiet' activities

the estuary. By and large recreational activities in the area are compatible with the natural environment, but problems do sometimes occur in sensitive areas that are also popular, and on particularly busy days such as Bank Holidays. The co-ordination of recreational activities is not covered by town planning legislation and therefore the Wash Estuary Strategy Group has a potentially valuable role to play in helping find creative solutions to any land and water use related recreational problems.

Recreational activities are also of relevance to both the Norfolk Coast Area of Outstanding Natural Beauty and the Wash and North Norfolk Coast European Marine Site. The information set out in management guidance for both of these sites is supported by this plan. Notably, the European Marine Site has produced a good practice guide for users of The Wash. This guide can be obtained from the European Marine Site Project Manager (Tel. 01 553 772020). The Norfolk Coast Partnership has also produced a visitor management strategy which identifies areas sensitive to visitor pressure and aims to direct visitor movement to relieve/avoid those areas under pressure.



The Wash Estuary Strategy Group is particularly keen to highlight the value of making further improvements to the enjoyment potential of The Wash. Initiatives aimed at reducing car use are encouraged, as are methods to discourage disturbing recreational activities (e.g. uncontrolled dogs) in those areas that are particularly sensitive. Increased sustainable recreational opportunities for young people are also welcomed.

It is important for steps to be taken on The Wash to improve sustainable visitor management and encourage the economic benefits offered by introducing 'green tourism' initiatives (see text box 5). Also recognised are the current and potential future contribution that landowners make to managing visitors and access. In addition these create opportunities for economic diversification that should be encouraged.

#### **Text box 8 - Wildfowling.**

The water bird populations on The Wash have traditionally been used as a resource - providing food and income. Wildfowling is part of the cultural heritage of the communities of The Wash.

Wildfowling clubs and associations hold the shooting rights around The Wash (under lease or licence) regulating shooting activity and promoting good wildfowling practice. Wildfowling is one of the great success stories of The Wash. Nature conservation is part of the club's ethos (all clubs have a conservation management plan) and they work with English Nature in delivering various management tasks around The Wash.

For more information on wildfowling visit [www.basc.org.uk](http://www.basc.org.uk)

### **Policies**

**LL1 – The Wash Estuary Strategy Group welcomes recreational activities that are compatible with the natural environment and the remote, tranquil character of The Wash.**

**LL2 – Measures will be sought by the Wash Estuary Strategy Group to promote self-regulation and awareness-raising regarding the potential impacts of recreation on The Wash.**

**LL3 – The Wash Estuary Strategy Group will seek to develop opportunities to increase inward investment to The Wash area that raise the overall quality of life for local people. This can be done via the introduction of 'environmentally friendly' leisure and tourism initiatives that are compatible with the natural environment and the remote, tranquil character of The Wash.**

### **Links**

Further information on recreation can be found at:

Sport England – [www.sportengland.org](http://www.sportengland.org)

The Countryside Agency – [www.countryside.gov.uk](http://www.countryside.gov.uk)

The Norfolk Coast Partnership – [www.norfolkcoastaonb.org.uk](http://www.norfolkcoastaonb.org.uk)

The Wash and North Norfolk Coast European Marine Site - [www.esfjc.co.uk/ems.htm](http://www.esfjc.co.uk/ems.htm)





Photo courtesy: Ann Lawrie and Kathie Lakin

Informal family fun days encourage all ages to become interested in the environment of The Wash

### 3.5.2 Education

There are several formal and informal environmental education centres and facilities around The Wash which people can visit to learn about the area's wildlife, history, industries, culture and changing coastline. These facilities include: The Wash Study Centre at Gibraltar Point National Nature Reserve; the Natureland Seal Sanctuary at Skegness; Freiston Centre for Environmental Education near Boston; Fenscape (Discover the Fens) at Springfields in Spalding; Green Quay in King's Lynn; and Hunstanton Sea Life Sanctuary.

Furthermore, various organisations and groups run educational programmes, event days and hold educational material at various sites throughout the area; including English Nature, Royal Society for the Protection of Birds (RSPB), Norfolk and Lincolnshire Wildlife Trusts, The Wash Wader Ringing Group, various museums and other attractions such as Castle Rising. There is also informal interpretative information situated at various access points and reserves.

There is potential with this number of organisations and amount of information for there to be duplication of effort, a plethora of signage at various locations and general information overload.

Also, even though all these educational opportunities already exist, there is room for improvement. This could be achieved through a co-ordinated strategic overview with the aim of promoting awareness of the educational opportunities available, and increasing understanding among local people and visitors to the area - at all levels, through all age groups, and from all walks of life. There are also opportunities and initiatives to link education with local business within The Wash area. These need to be identified and developed to maximise resources and awareness-raising efforts. Additionally there is the scope to use The Wash as an important resource to communicate more widely the actual and potential impacts of climate change.

Finally, despite The Wash being one of the most studied estuarine systems in the country, there is still much to learn about the processes, biology and human impacts upon it. Much research is still required within the marine and estuarine world to provide the knowledge necessary to decipher whether the management of

this precious and important environment is effective.

The Wash Estuary Strategy Group recognises there are gaps in our understanding of The Wash and will seek to develop stronger, useful ties with research institutions with the aim of developing programmes to investigate areas that need clarification.

### Policies

**LL4 – The Wash Estuary Strategy Group recognises that educational programmes, which can be applied effectively across the whole of society, are fundamental to achieving ‘sustainable use’ of The Wash, and will actively seek to co-ordinate, at a strategic level, efforts being made around The Wash.**

**LL5 – The Wash Estuary Strategy Group recognises The Wash is a regionally significant resource that should be linked more closely with objectives set out within the National Curriculum.** We will seek to achieve this through partnership with other relevant bodies and individuals, which will have mutual benefits for education and for The Wash.

**LL6 – Links between educational provision and business will be actively sought by the Wash Estuary Strategy Group in order to promote and expand existing educational facilities and to develop new educational opportunities.**

**LL7 – The Wash Estuary Strategy Group recognises the need to increase knowledge of The Wash and will actively seek to secure resources and develop a research programme to address this issue in partnership with other relevant bodies and individuals.**

### Links

Further information on education can be found at:

National Curriculum for England on Line - [www.nc.uk.net](http://www.nc.uk.net)

Information on and links to local education resources and projects can be found on the Wash Estuary Strategy Group website – [www.washestuary.org.uk](http://www.washestuary.org.uk)



Photo courtesy: Eastern Sea Fisheries Joint Committee

Mussels (*Mytilus edulis*)

## Part 4 – Implementing this management plan

### 4.1 Working together to manage change

The information set out within this estuary management plan is complex and wide ranging. It has sought to look across all aspects of The Wash and is now putting forward a set of direct recommendations as to which steps need to be collectively taken in order to progress towards the sustainable use of this important estuary.

Although this plan is presented in a structured way it is important to remember that the real world is as unpredictable and dynamic as The Wash is itself. People will come and go. Organisations will change. Opportunities and barriers to successful implementation will present themselves, perhaps when least expected. In striving for sustainable development it is people on

the ground that will be instrumental in transforming this plan from words into action. As a result, this management plan and the people upon whom it depends must be responsive to change. The following factors will be taken into account to help ensure the successful implementation of this plan.

- This plan is about partnership. Partnerships that function successfully are made up of people who can empower and trust one another. The length of time it takes to develop a strong and functional partnership should never be underestimated.
- This plan needs a core of central support that can effectively oversee its implementation, undertake monitoring and review, and generally service the needs of the Wash Estuary Strategy Group. Up-to-date administrative systems that function effectively have a critical role to play in successful implementation and the Wash Estuary Strategy Group will seek to ensure that this essential back up is properly provided.





