

Humber Estuary Management Strategy



June 1997



Humber Estuary Management Strategy

June 1997

J.5026/1.5435

ENVIRONMENT AGENCY



124360

Humber Estuary Management Strategy



Agriculture



Archaeology & Cultural Resources



Fisheries



Flood Defence & Coastal Processes



Industry & Commerce



Integrated Pollution Control



Landscape



Nature Conservation



Navigation & Port Development



Sport, Recreation & Access



Tourism

Contents

Preface	(iii)
Acknowledgements	(iv)
Steering and Working Group Representatives 1993 - 1997	(vi)
Summary	(viii)
Our Vision for the Humber Estuary	(ix)

The Strategy:

1.0	Introduction	
1.1	Guiding Principle	1
1.2	Background	1
1.3	The Purpose of HEMS	2
1.4	HEMS Strategic Aims	3
1.5	Stakeholder Objectives	3
2.0	Overview	11
3.0	Key Issues	
3.1	Introduction	15
3.2	Strategic Planning Framework	15
3.3	Physical and Sedimentary Processes	16
3.4	Physical Processes in the Estuary and Open Coastline	17
3.5	Sea Level Rise and Coastal Squeeze	18
3.6	Flood Protection	19
3.7	Integrating International Conservation Objectives with Ports and Industry Development	20
3.8	Water Quality	21
3.9	Waste Minimisation	22
3.10	Contaminated Land	22
3.11	Sustainable Economic Development	23
3.12	Recreational Management	24
3.13	Tourism	25
3.14	Education and Information	26

4.0	Future Management	
4.1	Project Endorsement	27
4.2	Implementation	27
4.3	Issues Resolution	28
4.4	Monitoring and Review	29
4.5	Publicity and Marketing	29
4.6	Project Management	29
4.7	Management Framework	30
4.8	Options for Project Co-ordination and Administrative Support	31
4.9	Implementation Officer's Duties and Responsibilities	31
4.10	Employer and Location	32
4.11	Resourcing HEMS	32
4.12	Sources of Funding	33
5.0	Bibliography	
5.1	National Scene - Department of the Environment (DoE)	35
5.2	National Scene - Other Publications	35
5.3	Humber Area Publications	36
5.4	Reports produced for the Humber Estuary Management Strategy	38

Appendices:

A1	Glossary and Background Information	39
A2	Compendium of Key Partners	43
A3	Legislation	49

List of Figures:

Map 1:	Humber Estuary Management Plan - <i>Local Authority Boundary</i>	7
Map 2:	Humber Estuary Management Plan - <i>LEAP Boundaries</i>	9

Preface

The management of Britain's estuaries, the Humber among them, is one of the great challenges for the millennium. Sea level rise means that our community has to come to terms with the economic and environmental costs of the needs for ever-larger flood defences. The Humber Estuary is an important crossroad and feeding station for migratory birds which travel to and from their Arctic breeding grounds each spring and autumn in such numbers that substantial parts of the Estuary are protected under our international conservation obligations. Estuaries also provide a focus for industrial investment and are justifiably regarded as crucial to the long term success of the UK economy.

There are also obligations to maintain safe sea defences and navigation channels, to improve water quality and maintain drainage outfalls. These fall to many different bodies ranging from the four Unitary Authorities, English Nature, the Environment Agency, the Internal Drainage Boards, Associated British Ports and the North East Sea Fisheries Committee. In addition, there are many non-statutory interests covering elements such as sport and recreation, landscape, education and public access. There is a consequent need to ensure that decisions are taken in the light of consultation with the community.

A balance must be struck between the needs of industry, wildlife, agriculture and the community who work in the flood plain. If we are to meet the challenge, there is a need to maintain a vibrant economy and a dynamic estuary which can respond to the changes that it will experience and maintain a focus for internal investment. The Humber Estuary Management Strategy is one element in this process.

The Strategy provides the umbrella for the development of specific Action Plans to tackle the key issues which have been identified. It has been drawn up following the publication of a consultation document which explored the wider issues and sought widespread comment. The Action Plans will be developed by the various partners in HEMS guided by the overall strategy and the process of consultation that it establishes.

This Strategy document represents a major step forward in management of the Humber Estuary. The work of the Steering and Working Groups has demonstrated that a partnership has been established to address the issues and through which acceptable solutions can be found. The next stage is to appoint an Implementation Officer to co-ordinate the project, and to consolidate the Steering Group membership to include elected representatives.

Dr Lawrence M Jones-Walters
Steering Group Chairman

Acknowledgements

The Humber Estuary Management Strategy is the result of tremendous efforts by a wide variety of interests on the Humber, with in-put from Industry and the Ports, Statutory Agencies, Local Authorities, many elements of the voluntary sector and a good many private individuals who took the trouble to comment on the Consultation Draft published in July 1996. Since the Consultation Draft was launched there have been considerable efforts by the Steering and Working groups to produce a coherent strategy which attempts to meet the aspirations of the various interest groups. In particular, there has been intense activity in the Working Group charged with synthesising the representations arising from the Consultation Draft, and I would like to offer particular thanks to the following: Richard Archer (RSPB), Joe Besch (Associated British Ports), Richard Boyes (British Aerospace), John Chapple (NFU/CLA), Doug Robinson (North Lincs Council), Dr Andy Smith (Novartis Grimsby), John Sweeney and Philip Winn (Environment Agency).

Special thanks must go to Lynnette Evans, HEMS Project Officer until March 1997, who moved to a new job after almost three years of very hard work; that this strategy has got this far is a tribute to her perseverance and dedication. The project also benefitted considerably from the guidance of Dr Roger Meade for much of its duration. Lynnette was preceded by Teresa Fernandes who undertook the initial data collection and left the foundations for Lynnette's work. Following Lynnette's departure, Roger Morris took on much of the organisation of HEMS, ably assisted by Kathryn Gruszowski, Katherine Hayward and Helen Powell; the team that ensured that the project reached this important milestone.

Finally, looking forward to the next phase of HEMS it is important to recognise that the Local Authorities around the Humber, together with British Aerospace, Enventure Northern Ltd., the Environment Agency, English Nature and Novartis Grimsby have contributed to the funds which make the launch of this strategy possible and provide a basis for the employment of an Implementation Officer.

Dr Lawrence M Jones-Walters
Steering Group Chairman

Acknowledgements

Special thanks go to the following companies and organisations who have assisted with the production and sponsorship of this report.

BRITISH AEROSPACE **Military Aircraft & Aerostructures**

British Aerospace Defence Limited, Military Aircraft Division
Brough, East Yorkshire HU15 1EQ
Tel: (01482) 664166 Fax: (01482) 664232

H u m b e r F o r u m

*The Humber Forum Limited, Guildhall, Alfred Gelder St.
Hull, HU1 2AA
Tel: (01482) 223111 Fax: (01482) 595062*

NOVARTIS

Novartis Grimsby
Pyewipe, Grimsby DN31 2SR, England
Tel: (01472) 355221 Fax: (01472) 240613

Innes **PHOTOGRAPHERS**

11/13 The Square, Hessle
East Yorkshire HU13 0AF
Tel: (01482) 649271 Fax: (01482) 647189



ADVANCED REPROGRAPHICS

City Ensign Limited, Maritime House, Omega Business Park
Neptune Street, Hull HU3 2BP
Tel: (01482) 323136 Fax: (01482) 227931

The following companies and individuals assisted by supplying photographs for the front cover:

- **Agriculture - Innes Photographers**
- **Archaeology & Cultural Resources -**
Dr Andrew Foxon,
Hull City Museums & Art Galleries
Excavation of a North Ferriby Bronze Age Boat
- **Fisheries - Innes Photographers**
- **Flood Defence & Coastal Processes - Innes Photographers**
- **Industry & Commerce - Innes Photographers**
- **Integrated Pollution Control - Innes Photographers**
- **Landscape - Innes Photographers**
- **Nature Conservation - Andrew Hay, RSPB, Knot**
- **Navigation & Port Development -**
Geoff Byman Photography/
Howard Smith Towage Ltd.
- **Sport, Recreational & Access -**
Captain Howard Anguish/Richmond & Rigg
Hull Marina
- **Tourism - Yorkshire & East Riding Tourist Board**

Steering and Working Group Representatives 1993 - 1997

The following organisations and companies were responsible for steering the development of the Humber Estuary Management Strategy through the Steering and Working Groups, involving considerable manpower resources:

Associated British Ports

Mr J Besch
Mr G Robinson
Mr I Schofield
Mr R Smith
Mr J Wray

Boothferry Borough Council

Mr G Powell

British Aerospace Defence Ltd.

Mr R Boyes

British Association for Shooting and Conservation

Miss H Doe

Cleethorpes Borough Council

Mr A Freeman

Country Landowners Union

Mr J Chapple

East Lindsey District Council

Mr R Bowe

East Riding of Yorkshire Council

Mr P Ferguson
Mrs S Ferguson

English Nature

Dr L Jones-Walters
Dr R Meade
Mr R Morris

English Sports Council

Mr A Copeland
Mrs J Tallantire

Environment Agency

Mr P Barham
Mr J Sweeney
Mr P Winn

Holderness District Council

Mr C Hogg

Humber Chamber of Commerce

Mr P Cliff
Mr C Silvester

Humberside County Council

Mr I Biddick
Mr A Kelham
Mr J Wheeler
Mr B Williams

Humber Forum Ltd.

Institute of Estuarine and Coastal Studies

Kingston upon Hull City Council

Lincolnshire County Council

National Farmers Union

North East Lincolnshire Council

North East Sea Fisheries Committee

North Lincolnshire Council/Glanford BC

Novartis Grimsby

Royal Society for the Protection of Birds

Mr J Barber
Miss A Spalding

Prof. J Pethick

Mr C Boxshall

Mr P Raspin

Mr D Collier

Mr P Tame

Mr N Blackshaw

Mr G Bartlett

Mr D Robinson

Dr J A Smith

Mr R Archer

Mr K Bayes

Summary

The Humber Estuary Management Strategy has been prepared in response to guidance by the Department of the Environment and adopts a partnership approach to problem-solving. It is a non-statutory process which is intended to guide policy and decision-makers in managing the Estuary in a way which will not prejudice the ability of future generations to meet their own needs.

During the preparation of this Strategy there has been extensive consultation with a wide cross section of Statutory bodies, Ports and Industry, and the Voluntary Sector. This Strategy document was preceded by the production of a series of Topic Papers which examined the issues as identified by the consultees, and the publication of a Consultation Draft which expressed the issues identified by the Topic Papers and remains an important point of reference for the Strategy.

The consultation process has led to the identification of Key Issues and a series of related Objectives which provide the guidance for co-ordinated strategic planning around the Estuary and for interested parties who may wish to expand existing, or establish new, enterprises in the area. This document should be used in conjunction with the existing planning and legislative framework which form the basis for decision-taking.

Following the publication of this Strategy, there will be a need for funding for an Implementation Officer who will promote the development of an Action Plan by the stakeholders and who will monitor progress in meeting the objectives of the Strategy. The Strategy is expected to be kept under review on a 5 - 10 year basis, whilst the Action Plan will need to be reviewed on a yearly basis.

As this Strategy refers to a wide range of factors and legislation affecting the Humber Estuary, key concepts and a glossary, and an extensive (but not comprehensive) bibliography and list of relevant legislation, are appended.

Our Vision for the Humber Estuary

"The Humber is a living, working environment used and enjoyed by people and wildlife. Working together in partnership will help to sustain its unique character, through wise use of the Estuary's resources, and to create a sense of pride, value and ownership within the local community."

Introduction

1.1 Guiding Principle

- 1.1.1 For the Humber to maintain its present status in Britain and Europe as a sound economic base and internationally important area for wildlife, it needs to be managed in a manner which will not prejudice these assets in the future. This is the principle of sustainable development which embraces the concept of meeting the developing needs of the present without compromising the ability of future generations to meet their own needs. If the Estuary is to be managed for the future, it is important that the users of the Estuary work in partnership, respecting and appreciating each others needs and the needs of the environment. It is hoped that the Humber Estuary Management Strategy (HEMS) will establish this process and develop the principle of partnership for the future.

1.2 Background

- 1.2.1 In 1992, the Department of Environment published Planning Policy Guidance (PPG) Note 20: Coastal Planning. It advocates that estuary users and managers work together in a voluntary manner to produce Estuary Management Plans. PPG20 represents the UK Government's formal recognition of the need to adopt a strategic approach to estuary planning and management. This document was followed in January 1994 by, Sustainable Development - the UK Strategy and, Biodiversity - the UK Action Plan, both of which were our Government's responses to the 1992 Earth Summit in Rio de Janeiro. The latter makes particular reference to the importance of British estuaries and cites targets of production of Estuary Management Plans for 27 British estuaries by 1997, including the Humber Estuary.
- 1.2.2 Estuary Management Plans are voluntary initiatives which seek to bridge the gap between existing statutory frameworks and initiatives which have a bearing on the use and management of an estuary. The existing legislative framework, which applies to many of the partner organisations, continues to be the effective primary legislation, but the Estuary Management Plan has an advisory role for planning and management practice, to support and add value to the existing plans and strategies. This Strategy Report is the result of partnership between the various estuarine interests, within a positive environment of mutual respect and co-operation, to find solutions to problems which affect everyone.
- 1.2.3 Work on the Humber Estuary Management Strategy started in 1993 with the appointment of a Project Officer and the initiation of data collection as advocated in PPG20. In the summer of 1994, a management structure was established consisting of:
- An executive Steering Group to guide the project; and
 - A Working Group with which the Project Officer maintained regular contact.

