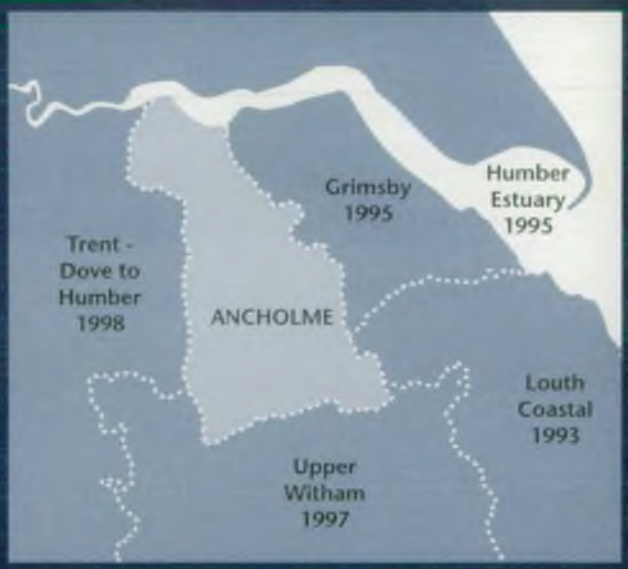
catchment management plan



RIVER ANCHOLME

action plan

August 1996

ENVIRONMENT AGENCY

KEY DETAILS

Population	approx. 35,000	
Area	618 km^2	
Ground Levels	Maximum	100m ODN
	Minimum	2m ODN
	Highest Recorded Tide (Jan '78)	5.35 ODN

ADMINISTRATIVE DETAILS

County Councils	Lincolnshire
Unitary Authorities	North Lincolnshire North East Lincolnshire
District Councils	West Lindsey
Borough Councils	Scunthorpe
Navigation Authorities	Environmental Agency 33km
Environment Agency	Anglian Region - Northern Area Lincs Catchment
Water Company	Anglian Water Services Ltd
Major S.T.W	Brigg Broughton Market Rasen Winteringham
Internal Drainage Board	Ancholme

Settlements (> 1000 population)	Brigg	5862
	Broughton	4806
	Caistor	2931
	Market Rasen	3496
	Middle Rasen	1402
	Winteringham	1050
	Winterton	5249

Utilities	East Midlands Electricity
	British Gas
	British Telecom
	Anglian Water Services

WATER QUALITY

General Quality Assessment of Rivers	GQA Grade	Km
	A	8.2
	B	59.1
	C	5.9
	D	26.4
	E	23.9
	F	0

WATER RESOURCES AVAILABILITY

Ground Water	All available resources (Lincolnshire Limestone) are fully commited.
Surface Water	There is some scope for development utilising resources which can be made available by taking advantage of the Trent Witham Ancholme river transfer scheme. Apart from this resource, water is only available for abstraction during the winter period.

FLOOD PROTECTION

Length of Statutory Main River	188km
Length of EA Tidal Defences	11km

FISHERIES

Length of coarse fishery	66km
Length of trout fishery	7km

CONSERVATION

Sites of Special Scientific Interest	17
Sites of Nature Conservation Interest	28
Nature Reserve	3
Scheduled Monuments	20

FOREWORD

The Environment Agency was established in 1996 from the National Rivers Authority, the Waste Regulation Authority and Her Majesty's Inspectorate of Pollution. It's primary aim is to obtain significant and continuous improvements in the quality of air, land and water, in order to play it's part in attaining the objective of sustainable development. Any reference to activities undertaken by the Agency in this document includes works undertaken by our predecessor organisations.

The Agency is to continue to use the former NRA's integrated environmental management mechanism for forward planning. Catchment Management Plans (CMPs) instigated by the National Rivers Authority will continue to be called Catchment Management Plans, although new Plans initiated by the Agency will be known as Local Environment Agency Plans.

This Action Plan sets out the Agency's strategy for dealing with the issues identified in the NRA's Consultation Document for the River Ancholme Catchment which was publicly launched in January 1996. The Plan was prepared after full consultation with the public and other organisations with an interest in the water environment including local industry and the farming community.

It is intended that this water based plan will be revised over the coming years to reflect the wider responsibilities of the Agency by incorporating environmental issues relevant to air and land in addition to those of water.