Photo courtesy: Neil Smith

Oystercatcher (*Haematopus ostralegus*)

- Inevitably, sometimes barriers to the successful implementation will present themselves. The Wash Estuary Strategy Group will work collaboratively to explore and overcome problems as they arise. The partnership understands that barriers to change can be caused by a wide range of factors including cost, habit and lack of jointly owned information.
- Finally, it is much easier to make an adjustment to the way that something is done, if one believes that the adjustment is worthwhile. The importance of ownership, training and the development of mutual understanding of different practices, values and beliefs is key to the success of this plan.

#### 4.2 Implementation

An action plan that sets out the things that need to be done, when, by whom and at what cost usually forms an important part of any plan or strategy of which the Wash Estuary Strategy Group recognise as an important mechanism for delivery. However, the information within the action plan could date this

estuary management plan too quickly and might prevent the Wash Estuary Strategy Group being receptive to new opportunities and unexpected change. Therefore the group will develop an annual work programme which will ensure the policies within this document are implemented but will leave a degree of flexibility to react to new developments. This will be generated within the context of this plan and the group's business plan. More information on the work programme and business plan is available via the Wash Estuary Project Officer.

During the consultation on this plan a list of main implementation priorities for the Wash Estuary Strategy Group was set out for consideration alongside ideas for establishing four demonstration projects. Both the implementation priorities and the demonstration project received widespread support during consultation and therefore the Wash Estuary Strategy Group is committed to taking forward these priorities and projects.



### 4.3 Key priorities

To implement this management plan the Wash Estuary Strategy Group will prioritise the delivery of:

- An efficient and effective communication and consultation network that allows the different interests of The Wash to work together to truly understand what sustainable use of The Wash means and to take joint responsibility for the estuary system (in both Norfolk and Lincolnshire).
- A series of demonstration projects that are about sustainable development, that link the land with the sea, and are geared towards achieving widespread recognition of The Wash.
- An efficient support service for the Wash Estuary Strategy Group that provides a transparent quality assurance system in terms of spending and effective administration.
- Assurance that the policies and principles set out within this plan act as a valuable tool to assist public sector decision-making.
- Consistent complementary working with other relevant schemes, in particular the Wash and North Norfolk Coast European Marine Site and the Norfolk Coast Partnership.

### 4.4 Demonstration projects

The Wash Estuary Strategy Group intends to move forward the following projects as a priority to really start to showcase the value of this estuary management plan and its role in working towards the sustainable use of The Wash.

The demonstration projects reflect elements of the four themes set out within this plan and they require collaborative working across the different Wash working groups and sectors.

#### **Demonstration Project 1 (Natural and Cultural Assets)**

Aims to establish a brand identity for local delicacies from The Wash by launching and commercially raising a series of environmentally-friendly Wash branded products such as 'saltmarsh beef' and 'sustainable local shellfish'.

This will encourage agricultural diversity, sustainable fisheries, habitat maintenance and economic growth, involving a variety of different 'stakeholders'.

#### **Demonstration Project 2 (People and Property)**

Aims to establish a project that strengthens 'eco-tourism' opportunities on The Wash.

This will require widespread discussion and detailed planning and marketing. Possibilities include twinning The Wash with another internationally important estuary, taking advantage of the global role that the estuary system plays in terms of bird migration and (depending on the nature of any relationship developed) possibly attracting additional investment via an appropriate European funding instrument.

#### **Demonstration Project 3 (Livelihoods)**

Aims to provide unbiased information on the opportunities, implications and impacts of wind farming (on and offshore) for The Wash and its hinterland.

This demonstration project aims to raise understanding about the implications of wind farming across The Wash area highlighting the relationship between local impacts and global need.

Information will be supplied concerning the UK's situation with regard to the supply of energy; the Government's process for making decisions about wind farm development; and both the positive and negative economic, social and environmental effects of wind farming.

It is likely that this demonstration project will involve the staging of a conference. Associated promotional information and conference proceedings will be used to spread information.

### **Demonstration Project 4 (Living and Learning)**

Aims to produce an interpretation and education strategy for The Wash that examines learning opportunities for people of all ages. This will try to obtain widespread agreement about the educational opportunities that exist around The Wash, involving teaching professionals and focusing on the unique characteristics and range of activities on the estuary.

### **4.5 Monitoring**

In order to progress towards sustainable use of The Wash there is a need to be able to measure the following:

- The 'state' of The Wash (environmentally, economically and socially).
- The effectiveness of this estuary management plan.

At present measuring the various aspects of the state of The Wash is the responsibility of a range of organisations that oversee the different topics presented within this report. Therefore monitoring of each strand of sustainability is happening, but not necessarily in an integrated way.

The text box overleaf provides a summary of the main organisations that fulfil monitoring obligations that are relevant to The Wash.

The Wash Estuary Strategy Group considers that in order for this plan to be of widespread value, it is important that its effectiveness is monitored. This monitoring will be linked to the partnership's main priorities (set out above in section 4.3) and the quality of delivery of the demonstration projects (set out above in section 4.4).

### **4.6 Reviewing this estuary management plan**

The 2003-04 review of the Wash estuary management plan was a major step forward for the Wash Estuary Strategy Group. This updated plan sets out our shared standpoint on the wide range of issues associated with the move towards sustainable use of our internationally important estuary.

The large body of information contained in this document represents the collective view of many organisations, but this is just the beginning and we must now implement this plan. This will be done in a variety of ways: through the delivery of our key priorities and demonstration projects; commissioning research; outreach and data sharing; and by negotiating, where necessary, a shift in the policies of others.

The Wash Estuary Strategy Group is committed to transforming the concepts set out within this plan into action on the ground for the benefit of The Wash itself as well as its local people and visitors. From time to time it will be necessary to review our estuary management plan and we anticipate that this one will have a life of five to ten years.

Where to go for information on 'The State of The Wash'?		
Topic?	Organisation/initiative	Website
Historic environment	English Heritage	<a href="http://www.english-heritage.org.uk">www.english-heritage.org.uk</a>
Biodiversity	English Nature Wash and North Norfolk Coast European Marine Site The Wash Biodiversity Action Plan Lincolnshire Biodiversity Action Plan Norfolk Biodiversity Action Plan Cambridgeshire Biodiversity Action Plan	<a href="http://www.english-nature.org.uk">www.english-nature.org.uk</a>  <a href="http://www.esfjc.co.uk/ems.htm">www.esfjc.co.uk/ems.htm</a> <a href="http://www.washestuary.org.uk">www.washestuary.org.uk</a> <a href="http://www.lincsbap.org.uk">www.lincsbap.org.uk</a> <a href="http://www.norfolkbiobiodiversity.org">www.norfolkbiobiodiversity.org</a> <a href="http://www.cambridgeshire.gov.uk/sub/cntryside/biodiv/index.html">www.cambridgeshire.gov.uk/sub/cntryside/biodiv/index.html</a>
Land and waterscape	The Countryside Agency Norfolk Coast Partnership	<a href="http://www.countryside.gov.uk">www.countryside.gov.uk</a> <a href="http://www.norfolkcoastaonb.org.uk">www.norfolkcoastaonb.org.uk</a>
Water quality, water resources, flooding and flood risk	Environment Agency	<a href="http://www.environment-agency.gov.uk">www.environment-agency.gov.uk</a>
General economic and social information	East Midlands Development Agency East of England Development Agency Neighbourhood Statistics	<a href="http://www.emda.org.uk">www.emda.org.uk</a> <a href="http://www.eeda.org.uk">www.eeda.org.uk</a> <a href="http://www.neighbourhood.statistics.gov.uk">www.neighbourhood.statistics.gov.uk</a>
Agriculture	DEFRA The National Farmers' Union	<a href="http://www.defra.gov.uk">www.defra.gov.uk</a> <a href="http://www.nfonline.com">www.nfonline.com</a>
Commercial fisheries	Eastern Sea Fisheries Joint Committee Centre for Environment, Fisheries and Aquaculture Science	<a href="http://www.esfjc.co.uk">www.esfjc.co.uk</a> <a href="http://www.cefas.co.uk">www.cefas.co.uk</a>
Ports	Department for Transport	<a href="http://www.dft.gov.uk">www.dft.gov.uk</a>
Renewable energy	Department of Trade and Industry	<a href="http://www.DTI.gov.uk">www.DTI.gov.uk</a>
Additionally each of the above topics are of relevance to the two county councils and four district authorities involved with The Wash.	Norfolk County Council Lincolnshire County Council South Holland District Council Boston Borough Council East Lindsey District Council Borough Council of King's Lynn and West Norfolk	<a href="http://www.norfolk.gov.uk">www.norfolk.gov.uk</a> <a href="http://www.lincolnshire.gov.uk">www.lincolnshire.gov.uk</a> <a href="http://www.sholland.gov.uk">www.sholland.gov.uk</a> <a href="http://www.boston.gov.uk">www.boston.gov.uk</a> <a href="http://www.e-lindsey.gov.uk">www.e-lindsey.gov.uk</a>  <a href="http://www.west-norfolk.gov.uk">www.west-norfolk.gov.uk</a>