- 1.2.4 Initial funding for the project was provided by English Nature (EN) through their Estuaries Initiative with special funds provided by the Department of the Environment. Subsequently other partners have contributed funds to support the project. A close relationship was established between HEMS and strategic planning by the Environment Agency (EA - formerly the National Rivers Authority). The first objective of HEMS was to involve key stakeholders in strategy development from the onset, and this has meant that a wide range of interests are represented on the Steering and Working Groups, including the Unitary Authorities, County Councils, the Ports and Industry, Agriculture, Statutory Agencies and the Voluntary Sector as listed at the front of this document.
- 1.2.5 Identification of the issues was undertaken through the establishment of a series of Topic Groups with more diverse interests represented by private individuals and specialist organisations and societies. In all, eleven Topic Papers were prepared ranging from Industry and Commerce to Recreation and Nature Conservation. These arose from a series of Topic Group meetings with even larger open fora to discuss the issues. These Topic Papers which were also summarised in "The HEMS Topic Paper Summaries Report (December 1995) are stand alone documents which provide:
- A review of the resources of the Estuary as they are seen to affect the particular interest;
 - A perspective on issues of concern and aspirations for the future; and
 - Proposals for appropriate objectives and actions by which these matters might be addressed.
- 1.2.6 The scope and membership of the Working Group was subsequently broadened in autumn 1995 to include Agriculture, Ports and Industry. This group became the Strategy Preparation Group who were responsible for compiling the HEMS consultation draft and for identification of the 'Key Issues' which form the basis of this Report. The consultation draft was launched in July 1996 and underwent three months consultation which resulted in 73 responses, all of which have been thoroughly considered in the development of this Strategy Report.
- 1.2.7 Although the Consultation Draft provided the basis for the development of this Strategy Report, it remains a very important document as the source of informed decision-making on Key Issues. Moreover, it provides details which cannot be represented in the Strategy Report which it complements. Details of the comments on the Consultation Draft will have been prepared by the time this Report is published and will be available on request.

1.3 The Purpose of HEMS

- 1.3.1 The challenge of managing estuaries is that the legitimate actions of one party may significantly affect the interests of others. In many instances the effects can be some distance away as the physical processes are affected by tidal regimes which affect the entire estuary. This means that there is a need for a holistic approach to project planning and a need to ensure that the wider interests of estuary users are accounted for. Moreover, many of the issues on the Estuary are complex and there is a need to take a long-term and integrated approach to resolution of the issues, to provide a sound basis for investment in infrastructure at a level which does not compromise the ability of future generations to live in a healthy environment with a vibrant economy.
- 1.3.2 HEMS provides a high-level overview of the issues, identifying the concerns and aspirations of the various stakeholders. It also identifies links between different organisations and their individual and shared responsibilities, and encourages communication and dialogue at an early stage in

project-planning. As a result, it is hoped that there will be greater awareness and understanding of differing perspectives which engenders a spirit of partnership and co-operation and assists consensus building.

- 1.3.3 The objectives identified in this Strategy Report should guide future activities through a voluntary framework of planning and management options which complement statutory processes and legislative framework. It should also provide a framework within which projects, such as the preparation of development plans, environmental policies, development briefs and proposals can be examined. Furthermore, HEMS should encourage a flexible approach to accommodating all the different uses of the Estuary and be used as a key tool by planners, developers and the local community when deciding how best to balance competing demands.

1.4 HEMS Strategic Aims

- 1.4.1 The development of this Strategy relies on the establishment of overall strategic aims which all organisations are able to endorse. For the HEMS area, these are to:

- Encourage stakeholders to aspire to the "Vision" for the Humber Estuary and contribute to its achievement;
- Provide a framework to assist in the integrated and co-ordinated management of the social, environmental and economic fabric of the Estuary;
- Recognise the needs and aspirations of all users and promote the wise use of the Estuary's resources, in harmony with the physical processes which shape the Estuary, both now and in the future;
- Seek widespread understanding and support of the principles of sustainable development through every aspect of the HEMS initiative;
- Promote effective liaison through commitment to a management approach based on partnership;
- Seek to minimise conflicts between users of the Estuary which arise through disparate aspirations and specific proposals, and to encourage ways of working which promote consensus building;
- Encourage the participation and shared ownership by people around the Humber in managing their local environment;
- Support, inform, add value to and seek to influence the range of existing planning and management structures which apply to the Humber;
- Promote the Humber as an educational resource and through this engender a wider level of public awareness and support for management of the Estuary for future generations.

1.5 Stakeholder Objectives

- 1.5.1 The main interests within the Estuary will have different objectives, views and opinions about how the Estuary should be managed, many of which were expressed during consultation on the draft HEMS report. In preparing this Report a lot of common ground has been found between the various interest groups. The approach taken, whilst recognising the differences, has been to build on the common ground in the development of the Objectives set out in Chapter 3.

1.5.1.1 *Agriculture*

- To foster viable and sustainable farm development to support rural communities.

1.5.1.2 *Archaeology and Cultural Resources*

- To conserve and enhance the Estuary's archaeological and cultural heritage, to ensure the maintenance of its special and diverse qualities and to secure its sensitive management and promotion.

5.1.3 *Fisheries*

- To support and promote sustainable exploitation of the fisheries of the Humber through appropriate regulation to protect estuarine habitats and a healthy food chain whilst recognising the value of the fisheries to local communities.

1.4 *Flood Defence & Coastal Processes*

- To provide environmentally, technically and economically acceptable flood defences, developed through a strategic understanding of physical processes and interests on and adjacent to the Humber Estuary.
- To produce a "state of the art" Estuary Shoreline Management Plan (ESMP) based on current understanding of coastal processes, to a format compatible with the open coast Shoreline Management Plans (SMPs) to set a framework for the physical management of the Estuary.
- To develop an approach that would facilitate the construction of short term flood defence in a manner which meets the requirements of the European Habitats Directive.
- To ensure that the planning and implementation of flood defence strategies contribute to the sustainable development of the Humber Estuary and the delivery of biodiversity at a national level.

1.5.1.5 *Industry and Commerce*

- To create through partnership a dynamic, diverse and environmentally sustainable economy that provides good quality employment opportunities for local people.

1.5.1.6 *Integrated Pollution Control (IPC)*

- To promote sustainable environmental management by working with developers, industrialists, farmers and the community in general, so as to ensure that natural resources are protected.
- To improve land, water and air quality in the HEMS area without imposing disproportionate costs on industry or society as a whole.

1.5.1.7 *Landscape*

- To ensure that the special and distinctive qualities of the Humber landscape are protected and promoted, enhanced where appropriate and, where necessary, restored.

1.5.1.8 *Nature Conservation*

- To maintain and enhance the diversity and abundance of wildlife within the Estuary, especially the internationally important populations of birds.

1.5.1.9 *Navigation and Port Development*

- To ensure the continued growth and vitality of the Humber's Ports and Wharves and their related developments.

1.5.1.10 *Sport, Recreation & Access*

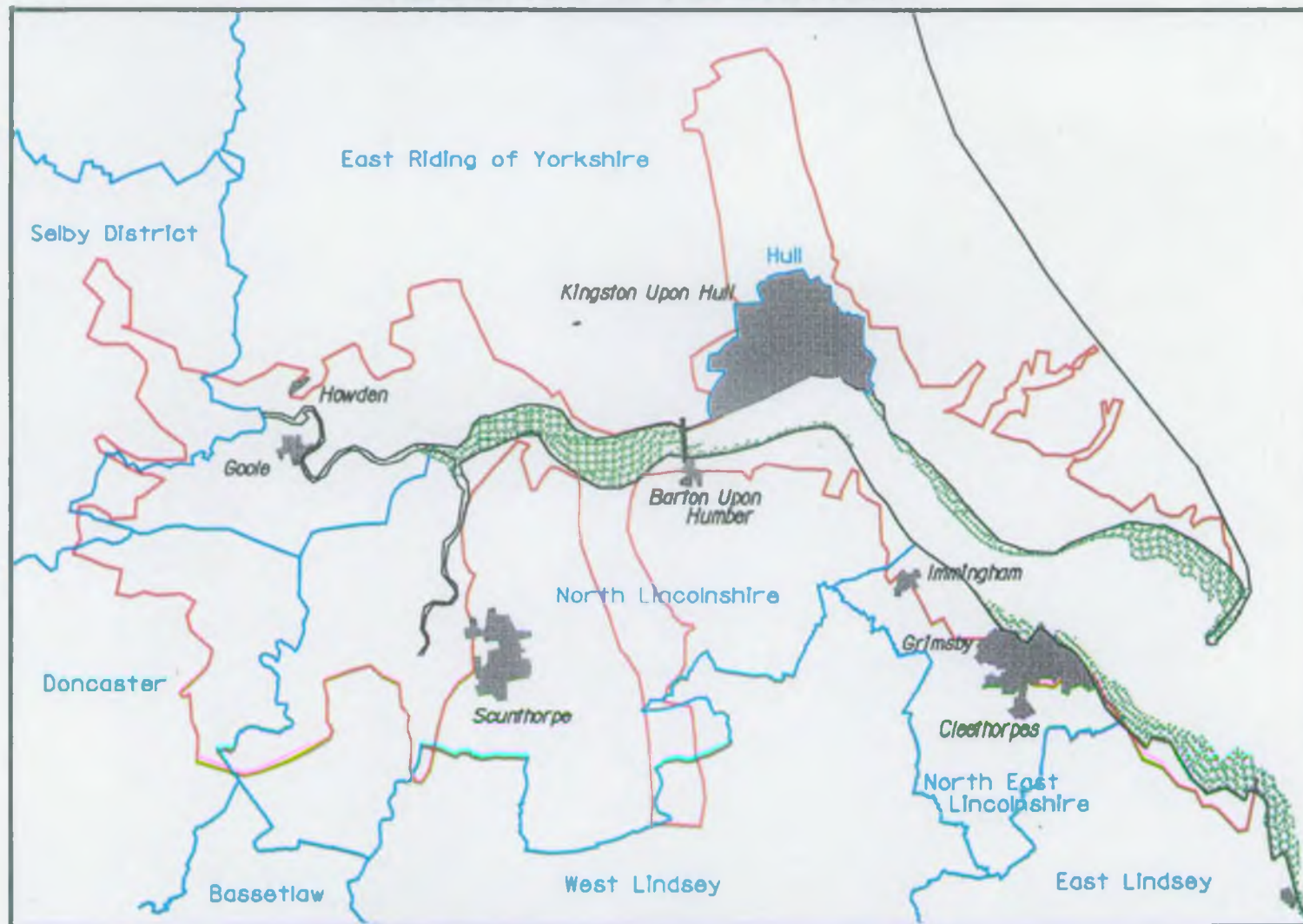
- To maintain and improve the provision and availability of as wide a range of sport and recreational facilities as are compatible with the local environment of the Humber Estuary.

1.5.1.11 *Tourism*

- To maintain, develop and promote tourism on the Estuary in a way which ensures that all development achieves a suitable long term balance between needs of visitors, local communities and the environment.