CONTENTS

Horkstow Bridge

CATCHMENT AREA

Front Cover: South Ferriby Lock and Sluice

1.0 VISION

This Catchment is home to approximately 46,000 people. The Agency's vision for it is to create a pleasant and sustainable environment where people can live and work. This will involve the protection of high quality habitats and, where appropriate, work towards enhancing the environment.

Over the last few centuries man's activities have fundamentally influenced and altered the landscape of this catchment to create productive arable farmland. The fenland/meadow land that would once have dominated the landscape has all but disappeared. The Agency's challenge in this catchment is not to turn the clock back. It is to redress the balance and improve the conservation value of the Catchment, whilst achieving the sustainable management and protection of the quality and quantity of surface and groundwaters, the provision of effective flood defences and the development of recreational potential.

Within the 5 year life of this Plan the Agency will work with it's partners aim to achieve the following key actions which will represent a significant step towards improving the environment of this catchment:

- **to improve the standard of protection from tidal flooding at South Ferriby, Winteringham and Whitton, and from fluvial flooding along the River Rase at Market and Middle Rasen;**
- **to improve the diversity of habitats and associated plant and animal species; to integrate the needs of flood defence and conservation;**
- **to minimise the impact of saline intrusion on watercourses;**
- **to maintain and improve water quality;**
- **to maintain navigation passage through South Ferriby Lock;**
- **to continue to operate and effectively manage the Trent-Witham-Ancholme Water Transfer Scheme;**
- **to maintain and improve fish populations;**
- **to co-ordinate the recreational demands on the catchment.**

The successful future management of this catchment depends both on regulatory bodies, such as the Agency and Planning Authorities, targeting their resources where they are most needed, and on others, whether lead organisations or individuals, to become more aware of the impact of their actions on the environment.

The Agency will continue to foster and encourage strong links with local communities and their representatives to ensure that local views are respected, and to press for future development decisions to reflect our vision for this catchment.

Ron Linfield
Area Manager (Northern Area)

2.0 INTRODUCTION

The rivers, lakes, estuaries, aquifers and coastal waters of England and Wales are subject to large, and in some cases, rapidly increasing pressures from the users of water. Many different uses interact or compete for water and will inevitably come into conflict with one another. The Agency has to manage such conflicts.

The Agency's aims are:

- **to achieve significant and continuous improvement in the quality of air, land and water, actively encouraging the conservation of natural resources, flora and fauna;**
- **to maximise the benefits of integrated pollution control and integrated river basin management;**
- **to provide effective defence and timely warning systems for people and property against flooding from rivers and the sea;**
- **to achieve significant reductions in waste through minimisation, reuse and recycling, and improve standards of disposal;**
- **to manage water resources to achieve the proper balance between the needs of the environment and those of abstractors and other water users;**
- **to secure, with others, the remediation of contaminated land;**
- **to improve and develop salmon and freshwater fisheries;**
- **to conserve and enhance inland and coastal waters and their use for recreation;**
- **to maintain and improve non-marine navigation;**
- **to develop a better informed public through open debate, the provision of soundly-based information and rigorous research;**
- **to set priorities and propose solutions that do not impose excessive costs on society.**

The Agency will work with its partners to progress the actions stemming from the 1992 Earth Summit in Rio de Janeiro on Biodiversity. Together we will work towards a diverse countryside rich in species and habitats.

We have chosen to use Catchment Management Plans to translate our principles into action. The plans describe our vision for each catchment, identify problems and issues, and propose actions that may be taken to resolve them.

Catchment Planning involves the Agency working with local authorities, industry, commerce, water companies, the farming community, special interest groups, and the general public. It promotes environmental awareness and describes real environmental improvements at the local level to meet the community's needs. This integrated approach will enable resources to be targeted where they are most needed.

This Action Plan outlines areas of work and investment proposed by the Agency and other responsible parties over the next 5 years, and will form the basis for improvements to the environment in the Catchment. Progress against the Action Plan will be monitored and reported annually.

Old River Ancholme - Brigg

3.0 REVIEW OF THE CONSULTATION PROCESS

The River Ancholme Catchment Management Plan Consultation Report was published in January 1996. A meeting in Brigg to launch the Plan was attended by representatives from industry, local authorities, environmental groups, sport and recreational groups, and other local groups with an interest in the catchment. This meeting launched the plan for a 3 month period of public consultation.