## References and further sources of information

### General

*The Wash Estuary Management Plan*, The Wash Estuary Strategy Group, (1996).

*The Wash...which way now? A Draft Management Plan for The Wash Estuary System*, (2004).

*ICZM in the UK : A Stocktake. Final Report*, Atkins/HMSO, (2004).

### Biodiversity

*Biodiversity: The UK Action Plan*, Department of the Environment, (1992).

*Wash and North Norfolk Coast European Marine Site Scheme of Management*, (2002).

*Cambridgeshire Biodiversity Action Plan*, (2000).

*Lincolnshire Biodiversity Action Plan*, (2000).

*Norfolk Biodiversity Action Plan*, (2003).

*Working with the grain of nature: a biodiversity strategy for England*, (DEFRA 2002).

### Historic Environment

*England's Coastal Heritage*, English Heritage, (1996).

*Fenland Survey: an essay in landscape and persistence*. English Heritage Archaeological Report, Hall, D and Coles, J.M., (1994) No. 1. English Heritage: London.

*Marine Aggregate Dredging and the Historic Environment. Guidance Note*, British Marine Aggregate Producers Association / English Heritage, (2003).

*Protecting our Marine Historic Environment: Making the System Work Better*, Department for Culture, Media and Sport, (2004).

### Land and waterscape

*Countryside Character Initiative*, The East, The Countryside Agency (website based information source).

*What's your view? Norfolk Coast Area of Outstanding Beauty Management Plan, Public Consultation Draft*, The Norfolk Coast Partnership, (2003).

*Norfolk Coast Area of Outstanding Natural Beauty Management Plan 2004-2009*. Norfolk Coast Partnership, (2004).



### **Water quality and quantity**

*Hydro-ecological Review of Selected European Sites within the Agency's Anglian Region. The Wash, Draft Report, Entec Ltd. for the Environment Agency Anglian Region, (2002).*

*Abberton Reservoir – growth for the future, Essex and Suffolk Water.*

*The Water Framework Directive: The Ecological Implications – Costs and Environmental Benefits (CIWEM conference Delegates Notes), (2003).*

*Third Consultation Paper on The Implementation of the EC Water Framework Directive, DEFRA, (2003).*

*The Water Environment (Water Framework Directive) (England and Wales) Regulations, (2003).*

*An overview of environmental quality in The Wash and its tributary estuaries, (Ecomaris Ltd. for the Environment Agency, (2004).*

### **Flood risk management**

*Beyond Flood Defence. Our new approach to managing flood risk in England and Wales, Environment Agency (2003).*

### **Supporting local people and local enterprise**

*Prosperity through people. Economic Development Strategy for the East Midlands 2000-2010, EMDA, (1999).*

*Revised Regional Planning Guidance for the East Midlands to 2021. Towards a Regional Spatial Strategy, Public Consultation Draft, GOEM (2003).*

*East of England 2010: prosperity and opportunity for all, (2001).*

*East of England 2010: your region, your choice, your future, (2002).*

*The English Indices of Deprivation 2004: Summary (revised), Neighbourhood Renewal Unit, ODPM, (2004).*

*Guidelines for community-based eco-tourism development, WWF International (2001).*

### **Planning and development**

Please refer to Appendix D.

### **Agriculture**

Most of the information for this section was drawn from discussions with the National Farmers' Union and individuals working within The Wash agricultural sector. In addition extensive reference was also made to DEFRA's website ([www.defra.gov.uk](http://www.defra.gov.uk)).

### **Commercial fisheries**

*The marine biotoxin monitoring programme for England and Wales: 2002-2003, Shellfish News, No.15 (2003).*

*Annual Report 2002. Eastern Sea Fisheries Joint Committee, Knapman P. A. (2002).*

## Ports

Most of the information for this section was drawn from discussions with the main port operators on The Wash and the original estuary management plan (1996). In addition extensive reference was also made to the websites that are listed at the end of the ports section of this report.

## Renewable energy

*Planning Policy Guidance Note 22: Renewable Energy*, ODPM, (1993).

*Energy White Paper: Our energy future - creating a low carbon economy*, DTI, (2003).

*The Energy Bill*, DTI, (2003).

The Centre for Environment, Fisheries and Aquaculture Science (CEFAS) has published a *Guidance Note for Offshore Wind Farms for Environmental Impact Assessments relating to FEPA (Food and Environmental Protection Act) and CPA (Coast Protection Act) requirements*.

*RPG 6 - Regional Planning Guidance for East Anglia to 2016*, Government Office for the East of England, (2000).

*Revised Regional Planning Guidance for the East Midlands to 2021. Towards a Regional Spatial Strategy. Public Consultation Draft*, Government Office for the East Midlands, (2003).

*Towards a Regional Energy Strategy – A Sustainable Approach to Energy in the East Midlands*, East Midlands Assembly, (2003).

*Draft Supplementary Planning Guidance on Wind Energy*, South Holland District Council, (2003).

*Viewpoints on Sustainable Energy in the East Midlands – A Study of Current Energy Projects and Future Prospects*, Land Use Consultants, (2001).

*Our environment our future, the Regional Environment Strategy for the East of England*, East of England Regional Assembly, (2003).

*Future Offshore: a Strategic Framework for the Offshore Wind Industry*, DTI, (2002).

## Recreation

*What's your view? Norfolk Coast Area of Outstanding Beauty Management Plan. Public Consultation Draft*, The Norfolk Coast Partnership, (2003).

*Wash and North Norfolk Coast European Marine Site Scheme of Management*, Wash and North Norfolk Coast Special Area of Conservation, (2002).

## Education

Most of the information for this section was drawn from discussions with relevant parties. In addition reference was also made to the websites listed at the end of section 3.5.2 of this report.