HUMBER ESTUARY MANAGEMENT PLAN

Indicative Information



Humber Estuary Management Strategy Boundary



Major Towns



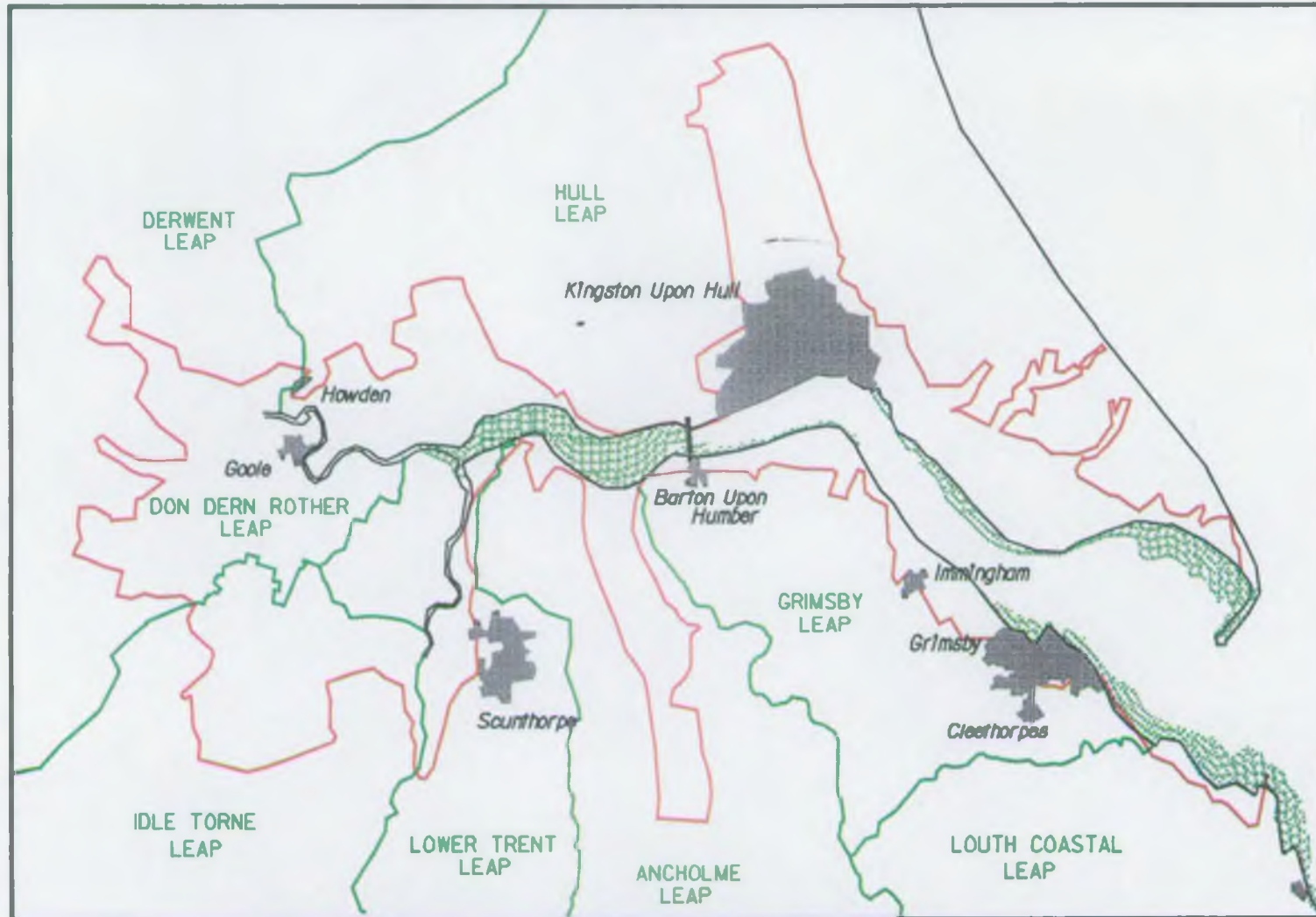
SPA/Ramsar site



Local Authority Boundary

HUMBER ESTUARY MANAGEMENT PLAN

Indicative Information



— Humber Estuary Management Strategy Boundary
 Humber Bridge
 Major Towns
 SPA/Ramsar site
 — LEAP Boundaries

Overview

- 2.1 The Humber is one of the most important British estuaries because of its strong economy, wildlife, geomorphology and landscape. It is a large estuary with a catchment that drains water from one fifth of England amounting to some 13,000,000 m³ per day. The Humber area is also a key location for British commerce, with Ports occupying a pivotal place in our trade with Europe and the rest of the world. Its historic importance to working communities is demonstrated by the extensive archaeological record which is particularly evident from the Bronze Age onwards. Even with the high level of estuary-related industry, 85% of the catchment is in agricultural production and much of the land is the most productive and versatile. Alongside the wide industrial and agricultural use of the Estuary basin, the wildlife value of the Estuary is immense and is recognised as internationally important on account of the migratory waterfowl which arrive in their thousands each autumn.
- 2.2 The Humber lies within a coastal cell which stretches from Flamborough Head to Gibraltar Point. It is a funnel-shaped estuary whose shape causes the high and low water levels to be more extreme within the Estuary than at the mouth. As a result, it has the largest tidal range on the east coast of the British Isles ranging from 6.5m at the mouth to 7.2m at Saltend then progressively declining upstream. Natural processes within the Estuary depend upon sediment transfer principally from the Holderness coast where boulder clay cliffs are eroding. This eroded material, together with wider North Sea sediments is transported into the Estuary by tides, to form mudflats and maintain the dynamic dune system at Spurn. South of Cleethorpes, the coastline is sandy with extensive dune systems where an important tourist industry has developed, underpinning the local economy. The sediment budget of the Humber is open to debate. If it is found that more material is leaving the Estuary than is being deposited, there would be cause for concern. This is because it would affect processes which maintain mudflats and saltmarshes which are an important point of flood defence.
- 2.3 Although constrained between high sea walls, the Humber is an extremely dynamic estuary, supporting extensive mudflats and sandbars, an important sand and shingle spit, Spurn Head, and deepwater navigation channels which feed the Ports of Grimsby, Immingham and Hull. The Estuary is navigable as far as Gainsborough, Goole and Selby, the largest of the upstream Ports being Goole. Other than the Sunk Channel, navigable channels are constantly shifting as mud and sandbars move and this necessitates regular survey and maintenance dredging. Upstream of the Humber bridge this is especially true where the shipping channel switches rapidly from one side of the Estuary to the other. The pilot service stationed at Spurn Head helps vessels to navigate through the ever-changing estuary.
- 2.4 Extensive mudflats make the Humber one of the top five estuaries in the UK for overwintering waterfowl and one of the top ten in Europe, with an average of 166,700 waterfowl visiting the Estuary in the period 1990-1995. For this reason much of the Estuary is designated as a Special Protection Area (SPA) and Ramsar Site, comprising seven Sites of Special Scientific Interest, under EC and other international obligations. Other areas of mudflat outside designated sites also make an important contribution to the numbers of birds that can live in the Estuary.

- 2.5 The important parts of the Estuary for overwintering birds are the accreting mudflats, sand bars and salt marshes for feeding and roosting, together with reedbeds and adjacent freshwater marshes which also provide nesting sites for some species. The estuarine muds and sands are inhabited by invertebrates which either burrow and feed on trapped organic material, or are filter feeders taking suspended sediments from the water column; this community provides food for the important bird populations. The bird species which make the Estuary important include shelduck, knot and redshank. There are also important breeding populations of little tern on the coastal shingle, and marsh harrier and bearded tit which inhabit the reedbeds further upstream on both sides of the sea wall. Internationally threatened habitats such as saline lagoons also occur around the Estuary, and there is an important population of grey seals breeding at Donna Nook, one of the most southerly colonies in the North Sea.
- 2.6 The Humber's location on the east coast of Britain means that it is slowly tilting as the landmass responds to isostatic change following the last Ice Age. When this process is combined with sea level rise, this has important implications for all interests; sea walls for instance will need to be enlarged to protect people and property. Rising sea levels will result in increased wave height and can lead not only to over-topping, but also to greater erosion of mudflats and saltmarshes which help to absorb wave energy and protect the sea walls. This is happening because more water is being forced into an area constricted between sea walls which do not allow the estuary the flexibility to respond to natural events by moving inland, as would normally happen within an undeveloped estuary; this is the problem of coastal squeeze.
- 2.7 With over 400,000 people living and working within the flood risk area of the Estuary, flood defence is a fundamental concern. Major concerns about flooding include the risk to people and property with possible loss of life and belongings; others include the threat to agricultural land, how land drainage infrastructure is to be maintained and the need to safeguard archaeological and nature conservation resources.
- 2.8 Costs of sea defences are escalating, as ever-bigger defences are required, and this has very real implications for the country as a whole. This generation has the opportunity to provide a tidal defence strategy which balances the needs of protecting people and property and natural assets against the effects of flooding. As part of this process, the EA has commissioned the development of an ESMP to provide a strategy for sustainable flood defences. This, together with longer-term modelling of processes within the Estuary will provide an opportunity to ensure that long-term provision of flood defences is both economically and environmentally acceptable.
- 2.9 There are many possible options to resolve flood defence needs, the most obvious being to maintain or improve existing structures either within the same footprint or by moving further out into the Estuary. These options have their attractions and in the past have been the ones favoured by coastal engineers. The importance of inter-tidal mudflats and saltmarshes as tidal energy absorbers has recently been recognised and a range of other possible options have been developed or are undergoing trials elsewhere. These involve the practice of managed realignment to recreate mudflats and saltmarsh.
- 2.10 There are a wide range of concerns about the solutions ranging from the possible loss of high quality agricultural land to the loss of further inter-tidal habitat and impact on the wildlife interest. Whilst the options are being developed, uncertainty about how flood defences will be maintained can lead to problems with business confidence in some sectors, such as agriculture. Similarly, uncertainties about the future of flood defences may limit inward investment by some major industries based on the Humber. It is therefore important that a clear strategy for managing physical processes in the Humber is developed and agreed.

- 2.11 Water quality is steadily improving with considerable benefits as a result of waste-minimisation and better effluent treatment by major bank industries. Although water quality is generally good, there remains a general public perception that it is poor. Further investment in sewage treatment at Hull and Grimsby will also make a substantial contribution to the process of improvement. Further upstream there are still concerns about dissolved oxygen concentrations around the confluence of the Ouse and Trent which are believed to inhibit migratory salmonids.
- 2.12 Business confidence and a vibrant local and national economy are seen as the keys to the investment required for environmentally acceptable solutions to these problems. This is particularly true for estuary-based industries, especially the Ports industry on the Humber which is the UK's fastest growing Port complex, accounting for some 65 million tonnes of cargo and some 1 million passengers annually. The Ports industry handles some 12 - 15% of the UK seaborne trade, a significant contribution to the overall wealth of the country, including movement of one third of the nation's oil. This is important because waterborne transport is regarded as more sustainable than road haulage. Business needs are similar to those of flood defence in that they may require inter-tidal mudflats for expansion or outfall construction.
- 2.13 The clay laid down by the Humber has been mined at various locations for tile and brick-making, with active tile yards at Barton on Humber in particular. Their activities have left numerous clay workings which have since filled with water and form an extensive network of freshwater marshes. These marshes are of importance in their own right and formerly held breeding bittern, a key species on the UK Biodiversity Action Plan, and one for which active management is being conducted to attract the birds back. These sites may be affected by the need to realign sea defences.
- 2.14 Historically, the Humber was the focus for deep-sea fishing fleets associated with the Ports of Grimsby and Hull; today they are mainly small scale and contribute far less to the UK's annual catch. Many other industries are doing well however, and are closely associated with the water, not least the petrochemical industry with extensive refineries in the Hull and Immingham area, chemical and pharmaceutical industries on both banks, aircraft production at Brough, and the important steel industry at Scunthorpe, established because of local iron ore deposits, which today imports one quarter of the nation's iron ore through Immingham. The Humber area has also rapidly established its position in offshore gas production and this has led to the establishment of a range of new gas-fired power stations on both sides of the Estuary.
- 2.15 The Estuary supports a number of important sport and commercial fisheries and is a nursery and over-wintering ground for several commercially important species of fish. The saltmarshes of the outer estuary are important fish breeding grounds. There is a commercial brown shrimp fishery and a cockle fishery around Tetney, Humberstone and Cleethorpes and there is also a small commercial eel fishery. Bait digging occurs principally at Spurn Bight, and for the most part is low intensity and non-commercial.
- 2.16 Tourism is an important industry in the HEMS area, providing significant revenue and employment. There are a number of key locations on the Estuary for recreation and tourism, especially the beaches at Cleethorpes which is a traditional seaside resort, the museums at Grimsby and Hull, the dunes at Spurn, and Barton upon Humber with its historic churches, claypits and the Humber Bridge. There are a number of marinas at Hull and elsewhere, but much of the Humber is too dangerous for navigation by small craft or inexperienced crews because of tidal conditions, strong currents and navigation hazards. There are also opportunities for other recreational activities such as swimming, windsurfing, water skiing, wildfowling, and angling with a wide variety of local clubs providing these facilities.

- 2.17 The Conservation (Natural Habitats &c.) Regulations 1994 apply specific provisions in respect of land-use planning so that development proposals which affect a SPA are subject to the most rigorous scrutiny. This means that former permitted development under the General Development Order (GDO) now has to be assessed by a competent authority to ensure that proposals neither significantly affect the integrity of the SPA, nor affect its ecological coherence. This has far-reaching implications for all of the organisations associated with the Humber, and creates the need to find practical solutions to otherwise intractable problems associated with loss of inter-tidal habitats for business expansion or improvements to flood defences. The overall objective of the EC legislation is to ensure that sites designated for their internationally important wildlife must be maintained and enhanced and that continued losses are not acceptable.
- 2.18 There are a great many complex issues facing all elements of the community associated with the Humber Estuary. In many cases it is possible that a legitimate action at one location may have unacceptable consequences for others which are many miles away; yet a holistic approach to estuarine management is currently absent. This is recognised by Government in PPG20 which advocates the development of non-statutory plans for estuary management. The Humber Estuary Management Strategy has been prepared to meet this need.

