

A SUSTAINABLE FUTURE FOR THE HUMBER ESTUARY



HUMBER ESTUARY CATCHMENT MANAGEMENT PLAN REVIEW 1997



**ENVIRONMENT
AGENCY**

FOREWORD

The Environment Agency was formed on 1 April 1996 and inherits the many and varied functional responsibilities of the National Rivers Authority, Her Majesty's Inspectorate of Pollution, the Waste Regulatory Authorities and some technical units of the Department of The Environment. The Agency's principal aim is to protect and enhance the environment as a whole, in order to play its part in attaining the objectives of sustainable development and to take a much wider view of environmental regulation and management than was possible for its predecessors.

This document details the progress made against the issues identified in the Humber Estuary Catchment Management Plan, as part of which a five year Action Plan was published in June 1995.

The Agency's wider objectives for the estuary have been identified and agreed in the Humber Estuary Management Strategy (HEMS) which was launched in June 1997. The Agency, as a full partner, contributed to the development of these objectives and consequently is also committed to their delivery through its own actions, as well as influencing the actions of other partners. For this reason, the Agency will not continue to maintain a separate Catchment Management Plan (CMP)/Local Environment Agency Plan (LEAP) for the Humber, but will instead work as part of HEMS. To ensure that the Agency continues to meet its responsibilities and duties, we will produce a revised Action Plan based on this review and the objectives of HEMS. This revised Action Plan will comprise the Agency's contribution to achieving the objectives of HEMS and will also take into account the changes which have impacted on the Agency since the launch of the CMP. It will also be reviewed on an annual basis as part of the Agency's own business planning process.

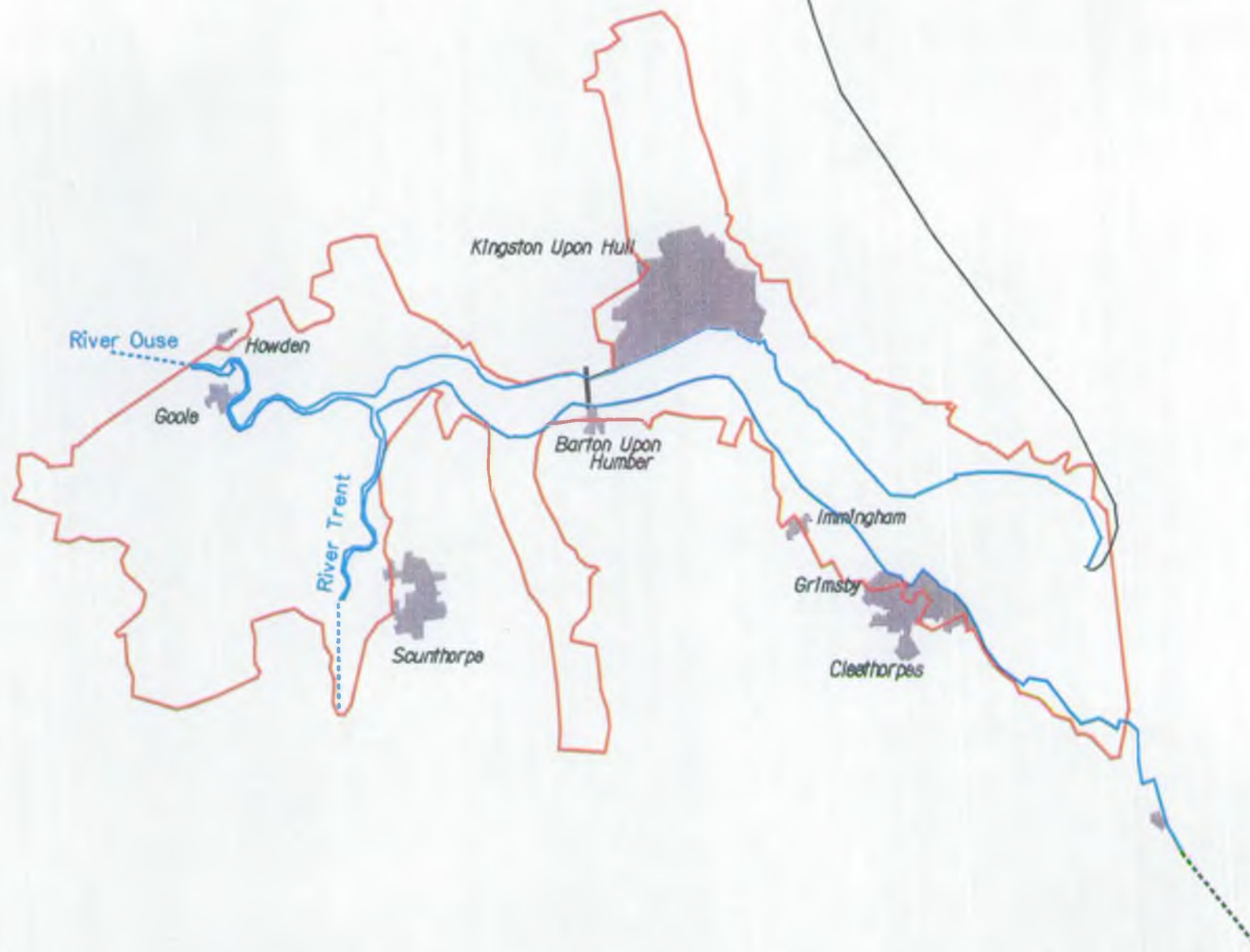
Feedback

If you have any thoughts or observations regarding this Review, please forward your comments to:-

Peter Barham
Humber Strategies Manager
The Environment Agency
Waterside House
Waterside North
Lincoln
LN2 5HA



Humber Estuary Catchment Management Plan Area



124359



ENVIRONMENT AGENCY

2: Introduction

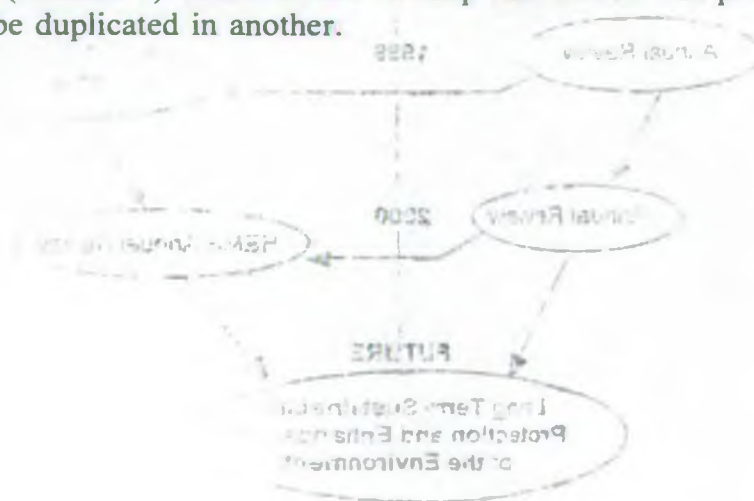
The Humber Estuary Catchment Management Plan covers the area from the mouth of the Humber Estuary to the upstream points of salt penetration at Keadby Bridge on the River Trent and Boothferry Bridge on the River Ouse. The Plan area has been extended for flood defence purposes on the River Ouse up to Aire's Mouth as this provides a natural flood defence boundary. This correlates with the area considered by HEMS. The location of the Estuary and the size of the outputs of freshwater makes the Humber of great significance in relation to the environmental management of the North Sea.

The NRA published the Humber Estuary Catchment Management Plan as a Consultation Document in July 1994, and its corresponding Action Plan in May 1995.

The purpose of this Review is to report on the extent to which actions, set out in the CMP Action Plan have been achieved, and to form a direct link between the Action Plan itself and HEMS. It does this by summarising the progress made over the past two years - for the issues identified - and relating them to the objectives set out in HEMS in the activity/progress statement at Section 7. We have also taken this opportunity to consider the wider responsibilities of the Agency with respect to discharges to the atmosphere from "prescribed processes" and waste management, and these are discussed in Section 5 of this Review.

The Agency has introduced an inter-regional approach to managing the Estuary to reflect the need to manage the Humber Estuary as a single unit; we have also taken the opportunity to work in partnership with other organisations through the HEMS. This new approach is generating more consistency in the planning, promotion and the delivery of work around the Estuary. It has already demonstrated itself to be more cost effective and is in line with the principles of sustainable development.