## Glossary

12 mile limit	The boundary of the territorial waters of the United Kingdom. Measured in nautical miles (1 nautical mile = 1.8532km).
Abstraction	The removal of water from any source, either permanently or temporarily.
Abstraction Licence	A statutory document issued by the Environment Agency to permit removal of water from a source of supply. It can limit the quantity of water taken daily.
Anaerobic digestion	A process in which organic matter is broken down by bacteria in the absence of oxygen.
Aquaculture	The practice of using the sea, lakes, rivers etc for fish-farming, shellfish cultivation and the growing of plants.
Aspiration	An eager or overall desire – something high to aim for. For the purposes of this plan, the aspirations represent the Wash Estuary Strategy Group's overarching goals for The Wash.
Biodiversity	The total variety of life on earth. All genes, species, ecosystems and the ecological processes of which they are part.
Biodiversity Action Plan (BAP)	The United Kingdom's response to its commitment to the June 1992, Earth Summit in Rio. The Convention on Biological Diversity was launched in 1994 with 'Biodiversity: The UK Action Plan' and guidance was given on the production of Local Biodiversity Action Plans. The purpose of BAPs is to focus resources to conserve and enhance biodiversity by means of local partnerships, taking account of national and local priorities.
Biomass	Total quantity or weight of organisms in a given area or volume.
Catchment Abstraction Management Plan (CAM)	A strategy for the management of water resources at local level. A CAM will make more information on water resources publicly available and allow the balance between the needs of abstractors, other water users and the aquatic environment to be considered in consultation with the local community and interested parties.
Catchment Flood Management Plan	Strategic Flood Risk Management Plans which will cover every catchment in England and Wales.
Common Agricultural Policy	The set of policy principles, regulations and subsidy mechanisms adopted by the Member States of the European Union that consolidates efforts in promoting or ensuring reasonable pricing of food products, fair standards of living for farmers, stable agricultural markets, increased farm productivity and methods for dealing with food supply or surplus.
Community Strategy	A strategy, for promoting or improving the economic, social and environmental well-being of a local authority area, and contributing to the achievement of sustainable development in the UK. The Local Government Act 2000 places on principal local authorities a duty to prepare community strategies.

Designation	To nominate or mark out by law an area for a special reason.
Development	The construction of buildings, transport links and other infrastructure on and offshore.
Draught	The depth to which a ship sinks in the water.
Dredging	The process of deepening or clearing an approach channel, canal, harbour or waterway.
Ecology	The study of the inter-relationships between animals, plants and the non-living components of their environment, in their natural environment.
Electro-magnetic field	A field of force equivalent to an electric field and a magnetic field at right angles to each other and to the direction of transmission.
Embayment	A geomorphical sub-unit on the margin of the sea – a bay that is at different times fully or partially covered by the tide, and is fed by a number of estuaries - in the case of The Wash embayment
Energy crop	A plant that is cultivated for the purposes of generating electricity.
England Rural Development Programme (ERDP)	<p>The programme that contributes to the delivery of the Government's Strategy for Sustainable Farming and Food by helping farmers and foresters to respond better to consumer requirements and become more competitive, diverse, flexible and environmentally responsible. It also provides help to rural businesses and communities that need to adapt and develop.</p> <p>The ERDP provides a framework for the operation of 10 separate but integrated schemes which provide new opportunities to protect and improve the countryside, to develop sustainable enterprises and to help rural communities to thrive. A total of £1.6 billion of EU and Government money is being made available under these schemes in England during the seven years (2000-2006) of the Programme.</p>
Environmental Impact Assessment (EIA)	Environmental Impact Assessment (EIA) is a procedure for considering the potential environmental impacts of land or water use change. EIA helps to inform decision-making.
Estuarine	Pertaining to the lower, tidal part of a river as it enters the sea.
Estuary	The lower, tidal part of a river as it enters the sea.
European Marine Site	A European wildlife site that consists of marine areas (designated as either a Special Area of Conservation under the EU Habitats Directive 1992 or a Special Protection Area designated under the Birds Directive 1979).



Favourable conservation status	A range of conditions for a natural habitat or species at which the sum of the influences acting upon that habitat are not adversely affecting its distribution, abundance, structure or function throughout the European Community in the long term. The condition in which the habitat or species is capable of sustaining itself on a long-term basis.
Fish nursery	Part of a river or sea that is used by fish for spawning and rearing young.
Fossil fuel	Oil, coal or natural gas produced in the earth by the process of fossilisation.
Geomorphology	The scientific study of landforms and the processes which formed them.
Good status	An expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters, classified in accordance with Annex V of the EU Water Framework Directive.
Green/eco- tourism	Responsible travel to natural and semi-natural areas that conserves the environment and sustains the well-being of local people.
Hinterland	A region lying back from a point/area of reference, in this case the terrestrial area adjacent/inland from The Wash.
Hydrology	The study of water on and below the earth's surface.
Indices of Multiple Deprivation	The Index of Multiple Deprivation (IMD) is a measure of social exclusion, deprivation and poverty for a particular area that looks at a wider picture than a simple measure of income. It includes factors that relate to individuals (e.g. employment) and also the provision of services to the community (e.g. barriers to housing and services).
Intertidal	Land that lies between the extreme positions of the tides.
Kyoto Protocol	The agreement reached in Kyoto in 1997 committing developed countries and countries making the transition to a market economy to achieve quantified targets for decreasing their emissions of greenhouse gases.
Local Plan	A district wide plan that provides a detailed framework for the control of development and use of land to guide, day-to-day planning decisions This is done by setting out a local district/borough councils' policies for the control of development, making proposals for the development and use of land, and allocating land for specific proposals.
Managed realignment	The realignment of flood or coastal defences landward.
Molluscan	Relating to a type of invertebrate with a soft unsegmented body and often a shell, secreted by a fold of skin. Includes, snails and slugs as well as clams and mussels.
Monoculture	The growing of one type of crop.
Natural resources	Naturally occurring materials such as coal, fertile land etc, that can be used by man.

Nitrate Vulnerable Zone	<p>The European Nitrates Directive requires the identification of nitrate polluted waters using the following specific criteria: surface freshwaters which contain, or could contain if preventative action is not taken, nitrate concentrations greater than 50mg/l; and natural freshwater lakes, or other freshwater bodies, estuaries, coastal waters and marine waters which are eutrophic or may become so in the near future if protective action is not taken.</p> <p>The Nitrates Directive also requires all known areas of land draining into nitrate polluted waters to be identified for designation as Nitrate Vulnerable Zones (NVZs). Farmers located within NVZs are required to adhere to an Action Programme of measures to reduce the amount of nitrate lost from their land to the polluted waters.</p>
Ornithology	The study of birds including their physiology, classification, ecology and behaviour.
Photovoltaic	Of, concerned with, or producing an electric current or voltage caused by electro-magnetic radiation.
Physiographical	Another word for geomorphology. The scientific study of landforms and the processes which formed them.
Policy	A statement setting out The Wash Estuary Strategy Group's agreed position on a given topic and, where appropriate, what should be done to achieve it.
Renewable energy	Non-fossil forms of energy including wind turbines, wave generators, biofuels, solar power, wood fuel burners etc.
Samphire/glasswort	A succulent salt-loving annual plant that colonises intertidal mud and sand and generally termed a pioneering saltmarsh plant. Known in scientific terms as <i>Salicornia</i> (several species) this edible plant is a local delicacy.
Shoreline Management Plan (SMP)	A SMP provides a large-scale assessment of the risks associated with coastal processes and presents a long-term policy framework to reduce these risks to people and the developed, natural and historic environment in a sustainable manner. Local authorities and the Environment Agency are the lead organisations for SMP production although many other organisations are also involved.
Social Exclusion	Social exclusion is a shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime environments, bad health, poverty and family breakdown. Social exclusion is principally about income but it is about more than material poverty. It is about prospects, networks and life chances.
Structure Plan	A countywide plan that provides the strategic policy framework for local planning and development control; provides for development consistent with national and regional policy; and ensures consistency between adjacent local plans.

Sustainable development	Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.
Sustainable use	The use of an area or resource in ways which concur with the concept of sustainable development.
Thames Gateway	A strategic area for growth in the south east of England, the Thames Gateway was established as a national policy priority in 1994, with the publication of the Thames Gateway Regional Planning Guidance. The Gateway extends from east London along the Thames to include most of Thurrock, part of Basildon, the boroughs of Castle Point and Southend, and a small part of Rochford. In Kent the Gateway stretches from Dartford, through Medway, to Faversham and the Isle of Sheppey.
The Wash	The embayment of The Wash.
The Wash area	All five estuaries, the embayment and the hinterlands of The Wash.
The Wash estuary	The embayment and the five estuaries that flow into it.
Wash Estuary Management Plan	A voluntary plan that aims to manage and co-ordinate the wide variety of human activities that occur in and around The Wash. This management and co-ordination should aim to guide the sustainable use of the estuary so that it can function effectively - physically, biologically and chemically.
Wash Estuary Strategy Group	A partnership made up of the main statutory bodies and interest groups that are responsible for the environmental protection, commercial and social use of The Wash.
Wilderness	A wild, uninhabited and uncultivated region or any desolate tract of land.