Key Issues

3.1. Introduction

- 3.1.1 Following the publication of the HEMS consultation draft in July 1996 and the subsequent representations by interested parties, a Working Group considered all of the issues raised and identified those issues which were considered to be fundamental to the management of the Estuary in terms of potential impact, level of conflict and degree of concern expressed by consultees. There has been some re-organisation of the Key Issues so that the section starts with those issues which have the greatest bearing on the management of the Estuary.
- 3.1.2 Each Key Issue is accompanied by background text which sets the scene, provides an opportunity for all of the main views to be expressed and gives the reader a short summary of the various concerns and arguments.
- 3.1.3 The objectives identified under each Key Issue are intended to guide the development of an Action Plan and actions of the stakeholders. The sequence of Key Issues is not organised in order of importance and later Key Issues should not be interpreted as being less important than others.

3.2 Strategic Planning Framework

Key Issue 1:

There is a need for a strategic planning framework which will guide co-ordination and co-operation between all organisations with responsibilities for planning and management of land and water use activities in the HEMS area.

Background

- 3.2.1 Following the re-organisation of local Government there is a need for a mechanism to co-ordinate policy development in the HEMS area. The Humber Estuary Management Strategy could provide non-statutory supplementary guidance to assist individual Local Authorities to harmonise their policies and to co-ordinate the management activities in the Humber area, by bringing together the key partners and identifying common ground.
- 3.2.2 To take maximum advantage of the potential to develop the economy and improve social and environmental conditions in a sustainable manner, it is necessary to consider the Humber area in an Estuary-wide context. To achieve this it will be necessary for regulatory authorities to work together to develop a framework for strategic planning.
- 3.2.3 Land use planning and development control are an intrinsic part of sustainable economic, social and environmental development. Structure and development plans reflect the needs and aspirations of local communities in line with National and Regional Planning Guidance. There is a

need to view land use planning across the whole of the Estuary to avoid piecemeal development and inconsistency or incompatibility between statutory and non-statutory plans and to avoid administrative fragmentation. HEMS can provide an overview of Estuary-wide land-use planning needs and opportunities to inform the development planning process.

Key Issue 1 Objectives:

- 1.1 To encourage the sustainable use of land allocated for economic development around the HEMS area and to ensure that development is consistent with national guidelines for the planning and management of the HEMS area.
- 1.2 To ensure that capital investment within the flood plain is consistent with Government advice given in PPG20, which states that development plan policies should normally not provide for development which does not require a coastal location.
- 1.3 To ensure that the open landscape and amenities of the Estuary are not adversely affected by the siting, design and landscaping of new developments, such as industrial complexes, transport corridors and transmission lines.
- 1.4 To encourage discussion and communication between different user groups in order to share knowledge and experience and so improve understanding by helping to avoid, resolve and mitigate conflict and realise mutual benefit.
- 1.5 To encourage continued development and operation of an Estuary-wide emergency planning framework.
- 1.6 To develop a local Biodiversity Action Plan for the HEMS area in order to manage the Humber Estuary as a contribution to the achievement of the National Biodiversity Action Plan targets for key estuarine habitats and species.
- 1.7 To be consistent with long-term flood defence needs and objectives.

3.3. Physical and Sedimentary Processes

Key Issue 2:

There is a need to improve our understanding of the physical and sedimentary processes at work in the Humber Estuary in order to ensure that it is managed in a sustainable way.

Background

- 3.3.1 Physical and sedimentary processes affect many interests on the Humber. Although there is an emerging understanding of these processes, there is still room for improvement and further work is needed. Much research has and is being conducted by a range of agencies, but there is a need to continue research into sediment sources and sinks and the hydrodynamic processes of the Estuary.
- 3.3.2 Inter-tidal habitats are sustained by physical processes and their loss through erosion has serious implications for wildlife, because they support a productive food chain of invertebrates, fish and birds. Deposition of silts may damage fish nursery and feeding areas, and erosion or accretion of sediments may expose or cover archaeological finds.

- 3.3.3 Against the background of sea level rise, sediment accumulation in the Estuary is generally considered necessary to maintain the inter-tidal areas which are functionally and economically so important for tidal defence as well as nature conservation and commercial fisheries.
- 3.3.4 The Humber is a highly engineered system. Past and continuing activities of, for instance, reclamation, warping and the construction of jetties, training walls and tidal defences constrain the natural development of the Estuary's form by directly or indirectly disrupting the sedimentation processes. Careful consideration must therefore be given to all development proposals which have the potential to influence the movement and distribution of sediment.
- 3.3.5 There is an ongoing need to dredge silts from the deep water channel to provide safe and continued access for deep draughted shipping to the Immingham jetties. Another effect of the dynamic sedimentary processes is that sediment infill of channels may hinder mooring of craft and restrict access to water courses by pleasure craft. The quantities dredged from the channel, Port entrances and docks via maintenance dredging fluctuate significantly due to cyclical conditions. The material is deposited, under licence by the Ministry of Agriculture, Fisheries and Food (MAFF), at sites which allow the silts to recirculate in the estuarine system.

Key Issue 2 Objectives:

- 2.1 To conduct further research into the physical and sedimentary processes at work within the Humber Estuary, including the impacts of dredging and the beneficial use of dredged spoil.
- 2.2 To improve our understanding of the interactions between processes, estuary form and human influences on the Estuary.
- 2.3 To produce an ESMP.

3.4 Physical Processes in the Estuary and Open Coastline

Key Issue 3:

There is a need to ensure that the physical processes which link the Estuary and adjacent open coastlines are understood and considered in strategy development and land use planning

Background

- 3.4.1 The physical processes of the Estuary and open coast are inextricably linked by complex processes. To support policy-making and management it is vital that we improve our knowledge of the inter-relationship between the Estuary and coast.
- 3.4.2 Such is the complexity and importance of this interaction that policy development and management of the Estuary and the adjacent open coastline needs to be co-ordinated and integrated. A holistic approach to considering the economic, social and environmental development of the Humber is necessary.
- 3.4.3 In considering the links between estuarine and coastal processes any activity which has the potential to influence sediment supplies may have an impact on the international conservation interest of the Estuary and the integrity of flood defences.

Key Issue 3 Objectives:

- 3.1 To promote and participate in further investigations into the interactions between the coastline of eastern England and the southern North Sea as a whole.
- 3.2 To support the EA in the production of an ESMP which is integrated with the adjoining open coast SMPs.

3.5 Sea Level Rise and Coastal Squeeze**Key Issue 4:**

There is a need to respond to predicted rates of sea-level rise and coastal squeeze.

Background

- 3.5.1 Sea level is rising relative to the land due to the combined effect of adjustments in the height of the land mass since the retreat of glaciers and the influence of global warming. It is not known whether accretion of inter-tidal habitats will keep pace with predicted rates of sea level rise. If it does not, there is likely to be a reduction in the area of inter-tidal mudflats and saltmarshes as a result of a process known as coastal squeeze. These habitats provide a valuable feeding resource for fish and internationally important bird populations.
- 3.5.2 Loss of inter-tidal areas would also result in increased wave height with flood defences coming under increased attack; so becoming more susceptible to erosion and therefore, increased maintenance expense. Without action, increasing tidal levels in the Estuary will have the effect of decreasing the effective standards of flood defence, which in turn will reduce the level of flood protection. This will lead to a greater risk of tidal flooding in all areas and will influence property and agricultural land value, business confidence and investment.
- 3.5.3 Sea-level rise could also have implications for the efficiency of gravity drainage because any increase in tide levels in the Estuary will reduce the time available for natural gravity outfalls to drain. To maintain effective drainage of the highly productive farmland, more expensive options such as pumping stations and flushing ponds may increasingly be required, increasing land drainage costs.

Key Issue 4 Objectives:

- 4.1 To promote a sustainable approach to our management of the shoreline. In the long term, consideration should be given to working with and facilitating natural processes.
- 4.2 To adopt the precautionary approach in respect of physical processes until adequate information is available to guide management of the Estuary. Although there will remain a need to undertake urgent works to maintain the integrity of the flood defences.
- 4.3 To set up a partnership between responsible bodies to ensure that flood defences are managed on a long term basis to address the effects of sea level rise and coastal squeeze.

3.6 Flood Protection

Key Issue 5:

There is a need to protect people, property, key areas of land/infrastructure from flooding and maintain conservation. There is also a need to determine how to balance these requirements in providing long-term effective and sustainable tidal defences.

Background

- 3.6.1 A balance must be achieved between the effect of flood defences on natural processes/conservation and their socio-economic benefits. Several options are available for the provision of effective flood defences, ranging from enhancement of natural processes using managed realignment, to construction of hard defences or a mixture of conventional flood defences with managed realignment.
- 3.6.2 Future decisions on such issues will be made using the evidence of a strategic geomorphological model presently being developed by the EA. Using the SMP approach advocated by MAFF, the EA will be developing an estuary-wide strategic flood defence programme with consultees.
- 3.6.3 If the present line of hard flood defence structures is maintained, inter-tidal habitat loss as a result of sea-level rise may be further exacerbated, leading to the possible loss of large areas of inter-tidal mudflats; however further research is needed to clarify such links. During the reassessment of flood defences, opportunities may arise for the development of experimental/pilot schemes into the creation of inter-tidal habitat at specific locations. This means of achieving sustainable management is contentious because of socio-economic impacts, such as the loss of land and possibly property.
- 3.6.4 There is a possibility that managed realignment will be a proposed option in places when the ESMP is produced. Managed realignment can be used to create a mechanism to absorb wave energy and thereby significantly reduce the cost of tidal defences. It also offers the opportunity to reverse inter-tidal habitat loss through sea level rise. In the meantime agricultural land around the Estuary is perceived by the farming community as blighted. There is therefore a need to keep the farming community involved through a rigorous consultation programme.
- 3.6.5 Those with an interest in the quality of the landscape and the aesthetics of development view flood defence schemes as providing opportunities for well planned landscape enhancements, which have ecological benefit, whilst archaeologists have concerns that change in the alignment of flood defence structures and disturbance to the ground from engineering works may threaten archaeological remains.
- 3.6.6 Rural communities are largely dependent on the agricultural economy. The cohesion of these communities may be threatened by a shrinking agricultural sector, the effects of which are widespread and include, for example, loss of business and jobs in service industries, processing services which support agriculture; loss of local services, such as shops and schools which erode rural life, and low morale amongst rural communities.

Key Issue 5 Objectives:

- 5.1 To ensure that vulnerable and valued environmental resources are protected, all schemes will need to meet the objective of protecting the international conservation status of the Estuary, under the European Habitats Directive.

- 5.2 To support the Estuary-wide economic and environmental baseline studies which are being carried out to supplement existing knowledge during the ESMP process.
- 5.3 To actively involve the agricultural community and local interest groups in the drafting and formulation of flood defence initiatives (ESMP) to minimise the effects of any perceived land blight.
- 5.4 To promote a comprehensive evaluation of the impact of the loss of agricultural land and the socio-economic consequences of each viable flood defence option when assessing flood defence options for agricultural land.
- 5.5 To ensure that agricultural land is valued in light of both our current and future needs for growing food. The desire to protect high quality agricultural land on the Humber banks should be balanced against the need to use the land for other purposes.
- 5.6 To promote and encourage minimisation of noise and pollution, and disruption of traffic, wildlife and people, when undertaking any engineering works.

3.7 Integrating International Conservation Objectives with Ports and Industry Development

Key Issue 6:

There is a need to intergrate the conservation and enhancement of the internayionallyimportant sites (SPA) on the Estuary with the development needs of Ports and Industry

Background

- 3.7.1 Much of the inter-tidal habitat is designated for its nature conservation interest and is protected under EU law. A range of natural and man-induced impacts have reduced the value, and continue to diminish the quality of some habitats and the wildlife they support through disturbance and cumulative habitat loss.
- 3.7.2 The designation of parts of the Estuary as both a SPA and a Ramsar site confers a responsibility on the UK Government to protect the site and its species, through mechanisms applying to its status as an SSSI. In addition, there are a number of SSSI which are not accorded this higher level of recognition. Therefore, organisations should give the highest degree of protection to the statutorily designated sites and avoid any action which may adversely affect, either directly or indirectly, their conservation status. In addition, organisations are urged to take full account of other tiers of conservation designation such as Sites of Interest for Nature Conservation (SINC) which protect the natural resources of the Estuary zone. Allowing the physical processes in the Estuary to operate as naturally as possible should help to maintain productive habitats and the health, abundance and diversity of native wildlife which can be enhanced by carefully implemented management schemes.
- 3.7.3 To support economic growth and to accommodate increasing trade in the region, some expansion of the Ports is likely to be necessary. Although there is scope for some further growth in Ports and industrial sites within existing facilities, further expansion may be needed elsewhere. In addition, any new Port, Port expansion or industrial development may require new roads, rail links and pipelines which can also result in habitat loss.