Prior to the launch, pre-consultation meetings had been held with a number of key organisations as well as the Agency's customer consultative group the Lincolnshire Catchment Panel (now replaced by the Area Environment Group), in order that their views could be taken into consideration at an early stage.

The Consultation Report presents the Agency's vision for the catchment. It gives an overview of the catchment, its current status and catchment targets. Where problems are identified they are included as catchment issues and a full range of options to solve each issue is listed.

Consultees were asked to consider the range and extent of catchment uses and activities, express views on the issues and options, and comment on how the development of strategies and plans should be progressed.

Approximately 270 copies of the Consultation and 565 copies of the Summary documents were distributed during the consultation period, comments were received from 18 organisations and members of the public. A summary of these comments, forms an appendix to this document.

The following is a list of names of organisations who provided written comments on the consultation report:

Nettleton Parish Council

Anglian Water Services

Humberside Archaeology

Mssrs Mouncey - Eel fishermen

The Coal Authority

English Nature

Ancholme Internal Drainage Board

Ministry of Agriculture, Fisheries and Food

National Farmers' Union

Lincolnshire Angling Consultative Association

West Lindsey District Council

Market Rasen Town Council

Lincolnshire Fieldpaths Association

Glandford Boat Club

British Waterways

Mr Thorpe - Farmer

Lincolnshire County Council

Regional Power Generators

The consultation process has given the Agency a more comprehensive understanding of the issues and options presented in the Plan, and of the public's concerns for the Catchment. As a consequence, two new issues have been incorporated in this Action Plan.

Issue 30 relates to the dewatering of mines in the Roxby area.

Issue 31 deals with the difficulty of fish (particularly eels) migration caused by river structures.

Issue 27 has been removed from the Plan. The interpretation of species diversity information, in this and all other catchments in the Region, is being undertaken nationally and regionally.

Catchment Management Plans for the adjacent Louth (August 1993), Grimsby (September 1995), and Humber Estuary (May 1995) Catchments have already been produced. As a consequence of the overlap between the Humber CMP and this Plan, there are issues common to both. Where this is the case, for example, those issues relating to tidal defences and archaeology, the actions to resolve the issues are laid down in the Humber Action Plan. This Plan does not review such issues which have already gone through the Consultation Process.

Over the course of the last year English Nature in conjunction with many other organisations including the Agency, the RSPB and Humberside County Council have developed a Humber Estuary Management Strategy. This Strategy will consider a wider range of matters than the Agency's CMP, for example industry and tourism in the catchment. The Strategy has now been integrated with the Agency's CMP and published as the Humber Estuary Management Strategy.

LEAP's for the Upper Witham and Lower Trent Catchments will be produced during 1997/8. The Agency recognises the links between adjacent Plans and will ensure that they are compatible.