### List of abbreviations within this plan

ABP	Associated British Ports
AD	Anno Domini
AONB	Area of Outstanding Natural Beauty
BC	Before Christ
CAM	Catchment Abstraction Management Plan
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CFMP	Catchment Flood Management Plan
CIWEM	Chartered Institute of Water and Environmental Management
COW	Critical Ordinary Watercourse
CPA	Coast Protection Act
CROW	Countryside and Rights of Way Act
DEFRA	Department for Environment, Food and Rural Affairs
DSP	Diaherritic Shellfish Poisoning
DTI	Department of Trade and Industry
EEC	European Economic Community - listed in the title of directives but now referred to as the European Union (EU)
EIA	Environmental Impact Assessment
ELS	Entry Level Stewardship
EMDA	East Midlands Regional Development Agency
ERDP	England Rural Development Programme
ES	Environmental Stewardship Scheme
ESFJC	Eastern Sea Fisheries Joint Committee
EU	European Union
FEPA	Food and Environmental Protection Act
FIFG	Financial Instrument for Fisheries Guidance
FSA	Food Standards Agency
FWAG	Farming and Wildlife Advisory Group
GOEM	Government Office for the East Midlands
HGV	Heavy Goods Vehicle
HLS	Higher Level Stewardship
ICZM	Integrated Coastal Zone Management
IDB	Internal Drainage Board
IMD	Indices of Multiple Deprivation
L	Livelihoods
LINCOF	Lincolnshire and Norfolk Oil Pollution Forum
LL	Living and Learning
MARPOL	International Convention for the Prevention of Pollution from Ships 1973



MCA	Maritime and Coastguard Agency
MCEU	Marine Consents & Environment Unit
MoD	Ministry of Defence
NATO	North Atlantic Treaty Organisation
NCA	Natural and Cultural Assets
NNR	National Nature Reserve
OEB	Oyster Embryo Bioassay
OELS	Organic Entry Level Stewardship
PNR	Percentage net response
POPPIE	Prediction Of Pesticide Pollution In the Environment
PP	People and Property
RAF	Royal Air Force
RNLI	Royal National Lifeboat Institution
RoW	Rights of Way
RPG	Regional Planning Guidance
RSPB	Royal Society for the Protection of Birds
SMP	Shoreline Management Plan
SOW	Strategic Ordinary Watercourse
SSSI	Site of Special Scientific Interest
UK	United Kingdom
WEMP	Wash Estuary Management Plan
WESG	Wash Estuary Strategy Group
WRc	Water Research Centre
WWF	World Wide Fund for Nature

## Appendix A

### **Summary of relevant statutory designations on The Wash for landscape and nature conservation**

#### **Area of Outstanding Natural Beauty (AONB)**

The countryside of England and Wales contains wide areas that are of outstandingly beautiful and richly diverse scenery of great value to the nation. Accordingly, the Government decided in 1949 to protect these areas as something precious to be passed on to future generations. The idea of AONBs found form in the National Parks and Access to the Countryside Act, 1949 (s. 87), from which a particular set of objectives developed:

1. The primary purpose of AONB designation is to conserve natural beauty.
2. Recreation is not an objective of designation, but AONBs should be used to meet the demands of recreation as this is consistent with the conservation of natural beauty and the needs of agriculture, forestry and other uses.
3. In pursuing the primary objective of designation account should be taken of the need to safeguard agriculture, forestry and other rural industries, and of the economic and social needs of the local communities. Although these are national objectives, the day-to-day administration of AONBs rests with the local authorities. Responsibilities are split between county and district Authorities, ideally with joint working arrangements.

In 2000 The Countryside and Rights of Way Act placed additional responsibilities on AONBs. In particular, this new legislation has required AONB local authorities or conservation boards to prepare, publish and regularly review a management plan.

#### **National Nature Reserve (NNR)**

Any area of land which is held by or managed under an agreement with English Nature, or which is held and managed by an approved body, for the purpose of:

1. Providing, under suitable conditions and control, special opportunities for the study of, and research into, matters relating to the fauna and flora of Great Britain and the physical conditions in which they live, and for the study of geological and physiographical features of special interest in the area.

And/or

2. Preserving fauna, flora or geological or physiographical features of special interest in the area; and is an area which, being satisfied that it is of national importance, English Nature has declared to be a National Nature Reserve. Such declarations are made under powers contained in the National Parks and Access to the Countryside Act, 1949, Part III.

#### **Ramsar Site**

The Convention on Wetlands of International Importance, especially as wildfowl habitat, was adopted at a meeting of countries held at Ramsar, Iran in 1971. The UK Government signed the convention in 1973 and became a contracting party in 1976 and in doing so accepted a commitment to promote both the conservation of particular sites and the wise use of wetlands within its territory. Each country which becomes a contracting party to the convention is required to designate wetlands, in accordance with agreed criteria, as 'Wetlands of International Importance'. A wetland is regarded as internationally important if it regularly supports 20,000 water birds or 1% of a species, or sub-species, of water birds.

**Site of Special Scientific Interest (SSSI)**

Any area of land which, in the opinion of English Nature, is of special interest by reason of its flora, fauna or geological or physiographical features and details of which English Nature has notified to owners, occupiers, local planning authorities and the Secretary of State under the provision of Section 28 of the Wildlife and Countryside Act, 1981, as amended 1985.

**Special Protection Area (SPA)**

The Government is bound by the European Community's Directive of April 1979 on the Conservation of Wild Birds (79/409/EEC). Member states are required to take special conservation measures concerning the habitat of species of wild birds listed in Annex I of the Directive (certain rare and vulnerable species) and of regularly occurring migratory species where particular attention needs to be paid to wetlands, especially those of international importance. These measures shall include classifying the most suitable localities as Special Protection Areas and, in respect of these, taking appropriate steps to avoid pollution or deterioration of the habitat or disturbance affecting the birds.

**Special Area of Conservation (SAC)**

These sites are the most important areas for wildlife in the European Union (EU). They are designated under the 'Habitats Directive' (Council Directive 92/43/EEC) a European law which provides for the creation of a network of protected wildlife areas across the EU. A site of Community importance designated by an EU Member State where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the habitats and/or species for which the site is designated.

**European Marine Site (EMS)**

These sites are the most important areas for marine wildlife in the European Union (EU). They are designated under the 'Habitats Directive' (Council Directive 92/43/EEC) a European law which provides for the creation of a network of protected terrestrial and marine wildlife areas across the EU to be known as the Natura 2000 series. The Habitats Regulations transposed the Habitats Directive into UK law. A European Marine Site may consist of Special Areas of Conservation designated under the Habitats Directive and Special Protection Areas designated under the Birds Directive when they are found in intertidal and marine areas.

## Appendix B

### *A technical overview of the water quality of The Wash.*

#### **Physical characteristics**

The Wash is an embayment of the southern North Sea, approximately 20km wide and 30km long. Water depth throughout the embayment is generally shallow, with the deepest waters (around 40m) restricted to the middle of The Wash. As the tide goes out numerous sand and mud banks are exposed and on the lowest tides these cover approximately half of the embayment. The seabed throughout the entire embayment consists of sand and mud. Due to the high amount of suspended material in the water column, light penetration in The Wash is usually limited to a few centimetres.

Five rivers discharge into The Wash – the Steeping, Witham, Welland, Nene and Great Ouse.