- 3.7.4 Certain species are particularly susceptible to disturbance. Disturbance to roosting, feeding and breeding birds, as well as other species such as common seals, may result from engineering works if these activities are not properly planned and managed.

Key Issue 6 Objectives:

- 6.1 To avoid actions which may adversely affect, either directly or indirectly, the habitats which support nationally and internationally important populations of bird species.
- 6.2 To restore degraded sites where practical and identify new sites for habitat creation to offset habitat loss.
- 6.3 To ensure that new works are timed so that they minimise the impact of disturbance to birds by avoiding roosting, feeding and breeding areas at certain times of year or states of tide.
- 6.4 To encourage farming practices which maintain or enhance the nature conservation value of agricultural land, and landscape interest of farm holdings.
- 6.5 To monitor activities which harvest wildlife, e.g. bait digging, fishing and wildfowling to identify any changes in the level of activity and potential impacts.
- 6.6 To continue to evaluate fully the potential effect of new development on conservation interests through the planning process, e.g. Environmental Impact Assessments.
- 6.7 To promote the adoption of no-net-loss of inter-tidal habitat as a principle for facilitating development needs within the Estuary without compromising the integrity of the SPA.

3.8 Water Quality

Key Issue 7:

There is a need to ensure that water quality in the Humber Estuary is improved to comply with National and European standards and to encourage effluent discharges to adopt the Integrated Pollution Control (IPC) concept

Background

- 3.8.1 Water quality in the Estuary is generally good. Despite significant improvements in effluent treatment in recent years there is still a public perception that the water quality of the Humber is generally poor.
- 3.8.2 There is some concern about bacterial contamination of shellfish harvested for human consumption. Fears also arise over low levels of dissolved oxygen at the confluence of the Trent and Ouse at certain times of the year, as this is believed to impede salmonid migration. Bathers and those involved in contact water sports (windsurfers, water skiers, canoeists and sailors for example) also express concern about poor water quality, particularly at Cleethorpes where water quality standards fail to meet those set by the EC Bathing Water Directive.

Key Issue 7 Objectives:

- 7.1 To continue compliance with water quality standards, with the ultimate aim of improving on these.

- 7.2 To ensure that regulatory standards are consistently applied and enforced.
- 7.3 To promote actions which will support precautions taken to minimise the risk of spillage occurring at sites which store, handle or use substances which are capable of polluting the Estuary.
- 7.4 To further promote and encourage continued improvements in the water quality of the Humber by promoting IPC as best practice.
- 7.5 To encourage the principles of Environmental Impact Assessments by means of hazard and risk methodologies.

3.9 Waste Minimisation

Key Issue 8:

There is a need to promote more widely the benefits of waste minimisation.

Background

- 3.9.1 In the Humber area great progress has already been made, with many organisations realising the environmental and financial benefits of adopting waste minimisation practices. There is an existing and increasing need for low cost environmentally acceptable waste disposal options.

Key Issue 8 Objectives:

- 8.1 To promote the wise use of non-renewable resources and to use renewable alternatives where options exist.
- 8.2 To ensure that waste management throughout the HEMS area is based on the following order of priority: elimination, reduction, re-use, recovery and (as the last option) disposal.
- 8.3 To encourage the responsible management of waste at the point of generation, transportation and disposal.
- 8.4 To place emphasis on reducing the use of the finite resource of land fill sites through encouraging waste minimisation at source.
- 8.5 To ensure that waste is managed to minimise damage to human health and the environment.

3.10 Contaminated Land

Key Issue 9:

There is a need to promote more widely the benefits of reclamation of areas of contaminated land, to reduce pressure on green field sites, and to promote redevelopment for economic use and environmental gain.

Background

3.10.1 It is generally acknowledged that land is a valuable and finite resource, and economic and environmental benefits can arise as a result of cleaning up contaminated land. By reducing the pressure on green field sites, redevelopment schemes can utilise existing infrastructure and minimise costs of, for example, road, rail, sewerage etc. and directly protect and enhance the Estuary's undeveloped areas.

3.10.2 Reclamation of contaminated sites reduces the financial burden to be passed on to future generations for contaminated land clean up costs associated with our industrial heritage. Difficulties do however arise when the ownership of the land is unknown and the re-sale value of the land is less than the probable clean-up costs. Clarification of the legislative framework and responsibilities as regards "orphan sites" and of available financial support is urgently needed.

3.10.3 Any reclamation programme itself must not cause pollution unless any material generated can be disposed of in an acceptable way.

Key Issue 9 Objectives:

9.1 To reduce the environmental and economic burden of dealing with contaminated land, by local authorities and the EA working with others on reclamation programmes.

9.2 To reduce the risk of further contaminated land sites developing in the future.

3.11 Sustainable Economic Development

Key Issue 10:

There is a need to ensure the sustainable economic development of the Estuary's Ports, Wharves and Industrial base.

Background

3.11.1 The Ports and Wharves on the Estuary and on the Ouse and Trent, which support the industrial base of the Humber area are fundamental to the continued prosperity of the local and regional economy. They are important to the UK and the rest of Europe because the deep water channel along the Immingham to East Halton Skitter frontage is valued as a national economic resource. The Port facilities on the Estuary handle 65 million tonnes of cargo annually, some 12 - 15% of the total UK trade. Traffic through the Ports may be expected to continue to grow, influenced by the extension of the EC, increased inter-trading with the North Sea/Baltic countries and greater collective competitiveness within the UK Port industry.

3.11.2 The main industries are steel, defence engineering and petro-chemicals. Other important sectors, include service industries, food and fish processing, chemicals, pharmaceuticals, telecommunications, print technology, paper products, caravan manufacture and tourism. In addition, the Humber area has rapidly established its position in offshore gas production and associated with this is increased power generation. The industrial base on the Humber contributes to a successful national economy and can enable a high level of investment to be made in activities to protect the environment. It is also fundamental to the social well-being of the area in providing secure employment.

- 3.11.3 There are opportunities for further expansion and continuing investment in new and existing Industrial and Port/Wharf facilities to accommodate increasing trade. Port and Industrial operators in the area, and potential new developers bringing inward investment and employment opportunities, all value the nationally important resources which the Estuary provides. Undeveloped land alongside the Estuary is attractive for the expansion of existing sites and for new development including Port, Industrial, Residential or Commercial such as Retail and Leisure. To support further development, there may be a need for improvements to parts of the transport network. In the past 15 years there has been investment in the road infrastructure of the region, however some parts of the Estuary road and rail network are felt to be deficient and further improvements remain uncertain.
- 3.11.4 Development may have direct and indirect effects on the natural regime of the Estuary, including sediment movement, accretion, erosion and flooding. Development on the Estuary flood plain, much of which lies below high spring tide level, is potentially at increased risk of tidal inundation. The siting of new developments may require the provision of flood defence measures and would need to be consistent with the guidance of PPG20: Coastal Planning.
- 3.11.5 Development opportunities within the Estuary lie close to or abut extensive areas of nationally and internationally important wetland habitat, and there is a requirement that development proposals do not affect the ability of that habitat to maintain the nature conservation interest (especially birds) that it supports. It is also worth bearing in mind that many estuarine habitats such as saltmarsh do not require active management and are self-sustaining if left alone. Ports and Wharves will continue to comply fully with the requirements of the Habitats Directive (in respect of assessing the environmental impact of works which have the potential to affect statutorily designated sites).

Key Issue 10 Objectives:

- 10.1 To encourage and support local authorities and companies to grow and increase the competitiveness of the sustainable industrial base so as to secure good employment opportunities.
- 10.2 Economic development must have due regard to the balance between social, economic and environmental concerns. Developers and businesses should continue to evaluate rigorously the impact of both existing and new developments and ensure that any significant adverse environmental effects are minimised as far as is technically, economically and practicably possible.
- 10.3 To promote a review of the transport infrastructure including the development of short sea shipping, rail and inland waterways.
- 10.4 To promote environmental best practice, adoption of the principles of sustainability, and to engender an environmentally aware and responsible attitude in all sectors of industry and throughout companies' workforces.

3.12 Recreational Management

Key Issue 11:

A framework is needed to guide recreational management of the Estuary and its environs so as to ensure intergration with other estuary interests.

Background

3.12.1 Representatives of many formal and casual sporting and recreational groups are keen to see increased opportunities for public access to the Estuary and its linked watercourses as well as improved rights of way along the Estuary banks. Whilst outdoor recreation should be encouraged, provision of access to certain users may have adverse impacts on other interests at certain sites.

Key Issue 11 Objectives:

- 11.1 In promoting access to the Estuary consideration should be given to:
- The need to maintaining flood banks;
 - The ownership of the land and the landowners' co-operation;
 - The multiple use of embankments to deliver appropriate landscape, farming, access, recreation and wildlife benefits;
 - Ensuring that access opportunities for different user groups are mutually compatible;
 - Potential disturbance to roosting, feeding and breeding birds;
 - Opportunities for landscape enhancement;
 - Incorporation of access points for water based pursuits
 - Ease of access for emergency services.
- 11.2 To ensure that existing access and amenities in the countryside are maintained and enhanced, where appropriate, through closer liaison between landowners and recreational groups.
- 11.3 To ensure that certain casual pursuits such as dog walking, the use of off road motor vehicles and highly mobile personal watercraft, particularly on flood defences, do not disturb or damage natural features of the Estuary, through the careful management of access to sensitive areas.
- 11.4 To promote practical conservation action that fosters respect and appreciation of the environment by users of the Estuary.
- 11.5 To ensure that the type and level of recreational use of an area is supported by the local community and is compatible with environmental and economic interests.
- 11.6 The development of recreational facilities should be developed through broad consultation.

3.13. Tourism

Key Issue 12:

There is a need to ensure that current and future tourism on the Humber is on a sustainable basis.

Background

3.13.1 Sustainable activities and tourism can be promoted through a variety of mechanisms, for example through the provision of hides for observing birds, the encouragement of guided group activities and the availability of appropriate information.

- 3.13.2 The concept of "green tourism" could also be used to promote and establish tourism on a sustainable basis by reducing the impact on the quality of the environment, improving the quality of life for host communities, and improving the enjoyment of visitors.

Key Issue 12 Objectives:

- 12.1 To promote and encourage the tourism industry to support local economies and communities through use of local employees, products and services.
- 12.2 To reduce the potential impacts of increased numbers of visitors through careful management of visitor numbers to the Estuary, particularly where there are initiatives which seek to extend the tourist season beyond the main summer period.

3.14 Education and Information

Key Issue 13:

There is a need to enhance education and establish information exchange initiatives based on the HEMS region, and to encourage research and development work on the many issues associated with management of the Estuary.

Background

- 3.14.1 Environmental education should provide a rounded and balanced explanation of the influence of different factors and changing trends on the environment. Education initiatives, which may be promoted by local authorities or special interest groups, can be targeted through schools and colleges, organisations or businesses who should be encouraged to use the Humber Estuary as a "classroom" to illustrate natural history and its interactions with human activity.
- 3.14.2 The Estuary is a continually changing system, both naturally and as a result of human activities. It is necessary to carry out monitoring to record these changes and their effects. A baseline of key information is vital to support decision making. Without an appropriate information base it is not possible to measure change, determine whether targets are being met or confidently predict future change. Good quality information is the key to effective management and furthering sustainable use by balancing the ability to make wise decisions about our future actions.

Key Issue 13 Objectives:

- 13.1 To ensure that appropriate and relevant information is widely available to: local communities, business and industry, visitors, educational institutions, users planners, decision makers and developers.
- 13.2 To continue to up date and publicise the Humber Estuary Bibliography, ensuring that it is widely available.
- 13.3 To encourage and promote organisations with specialist knowledge of the Estuary to communicate their research findings and monitoring work widely and to make such findings readily accessible.
- 13.4 Key "indicators of sustainability" should be agreed to provide a baseline against which monitoring can be based.

Future Management

This Chapter:

- Identifies the steps that are required to ensure endorsement of this report;
- Provides a framework for future work programmes;
- Focuses attention on the work ahead;
- Can be used as guidance for future bids for resources from HEMS partners and potential sponsors.

4.1 Project Endorsement

4.1.1 It is essential that HEMS is widely discussed and then endorsed prior to the implementation of its objectives by the respective partner organisations. This process will require time and commitment from the Implementation Officer and the Management Group. Different partners will be working to different timescales and procedures. For example:

- Local Authorities will need to take this report to committee for support, prior to its use as an informing document for Development Plans;
- Businesses may wish to review their corporate policies and environmental procedures in the light of the issues identified in HEMS.

Endorsement of HEMS, through a Memorandum of Understanding, will therefore be an ongoing process throughout implementation.

4.2 Implementation

4.2.1 Implementation will comprise four distinct areas of work:

- Setting up the necessary management, administrative and financial frameworks;
- Identifying and implementing specific projects and encouraging the formulation of specific Action Plans by partners to meet the objectives identified under individual Key Issues;
- Monitoring progress in implementation and co-operation between parties;
- Longer term planning.