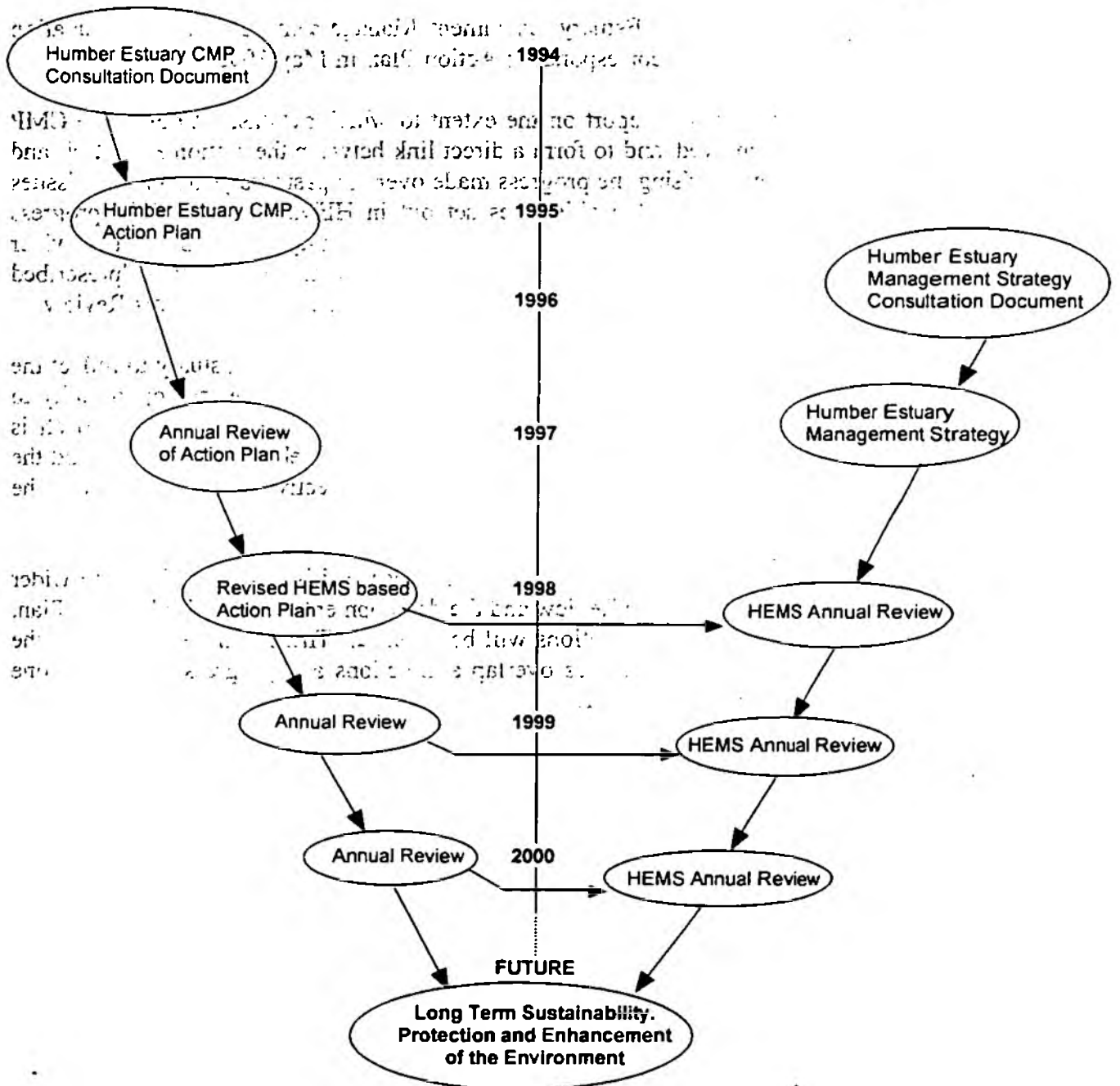
Increasingly the Agency recognises the benefits of addressing its problems from the wider perspective, and throughout both this Review and the development of the revised Action Plan, opportunities to develop integrated solutions will be pursued. These will be reflected in the Progress Tables (Section 7) where issues overlap and actions and progress relating to one issue may well be duplicated in another.



Working Toward Sustainability - Timetable of Humber Estuary CMP and Humber Estuary Management Strategy Plans

ENVIRONMENT AGENCY

AGENCY AND OTHER
HEMS PARTNERS



3: Vision

Our stated vision for the Humber Catchment during the lifetime of this five year Action Plan was, and remains, to work towards the sustainable management of the Humber Estuary as a whole, balancing the legitimate interests of all users of the Estuary. Key objectives identified were to:-

- maintain and enhance the current national and international nature conservation value of the Humber Estuary
- reduce the risk to people and the developed and natural environment from flooding
- reduce the discharge of dangerous substances * to the North Sea and improve water quality of the Tidal Ouse;
- to improve or restore the run of migratory salmonoids * into the Humber's tributaries,
- set Minimal Residual Flows for the Trent and Ouse which balance all water related interests;
- ensure that the recreational potential of the Humber Estuary is fulfilled;
- work with all relevant parties to implement the principles of sustainable development;
- balance the needs of commercial navigation and industrial, urban and agricultural development with the requirements of the environment;
- improve our knowledge of the relationships between sedimentary processes, rising sea levels and the natural boundaries of the Estuary.

Since the publication of this document, the Environment Agency was formed to take wider responsibilities associated with air quality and waste disposal matters. The following additional objectives are now also considered appropriate:-

- to achieve major and continuous improvements in the quality of air
- to reduce the amount of waste by encouraging the reuse * and re-cycling * of waste
- to improve standards of waste disposal

These key objectives which the Agency are working toward are complimentary to the strategic aims identified in the Humber Estuary Management Strategy and listed opposite.

HEMS Strategic Aims

- 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, environment and economic fabric of the Estuary
- Recognise the needs and aspirations of all users and promote the wide 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 conflict 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 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.

Other organisations such as Associated British Ports, English Nature, various Borough Councils, The National Farmers Union and The Royal Society for the Protection of Birds have been involved in the Humber Management Strategy with the Environment Agency. In total there have been 24 organisations responsible for development of the Humber Estuary Management Strategy.

4. Summary of Progress

ENVIRONMENT QUALITY

Considerable progress has been made across a wide range of the issues identified in the original CMP.

For example, over the last 2 years real improvements in water quality have been made. These have been achieved in a number of ways:-

- the reduction of organic and ammonia pollution from the Rivers Aire and Don following extensive improvements to the treatment of sewage
- major investment in sewage treatment at Cleethorpes Waste Water Treatment Works to improve effluent quality to meet the EC Bathing Water Directive
- increasing the quality of trade discharges and so reducing pollution to the Tidal Ouse

Major plans for improvement to sewage treatment have been brought forward at Hull, Grimsby, Goole and Immingham which will have an enormous impact on improving the quality of the Estuary.

At the same time as these water quality improvements have been made, there have been many improvements to effluent quality from industry. These result from:-

- continued reductions in waste through the promotion of waste minimisation
- Integrated Pollution Control authorisations
- increased involvement of Agency staff, working with, and advising industry
- a reduction of toxic discharges to the Estuary

Key industries such as Courtaulds Plc and BP Chemicals Plc have made particular progress in this area - the investment from industry in effluent improvement amounts to hundreds of millions of pounds in recent years.

These improvements in water quality have been reflected by an increase in the numbers of salmon being sighted in tributaries of the Estuary such as the Don and Wharfe.

FLOOD DEFENCE AND CONSERVATION

Standards of defence around the Estuary have been improved since publication of the Action Plan with various scheme work:

- works at Goole and Winteringham have been completed
- works at Saltend and Hull Docks are in progress - others are in the pipeline

Over the last two years many changes have been made to the way the Agency carries out these works. All flood defence work around the Estuary is now undertaken in accordance with procedures which ensure a consistent approach to both engineering and the environment.