#### **Factors influencing environmental quality**

Environmental quality<sup>4</sup> in The Wash is determined by the following factors:

- A. The quality of the rivers entering the embayment.
- B. The quality of the estuaries entering The Wash.
- C. Direct discharges of effluents.
- D. Diffuse and other sources of pollution.

#### **A. The quality of the rivers entering the estuary**

All of the tributary rivers are of very good or good quality (class A or B), according to the Environmental Quality Classification. Improvements were required (and achieved) in some water courses entering the Nene to attain these grades.

The rivers carry high nutrient loads, i.e. they are hyper-nutriented. Algal blooms are often present in the rivers in the summer months and all the rivers are considered to be 'eutrophic'.

#### **Environmental Quality Classification**

The Environment Agency report on the quality of rivers and estuaries using formal classification schemes.

Different schemes are used for rivers and estuaries but essentially they are the same, the water body is graded depending on its chemical, biological and aesthetic qualities.

- Rivers are graded A (very good) to F (bad)
- Estuaries A (good) to D (bad)

#### **B. The quality of the estuaries entering The Wash**

All of the estuaries feeding into The Wash are classified as A (good) according to the Environmental Quality Classification. Heavy metals in water and in sediments were present in low levels and always below their Environmental Quality Standards. All organic compounds (pesticides, herbicides etc) are either absent or present at concentrations too low for detection by current analytical procedures.

In contrast with other substances considered, substantial quantities of chemical nutrients (compounds of Nitrogen and Phosphorus) are present in the estuaries, i.e. they are hyper-nutriented. Despite this situation, excessive algal blooms are not encountered in the Great Ouse and Nene estuaries; it is thought that the algae are restricted by the low light penetration in such muddy estuaries.

#### **C. Direct discharges of effluents.**

There is only one direct input to The Wash in 2004, and this is relatively minor.

Hunstanton sewage treatment works used to discharge 1500 m<sup>3</sup>/day of untreated effluent via a sea outfall on the south beach. This effluent caused several bathing beach failures. The discharge was decommissioned in 1990 and sewage was diverted to the nearby Heacham sewage works.

<sup>4</sup>Detailed information concerning the Environment Agency's classification schemes for environmental quality is located at [http://www.environment-agency.gov.uk/science/monitoring/184353/?version=1&lang=\\_e](http://www.environment-agency.gov.uk/science/monitoring/184353/?version=1&lang=_e)



The outfall now discharges effluent from the nitrate removal plants at Fring and Sedgford. It is consented to discharge no more than 800 mg/l nitrate per day.

#### D. Diffuse and other sources of pollution

Land drainage, drains and agricultural run-off - The Wash catchment is subject to intensive agricultural use, and water draining from this land is potentially a major indirect contributor of pollutants such as pesticides, herbicides and fertilisers (nutrients).

The Environment Agency has undertaken a comprehensive review of pesticides in The Wash system. Samples collected between 1983 and 1999 were analysed for toxic and persistent chemicals. The 500,000 results were assessed against toxicological information and no toxic effects were detected.

Herbicides and pesticides entering from diffuse sources are very difficult to monitor so the Environment Agency has also mathematically-modelled their likely presence and effect using 'POPPIE' (Prediction Of Pesticide Pollution In the Environment). Research for POPPIE in 1997 identified 237 substances applied in the catchment. Only 16 substances accounted for more than 1 % of the total weight applied and none of these are a problem in The Wash catchment.

Navigation and commercial shipping activity inevitably leads to occasional releases to the environment, such as oily bilge water discharges; spillage during loading/off-loading; and the disposal of dredging spoil.

Inputs from adjacent coastal waters. These potential sources are beyond the remit of the Environment Agency, but for the purpose of establishing context, it is notable that some recent investigations on nutrient fluxes indicated that the coastal waters adjacent to The Wash might be a significant source of some contaminants/substances.

### ***Information concerning the quality of The Wash itself***

#### Chemical water quality

The Wash embayment has good water quality, as would be expected considering the good quality in the rivers and estuaries.

Data collected in the south east Wash at roughly two-monthly intervals since the early 1990s have never given cause for concern. Over 70 substances that were tested for during this period were either not present or were present in amounts too small to detect. Concentrations of heavy metals were always below the relevant Environmental Quality Standard. Dissolved oxygen levels are usually around 100% saturation, with some fluctuations due to algal activity.

Because of the eutrophic nature of the tributary rivers and the hyper-nutrient nature of the estuaries there have been a number of surveys to assess eutrophication in the embayment.

Guideline criteria - to indicate the levels of nutrients that can be present in estuary and sea water without causing water quality problems - have not yet been formally set. Average nitrogen levels in The Wash are double the Water Research Centre's suggested annual means<sup>5</sup> but average orthophosphate concentrations are only half the suggested guideline. Both orthophosphate and silicate concentrations are an order of magnitude lower in summer months. This is partly due to reduced agricultural run-off associated with lower river flows, but it is also likely to be related to algal uptake of these nutrients. Chlorophyll-a concentrations, an indication of algal density, ranged between 0.3 and 35.3  $\mu\text{g/l}$ <sup>6</sup> and averaged 5.2  $\mu\text{g/l}$ , which is half the suggested DEFRA guideline level for potential eutrophication. Highest chlorophyll-a concentrations were recorded off Hunstanton, in shallow clean water where it is presumed more light is available.

<sup>5</sup> WRc (1993). An assessment of the environmental quality standards for inorganic nutrients necessary to prevent eutrophication (nuisance growth of algae). Report to the National Rivers Authority [one of the predecessor bodies of the Environment Agency].

<sup>6</sup>  $\mu\text{g/l}$  = microgrammes per litre. This is a concentration of one part per billion (1ppb).

DEFRA guidelines for algal densities are never exceeded by more than a small margin in the embayment and naturally occurring algal blooms are usually modest in their extent. However, the 'slime-like' alga *Phaeocystis* can become a nuisance to fishermen (and fish). Given the high levels of nutrients available, it is probable that the lack of light penetration in the relatively turbid water minimises algal growth. Indeed aerial surveys have shown only modest populations of larger seaweeds and no blanket or unusual coverage of algae.

### Bacterial quality

Bathing beaches - The major source of bacteriological data derives from the statutory sampling of bathing beaches around the holiday resorts of Heacham and Hunstanton. Bathing beach results are predominantly good, with no failure since 1995

Routine monitoring in the south-east Wash - Bacteriological samples have been collected at Cork Hole in the south-east Wash every two months since 1990. Typically, values of approximately 7,500 coliform bacteria per 100ml of seawater were reported prior to 1997, but since the introduction of secondary treatment at King's Lynn sewage treatment works the average value has been 600 coliforms per 100ml.

Shellfish waters monitoring - In recent years sampling has been conducted at Cork Hole and near the confluence of the Witham and Welland for the purposes of the European Community Shellfish Water directive. Monthly sampling has shown The Wash to have Class A water and fishermen are allowed to cook their shrimp catch on board the fishing vessels.

### Ecotoxicology monitoring

Oyster Embryo Bioassay (OEB) - This is a technique that uses oyster larvae to assess marine water quality. In water of inferior quality the larvae become deformed. The number of deformed larvae is expressed as a

percentage, referred to as PNR (percentage net response) with 0% indicating no deformities observed and 100% signifying complete deformity or mortality of larvae compared to a control batch. Results for samples from The Wash usually show good water quality.

Sediment Bioassays - Sediment toxicity tests have been undertaken to investigate the presence of toxic and persistent substances, however chemical analyses of sediments have shown no elevated levels of contaminants. All animals introduced to these sediments in the laboratory survived.

### Sediment quality

All sediment samples collected from The Wash have contained only low levels of contaminants. Extensive surveys in the early 1990s found consistently low concentrations of metals, organic and synthetic substances, which enabled a subsequent reduction in sampling effort. Some monitoring continues, but the sediment samples collected are usually frozen for later analysis, should a need be identified.