4.2.2 Most of the implementation activities will involve organisations working either on their own or in partnership with others to deliver specific work programmes, many of which will be identified in

the Action Plans which will be prepared in due course. These may require a combination of approaches:

- Voluntary or independent action by HEMS partners;
- Informal, consensus-building approaches;
- Local community action
- Statutory control imposed by a particular authority, for example by adoption of
- HEMS objectives into development plans and other statutory policy;

An Action Plan will be produced to help guide implementation.

4.3 Issue Resolution

4.3.1 There is a need to avoid duplication of effort and work towards the resolution of outstanding issues. This will require a two-pronged approach:

- ongoing work to build consensus and seek to resolve issues; and
- focused effort at discrete times, for example, over a particular development
- proposal or scheme, or to resolve a long-running dispute or conflict.

4.3.2 There may also be a need to collect additional information on particular issues to improve understanding and help deliver effective management. Issue resolution and implementation of action should be guided by the principles of HEMS, however, groups set up under the umbrella of HEMS have no statutory power, and individual organisations retain their existing legislative powers and responsibilities.

4.3.3 Management issues on the Humber are not only those of local importance; there are also issues of wider regional and national dimensions. A two-way process of communication and collective action will be encouraged where appropriate, for example with adjacent SMP projects, the Government Regional Office, Local Authorities etc. This approach will allow issues of regional strategic importance to be addressed. Clarifying and strengthening the relationship between such groups and between groups local to the Humber is important to avoid duplication of effort and resources

4.3.4 Several options for overseeing the process of ongoing issue resolution and implementation of the Action Plan were outlined in the HEMS Consultation Draft. From the feedback received and on the advice of the Working Group, the preferred option is to form 'Focus Groups' when needed.

Focus Groups

A Focus Group will be made up of different users of the estuary, formed to explore and advise on a specific issue and will seek to find an appropriate and agreed solution. It is anticipated that bringing together people with different skills and perspectives will:

- Lead to the creative resolution of issues;
- Generate goodwill;
- Get projects up and running.

Focus Groups will not necessarily have a long life, but be convened and dissolved as required in response to changing situations.

4.4 Monitoring and Review

- 4.4.1 It is important to have a mechanism for monitoring the progress of HEMS. This will help to ensure that Action Plans are implemented, that new issues and priorities are addressed, and that the progress of implementation is measured and publicised.
- 4.4.2 Continuing the annual conference, as established by the Humberside County Council and the National Rivers Authority in 1992, will be a useful tool for maintaining momentum and providing a vehicle for all participating organisations to contribute towards the review of progress. The conference also provides opportunities for feedback on specific projects and planning the action programmes for the following year.
- 4.4.3 It is suggested that the Key Issues and Objectives within this report are reviewed and updated on a 5 - 10 year cycle. This review should reflect changes in the baseline of: environmental conditions, legislation and commercial priorities; administrative change in the Humber area; and changes in the composition, structure and priorities of organisations around the Estuary. Once produced, and agreed, Action Plans will need to be reviewed on an annual basis.
- 4.4.4 In addition a tracking system will need to be introduced that ensures that all project outputs meet agreed quality standards and meet with the Strategic Aims of the project. The Management Group will have an important role to play in the process.

4.5 Publicity and Marketing

- 4.5.1 At present, HEMS is promoted through a full-colour newsletter which is produced at regular intervals. Also, at significant points in the development of HEMS, public meetings have been held, for which press-releases are prepared and the media invited.
- 4.5.2 Much of the expansion in the project has resulted from personal contact and proactive networking on the part of the Project Officer. More innovative means can be used to further publicise the project, in particular to those local people who are not represented by any of the many clubs and organisations involved in HEMS. For example, posters and leaflets could be distributed to schools, village halls and libraries.
- 4.5.3 It will be the task of the Implementation Officer to develop a publicity programme for HEMS, especially for those Action Plans which arise as a result.

4.6 Project Management

- 4.6.1 The successful implementation of HEMS is dependent upon:
- Maintenance of a simple management framework.
 - Employment, and support of project staff.
 - Efficient financial management and accounting.
 - Delivery of actions to agreed time, budget and quality standards;
 - Continuous monitoring, review and performance appraisal of the HEMS objectives and Action Plans.

4.7 Management Framework

- 4.7.1 It is proposed that a Steering Group and Management Group are formed to take forward the implementation of HEMS. These new groups will replace the current Steering and Working Groups, although in many cases the individuals from representative organisations will remain the same. It is essential that the business of both groups is accountable, transparent and open to input from other relevant interests.
- 4.7.2 The Steering Group will have a wide membership of all key interests, including elected members of Local Authorities. Responsibility for the organisation of the annual Humber Conference should be shared between different Steering Group members on a rotating basis.

Steering Group

This group will meet 2-3 times a year. Its responsibilities are to:

- Lead the project through a smooth transition to implementation;
- Oversee the implementation of the Action Plan and subsequent monitoring and review;
- Steer the strategic direction of the project;
- Oversee the progress and future direction of HEMS;
- Identifying, considering and promoting flag-ship projects for implementation;
- Respond and adapt to change;
- Agree an annual profile of expenditure and sign-off quarterly accounts submitted by the Implementation Officer.

- 4.7.3 In order to function effectively the Management Group needs to be small and the members need to be senior representatives of the participating organisations, to allow fast and effective decision making. It will need to meet on a regular basis and as a result is likely to require a significant time commitment from its members. In addition, the members of the group will also need to be committed to disseminating information to other interested parties. The Management Group will guide the work of the Implementation Officer. Their role will include:

Management Group

- Managing and supporting HEMS staff;
- Establishing appropriate administrative arrangements to support the project;
- Agreeing systems for measuring progress in implementation against the Action
- Plan and its targets;
- Financial planning and helping the Implementation Officer with fundraising;
- Project promotion;
- Project quality assurance.

4.7.4 At this time it is proposed that the Management Group will comprise a representative selection from the following:

- Unitary Authorities (Kingston-upon-Hull; East Riding of Yorkshire; North Lincolnshire and North East Lincolnshire Councils);
- Associated British Ports
- Environment Agency
- English Nature
- Humber Forum Ltd.
- Humber Bank Industries

4.7.5 In addition, special Focus Groups may be convened, as necessary, to deal with specific issues. More information on Focus Groups is provided above in section 4.3.4.

4.8 Options for Project Co-ordination and Administrative Support

4.8.1 Partners in HEMS recognise that to maintain the necessary momentum of the Project there is a need for a co-ordinating role to take HEMS forward into implementation. It has been decided by the current Steering Group that the best mechanism for taking HEMS forward is for an impartial Implementation Officer to be appointed. This person would report to the Management Group (with its chair-person acting as line manager) and would also require administrative support.

4.9 Implementation Officer's Duties and Responsibilities

Responsibilities of the HEMS Implementation Officer:

- To co-ordinate the implementation of the HEMS Action Plan through liaison with the project partners;
- To maintain an up to date directory of organisations and interest groups;
- To act as a central contact point for enquiries about the project;
- To act as a facilitator between different organisations on the Estuary, encouraging the development of partnerships;
- To act as a mediator for conflict resolution;
- To act as the secretariat for the Humber Steering, Management, and Focus Groups;
- To oversee the organisation of the annual Humber Conference in partnership with the sponsoring organisation;
- To raise funds for the continuation of the project;
- To manage the project budget and provide accounts for the Management Group;
- To manage the publicity of HEMS and market the Strategy;
- To review the HEMS Action Plan and co-ordinate the monitoring of the quality and success of the implementation activities.

4.9.1. The key project outputs for the project will be:

- Recruitment of the Implementation Officer;
- The establishment of the new Steering Group and Management Group;
- Production of an Action Plan;
- Production of the HEMS newsletter;
- Organisation of the Humber Conference;
- The development of a long term funding strategy;
- Planning and implementation of an agreed publicity programme;
- The establishment of selected high priority implementation flagship projects;
- Publication of an Annual Report which includes a review of progress;
- The establishment of a project monitoring and quality assurance system;

4.10 Employer and Location

4.10.1 From 1993 to June 1997, EN acted as the employer of the HEMS Project Officer through monies provided by the Department of the Environment specifically for promotion of Estuary Management Plans. Future EN contributions now have to come from normal running costs without additional support, and consequently compete against other projects for funding. EN's contribution to HEMS in future is therefore likely to be represented by:

- An annual contribution towards project running costs reflecting the shift from EN's role as the primary funding body to one of a series of stakeholders all committed to management of the Estuary. EN policy is to reduce contributions to projects to a level consistent with their financial constraints over a period of years, and there will therefore be a gradual decrease in contributions over the first three years of implementation.
- Involvement in implementation of specific Action Plans relating to nature conservation either in terms of officer time or financial contributions where funds are available.

4.10.2 The Implementation Officer needs to be more closely linked to the Steering and Management Groups, and for this reason it is appropriate that EN should cease to be the employer. An alternative employer is therefore sought to provide accommodation and financial services such as payment of salary and related costs. The Humber Forum Ltd is to act as the employer at the premises of the Humber Resource Efficiency Centre in Kingston-upon-Hull.

4.11 Resourcing HEMS

4.11.1 It is essential to secure funding which is broad enough to reflect wide Project ownership. Producing a long term funding strategy, fundraising, and widening financial support is therefore a high priority. It is essential that:

- Adequate time is set aside for this in the annual work programme;
- Bids for money are timed to fit in with the planning rounds of potential funding organisations;
- Project staff develop skills in this area through training and shadowing of experienced fund raisers.

4.12 Sources of Funding

4.12.1 Projected annual core costs comprise the following elements:

- Project Management (Project Officer and support)
- Administration/accommodation costs
- Project products

4.12.2 A Business Plan has been prepared for the 1997/98 financial year and future plans will be available. In the short to medium term, the core funding for HEMS should come from as broad a base as possible. Funding for the additional items, also set out above, can then be sought through the sponsorship of individual products from interested organisations throughout the HEMS area.

4.12.3 As outlined earlier, responsibility for funding and organising the Project's Annual Conference will be the responsibility for each member of the HEMS Management Group on a rotational basis, with the Implementation Officer assisting with organisation. In order to help the Project through its transitional stage from strategy development to implementation, the EA will be hosting the 1997 Conference.

4.12.4 Implementation of the HEMS Action Plan will involve organisations resourcing those specific actions/projects which fall within their control/remit. Many of the other action programmes will require joint-working.

4.12.5 In the medium to long term the following opportunities should be pursued to diversify the funding base and raise the profile of the Humber Estuary:

- European funding , including the LIFE programme, Atlantis II, EU Coastal Strategy.
- Lottery Funds - e.g. National Heritage Fund
- Regional Development Funds
- Sponsorship from local business and industry.

4.12.6 Application for these sources of funding require a long lead-in time in terms of preparing bids, submitting documentation and awaiting the deliberations of the relevant arbitrating panels. In addition funding applications will require some "seed" funding for preparing and presenting bids, and buying expertise when necessary.

Bibliography

5.1 National Scene - Department of the Environment (DoE)

DoE, 1992: Coastal Zone Protection and Planning. The Government's response to the second report from the House of Commons Select Committee on the Environment.

DoE, 1992: Review of coastal planning and management policy and responsibility for the UK. Rendal Geotechniques.

DoE and Welsh Office, 1993: Managing the Coast: A Review of Coastal Management Plans in England Wales and the Powers supporting them. HMSO, London.

DoE and Welsh Office, 1993: Development below Low Water Mark: A Review of Regulation in England and Wales. HMSO, London.

DoE, 1994: Sustainable Development: The UK Strategy. London, HMSO.

DoE, 1995: Policy Guidelines for the Coast. CCG 218.

DoE, 1996: Coastal Zone Management. Towards Best Practice.

5.2. National Scene - Other publications

Biodiversity: The UK Action Plan (Cm 2428, London HMSO, 1994).

Brundtland Commission (World Commission on Environment and Development), 1987: Our Common Future. Oxford University Press.

Burd, F. 1995: Managed Retreat: a practical guide. Institute of Estuarine and Coastal Studies, for English Nature.

Countryside Commission, English Nature 1996: The Character of England: Landscape, Wildlife and Natural Features.

Davidson, NC. Laffoley, DA. Doody, JP. Way, LS. Gordon, J. Key, R. Drake, CM. Pienkowsky, MW. Mitchell, R. Duff, KF. 1991: Nature Conservation and estuaries in Great Britain. Peterborough, NCC.

Davidson, H & Rothwell, P (eds.) 1993: Disturbance to waterfowl on estuaries. Wader Study Group bulletin No. 68, Special Issue. RSPB, Sandy, Beds.

English Nature, 1993a: Strategy for the Sustainable Use of England's Estuaries. Peterborough.

English Nature, 1993b: Estuary Management Plans: A Co-ordinators Guide. Peterborough.

Grabrovaz, M. 1995: Review of Estuary Projects. English Nature, Peterborough.

Local Government Management Board, 1993: UK local government declaration on sustainable development. Luton.