CATCHMENT PLANNING TEAM

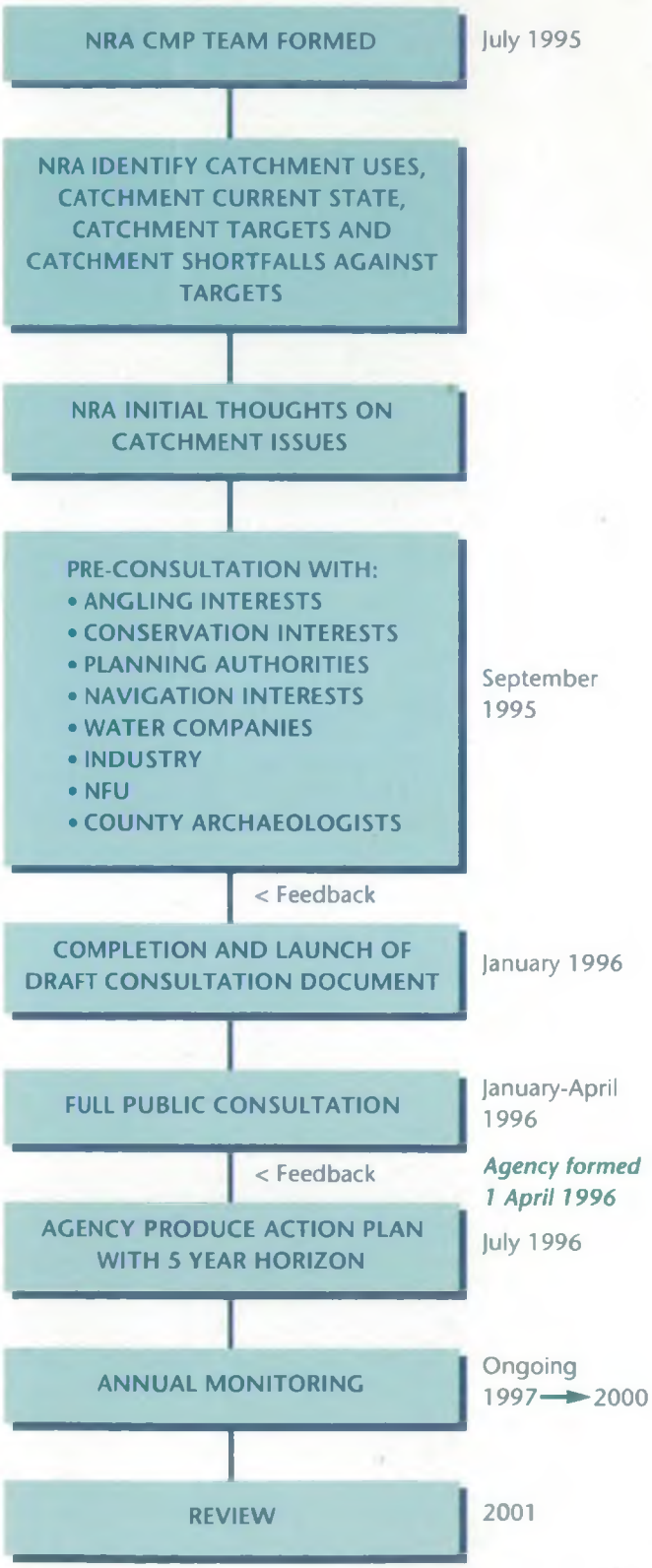
I Forbes	Project Leader/FRCN Manager
R Kisby	Catchment Planning Officer
D Watling	Water Resources
A Court	Water Resources
C Noble	Flood Defence
M Tartellin	Fisheries, Recreation, Conservation & Navigation
D Hawley	Water Quality
J Rollins	Planning Liaison

3.0 REVIEW OF THE CONSULTATION PROCESS

CATCHMENT PANEL MEMBERS - NRA

I Biddick	Humberside County Council
N Playne	Country Landowners Association
T Richards	Lincolnshire Anglers Consultative
T Wilson	Lincolnshire Anglers Consultative
D Carnell	Inland Waterways Association
M Crick	Lincolnshire Trust for Nature Conservation
R Spaight(Chairmn)	Salmon & Trout Association
T Coles	Institute of Environmental Assessment
R Harvey	British Waterways
R B Shields	East Lindsey District Council
C Middleton	West Lindsey District Council
J Shackles	English Nature
R Wardle	Farming and Wildlife Advisory Group
N Boast	Chemical Industries Association
P Bird	Eel Fishermen
P Thompson	Tioxide UK
P Fisher	RSPB
E Smith	Anglian Water Services Ltd
J Dodsworth	Lincolnshire Local Flood Defence Committee
G Keeping	Lincolnshire County Council

THE CATCHMENT PLANNING PROCESS
RIVER ANCHOLME CATCHMENT TIMETABLE



During each of the development stages of this Plan, the Agency has worked in close liaison with it's customer consultative group and other organisations. The Agency would like to acknowledge the help received from these organisations and their representatives who have contributed towards the development of this Action Plan.

4.0 THE RELATIONSHIP BETWEEN LAND USE AND THE WATER ENVIRONMENT

The extensive use of land for agricultural purposes dominates this catchment both in terms of it's economy and in terms of it's impact upon the physical environment.

Agricultural land use can raise a number of conflicts within the water environment:

- **the maintenance practices undertaken on watercourses, and water levels maintained to ensure effective land drainage, have a marked effect upon flora and fauna;**
- **the use of fertilisers may influence water quality through nutrient enrichment. This may increase weedgrowth in surface waters and increase nitrate levels in both ground and surface waters;**
- **installation of field drains can change surface water run-off characteristics and can increase the flood risk to downstream areas;**
- **the abstraction of water affects water levels and river flows.**

To reduce these impacts on the water environment the Government promotes policies such as Countryside Stewardship which encourages farmers to combine their commercial farming practises with conservation awareness. In addition to these measures the Ministry of Agriculture Fisheries and Food (MAFF) are currently identifying areas of land where the application of nitrates by farmers has made an impact on waters used as a source of public drinking water. Farmers in such areas will be required to observe an action programme to reduce nitrate loss from their land.