- a set of clear procedures for carrying out urgent flood defence work has been prepared, and agreed, to guarantee that work will be done in an open and consistent way
- an agreement with English Nature and the Ministry of Agriculture Fisheries and Food over the aims and objectives for flood defence means that we can be confident of satisfying flood defence and environmental needs when planning and carrying out flood defence work
- clear, open lines of communication have been set up to ensure that everyone has an opportunity to comment on flood defence work at every stage of the work
- mechanisms to ensure that environmental mitigation can be identified and delivered have been agreed with environmental bodies

The Agency has also made considerable progress in the development of a long term strategy for flood defences for the whole of the Estuary. When complete this will help us ensure that the Estuary is managed in a sustainable manner and will protect both the massive economic importance of the area as well as its global value as a conservation area. To achieve this a number of actions have been initiated:

- an Estuary Shoreline Management Plan which will act as the basis for the decision making process is being developed
- a major investigation into the geomorphology of the Estuary has been started. This will result in our having a much better understanding of the processes which shape the Estuary and will enable us to work with nature rather than against it. Because the geomorphology studies are central to understanding the way the Estuary works, they are pivotal to its future management
- Estuary wide approaches are being or have been developed to ensure that all environmental assets including archeological features are properly considered in the development of flood defence schemes

Environmental and conservation needs have been addressed in other ways as well:-

- we have been actively involved in conservation works at Wetland sites at Barrow and Barton Claypits which contribute to the works as part of the Humber Reedbeds Project
- work at Reads Island at the mouth of the Ancholme - involving the creation of saline lagoons*, a valuable refuge for wintering bird populations has recently been completed
- On the north bank of the Humber we have been involved in projects for improving access, education/interpretation centres, and archaeological works at Easington Lagoons

OTHER ISSUES

Three further issues from the Action Plan:-

- Issues 3 inadequate river flow measurement
- Issue 15 the siltation of river outfalls
- Issue 20 insufficient data on fish species

have all been successfully resolved and removed from the Plan.

Two new issues have been identified for the Plan and included as Issues 31&32. One relates to our incomplete understanding of influences impacting upon the Estuary's environment, the other relates to the need to reduce the impact of waste disposal practices (both are explained in more detail in Appendix 4)

It should be stressed that the progress reported here, has only been achieved by working in collaboration with partner groups - ranging from port authorities, water companies, industry and planning authorities, to conservation bodies, local interest groups and landowners. This is perhaps both the key message and a key objective from this Review, that real improvements in the management of the Estuary and its natural assets can only be achieved and must continue to be sought through the formation of partnerships such as that typified in the HEMS approach.

5. Changes impacting upon the Agency since the Plan's publication

Biodiversity Action Plans (BAPs)

The convention on Biological Diversity was one of several major initiatives stemming from the "Earth Summit" in Rio de Janeiro in 1992. The UK Government are signatories to this convention, which recognised that action must be taken to halt the global loss of animal and plant species and genetic resources and that each country has a responsibility to conserve and enhance Biodiversity within its own jurisdiction. This action would be helped by the development of strategies, plans and programmes.

* Denotes glossary item (Appendix 3)

A UK Action Plan was produced in 1994, and work since then has identified 116 key species and 14 key habitats some of which exist in the Humber Plan Area. Following from this Local Biodiversity Action Plans (BAPs) have been promoted, the purpose of which is to focus resources to conserve and enhance Biodiversity by means of local partnerships, taking account of both national and local priorities.

Around the Humber a number of BAPs are being developed by local authorities, English Nature and others. These will be complimented by a BAP for the Humber, initiated by HEMS and involving English Nature, the RSPB, the Environment Agency and the Wildlife Trusts. This will identify species and habitats for the Estuary and will develop plans for their protection and enhancement.

It is envisaged that the Humber BAP will use existing information and knowledge to provide targets for conservation and enhancement of habitats and species within the Humber Natural Area * (as defined by English Nature and the Countryside Commission). The BAP will also identify any gaps in our knowledge and set out a programme to fill that shortfall. The Agency has a duty to further the aim of biodiversity conservation and will do everything it can to contribute to these targets through its operational activities and through its consenting procedures.

New Roles - Integrated Pollution Control (IPC) and the Humber Estuary

The 1995 Environment Act introduced new accountabilities covering the field of pollution prevention and control, and in particular the aim of having regard to sustainable development. This objective introduces increased flexibility in considering the impact of releases from Process Industries * on the environment as a whole. Such considerations will be addressed when looking at the effects of the large number of major industrial sites bordering the Estuary, both short and long range effects.

IPC, or Process Industry Regulation as it is now called, is a truly integrated approach to pollution prevention, involving releases to air, land and water, that seeks to prevent or minimise the impact on the environment of industrial operations, by directing any releases to the medium where they will cause least harm.

The Humber Estuary has a range of industries with established pollution problems such as volatile organic compounds*, heavy metals*, sulphur dioxide etc. However, there are a number of new issues that have an increasing profile and that will need to be addressed eg, dioxins*, waste incineration and contaminated land. New legislation such as the IPPC Directive* and the other international obligations such as OSPARCOM*, the Montreal Protocol* and the North Sea Convention* will also need to be considered. The Agency will attempt to incorporate such issues in future reviews of the HEMS where and as appropriate.

Although the Agency is not directly responsible for Air Quality other than where it has direct responsibility for emissions as part of Integrated Pollution Control, it does have a consultative role in the National Air Quality Strategy, which is the responsibility of the Local Authorities. The Agency's involvement in the HEMS forum should act as an important vehicle through which such consultative partnerships can be furthered.

New Roles - Waste Management

Section 42 of the Environmental Protection Act 1990 requires the Agency to licence and supervise licensed waste management activities to prevent pollution of the environment, harm to human health and detriment to the local amenity. This legislation which controls the treating, keeping or disposal of waste, applies to waste produced by households, commerce and industry. It also includes waste going to transfer stations, recycling centres and treatment plants.

Efficient waste management is an important element of the Government's strategy for sustainable development in the country. The Agency's objectives with respect to waste are to reduce the quantity of society's waste, make the best use of it and to minimise its risks to the environment and human health now and in the future. The scale of industrial activity in this plan area is such that it generates particularly high quantities and varieties of waste, emanating from both the larger industrial concerns and from smaller business units. As the financial cost of disposing waste is increasing, and as we become more aware of its environmental impacts; finding suitable landfill sites in locations which match waste generation trends, and do not pose a threat to the environment, is becoming more challenging. Future generations will find this challenge even more demanding.

To reduce the financial and environmental burdens associated with waste, both industry and society must analyse the "consequences" of producing the goods we demand and ultimately dispose of. To accomplish this, life cycle analysis of products and production methods must be undertaken, with a special emphasis on minimising waste, both in terms of quantity and its potential to pollute. Additionally, consumption of natural resources must be closely evaluated to ensure that non renewable assets are being managed wisely.

In order to achieve this the Agency has set out to:

- promote and implement waste reduction and minimisation processes;
- encourage waste recovery techniques such as recycling, composting and energy production;
- improve awareness of waste recycling/minimisation opportunities by publicity and education.

Changes in Administrative Boundaries and Development Plans

Since publication of the Action Plan significant changes in the area's administration have occurred viz:

- the establishment of the new unitary authority of North Lincolnshire Council. This has replaced the former District and Borough Councils of Boothferry, Glandford and Scunthorpe. A new area wide plan is due to be prepared in 1997/98 for the Council;
- the establishment of the new unitary authority of North East Lincolnshire Council. This has replaced the former Borough Councils of Cleethorpes and Grimsby. A new area wide plan is due to be prepared;

- the establishment of the new unitary authority for the East Riding of Yorkshire. This has replaced the former Borough Councils of Beverley, East Yorkshire, Boothferry, Holderness. A new area wide plan is due in January 1998.
- the establishment of a new unitary authority for Kingston upon Hull. The existing Plan is due to be adopted in December 1997.
- In addition to the separate plans being drafted by the four new unitary authorities, two joint Structure Plans will be prepared, one between the East Riding of Yorkshire and Kingston upon Hull and one between North Lincolnshire and North East Lincolnshire.

CURRENT STATUS OF DEVELOPMENT PLANS IN THE HUMBER CATCHMENT

PLANNING AUTHORITY	PLAN TITLE	STATUS
North Lincolnshire Council	Glandford Local Plan	Consultation Plan, 1994
	Scunthorpe Local Plan	Deposit Plan, 1995
	Boothferry Local Plan	Deposit Plan, 1994
	Area wide Plan	Due for Consultation, 1997/98
North East Lincolnshire Council	Grimsby Local Plan	Due to be adopted 1997
	Cleethorpes Local Plan	Consultation Draft, 1994 (not due for adoption)
	Area wide Plan	Due for Consultation, 1997/98
East Riding of Yorkshire Council	Beverley Local Plan	June 1996
	Boothferry Local Plan	Deposit Plan, June 1994
	North & South Holderness Local Plan	Deposit Draft 1995
	East Yorkshire Local Plan	Deposit Plan, 1994
	Area wide Plan	To be prepared
Kingston upon Hull City Council	Hull City Plan	Deposit Plan, 1995

6. Future Reviews

In future, progress made, with respect to the actions identified in the Humber CMP, will be reported in reviews of the HEMS and will be forwarded to you on completion.