### **Conclusion**

The condition of the estuaries linking the inland rivers to the Wash embayment has improved significantly over the past two decades. Major improvements in sewage treatment, and considerable reductions in effluents from food processing industries have occurred. Within the body of The Wash these estuarine waters rapidly mix with clean seawater and in the absence of any significant direct discharges to the embayment, environmental quality can be regarded as very good.

Source of information: *An overview of environmental quality in The Wash and its tributary estuaries*. Ecomaris Ltd. for the Environment Agency (2004).

## Appendix C

### Climate change

#### What is climate change?

Climate change is associated with increased levels of greenhouse gases in our atmosphere.

The balance between energy coming in from the sun in the form of sunlight and energy constantly being emitted from the surface of the earth to space, determines the temperature of the earth. The energy coming in from the sun can pass through the atmosphere almost unchanged and warm the earth, but the infrared radiation emanating from the earth's surface is partly absorbed by some gases in the atmosphere and some of it is re-emitted downwards. This further warms the surface of the earth and the lower atmosphere. The gases that do this naturally are mainly water vapour and carbon dioxide. An analogy is made with the effect of a greenhouse, which allows sunshine to penetrate the glass that in turn keeps the heat in, hence the greenhouse effect.

Without this natural greenhouse effect, the earth would be over 30°C cooler and would be too cold to be habitable. But as greenhouse gas concentrations rise well above their natural levels, the additional warming that will take place could threaten the future sustainability of the planet.

Each greenhouse gas has a different capacity to cause global warming, depending on its radiative properties, its molecular weight and its lifetime in the atmosphere. The most important greenhouse gases are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

The scientific evidence is growing that human made greenhouse gas emissions are having a noticeable effect on the earth's climate. Globally, the ten hottest years on record have all occurred since the beginning of

the 1990s. Various scenarios have been constructed to assist in predicting future changes in climate. These may be altered as further evidence is obtained. Current climate models predict that global temperatures could warm from between 1.4 to 5.8°C over the next 100 years, depending on the amounts of greenhouse gases emitted and the sensitivity of the climate system. Globally, the social, environmental and economic costs associated with this could be huge.

#### The key impacts of climate change

However effective policies are to reduce emissions of greenhouse gases, the world will now experience a significant degree of climate change. This is likely to have far-reaching effects on all aspects of the world's environment, economy and society including:

- Sea level is expected to rise by over 40 centimetres by the 2080s because of thermal expansion of the oceans as temperatures rise and because of melting of land ice.
- The poorest countries are likely to be the most vulnerable to the effects of climate change. 60% of the additional 80 million people projected to be at risk of flooding are expected to be in southern Asia (Pakistan, India, Sri Lanka, Bangladesh and Myanmar) and 20% in south east Asia (from Thailand to Vietnam, including Indonesia and the Philippines).
- Africa is expected to experience significant reductions in cereal yields, as are the Middle East and India. And an additional 290 million people could be exposed to malaria by the 2080s, with China and Central Asia likely to see the largest increase in risk.
- In some areas, water resources for drinking and irrigation will be affected by reduced rainfall or as ground water in coastal zones suffers from salination due to sea level rise. People's lives may be put at risk from an increased frequency of droughts and flooding.

### ***How the UK could be affected***

Average annual temperatures across the UK may rise by between 2° and 3.5°C by the 2080s, with the degree of warming dependent on future levels of greenhouse gas emissions.

High summer temperatures will become more frequent and very cold winters will become increasingly rare. For example, a very hot August, such as that experienced in 1995 may occur as often as two years in three by the 2080s under the higher emissions scenarios.

It is not just temperatures that will change in the UK, but also rainfall amounts and frequency. Winters will become wetter and summers may become drier across all of the UK.

Sea levels will continue to rise and could be between 26 and 86 cm above the current level in south-east England by the 2080s. Extreme high water levels, which currently have a 2% annual probability of occurring, could become 10 to 20 times more frequent at some east coast locations by the 2080s.

### ***Responding to the challenge***

As a result of the Kyoto Protocol, developed countries have agreed that they will cut their overall emissions of greenhouse gases by 5.2% below 1990 levels by 2008-2012. For the first time, these targets will be legally binding and countries have different targets to reflect their circumstances.

Following Kyoto, the UK's target is to cut its emissions by 12.5% below 1990 levels by 2008-2012. But the Government is convinced that the UK can and should go further and has therefore set a domestic goal to cut the UK's emissions of carbon dioxide by 20% below 1990 levels by 2010.

### ***Adapting to a changing climate***

The UK needs to adapt to the predicted impacts of climate change including sea level rise, droughts and more intense rainfall. Extreme weather events, such as severe flooding, will become more common.

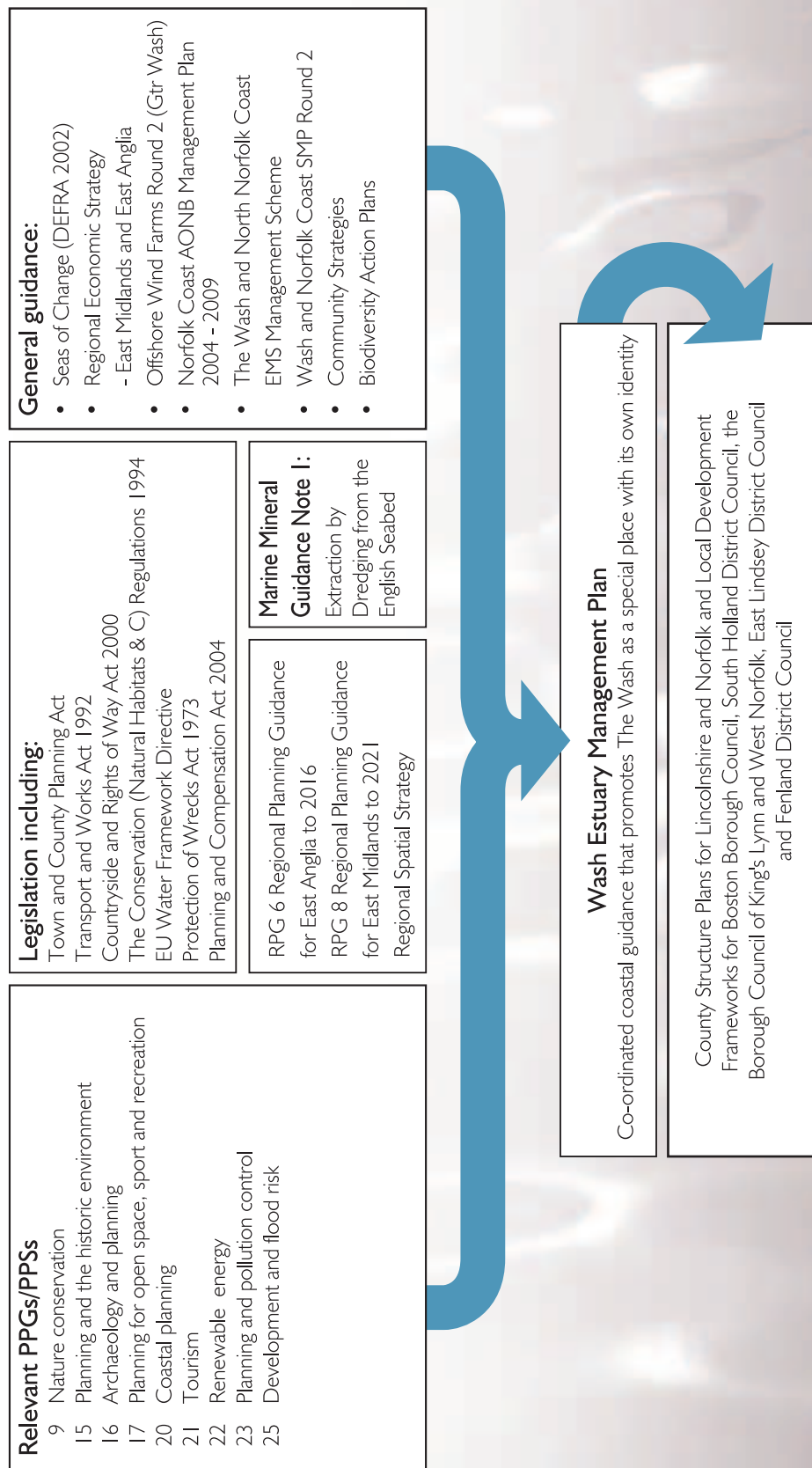
The United Kingdom Climate Change Programme examines likely impacts on the UK, considers how central and local government, businesses and other organisations might start adapting and suggests priorities for the UK.