Changes in land use for general development poses a risk to flora, fauna and habitats and can have an adverse impact upon the water environment through:

i) an increased risk/occurrence of flooding as a consequence of changes to surface water drainage;

ii) an increased risk to water quality such as;

a) from polluting discharges to surface water and groundwaters,

c) from increased pressure upon the sewerage infrastructure;

iii) an increased demand for water for industrial use and for public water supply.

As a planning aid for Local Authorities, the NRA provided a set of statements relating to the broad headings of water quality and water resources, flood defence, fisheries, conservation, recreation and navigation in the river corridor, and mineral workings and waste disposal. These statements were summarised in the NRA's "Guidance Notes for Local Planning Authorities on the Methods of Protecting the Water Environment through Development Plans". This guidance is to be revised to reflect the Agency's wider remit.

Further detailed guidance on areas of concern to the Agency are provided for example, DoE Circular 30/92 "Development and Flood Risk" where a Memorandum of Understanding has been signed by the Local Authorities' representative bodies and the Agency with regard to the scope and timing of providing floodplain maps. Without adequate consultation, there is a risk of inappropriate development in the floodplain and similar areas of constraint. This circular and other Government policy guidance stresses the importance that Local Planning Authorities should attach to the Agency's advice.

Land Drain

At the strategic level, Structure Plans and Unitary Development Plans are at differing stages of progress. In the consultation process, the Agency suggests the inclusion of policies to protect and improve the water environment.

The River Ancholme Catchment is

5.0 OVERVIEW OF THE CATCHMENT

located in North Lincolnshire covering an area of 618 square kilometres. Main tributaries of the Ancholme include the River Rase, North Kelsey Beck, Land Drain and West Drain. The sub catchment of the Winterton Beck is included in the Plan area.

The catchment is situated within the administrative boundaries of Lincolnshire County Council, the new unitary Authority of North Lincolnshire, and the District Council of West Lindsey. Main population centres are at Brigg, Winterton and Market Rasen. The village of Broughton has grown significantly over recent years and a small part of Scunthorpe lies in the west of the catchment. Industry and employment within the catchment is closely allied to the farming sector.

The predominant use of land is for agriculture, with large regular fields of productive and highly versatile soils supporting crops of cereal, potatoes, beet and vegetables. Tree and woodland cover is sparse, particularly to the north of the catchment. Part of the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) falls within the catchment and a number of areas have been identified as Areas of Great Landscape Value, in recognition of the need to sustain and enhance their unique landscape characteristics.

5.1 WATER RESOURCES

Demand for water within the Catchment is met from both groundwater and surface water sources.

The main surface water resource in the Catchment is the River Ancholme which can be augmented by transfers of water from the River Witham (which in turn may be augmented as necessary from the River Trent). This major river transfer scheme, owned and operated by the Agency and known as the Trent-Witham-Ancholme scheme (TWA) was completed in the mid 1970's. The scheme was principally designed to meet the growing demands for water (both water supplies and industrial supplies) along the South Humber Bank (Grimsby Catchment) which could not be met from increased abstraction from the chalk aquifer of the Wolds.

The major abstractors from the River Ancholme are Anglian Water Services, Brigg Power station and British Steel. The Agency can currently consider new abstraction demands direct from the Ancholme, although they would be subject to controls and occasional restrictions.

The Lincolnshire Limestone aquifer is the major groundwater resource in the Catchment. It provides baseflow discharge to the River Ancholme and meets demands for public water supply, industrial agricultural and spray irrigation. The aquifer is now considered to be fully committed and no additional water can be licensed from it.

Apart from the River Ancholme any future demands for water for irrigation purposes will have to be met through development of winter storage reservoirs. Recent dry summers, and in particular the dry summer of 1995, has led to an increased interest in further demands by both existing and new abstractors.