7. Tables of Progress

The following Tables of Progress indicate for each issue and action set out in the Humber Estuary Action Plan (1995), an update on the progress made over the past two years. These are presented in the form of the objectives for each issue, actions and timetable specified and a progress statement. The Issue Leaders referred to are those Agency Officers responsible to ensure the specified "Agency actions" and timetables are met. If you have any queries relating to these statements you should refer in the first instance to Peter Barham, Humber Strategy Manager Tel: Lincoln 01522 513100

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
1&2	To develop and apply a methodology to set Minimum Residual Flows to the Estuary for the Trent and Ouse which balance all water users.	EA		R & D project on MRF Methodology	*						Completed June 1996. On completion of the R & D Project, it was decided that the complexities involved and the practical difficulties associated rendered the application of the methodology inappropriate in the near future. A full review of the licensing policies in consultation with abstractors and interested parties has been undertaken, culminating in revised flow targets for the River Trent being set. The system used to develop flow targets for the Trent will be used for the Ouse where necessary. The possible implications of the Habitats Directive are such that the Agency will need to review it's MRFs. Issue Leader - John Adams	
		EA	USERS	Apply flow methodology where appropriate.						*		
3	To improve flow gauging accuracy at North Muskham.	EA		Build ultrasonic flow gauge at North Muskham		*					Completed 1996/7. The existing hydrometric networks for the Ouse and Trent are now deemed satisfactory - this issue will be deleted from subsequent revisions of this plan.	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
4	Improve Water Quality on the tidal Ouse to meet RQOs.	YWS	EA	Improve effluent treatment schedule under UWWTD for Selby and Goole STW's.	*	*	*	*	*	By 2005	The provisions of the Urban Waste Water Treatment Directive (UWWTD) being implemented by Yorkshire Water require a tightening of discharge consent limits to be met by the year 2000. These targets are now in place and will lead to a gradual improvement in water quality. In order to confirm the long term improvement and ensure sustained delivery of water quality targets, monitoring and assessment will continue.	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
		YWS	EA	Improve water quality of Aire, Calder, Don, Rother and Deame catchments.						By 2005	Major improvements which will impact on the Humber will be largely complete by 2000.	
		Industry	Sponsors including Humber Forum Ltd, EA and ETBP	Encourage industry to adopt waste minimisation principles.	*	*	*	*	*	*	See Issue 6	
		EA	Industry	Achieve a reduction in organic pollution discharge to the tidal Ouse by a programme of consent review and treatment improvements at a number of trade premises in Selby area including Haarman & Reimer Ltd, Hazelwood Foods and BOCM Pauls (refer to Swale, Ure and Ouse CMP).	*	*	*	*			Pollution to the Tidal Ouse has reduced following improvements made to trade discharges.	
Issue Leader - Graham Tate												

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
5	Improve bathing water quality at Cleethorpes.	AWS	EA	Improve the sewerage system and provide a sewage treatment works for Cleethorpes.	•	•					<p>The Southern Sewage Outfall at Cleethorpes was the primary cause of the Bathing Water Directive failure. Anglian Water Services Ltd have improved the sewerage and sewage treatment infrastructure serving Cleethorpes, removing the need for the Southern Outfall discharge at a cost of £47 million.</p> <p>Despite the substantial improvements to bathing water quality since the commissioning of the new sewage treatment works at Tetney, it has become apparent that the Southern Outfall masked more subtle influences which during the 1996/97 season still caused failure of the Bathing Water Directive. Considerable effort to evaluate the source/impact of less significant discharges has resulted in identification of a number of minor sources of pollution which have been improved. Additionally, Anglian Water Services Ltd have brought forward the improvement programme for their Pyewipe outfall in Grimsby. The programme has already begun and will be completed by the 1999 bathing season.</p> <p style="text-align: right;">ISSUE LEADER - John Sweeney</p>	There is a need to ensure that water quality in the Humber Estuary is improved to comply with the National and European standards and to encourage effluent discharges to adopt the Integrated Pollution Control (IPC) concept.
			EA	Continue monitoring and publish results.	•	•	•	•	•	•		

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
6	Reduce the discharge of dangerous substances to the water environment.	EA		Implement IPC by authorising processes prescribed under the Environment Protection Act 1990.	*	*	*	*	*	*	The Agency continues to regulate and work with those operators who release polluting substances to air, land and water from prescribed processes, so as to prevent or minimise and render harmless such releases.	There is a need to ensure that water quality in the Humber Estuary is improved to comply with the National and European standards and to encourage effluent discharges to adopt the Integrated Pollution Control (IPC) concept
		Industry	Sponsors including Humber Forum Ltd, EA and ETBPP	Under take a collaborative project to demonstrate the benefits of waste minimisation principles.	*						Project completed 1996.	
		EA	LAs Business Support & Humber Resource Efficiency Centre	Encourage industry to adopt waste minimisation principles.	*	*	*	*	*	*	Successes can be seen from monitoring returns from operators of IPC processes and reports of reductions in emissions and waste generation resulting from waste minimisation campaigns by industry and businesses. Significant investment in pollution reduction capital plant continues, driven largely by regulatory activity and waste minimisation initiatives. ISSUE LEADER - George Marshall	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
7	Reassess the Estuary with effect to its status under the UWWTD and the third North Sea conference.	EA Water Companies & Industry	MAFF PML EA	<p>Continue existing monitoring for three more years and use all data readily available from EA, MAFF (JoNus Project) PML (LOIS Project) and "comprehensive studies" undertaken by discharges.</p> <p>The Environment Agency is to require others to monitor effluent quality</p> <p>The Agency is to integrate its monitoring with that already undertaken by external organisations.</p>	*	*	*				<p>The Agency has appointed project teams to coordinate environmental monitoring on the Humber Estuary. Their remit is to review annually data collection needs, shortfalls in data and improvements needed. A further project has been initiated to evaluate the possible effects of sediment movement when oxygen demand and further improvements in phosphate analysis are planned</p> <p>Under Review.</p> <p>Issue Leader - John Sweeney</p>	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
8	Ensure consistency of standards in the provision of Estuary flood defences. Works to be developed through the Humber Estuary Tidal Defence Strategy and Urgent Works Programme.	EA	LA ABP Riparian Owners	Encourage joint commitment from all parties responsible for providing and maintaining Estuary flood defences by initiating a pro-active approach to liaison. This is to be achieved through focusing terms of reference of existing groups on a timescale consistent with the production of the Humber Estuary Management Strategy.	*	*	*	*	*	*	The Agency is to address the question of consistent standards through the Humber Estuary Shoreline Management Plan (HESMP) which is now under way. The plan will look at all of the defences and indeed at the complete length of shoreline in all ownerships. While the Agency cannot directly influence the way in which other frontage owners manage their defences, all of the key owners are represented on the Steering Group for the Plan (Crown Estates, ABP and Local Authorities).	1) There is a need for a strategic planning framework which will guide all co-ordination and co-operation between all organisations with responsibilities for planning and management of land and water use activities in the HEMS area. 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 defence
		EA	MAFF	EA will act to provide appropriate standards subject to justification, by use of permissive powers.	*	*	*	*	*	*	A set of procedures has been prepared for ensuring consistency of approach in identifying planning and implementing urgent flood defence schemes. ISSUE LEADER - Philip Winn	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
9&10	Provide appropriate long term effective and sustainable tidal defences for the Estuary.	EA	MAFF EN, LA CC, ABP Crown Estate	Prepare strategy and update as required	*	*	*	*	*	*	A Humber Estuary Shoreline Management Plan looking at the whole Estuary is being developed by the Agency. This will take at least five years to develop. The strategic planning work which is now under way is beginning to address these issues. The Humber Estuary Shoreline Management Plan (HESMP) and the geomorphological studies will together form the essential building blocks for the forward capital programme. The programme will ensure that the defences are maintained and improved as sea levels rise, and as the existing defences deteriorate. The contract for the HESMP has now been let.	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
		EA		Develop Geomorphological tools							See issues 11 and 12. Issue Leader: Philip Winn	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 managed in a sustainable way
	Provide appropriate short term defences for areas at risk along the Estuary.	EA	MAFF EN ABP&LA	Hull City Frontages.		*	*	*	*	*	Albert and St Andrew's Dock: Work commenced 1997 King George & Alexandra Docks: Scheme proposed and submitted for approval. Victoria Dock: Scheme investigations underway.	5) There is a need to protect people, property and 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
		EA	MAFF EN & ABP	Salt End to Paull	*	*	*				Scheme under construction and on target for completion 1997/98.	
		EA	MAFF EN	Thomgumbald				*	*	*		
		EA	MAFF EN	Kilnsea, Welwick, Paull Holme						*	Work postponed due to changing priorities.	
		EA		Brough to Crabley				*	*	*		