Main information source: <http://www.defra.gov.uk/environment/climatechange/cm4913>



## Appendix D

### Consideration of matters relating to planning and development control



## Appendix E - A checklist to show factors relevant to The Wash that should be considered in development control decision-making.

Factors to consider	Hypothetical development		
	Port expansion (at existing port locations)	Marina	Small recreational facility (e.g. slipway and car park)
Access and adequacy of transport infrastructure (incl. car parking)	●	●	●
Air quality	●		
Availability of water resources	●	●	●
Capital dredging requirements and costs	●	●	
Commercial fisheries generally		●	●
Competition for use of 'tidal window'	●	●	
Conflict with commercial/recreational craft	●	●	●
Conservation (Natural Habitats &c) 1994	●	●	●
Contaminated land/seabed	●	●	
CRoW Act 2000		●	●
Disturbance to shellfish beds	●	●	●
Draught requirements for craft	●	●	
Disposal of dredgings	●	●	
Education required (e.g. boat users)		●	●
Educational opportunities generally		●	●
Existing local economy/competing economic interests.	●	●	
Flood risk / flood risk management	●	●	●
Geomorphology and longshore drift	●	●	
Hydrology and tidal regime	●	●	●
Impacts on the public RoW network		●	●
Increased pressure for access to private land		●	●
Increases in visitor numbers/visitor management		●	●
Landscape impacts in and around Norfolk Coast AONB	●	●	
Likelihood of coastal erosion	●	●	●
Local distinctiveness/building design	●	●	●
Location of land-based ancillary facilities to support offshore development	●	●	
Loss of agricultural land		●	●
Maintenance dredging requirements and costs	●	●	
Noise (during and after works)	●	●	●
Opportunities for re-use of brownfield land	●	●	●
Other visual impacts on landscape and seascape	●	●	
Potential existence of previously unidentified historic assets (terrestrial, intertidal, sub-tidal)	●	●	●
Potential for job creation (local/incoming skills)	●	●	
Presence of Scheduled Ancient Monuments	●	●	●
Pressure on sewerage infrastructure		●	
Proximity to MoD installations		●	●
Quiet enjoyment generally		●	●
Salinity gradient	●	●	
Speed limits (knots) and policing requirements		●	●
The Wash and North Norfolk Coast European Marine Site*	●	●	●
The Wash Biodiversity Action Plan(BAP)*	●	●	●
Tourism		●	●
Water quality	●	●	●

\* Please refer to The Wash and North Norfolk Coast European Marine Site Scheme of Management and The Wash Biodiversity Action Plan for detailed information relating to habitats and species and associated impacts.

## Appendix F

### Summary of Port Legislation

The Dangerous Substances in Harbour Areas Regulations 1987.  
 Environmental Protection Act 1990.  
 Environmental Protection (Prescribed Processes and Substances) Regulations 1991.  
 The Transfrontier Shipment of Hazardous Waste Regulations 1988.  
 The Control of Pollution (Special Waste) Regulations 1988.  
 The Countryside and Rights of Way Act 2000.  
 The Habitats Directive (92/43/EEC)  
 The Planning (Hazardous Substances) Regulations 1992.  
 The Merchant Shipping Act 1964.  
 Oil Pollution Act 1971.  
 Dangerous Vessels Act 1985.  
 The Control of Pollution (Amendment) Act 1989.  
 The Control of Pollution (Landed Ships' Waste) Regulations 1987.  
 The Control of Pollution (Landed Ships' Waste) (Amendment) Regulations 1989.  
 Annexes I, II and V of the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol 1978 (MARPOL 73/78).  
 Water Resources Act 1991.  
 Harbour Works (Assessment of Environmental Effects) Regulations 1988.  
 Harbour Works (Assessment of Environmental Effects) (No 2) Regulations 1989.  
 Wildlife and Countryside Act 1981.  
 Transport and Works Act 1992.  
 Merchant Shipping Act 1894.  
 Harbours, Docks and Piers Clauses Act 1847.  
 Pilotage Act 1987.  
 Food and Environment Protection Act 1985 (As Amended).  
 Paris Commission.

The Department for Transport is undertaking a 'review of development in coastal and marine waters' which aims to reduce the complexity of the regime governing development in coastal and marine waters and includes auditing of the number of development control regimes including FEPA 1985 and Transport and General Works Act 1992. This review was ongoing at the time of WEMP publication and as a result The Wash Estuary Strategy Group will maintain a watching brief on the possible outcomes of this work and will communicate any possible implications for The Wash as the outcomes of this study are made available.

Link: [http://www.dft.gov.uk/stellent/groups/dft\\_control/documents/contentservertemplate/dft\\_index.hcst?n=6811&l=1](http://www.dft.gov.uk/stellent/groups/dft_control/documents/contentservertemplate/dft_index.hcst?n=6811&l=1)

## Appendix G - A considerations checklist for the renewable energy options on The Wash and its hinterland.

Potential impact	Wind energy		Biomass energy	
	Onshore	Offshore	Waste	Energy Crops
Access to fishing grounds		●		
Agricultural diversification	●		●	●
Air pollution (generally)			●	●
Air pollution (smells)			●	
Coastal defence	● <sup>a</sup>	●		
Coastal processes		●		
Commercial navigation		●		
Cumulative impacts associated with density of development	●	●	●	●
Defence operations	●	●		
Deposition of particulates			●	
Designated sites <sup>b</sup>	●	●	●	●
Diffuse pollution <sup>c</sup>			●	
Economic development opportunities	●	●	●	●
Educational opportunities	●	●	●	●
Electro-magnetic field	●	●		
Employment opportunities	●	●	●	●
Fish breeding numbers and resource levels		●		
Grid connections and associated development	●	●	●	●
Habitat change	●	●	●	●
Historic environment	●	●	●	●
Increased HGV movements			●	●
Land use change	●	●	●	●
Landscape	●	● <sup>d</sup>	●	●
Loss of fishing grounds		●		
Maritime communications		●		
Maritime safety		●		
Ornithology	●	●		●
Overhead power lines	●	●	●	●
Recreational navigation		●		
Seascape	●	●		
Soil quality			●	●
Visual impact	●	● <sup>d</sup>	●	●
Water resources				●
Wildlife generally	●	●	●	●

● = Potential impact (+ and -).

### Notes:

<sup>a</sup> Potential to set precedent for flood defence/coastal protection if located in areas at risk of flooding/coastal erosion.

<sup>b</sup> Additional information on designated sites may be found in: *The Wash and North Norfolk Coast European Marine Site Scheme of Management*, *The Wash Biodiversity Action Plan*, *the Norfolk Coast Area of Outstanding Natural Beauty Management Plan*.

<sup>c</sup> Has the potential to increase or decrease levels of diffuse pollution, depending upon land use practice prior to the establishment of biomass energy generation (e.g. muck spreading may result in greater levels of diffuse pollution than the generation of energy using poultry litter).

<sup>d</sup> Potential to impact is dependent upon distance from the coast.



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#### **Environmental Statement**

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