Local Government Management Board, 1994: A guide to Local Agenda 21. Luton,.

MAFF, 1993: Environmental Procedures for Inland Flood Defence Works - A Guide for Managers and Decision-makers in the National Rivers Authority, Internal Drainage Boards and Local Authorities. PB 1152.

MAFF, 1993: Coastal Defence and the Environment - A strategic guide for Managers and Decision-makers in the National Rivers Authority, Local Authorities and other bodies with coastal responsibilities. PB 1192.

MAFF, 1993: Strategy for Flood and Coastal Defence in England and Wales. PB 1471.

MAFF, 1994: Shoreline Management Plans - A guide for operating authorities. PB 1214. Consultation draft.

Motyka, JM. & Brampton, AH. 1993: Coastal Management - Mapping of Littoral Cells. Report SR 328, HR Wallingford.

National Coasts and Estuaries Advisory Group, 1994: Directory of Coastal Planning and Management Initiatives in England.

Scottish Natural Heritage, 1993: Sustainable Development and the Natural Heritage: The SNH Approach. Edinburgh.

This Common Inheritance: Britain's Environmental Strategy (Cmnd 1200, HMSO, 1990).

5.3 Humber Area publications

Barne, JH. Robson, CF. Kaznowska, SS. Doody, JP. Davidson, NC. (Eds.) 1995: Coasts and Seas of the United Kingdom - Region 6: Flamborough Head to Great Yarmouth. JNCC, Peterborough.

Bird, L. & Edwards, A. (Eds.) 1993: The Humber Estuary, Proceedings of a Conference sponsored by Humberside County Council and the National Rivers Authority. Hull - 5 November 1992.

Edwards, A.(Ed.) 1988: The Humber Ecosystem. Proceedings of a Conference in Support of the European Year of the Environment, sponsored by the Humber Estuary Committee and the Institute of Estuarine and Coastal Studies. Hull, 17 March 1988.

English Nature, 1997. Humber Estuary Natural Area Profile.

English Nature, 1997. Humberhead Levels Natural Area Profile.

Environment Agency, 1997. Humber Estuary Tidal Defences: procedures for ensuring consistency of approach for delivering flood defence works.

Fernandes, T. 1994: The Humber Estuary - the Development of a Strategy. English Nature (unpublished).

- Freestone, D. Jones, N. North, J. Pethick, J. Symes, D. Ward, R. 1987: The Humber Estuary - An Environmental Background. Shell UK Limited.
- Gillespies, 1996: Our Landscape Today for Tomorrow - An Assessment of the Landscape North and South of the Humber with Management Guidelines for its Future. For and on behalf of Humberside County Council, Countryside Commission, Ryedale District Council and Scarborough Borough Council.
- Humberside County Council, 1994: Humber Estuary Action Programme. Humberside Environment Office.
- Humberside County Council, 1994: Humberside Structure Plan Replacement. Consultation Draft.
- Humberside County Council, 1995: Second Humber Estuary Action Programme Local Agenda 21. Humberside Environment Office.
- Institute of Estuarine & Coastal Studies, 1993: Humber Tidal Defence Strategy Environmental Baseline. Two volumes: North and South Banks.
- Institute of Estuarine & Coastal Studies, 1994: The Humber Estuary - Coastal Processes and Conservation. English Nature, Internal report.
- Institute of Estuarine & Coastal Studies, 1994: Humber Estuary and Coast. IECS/ Humberside County Council.
- Institute of Estuarine & Coastal Studies, 1994: Humber Estuary and Coast Management Issues. IECS/Humberside County Council.
- Jones, NV(Ed.), 1988: A Dynamic Estuary: Man, Nature and the Humber. Hull University Press.
- National Rivers Authority, 1993: The Water Quality of the Humber Estuary, 1991. Humber Estuary Committee.
- National Rivers Authority & Humberside County Council, 1994: The Humber Estuary Standing Conference, Proceedings November 1993.
- National Rivers Authority, 1994: Humber Estuary Catchment Management Plan Consultation Report.
- National Rivers Authority, 1995: The Humber Estuary Tidal Defence Strategy - Final Report. Sir William Halcrow & Partners Ltd.
- National Rivers Authority, 1995: Humber Estuary Catchment Management Plan Action Plan.
- National Rivers Authority, 1995: The Water Quality of the Humber Estuary, 1993. Humber Estuary Committee.
- National Rivers Authority, 1995: Humber Estuary Quality Report, 1993 - Edition 2. Humber Estuary Committee.
- National Rivers Authority & Humberside County Council, 1995: The Humber Estuary Standing Conference - Proceedings November 1994.

National Rivers Authority & Humberside County Council, 1996: The Humber Estuary Standing Conference - Proceedings November 1995.

Sports Council 1993: Partial update of Water Recreation Strategy 1987. Report prepared for English Nature, York (unpublished).

Spurn Heritage Coast Project, 1996: Spurn Heritage Coast Management Strategy.

Yorkshire and Humberside Council for Sport and Recreation, 1987: Water Recreation Strategy, Vol. II Coastal Water. Sports Council, Leeds.

Yorkshire & Humberside Tourism Strategy 1994-1998, 1994: Partnership in Quality.

5.4 Reports produced for the Humber Estuary Management Strategy

Humber Estuary Management Strategy - Consultation Draft, July 1996

Topic Papers - 1995

- Agriculture
- Archaeology and Cultural Resources
- Fisheries
- Flood Defence and Coastal Processes
- Industry and Commerce
- Integrated Pollution Control (IPC)
- Landscape
- Nature Conservation
- Navigation and Ports
- Sport, Recreation & Public Access
- Tourism

HEMS Newsletter

- Issue One: September 1995
- Issue Two: March 1996
- Issue Three: October 1996
- Issue Four: March 1997

HEMS Topic Paper Summaries Report, December 1995.

HEMS Consultation Draft, July 1996

Glossary & Background Information

Accreting: the process by which sediment or particles settle out and build up.

Biodiversity: biological diversity - the full variety and complexity of life; such genetic diversity vital to the maintenance of ecological stability, enabling different species to meet different challenges and to fulfil different functions within the biosphere. The reduction of diversity greatly increases the vulnerability of an ecosystem.

Biodiversity Action Plan: the identification of actions required to maintain and enhance the plant and animal communities which occur in the UK. There are plans specific to individual species, to particular key habitats and to specific administrative boundaries.

Carrying Capacity: the upper limit of a population of animals which a unit of land, mudflat or water can support. Whilst this upper limit may be reached on occasions, the population supported is usually below the maximum and the upper limit is reached in extreme situations. Reductions in carrying capacity usually result in a decline in the overall population which the site normally supports.

Coastal (or sediment) cell: a length of coastline and its associated near-shore area within which the movement of coarse sediment (sand and shingle) is largely self contained. Interruptions to the movement of sand and shingle within one cell will normally have no significant effect on adjacent cells.

Coastal squeeze: the natural response of intertidal and saltmarsh areas to sea level rise is to move inland, thus maintaining the balance between the processes of erosion and accretion. Land movement can be prevented, in places by topography of the shoreline and by flood defence works. With landward movement prevented, the intertidal and saltmarsh areas are eroded (squeezed) away as the sea level increases.

Environmental impact assessments: an appraisal of the impact of proposed new works on an area, looking at all aspects of the environment including transport, nature conservation, pollution and visual impact. Where there are potential problems, it should also identify the ways in which any damage can be minimised after establishing that there are sound reasons for the project taking place in that location in the first place.

Estuary Shoreline Management Plan (ESMP): a plan developed by the EA and others to aid the future development of sustainable flood defences and policies within the estuary.

Geomorphology: the study of the form of the earth's crust and the processes which shape the physical features at the surface. In estuarine terms this means the form and function of the estuary and its inter-relationship with processes elsewhere.

Geomorphological models: The development of scale-models or computer-simulated models to examine the processes within an estuary. Such models can be used to predict the effects of actions such as Port development, flood defence works and other coastal engineering works.

Global warming: the increase in global temperatures over and above natural fluctuations.

Holistic: wholeness; everything being related to everything else; an overview.

Humber Estuary Bibliography: details of relevant literature on the Humber Estuary maintained as a database by the Institute of Estuarine and Coastal Studies, University of Hull.

Hydrodynamic processes: the fluid processes of the sea, rivers and estuaries

Indicators of sustainability: The establishment of a baseline against which changes on the Estuary can be measured; this would provide a means of auditing progress of Ports, Industry and Nature Conservation and relating gains and losses. Indicators of sustainability are a new concept and will require considerable thought and recognition that the view of sustainability varies according to the interest group involved.

IPC, Integrated Pollution Control: an approach to pollution control in the UK which recognises the need to look at the environment as a whole, so that solutions to particular pollution problems take account of potential effects upon all environmental media. IPC deals with releases to air, land and water and uses the principles of BATNEEC (Best Available Techniques Not Entailing Excessive Cost) and BPEO (Best Practical Environmental Option)

Isostatic adjustment: the change in the height of land in relation to the sea, due to movement of the earth's crust.

Memorandum of Understanding: provides endorsement of the Strategy by the HEMS partnership and the wider community through a pledge of support. This does not commit partners to specific actions although there will be working groups to address those areas where progress can be made on determining mechanisms to take forward specific objectives.

Managed realignment: also referred to as managed retreat or set-back. Involves deliberately setting back the line of actively-maintained defence to a new line inland of the original, or preferably to rising ground, and promoting the creation of intertidal habitat on the land between the old and new defences which is more able to respond to coastal processes and reduces the effect of coastal squeeze.

Natural Area: a defined unit of the countryside based on common geological factors which give the area a series of common attributes. The assemblages of plants and animals typical of the Natural Area are defined, and key species are identified to assist in the production of Biodiversity Action Plans.

No-net-loss: the principle that where habitat loss (in this case inter-tidal habitat) is anticipated, compensatory habitat creation is initiated elsewhere to offset the effects of necessary loss. The principle works on the basis that the overall quantity of habitat created is sufficient to maintain the levels of biological interest lost elsewhere, even though a larger area of habitat creation may be needed to meet this need.

Over-topping: Incidents where tides are sufficiently high as to lead to flood waters covering the flood defences. In such incidents, localised flooding or incursion of saline water may occur, but in minor occurrences this may simply mean occasional waves leaving small amounts of water to the rear of flood defences. In serious cases, prolonged incidents may lead to erosion of the back of the flood bank and the need for repairs to defences. Where over-topping is a risk, sections of flood defences may be identified as part of the Urgent Works Programme.

PPG, Planning Policy Guidance: detailed advice for Local Authority planners from the Department of Environment, published as part of a rolling programme and pertaining to specific areas where there may be material considerations to be taken into account when formulating Local Plans and determining planning applications.

Precautionary Principle: the principle that a particular course of action, the eventual outcomes of which cannot be predicted with reasonable confidence, should not be embarked upon until such predictions can be made.

Ramsar site: The Convention on Wetlands of International Importance, especially as wildfowl habitat was adopted at a meeting held at Ramsar in Iran. The UK Government in signing the convention in 1976 designates wetlands in accordance with agreed criteria. A wetland is regarded as internationally important if it regularly supports 20,000 waterfowl or 1% of the known European or World population of a species, or sub-species of waterfowl.

SMP, Shoreline Management Plan: plans through which Local Authorities and others provide a framework for sustainable coastal defence policies within a sediment cell or sub-cell.

SSSI, Site of Special Scientific Interest: an 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 EN 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.

SINC, Site of Interest for Nature Conservation: Locally important sites identified by the County Wildlife Trusts for their nature conservation interest. Normally, these sites do not qualify for designation as SSSI, although some do when SSSI review takes place. SINC are identified in Local and Unitary Development Plans and specific site protection policies apply.

SPA, Special Protection Area: the UK Government is a signatory to the EC Directive of 1979 on the Conservation of Wild Birds. Member states are required to take special conservation measures concerning the habitat of species of wild birds listed in Annex 1 of the Directive (certain rare and vulnerable species) and for regularly occurring migratory species where particular attention needs to be paid to wetlands, especially those of international importance. These measures include classifying the most suitable localities as SPAs and taking appropriate steps to avoid pollution or deterioration of the habitat or disturbance affecting the birds.

Internationally and Nationally important birds on the Humber

Birds of International Significance		Birds of National Significance	
Dark bellied Brent goose	Grey plover	Wigeon	Sanderling
Shelduck	Lapwing	Teal	Curlew
Golden plover	Knot	Pochard	Oystercatcher
Bar-tailed godwit	Dunlin		
Redshank			

Sediment budget: the amount of suspended sediment in the estuary; relating the quantities of sediment deposited to the volumes released by erosion and transported in from marine sources. If the overall level of sediment entering the system is greater than the quantities being lost, the budget favours accretion, but if more is being lost, the budget is negative and the system is eroding.

Sediment source and sinks: source, an area that provides sediment to the estuary, for example the Holderness coast; sink, an area in which sediment within the estuary settles, for example, mudflats and saltmarshes..