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
9&10 cont'd		EA	MAFF EN	Goole Docks.	*	*	*	*			All schemes are complete apart from Victoria Lock (scheme investigation underway)	
		EA	MAFF EN	Swinefleet, Goole Hall, Reedness.		*	*	*	*	*		
		EA	MAFF EN	Immingham, East Halton, New Holland, Winteringham, Witton.					*	*	Urgent Works have been completed at Winteringham on the south bank of the Estuary.	
		EA	MAFF EN	Pyewipe, Stallingborough, Killingholme, Goxhill, Chowdemess, South Ferriby.					*	*		
		EA	MAFF EN	Maintain defences where appropriate	*	*	*	*	*	*	A scheme has been developed - work is anticipated to start in the autumn of 1997. ISSUE LEADERS -Nigel Pask and Derek Helliwell	
		EA	MAFF EN	Salmarshes			*	*				

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
11&12	Increase understanding of the physical processes which characterise this area to enable improvements in the decision making process.	EA		<p>Initiate a geomorphological study of the Estuary;</p> <p>Stage I: Scoping Study</p> <p>Stage II: Preliminary Studies</p> <p>Stage III: Development of geomorphological tools.</p>	*						<p>The initial scoping study was completed in 1996. It identified main data sources, collated views of consultees and proposed approach for the remainder of the study programme.</p> <p>To be let in 1997</p>	<p>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.</p>
	Provide consistency between strategies within the Estuary and adjacent coast to ensure a holistic approach.	EA Council HEMS	MAFF Local Authorities	Develop and maintain a robust consultation process to enable an integrated approach between the Humber Estuary Tidal Defence Strategy, Shoreline Management Plan and Humber Estuary Management Strategy	*	*	*	*	*	*	<p>Through extensive consultation the mechanism for producing a tidal defence strategy has been developed which has the Estuary Shoreline Management Plan as its keystone. The contract for the HESMP is underway as are a number of the supporting strategic studies. Close liaison is maintained through proactive consultation and the linkage between the objectives of HEMS with the tidal defence strategy.</p> <p>ISSUE LEADER - Philip Winn</p>	<p>3) There is a need to ensure that the physical processes which link the Estuary and adjacent open coastlines are understood and considered in a strategy development and land use planning</p> <p>4) There is a need to respond to predicted rates of sea level rise</p>

[illegible]

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
14	Assess the most effective and appropriate means of creating inter-tidal habitat by local managed retreat.	EA MAFF EN RSPB Local Authorities		Identify and agree site for pilot scheme for creating inter-tidal habitat by local managed retreat.		*	*	*			The Agency is currently undertaking both an Estuary Shoreline Management Plan and geomorphological studies of the Estuary to improve its understanding of estuarine processes and flood defence need. Until these are complete, any prospect for large scale initiatives are limited. There are however ongoing discussions with local interests, exploring opportunities for local activities which do not compromise long term action. Issue Leader - Philip Winn	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
		EA MAFF, EN RSPB, Local Authorities Landowner NFU		Establish baseline and continued monitoring.		*	*	*	*	*	A review is taking place of all the environmental information relating to the Humber, to predict future trends and to provide information on environmental constraints. The review will identify areas where there is a lack of information and understanding and recommend further research. This is one of several reports feeding into the Estuary Shoreline Management Plan. Issue Leader - Nigel Pask	5) There is a need to protect people, property and 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 defence
				Identify environmental enhancement opportunities around the Estuary and monitor their implementation.			*	*	*	*	Environmental enhancement opportunities have been identified in collaboration with conservation bodies. Issue Leader - Simon Keys	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
14. Cont'd	Explore opportunities for increasing the area of inter-tidal wetlands through take up of appropriate grant aided schemes.	HEMS Wildlife Trusts MAFF RSPB EN Local Authority		<p>Liaise with interested parties to promote organisations to exploit opportunities</p> <p>Carry out local initiatives to create and improve wetland habitats as opportunities arise</p>		*	*	*	*		<p>Discussions have taken place with local interests to identify and implement improvements at a number of locations</p> <p>Substantial works have been undertaken at Barton Claypits by ourselves and partner organisations. To date 4 ha of open water and reed margin has been restored, benefiting water fowl and reed bed birds. Similarly maintenance desilting of Blacktoft Sands Nature Reserve was undertaken in 1996/97 to improve 1.7 km of creek which had become silted and overgrown with invasive vegetation.</p> <p>Work at Read's Island to manage water levels by the installation of sluices, will enhance the island's value for waders and winter wildfowl</p> <p>Further consideration was given to this action by a HEMS Topic Group which concluded that no study was necessary.</p> <p>The need for a local Biodiversity Action Plan for the HEMS area has been identified, and with this in mind, a group has been formed from English Nature, the RSPB, the Wildlife Trusts and the Agency to start the process of developing a Biodiversity Action Plan for the Humber under the auspices of the HEMS group.</p> <p>Issue Leader - Martin Stark</p>	
	Assess the current landscape features of the Estuary.	EA MAFF Local Authority HEMS	CoCo	<p>Set up a study for landscape assessment</p> <p>Local Biodiversity Action Plans</p>		*	*					

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
15	Adopt an integrated approach to ensure adequate channel and haven capacity.	EA	IDB MAFF	Review current land drainage practices and develop appropriate options to overcome.		*	*	*	*	*	Work has been undertaken to the outfall of the East Halton Beck which has successfully removed the problem of siltation in the tidal channel. This issue has now been successfully resolved and will not be reported in subsequent reviews. Issue Leader - Graham Wilson	
		EA	IDB Recreation users	Consider and take account of all users needs when considering appropriate options.		*	*	*	*	*		
16a	Protect and conserve important archaeological sites. Agency to protect and conserve archaeological sites in carrying out its duties.	Local Authorities EH		Identify archaeological sites and validate their importance.	*	*	*	*	*	*	The Archaeological database for the Humber Estuary is being assembled as part of the HESMP and the sites are to be placed on the GIS by the end of March 1998. Issue Leader - Penny Thorpe	
		Local Authorities	Develop Archaeo- logical interests NFU	Local Authorities to control development and other activities in high risk areas.	*	*	*	*	*	*		

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
16a Cont'd		EA LA	EH	Early consultation between Local Authorities and EA.	*	*	*	*	*	*	The Agency is developing a procedure which will facilitate a greater consistency in our liaison with archaeological interests.	
		EA LA	EH	Carry out assessment of whether proposals are likely to contain an archaeological site.	*	*	*	*	*	*	Ongoing as part of the statutory environmental assessment process.	
		EA LA	EH	Consider appropriate mitigation measures.	*	*	*	*	*	*		
		EA LA	EH	Monitor work in progress to provide additional information as work progresses.	*	*	*	*	*	*	The Agency is collating archaeological information gathered as part of the environmental assessment and is disseminating its findings to improve its consistency of approach in respect of archaeological concerns. Issue Leader - Penny Thorpe	

[illegible]

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		93/96	96/97	97/98	98/99	99/00	Future		
18	Improve sustainability of shellfish for human consumption.	Env. Health	MAFF	Research/monitor.	*	*	*	*	*	*	Although restrictions imposed by the EC Shellfish Hygiene Directive alone do not provide sufficient justification for effluent treatment improvements, investment in pollution abatement equipment, driven by other Directives and the Agency's work should bring about a substantial reduction in bacteriological contamination. Issue Leader - John Sweeney	
		Wco's Industry	EA	Improve water quality.	*	*	*	*	*	*		
19	Restore the flounder fishery in watercourses and drains entering the Humber.	EA		Investigate the nature of obstructions and recommend potential ways to restore free passage.	*						The problem is generally one identified on the north bank where former gravity outfalls have been replaced by pumps or flapped outfalls. A survey of obstructions to fish movement has identified where this has occurred. Some work has been undertaken to assess the potential for restoring access, funding problems restrict opportunities to improve this problem. Flounders have appeared in other tributaries where water quality has previously restricted numbers (e.g. The River Don). Future work will examine the extent to which these populations may develop and be exploited by anglers. ISSUE LEADER - John Pygott	
		EA IDBs		Implement recommendations.	*	*	*	*	*	*		

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
20	Insufficient information exists on fish species in tidal rivers and the Humber Estuary.	MAFF EA		No further action required.							MAFF is the lead organisation for this issue and they are satisfied that sufficient information exists. Therefore this issue will not be reported on in future reviews.	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
21	To improve and restore the run of migratory salmonids into the Humber's tributaries.	EA Effluent Discharges		Improve quality of discharges.	*	*	*	*	*	*	With improving water quality in the River Ouse, there is evidence of small but increasing numbers of salmon being observed in tributaries such as the Don and Wharf. A public consultation was held in the autumn of 1996 to seek views on whether or not to progress with a project to restore salmon to the River Trent. The project received the backing of most people and organisations. It is hoped to establish a charitable trust to raise the necessary income to undertake the restocking and any fish pass installation which may be required. Restocking may take place in the summer/autumn of 1998.	
	Provide Free passage to migratory fish.	EA		Undertake study of physical barriers.	*						A major obstruction to migrating fish is the poor water quality in the tidal Ouse around Selby. The sewage discharges at Selby and Barby require secondary treatment under UWWTD. Improvements are scheduled for Selby in 2000 and Barby in 2005. A tidal Ouse strategy is being developed by Dales Area. This will address the industrial discharges to the river. Several discharge consents are already under review.	
	Control exploitation via Net Limitation Order or byelaw.	MAFF EA		Adopt an opportunistic approach to the provision of free passages as opportunities arise. Introduce Net Limitation Order covering the Humber.	*	*	*	*	*	*	Weirs on the River Trent are currently being considered as sites for hydropower development. Discussions will take place with developers to ensure provision of fish is maintained and enhanced. A Net Limitation Order was implemented for the Anglian coast from 1 January 1996, which will limit and phase out the exploitation of missed stocks and improve the management of the sea trout fishery. (The main focus for this action will become more important if and when migratory salmon are restored to the Humber). ISSUE LEADER - Martin Stark	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
22	Produce a coordinated recreation strategy.	HEMS	EA Sports Council	Contribute to HEMS by support and input.	*	*	*				<p>The HEMS Consultation recognised the value of the Estuary and surroundings areas for a variety of recreational uses. Potential conflicts between different types of water were identified as well as concerns regarding the water quality. The Agency recognises the base which HEMS provides for a co-ordinated recreation for the Humber. We have identified a wide range of opportunities for recreation particularly associated with our own land holdings (for example the Trans Penine Trail, Spurn Heritage Coast Etc). A database has been compiled and is regularly updated to identify current and potential uses of Agency land.</p> <p>We will investigate the potential for involvement in a standing recreation forum as proposed by HEMS but the Agency is not the most appropriate lead organisation for this the Agency is to maintain links on a day to day basis with existing projects and user groups.</p> <p>During 1997-98 the Agency have started a fundamental review of the current and potential use of our land holdings around the Estuary for recreation. A key element of this review will be to assess the opportunities for linking into other tributaries and projects such as long distance walks. There will be extensive consultations with a wide range of user groups to ensure that opportunities are identified as fully as possible. Of particular importance will be the review of facilities for disabled access, which will build on initial work undertaken in association with the Spurn Heritage Coast Project.</p>	<p>11) A framework is needed to guide recreational management of the Estuary and its environs so as to ensure integration with other Estuary interests.</p> <p>12) There is a need to ensure that current and future tourism on the Humber is on a sustainable basis.</p>
		Local Authorities	Local Authorities CoCo ABP Sport/ Recreation Association									
	Develop a management strategy to take account of conflicts.	HEMS	EA Sports Council Local Authorities CoCo ABP Sport/ Recreation Association									
	Maximise opportunities and potential for improving access and existing facilities on EA land particularly for disabled persons.	EA	Local Authorities	Produce Management Plans for EA owned banks.		*	*					
		EA		Maintain and improve car parks, footpaths and other recreational facilities or provide where appropriate.		*	*	*				
	Improve access on non EA owned land.	LA's	DoE CoCo EA Recreation Association FWAG	Encourage landowners to allow access.	*	*	*	*	*	*	ISSUE LEADER - John Pygott	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
23	Strengthen links with educational establishments.	EA Universities Schools	Industry EN	Provide data and information analysis and feedback.	*	*	*	*	*	*	Ongoing - all actions are being adopted and implemented by the Agency.	
	Increase awareness of the Estuary.	EA	Industry EN	Publish leaflets and brochures.	*	*	*	*	*	*	A number of publications have been produced and disseminated widely.	
	Increase liaison with organisations to strengthen the educational value of the Estuary.	EA Universities HCC	Industry EN	Report and promote on work and activities taking place within the Estuary.	*	*	*	*	*	*	Ongoing through the media and the Agency's committee's.	
		EA	Industry EN	Review and update EA PR material.	*	*	*	*	*	*	A PR Strategy has been produced for implementation over the coming year.	
		HEMS	Industry	Contribute to HEMS.	*	*	*	*	*	*	The Agency hosted the launch of HEMS and contributes to the HEMS Newsletter. ISSUE LEADER - Laura Oliphant	
24	Develop a consistent approach to enforcement.	EA		Review the situation and assess the implications in light of national policy development.			*	*			A draft paper has been produced on the inconsistencies in the approach to the migration of commercial eel fishery between Anglian, North East and Midland. This paper identified a very complex position which will most probably require legislation to resolve. The final paper will soon be produced and will identify the way forward for the Humber. ISSUE LEADER - Irven Forbes	

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
25	Discourage land reclamation.	EA LPAs	EN	Liaise with Local Planning Authorities to monitor and discuss proposals for land reclamation .	*	*	*	*	*	*	<p>Meetings have been held between the Agency and the unitary authorities regarding land use, planning issues and the issues identified in the relevant CMPs/LEAPs. The North Lincolnshire and North East Lincolnshire Councils will be publishing Deposit Development Plans this year and early consultation will help to ensure the Agency interests are fully taken into account in the planning process.</p> <p>ISSUE LEADER - John Pygott</p>	<p>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.</p> <p>5) There is a need to protect people, property, key areas of land and 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.</p>
26	Prevent the pollution of surface water and ground water from contaminated land and closed landfill sites, whilst encouraging the re-use of such land.	EA LPAs	Developers	Negotiate with and persuade LPAs and developers to ensure pollutants are removed from site, neutralised or effectively contained.	*	*	*	*	*	*	<p>Re-development of contaminated land - Local Authorities and the EA have common interests in restoration of contaminated land. Local Authorities have the primary responsibility and frequently consult the Agency about former land use e.g. Waste disposal and pollution risks. Additionally, when statutory guidance, due to be produced shortly is implemented, Local Authorities may ask the Secretary of State to designate areas of contaminated land as 'special'. Ensuring appropriate remediation of the 'special sites' becomes the responsibility of the Environment Agency. By working together, the Environment Agency and Local Authorities should require that contaminated land remediation programmes do not cause pollution and follow consistent guidelines with regard to risk assessment and environment impact.</p> <p>ISSUE LEADER - Matt Whitehead</p>	<p>9) There is a need to promote more widely the benefits of reclaim of areas of contaminated land, to reduce the pressure on green field sites, and to promote redevelopment for economic use and environmental gain.</p>