Sedimentary processes: the movement of sediment within the estuary basin, and coastlines.

Sustainable development: defined as, development that meets the needs of present generations without compromising its potential to meet the needs and aspirations of future generations (DoE, 1994).

Sustainability: keeping the consumption of renewable natural resources within the limits of their replenishment. It means handing down to successive generations not only man-made wealth (such as buildings, roads and industrial sites) but also natural wealth, such as clean and adequate water supplies, good arable land and a wealth of wildlife.

Urgent works: actions required to maintain the integrity of the estuary flood defences following rigorous scrutiny using the EA's procedures for ensuring consistency of approach for delivering urgent flood defence works. Such works would not normally eliminate the development of long-term options for holistic estuary management, but would ensure that the flood defences are not compromised for the foreseeable future.

Warping: the deliberate seasonal flooding of land to allow deposition of fertile silt for the creation of high grade farmland.

Wise use: the sustainable use of an area for the benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem (adapted from Article 3, Ramsar Convention).

Compendium of HEMS Steering Group & Working Group Member Organisations

Associated British Ports (ABP)

Mr. Joe Besch
Assistant Port Manager
ABP Port Office
East Parade
Goole
East Yorkshire DN14 4RB

Mr Ian Schofield
Port & Estuary Engineer
ABP Port Office
Riverside House
King George Dock
Kingston-upon-Hull HU9 5PS

Port and transport operations and property activities in the UK. ABP owns and operates 23 Ports, making it the largest Ports group in the Country. ABP owns the four Humber Ports of Goole, Grimsby, Hull, and Immingham which together account for 58 million tonnes of cargo per annum.

British Aerospace Defence Plc.

Mr Richard Boyes
Resources Department
British Aerospace Defence Plc.
Brough
East Riding of Yorkshire HU15 1EQ

BAe Brough is the largest employer in the HEMS area, contributing significantly to the area's economic stability. The business activity is centred round the Hawk and Harrier military aircraft and the 146 and European Airbus as commercial aircraft. BAe is the principal military aircraft company in Europe and a world leader in the military aircraft business. To build on this success, the aim of the company will be: The benchmark against which others can be measured by the 21st Century.

British Association for Shooting and Conservation

Miss Helen Doe
Conservation Officer
BASC
Marford Mill
Rossett
Wrexham LL12 0HL

BASC is the representative organisation for sporting shooting in Great Britain, and is a membership organisation. BASC provide information on practical conservation to members and promote best practice for shooting and conservation management.

Country Landowners Association

Mr John Chapple
Estate & Commercial Manager
CWS Agriculture
Estate Office
Pasture Farm
Swinefleet
Goole
East Yorkshire DN14 8EB

Representing the interests of landowners and farmers. Mr Chapple manages 4,000 acres owned by CWS Agriculture bordering the Trent.

East Lindsey District Council

Mr Robert Bowe
Planning & Economic Development Department
Tedder Hall
Manby Park
Louth
Lincs LN11 8UP

East Lindsey District Council provides community services which include planning, environmental and technical services, education, leisure and libraries, economic development, social services, environmental health and public protection.

East Riding of Yorkshire Council

Mr Patrick Ferguson
County Hall
Beverley
East Riding of Yorkshire HU17 9BA

East Riding of Yorkshire Council works to improve the quality of life for the communities of the East Riding, by providing high quality and cost effective services which reflect their needs. These services include planning, environmental and technical services, education, leisure and libraries, economic development, marketing and tourism, also social services, environmental health and public protection.

English Nature - Humber to Pennines Team

Dr Lawrence Jones-Walters / Mr Roger Morris
2nd Floor
Bullring House
Northgate
Wakefield
West Yorkshire WF1 3BJ

English Nature is the Government's statutory adviser on nature conservation issues in England. It has responsibility for the designation and management of National Nature Reserves, designating Sites of Special Scientific Interest and liaison with landowners and managers of those sites to ensure that the wildlife interest is secure. Outside special sites it works with partners to make the land, water and sea more hospitable to wildlife.

English Sports Council

Mr Alastair Copeland
Senior Regional Officer
Coronet House
Queen Street
Leeds LS1 4PW

National sports development agency advising Government, Local Authorities and governing bodies of sport on the provision of improved opportunities to participate in sport and raising standards of performance. Also responsible to the distributors of money for sports from the National Lottery through the Lottery Sports Fund.

Environment Agency

Mr Peter Barham - Humber Strategies Manager
Mr John Sweeney - Area Waste Regulation Manager
Waterside House
Waterside North
Lincoln LN2 5HA

Mr Philip Winn - Project Engineer
Olympia House
Gelder Lane
Gelder Road
Leeds LS12 6DD

The EA is a non-departmental public body established under the Environment Act, 1995. The Agency's remit is to protect and enhance the environment, taken as a whole, as to make an appropriate contribution towards achieving sustainable development.

Humber Chamber of Commerce and Industry

Mr Peter Cliff
President of Scunthorpe Area
Berkley House
Berkley Business Centre
Doncaster Road
Scunthorpe DN15 7DQ

Represents its members individually or collectively on key economic issues. Provides independent, customer focused support for business development and networking opportunities, in keeping with member's wishes. The Chamber of Commerce is currently undergoing mergers on both sides of the Humber, with Lincolnshire and southern Humberside forming one Chamber and Hull and East Riding of Yorkshire forming the other. Addresses and officers are as yet uncertain.

Humber Forum Ltd

Miss A Spalding
North Lincolnshire Council
18 Bigby Street
Brigg DN20 8EB

The economic promotion of the Humber Estuary to act as a consultative and advisory forum to Local Authorities on strategic planning, transportation and economic development issues.

Kingston upon Hull City Council

Mr Craig Boxshall
Technical Services Dept.
Kingston House
Bond Street
Kingston-upon-Hull HU1 3ER

Local Authority, responsible for providing services to the local community including, planning, education, economic development, environmental and technical services, social services, environmental health and public protection.

Lincolnshire County Council

Mr Peter Raspin
Principle Planning Officer (Policy) and joint secretary of the Wash Strategy Group
Environmental Services Dept.
4th Floor City Hall
Lincoln LN1 1DN

County Council, responsible for providing services to the local community including, planning, education, economic development, environmental and technical services, social services, environmental health and public protection.

National Farmers Union

Mr Paul Tame
Senior Technical Advisor
Agriculture House
North Gate
Uppingham
Rutland LE15 9NX

Mr David Collier
Senior Technical Advisor East Midlands Region
North East Region
Agriculture House
207 Tadcaster Road
York YO2 1UB

Representing farmers and growers and providing legal advice to members on matters affecting their agricultural and horticultural businesses.

North East Lincolnshire Council

Mr Neil Blackshaw
Project Manager Planning & Transportation
Devonshire House
Bull Ring Lane
Great Grimsby
North East Lincolnshire DN31 1ES

Unitary Authority with 160,000 population, carrying out whole range of Local Authority functions, particularly Strategic and Local Planning, land use planning, Education and Recreation.

North Eastern Sea Fisheries Committee

Mr Giles Bartlett
Fishery Officer
149 Ella Street
Kingston-upon-Hull
East Yorkshire HU5 3AT

North Lincolnshire Council, Directorate of Development and Environment

Mr Doug Robinson
Team leader - Environment Team
18 Bigby Street
Brigg DN20 8ED

Unitary Authority carrying out whole range of Local Authority functions, particularly Strategic and Local Planning, land use planning, Education and Recreation.

Novartis Grimsby

Dr Andy Smith
Company Environmental Adviser
Pyewipe
Grimsby DN31 2 SR

Novartis Grimsby is part of Novartis, the world's leading life sciences company. A manufacturer of fine organic chemicals, the Grimsby site has enjoyed record sales in recent years and holds the Queen's Award for Export Achievement for 1995 and 1997.

Royal Society for the Protection of Birds (RSPB)

Mr Richard Archer
Conservation Officer
4 Benton Terrace
Sandyford
Newcastle-Upon-Tyne NE2 1QU

The RSPB is the charity that takes action for wild birds and the environment. It is the biggest wildlife conservation charity in Europe with over 967,000 members and depends on support from its members and the public to achieve a healthy environment, rich in birds and other wildlife. The RSPB is part of the global partnership of bird habitat conservation organisations called BirdLife International.

Legislation Affecting the HEMS Area

Thus section has been compiled through consultation with Steering and Working Group members and represents those elements of legislation which are known to these members. Whilst it provides broad coverage, it is not thoroughly comprehensive and should therefore be used simply as a guide to relevant legislation.

Local Plans and Local Legislation

- Beverley Local Plan
- Boothferry Borough Local Plan
- Cleethorpes Local Plan
- East Lindsey Local Plan
- Glanford Local Plan
- Great Grimsby Local Plan
- Holderness Local Plan
- Hull City Local Plan
- Humberside Intensive Livestock Units Local Plan
- Humberside Structure Plan
- Lincolnshire County Structure Plan
- Lincolnshire Coastal Conservation Area (development on the Lincolnshire Coast)
- Lindsey County Council Sandhills Act 1932
- RPG12: Regional Planning Guidance for Yorkshire and Humberside
- Scunthorpe Local Plan

National Legislation

- The Alkali etc. Works Regulations Act 1906
- Protection of Birds Act 1954
- Control of Pollution Act 1974 (COPA)
- Ancient Monument and Archeological Areas Act 1979
- Control of Pollution (Special Waste) Regulations 1980 (amended 1988)
- The Wildlife and Countryside Act 1981 (amended 1985)
- Health and Safety (Emissions into the Atmosphere) Regulations 1983 (amended 1989)
- Classification, Packaging and Labelling Regulations 1984
- Control of Industrial Major Accident Hazards Regulations 1984 (amended 1988 & 1990)

Merchant Shipping Prevention of Pollution Order 1984
Food and Environmental Protection Act 1985
Ionising Radiation Regulations 1985
Docks Regulations 1988
Collection and Disposal Of Waste Regulations 1988
Control of Substances Hazardous to Health Regulations 1988
Town and Country Planning (Assessment of Environmental Effects) Regulations 1988
Air Quality Standards Regulations 1989
Control of Industrial Air Pollution (Registration of Works) Regulation 1989
Electricity Act 1989
Water Act 1989
Water Supply Regulation 1989
The Trade Effluents (Prescribed Processes and Substances) Regulation 1989
Associated British Ports Act 1990
Humber Navigation byelaw 1990
Environmental Protection Act 1990
Planning (Hazardous Substances) Act 1990
Town and Country Planning Act 1990
The Water Industry Act 1991
The Water Resources Act 1991
The Statutory Water Companies Act 1991
The Land Drainage Act 1991
The Water Consolidation Act 1991
Water Resources Act 1991
Notification of New Substances Regulations 1992
The Trade Effluent (Prescribed Substances) Regulations 1992
Radioactive Substances Act 1960 and 1993
The Conservation (Natural Habitats &c.) Regulations 1994
Waste Management Licensing Regulations 1994
Environment Act 1995
The Environment Act 1995
The Producer Responsibility Obligations (Packaging Waste) Regulations 1997

European Directives and legislation

Bathing Water Directive
Common Fisheries Policy
Common Agricultural Policy
Dangerous Substances and Daughter Directives
Dredge Spoil Dumping
Environmental Impact Assessment
Framework Directive to Eliminate and Reduce Pollution of Waters

Habitats Directive
Shellfish Directive
Titanium Dioxide
Waste Water Directive
Wild Birds Directive

International

The Convention on the protection of Wetlands especially as an area of importance to wildfowl
1971 (Ramsar)
Rio Convention 1992
Marine Pollution Convention
Oslo Paris Convention

Planning Policy Guidance Notes (PPG)

DoE, 1990: PPG 14: Development on Unstable Land
DoE, 1990: PPG 16: Landscape and Planning
DoE, 1991: PPG 17: Sport and Recreation
DoE, 1992: PPG 20: Coastal Planning
DoE, 1992: PPG 21: Tourism
DoE, 1993: PPG 22: Renewable Energy
DoE, 1993: PPG 16: Archaeology & Planning
DoE, 1994: PPG 9: Nature Conservation
DoE, 1994: PPG13: Transport
DoE, 1994: PPG 15: Planning and the Historic Environment
DoE, 1997: PPG1 (Revised): General Policy and Principles
DoE, 1997: PPG 7 (Revised): The Countryside - Environmental Quality and Economic and Social Development

Codes of Practice

Coastal Defence and the Environment- A Guide to Good Practice. 1993 (MAFF)
Coastal Planning and Management. A good Practice Guide. 1993 (National Coasts and Estuaries Advisory Group)
Humber Estuary Natural Area Profile. (English Nature)
Humberhead Levels Natural Area Profile. (English Nature)
The Code of Good Agricultural Practice for the Protection of Water. (MAFF)
The Code of Practice for the Safe Use of Pesticides on Farms and Holdings. (HMSO)



HEMS
Humber Estuary Officer
Floor 2
Bullring House
Northgate
Wakefield
WF1 3BJ