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
27	Prevent pollution of surface water and ground water by hazardous materials.	EA LPAs Developer/ Site owner and operator		Ensure that high risk sites are located in areas where pollutants can be easily excluded from surface water and ground water.	*	*	*	*	*	*	<p>The Humber Catchment Plan area currently benefits from industrial growth. This brings with it increased risk of pollution from land based development and increasing sea borne trade. Areas of catchment are heavily industrialised. Transport links serving these areas pass over strategically important water resources assets.</p> <p>Protecting the environment from the effects of pollution caused by poor storage facilities and accidents is a significant ongoing challenge for the Agency. Every opportunity to promote best practise and encourage pollution prevention measures through effective land use planning is being taken.</p> <p>ISSUE LEADER - Brian Taylor</p>	8) There is a need to promote more widely the benefits of waste minimisation.
		EA LPAs Site Owner Developer	HSE	Ensure design and construction minimise risk and that appropriate pollution prevention and control equipment are in place and tested.	*	*	*	*	*	*		
		EA Emergency Services LPAs (Emergency Planning Site ops)	HSE	Ensure adequate emergency procedures are in place and publicised and tested.	*	*	*	*	*	*		
28	To increase EA influence in the Town and Country planning process. Encourage environmental enhancements as part of development and redevelopment.		DoE LPAs	Contribute to the formulation of National Planning Policy and Regional Guidance.	*	*	*	*	*	*	<p>Memorandum of understanding have been agreed between the Agency and the Local Authority Associations to promote a more co-ordinated approach and better integration of our work. In addition, new 'Guidance Notes for Local Planning Authorities on Methods of Protecting the Water Environment through Development Plans' are currently being developed. It is hoped that these will be ready for distribution early 1998.</p> <p>In March 1997, the Environment Agency published the 'Liaison With Local Planning Authorities'. This manual is intended to help Local Authority Planners in their day to day contact with the Agency. The HEMS consultation identified the need for strategic land use planning as one of the main issues for the future management of the Estuary.</p> <p>ISSUE LEADER - John Pygott</p>	1) There is a need for a strategic planning framework which will guide co-ordination and co-operation between all organisations with the responsibility for planning and management of land and water use activities in the HEMS area.
				Negotiate the inclusion of EA interests in LPA Development Plan policies.	*	*	*	*	*	*		
			IDBs Developers	Agree the inclusion of EA requirements in decisions on planning applications. Negotiate with developers directly and in conjunction with LPA's.								

[illegible]

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
30	Ensure that decisions involving use of more and larger vessels take full account of the environment.	HCC LPAs	ABP EA HCC Other LPAs Port operators	Study growth in shipping trade and the effects on the local economy, and predict impact on the water environment.	*	*	*	*	*	*	Transportation by land and sea, of goods/ raw materials which have the potential to cause pollution, is increasing. Pollution risks associated with these activities must be carefully assessed. Storage facilities must also have regard to the precautions which should be taken to prevent pollution occurring as a result of accidents/ poor management. Dealing with accident/ emergencies arising from transportation and storage activities will be incorporated into the review of emergency planning. Routine inspection and preventative actions could be incorporated into operator work programmes. Issue Leader - John Sweeney	6) There is a need to integrate the conservation and enhancement of the internationally important sites (SPA) on the Estuary with the development of ports and industry.
		EA		Liaise with LPAs, ABP and operators.	*	*	*	*	*	*		
		EA	LPAs ABP	Ensure environmental assessment is made of all proposals for new facilities.	*	*	*	*	*	*		

No.	OBJECTIVES	RESPONSIBILITY		ACTION	ACTION PERIOD						PROGRESS TO DATE	HEMS OBJECTIVES KEY NOTES
		LEAD	OTHER		95/96	96/97	97/98	98/99	99/00	Future		
31	NEW ISSUE To minimise the impact of waste disposal upon the environment.	EA	Gov't	<p>Promote and implement waste reduction and minimisation processes in industry, commerce and domestic environs.</p> <p>Encourage waste recovery techniques such as recycling, composting and energy production.</p> <p>Improve awareness of waste recycling opportunities by publicity and education.</p>	*	*	*	*	*	*		Issue Leader - John Sweeney
32	NEW ISSUE Our ability to manage the Humber and its environmental assets is hampered by an incomplete understanding of the influences impacting upon it.	EA English Nature		<p>Develop long term co-ordinated monitoring strategy which encompasses the conservation designation of the Estuary.</p> <p>To review all monitoring work and identify future monitoring needs.</p>			*	*				Issue Leader - Nigel Pask

Appendix 1

Humber CMP Issues

- 1&2. To develop and apply a methodology to set Minimum Residual Flows to the Estuary for the Trent and Ouse which balance all water users.
3. The level of accuracy of gauging of freshwater flows to the Estuary needs to be improved
4. Water quality of the tidal Ouse requires improvements
5. Cleethorpes bathing water fails to comply with the European Bathing Water Directive.
6. Every opportunity should be taken to reduce the discharge of Dangerous Substances to the water environment. These substances may enter the food chain within the Estuary and the North Sea.
7. Data are required to assess the eutrophic status of the Humber Estuary and its adjacent coastal water for Urban Wastewater Treatment Directive and North Sea Declaration purposes.
8. Different Standards of flood protection are ascribed to adjacent lengths of flood defence because the responsibility for flood defences rests with a number of organisations
- 9&10.
 - a) The structural integrity of the flood defences is diminishing as they reach the end of their useful life.
 - b) Existing flood defence standards are being reduced by rising sea levels increasing the frequency at which they will be overtopped and breached.
 - c) Flood defences are threatened by increased wave attack brought about by the erosion of the foreshore
- 11&12. It is believed that there is now a net loss of sediment from the Estuary which has an adverse effect upon foreshore levels.

Increased understanding of the processes would enable appropriate decision making.
13. Development and upgrading of land behind the defences may be inappropriate for the current level of protection afforded.
14. Opportunities exist to improve the conservation status of the Estuary.
15. Silt built up in havens inhibits land drainage and restricts access to recreational craft.
16.
 - a) The significant archaeological resource of the Humber Wetlands is at risk from development and realignment of flood defences
 - b) Humber Wetlands have been afforded greater protection recently, but are potentially still at risk.
18. Shellfish harvested from three designated areas under the EC Shellfish Hygiene Directive, require treatment prior to human consumption due to contamination by bacteria
19. Flounder populations have declined on watercourses where free access from the Estuary had been restricted
20. Insufficient information exists on fish species in tidal rivers and the Humber Estuary
21. The run of migratory salmon through the Humber Estuary has declined since the 19th Century
22. The recreational potential of the Estuary is not fully developed.

Sub Issue 1: A co-ordinate strategy for the managed development of recreational uses within the Estuary is required.
Sub Issue 2: Access is restricted on some embankments particularly to disabled persons.
23. The educational value of the Estuary has significant potential for future development.

24. Enforcement of the Commercial Eel Fishery is not consistent.
25. The potential to reclaim land along the Estuary poses a threat to its flora and fauna.
26. Development of areas of contaminated land has the potential to pollute, but provides opportunities to clean up existing problems
27. Development involving the controlled storage and transportation of hazardous materials within the catchment may create a pollution and health and safety risk.
28. There is a need to influence Local Planning Authorities to ensure that EA interests are considered in the Town and Country planning process
29. People, property and land are at risk from tidal flooding from the River Humber. Forecasting and dissemination of flood warnings to the public could be further developed.
30. The amount of sea-borne trade and the size of vessels are both set to increase, and their effects need to be taken into account in environmental protection and flood defence.

Appendix2

HEMS Key Issues.

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.
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.
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.
4. There is a need to respond to predicted rates of sea level rise and coastal squeeze
5. There is a need to protect people, property and key area 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.
6. There is a need to integrate the conservation and enhancement of the internationally important sites (SPA) on the estuary with the development needs of Ports and Industry
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
8. There is a need to promote more widely the benefits of waste minimisation
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.
10. There is a need to ensure the sustainable economic development of the estuary's Ports, Wharves and Industrial base.
11. A framework is needed to guide recreational management of the estuary and its environs so as to ensure integration with other estuary interests.
12. There is a need to ensure that current and future tourism on the Humber is on a sustainable basis.
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 the management of the estuary.

GLOSSARY OF TERMS AND ABBREVIATIONS

Abstraction	The removal of water from any source, either permanently or temporarily, usually by pumping.
Agrochemicals	Chemical substances used in agricultural production including fertilisers, herbicides, fungicides and insecticides.
Algae	Microscopic (sometimes larger) plants, which may be floating or attached. Algae occur in still and flowing water.
Ammonia	A chemical compound found in water often as a result of pollution by sewage effluents. It is widely used to determine water quality. Ammonia detrimentally affects fish.
AMP (Asset Management Plan)	Means by which the water undertakers plan the work required and capital expenditure necessary for improvements and maintenance of the water supply, sewage treatment works and sewerage systems. AMPs are drawn up through consultation with the Environment Agency and other bodies to cover a five year period. AMPs have to be agreed by DoE and OFWAT.
AOD (Above Ordnance Datum)	Land levels are measured relative to the average sea level at Newlyn in Cornwall. This average level is referred to as 'Ordnance Datum'. Contours on Ordnance Survey maps of the UK show heights in metres above Ordnance Datum. Synonymous with the term mAOD where the 'm' qualifies the units of metres.
Breach	A failure of a flood defence.
Catchment	The total area from which a single river system collects surface run-off.
Coastal and Estuarine Working Party Classification	A historical summary of the quality of estuarine waters based on points away biological, aesthetic and water quality. Will be overtaken by coastal/estuarine GQA.
Coliform (Faecal Coliforms)	A group of bacteria distinguished by their ability to degrade lactose to produce acid and gas. They are used as indicators of possible contamination of water by sewage.
Dangerous Substances	Substances defined by the European Commission as in need of special control. This is because they are toxic, accumulate and concentrate in plants and animals, or do not easily break down into less dangerous substances. They are classified as List I or List II.
Development Plans	(Local Plans, Structure Plans) - Planning documentation which makes provision for the control of the use of land through structure plans, local plans and the grant or refusal of planning permission.
Dioxins	A group of 210 closely related chemicals which can be formed as by-products in some chemical processes and in various combustion processes such as waste incineration and coal burning.
EC Bathing Beach	Beach which meets criteria defined by EC Directive concerning the quality of bathing waters.
Effluent	Liquid waste from industry, agriculture or sewage treatment plants.
Eutrophication	The enrichment of water by nutrients, especially nitrogen and/or phosphorous, which cause: accelerated growth of algae and high plant life: changes in the ecological balance and deterioration in water quality.
Fauna	Animal life.
Flora	Plant life.

Fluvial	Relating to the freshwater river.
General Quality Assessment	A new scheme replacing the NWC Classification system. It provides a means of assessing and reporting environmental water quality in a nationally consistent and objective way. The chemical grades for rivers introduced in 1994 uses BOD, Ammonia and Dissolved Oxygen limits for water quality with:- A & B (Good); C & D (Fair); E Poor and F (Bad). Other grades for estuarine and coastal waters are being developed; and aesthetic components will be measured and graded by a system under trial now.
Heavy Metals	A loose term covering potentially toxic metals used in industrial processes. [Elemental metals having a high relative density and properties that may be hazardous in the environment. The term usually includes the metals copper, nickel, zinc, chromium, cadmium, mercury, lead, arsenic and may include selenium and others.]
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.
Internal Drainage Boards (IDBs)	Authorities responsible for dealing with land drainage within a district. They are primarily concerned with agricultural land drainage but also may be involved with water supply to their district for agricultural purposes.
IPC Authorisation	An authorisation issued by Her Majesty's Inspectorate of Pollution prescribed by the Environmental Protection Act 1990 covering certain operation of processes.
IPPC Directive	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.
Local Agenda 21	At the Earth Summit in Rio de Janeiro in June 1992, world leaders signed a global environment and development action plan called Agenda 21. The majority of Agenda 21 cannot be delivered without the commitment and cooperation of local government. Each local authority is encouraged to adopt its individual Local Agenda 21 - its own sustainable development strategy at the local level, involving partnerships with other sectors, such as the Environment Agency, businesses, community and voluntary groups.
Local Environment Agency Plans	The title chosen to replace Catchment Management Plans with effect from the 1 April 1996. A plan which integrates all functions of the Agency to provide a strategy to manage a catchment.
Local Plan	Planning documents which related the policies of the structure plan (which set out the policies and general proposals for the development and other use of land) to precise areas of land.
Minimum Residual Flow (MRF)	Target flow set locally and not legally defined.
Nutrient	Substance providing nourishment for plants and animals eg nitrogen, phosphorus.
OSPARCAM	Oslo Paris Commission - involved in monitoring nutrients in the North Sea.
Prescribed Process	Under IPC, processes described in regulations, that are the most potentially polluting or technologically complex industrial and other
Re-cycle	The reprocessing of used materials for further use.
Re-cycling Centre	A place where the public can bring things to be collected for re-cycling.
Reuse	The process in which used materials are used again.
Riparian Owner	Owner of riverbank and/or land adjacent to a river. Normally owns river bed and rights to midline of channel.

Saline Lagoons	A salty body of water cut off from the open sea by sandbars or coral reef.
Salmonids	Game fish eg. trout and salmon
Storm Tide Warning Service	Funded by the Ministry of Agriculture Fisheries and Food, a branch of the Meteorological Office with particular responsibility for predicting the size and warning of tidal surges.
Sustainable Development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
Trade Discharges	The discharge of untreated liquid waste from a commercial process/premises.
Transfer Stations	A place where refuse, collected from premises, is compacted into large containers and transported onward for disposal
Treatment Plants	A place where discharge is collected and treated with chemicals that is then released
Volatile Organic Compounds	Organic compounds which evaporate readily and contribute to air pollution directly or through chemical or photochemical reactions to produce secondary air pollutants.
Waste Minimisation Initiatives	Initiatives set out to help minimise waste by re-cycling, reusing and reducing waste products.

NEW ISSUES

ISSUE 31

There is a need to improve waste management so as to reduce the financial and environmental impacts of waste disposal for this and future generations.

Background

The scale of industrial activity in this plan area is such that it generates unusually high quantities and varieties of waste, this emanates not only from large industrial concerns, but also from smaller industrial units.

The financial and environmental cost of disposing of waste is increasing. Finding suitable landfill sites in locations which match waste generation trends *and* do not pose a threat to the environment, or other important assets e.g. Water supplies, is already a challenge for this generation. Future generations will find this challenge even more demanding. To reduce the financial and environmental burden associated with waste management, industry must begin to rigorously analyse the consequences of its actions in the goods it produces, purchases and disposes of. To accomplish these tasks, lifecycle analysis of products and production methods must be undertaken with a special emphasis on minimising waste both in terms of its quantity and potential to pollute. Additionally, consumption of natural resources must be closely evaluated to ensure that non renewable assets are being managed wisely.

ISSUE 32

Our ability to manage the Humber and its environmental assets is hampered by an incomplete understanding of influences impacting upon it.

Background

The Humber is subject to a whole range of influences which impact upon the quality of its waters, its geomorphology and its flora and fauna. These include sediment movement within the estuary, the quality of discharges from rivers, rising sea levels, climate and tidal influences. To assist in the management of the Humber, a number of scientific studies and monitoring works have been undertaken by the Agency and a range of other organisations and bodies. This information is as important as it provides a background against proposals which may affect the estuary can be estimated, or the effects of management or natural changes assessed.

The designation of part of the plan area as a candidate Special Area of Conservation (SAC) will create the need for further monitoring and this will be co-ordinated by English Nature under the Scheme of Management (SoM). This monitoring will provide baseline data and indicate whether or not the requirements of the directive are being met.

There remains concern, however, that there is insufficient information available for the Humber upon which to base judgements of environmental change. Knowledge of all the freshwater inputs into the Humber, for example, is incomplete - particularly with respect to the levels of nutrients. Knowledge of sediment movement in the estuary is also poorly understood.

Abbreviations

ABP	Associated British Ports
AOD	Above Ordnance Datum
AWS	Anglian Water Services
BATNEEC	Best Available Techniques Not Entailing Excessive Costs
BPEO	Best Practical Environmental Option
Co Co	Countryside Commission
DoE	Department of the Environment
EFDMP	Estuary Flood Defence Management Plan
EH	English Heritage
EN	English Nature
ESMP	Estuary Shoreline Management Plan
ETBPP	Environmental Technology Best Practice Programme
GQA	General Quality Assessment
HCC	Humberside County Council
HEMS	Humber Estuary Management Strategy
IDB	Internal Drainage Board
IPC	Integrated Pollution Control
LA	Local Authority (County, Borough or District Council)
LPA	Local Planning Authority
MAFF	Ministry of Agriculture Fisheries and Food
MRF	Minimum Residual Flow
NFU	National Farmers Union
OSPARCOM	Oslo Paris Commission
PML	Plymouth Marine Laboratory
RSPB	Royal Society for the Protection of Birds
SMP	Shoreline Management Plan
STW	Sewage Treatment Works
STW	Storm Tide Warning
UWWTD	Urban Waste Water Treatment Directive