5.0 OVERVIEW OF THE CATCHMENT

5.2 WATER QUALITY

Surface water quality in the Ancholme Catchment (ie that of rivers and lakes) is generally of good to fair quality. In the upper reaches of the Ancholme, and its tributaries, quality is good; but as the river flows more slowly through the fertile Ancholme valley, eutrophic effects generally reduce quality to fair, particularly during periods of low summer flow. The ability to augment the flow in the river during these periods may help to reduce the impact of eutrophication, it also assists in controlling saline ingress into the system through the navigation/tidal structure at South Ferriby.

Water quality has to be protected for a range of water uses, particularly the Anglian Water supply intake on the River Ancholme at Cadney. Water in the catchment is also extensively used for spray irrigation and maintaining high quality fisheries. Water used for livestock watering and industrial water supplies also has to be protected.

The quality of groundwater in the catchment is generally good. However, agricultural activities within the southern part of the Catchment have led to the presence of high nitrate concentrations in surface waters and groundwaters. In places, nitrate concentrations exceed 50 mgl-1 which is the EC Drinking Water Directive and Surface Water Directive Limit. The designation of part of this catchment as a Nitrate Vulnerable Zone will lead to changes in farming practises which should reduce nitrate leaching and hence improve water quality.

Water quality in the lower reaches of the Catchment can be adversely affected by saline ingress through tidal structures. This may affect the suitability of these watercourses for spray irrigation, industrial and potable use and if unchecked would affect both fauna and flora. The Agency manages saline ingress:

- **by operating 'bubble curtains' on the Ancholme, which limit the movement of salt water upstream during periods of low flow.**
- **by operation of the Trent-Witham-Ancholme Transfer, which helps reduce saline ingress from the Humber Estuary by maintaining a flow to tide, during low flow periods.**
- **by the operation of South Ferriby Lock.**

A comprehensive study is underway to evaluate the need or otherwise for additional treatment to sewage effluent discharges to the Estuary. The outcome of this could have implications for sewage discharges in this Catchment.

5.3 FLOOD DEFENCE

The catchment has 11km of tidal defences and 54 kms of embanked watercourse which together protect 64 sq.kms of land against tidal and fluvial flooding.

The tidal defences are earth embankments, the most exposed lengths of which are strengthened with stone revetment. Their condition was adddressed in the Humber Estuary CMP Action Plan which resolved :-

- **to prepare an holistic strategy to provide effective and sustainable Tidal Defences;**
- **to undertake urgent works at Winteringham, Whitton and South Ferriby in advance of the Estuary wide strategy;**
- **to undertake a geomorphological study of the Estuary;**
- **to review current land drainage practices to address the issue of siltation in Tidal Outfalls.**

Within the Catchment - apart from a small number of upland watercourses, two distinct types of drainage systems exist, both of which are entirely artificial.

Land drainage and flood protection in the lowland areas is provided by a network of drains maintained by the Ancholme Internal Drainage Board. The IDB pump some of their waters into the River Ancholme. Along the coastal fringe the Ancholme IDB maintain 6 outfalls which discharge lowland water into the Humber.

Arterial watercourses, maintained by the Agency, carry water from the surrounding hills across the low lying valley floor to outfall into the Humber. Lengths of these watercourses, which include the Ancholme, the Winterton Beck, and the East and West Drains, have been constructed with raised banks. This facilitates the discharge of higher flows following periods of heavy rainfall, and provides storage of flood waters when it's discharge to the Estuary is prevented by high tides.

There is concern regarding the standard of flood defences along the River Rase between Market and Middle Rasen, and along lengths of the Ancholme particularly at and around Brandy Wharf. Studies in progress along both lengths will determine the feasibility of undertaking improvements to these watercourses.

The Agency operates a flood warning system whereby the police and other organisations are advised of areas likely to be affected by flooding. This service is currently constrained by the lack of gauging along a number of watercourses, which makes forecasting difficult.

5.4 FISHERIES

The Ancholme is an example of a typical lowland coarse fishery. Surveys undertaken by the Agency indicate that the fish population in the Ancholme is the highest recorded (by weight) since sampling work began in the early 1980's.

The dominant species found are Roach and Bream, however the studies indicate that a high proportion of the fish population is below 5 years old. This reflects the nature of the fishery where warm, shallow, rich waters result in ideal conditions for the survival of young fish.

In contrast to the Ancholme, surveys of the Winterton Beck, Land Drain and West Drain indicate a relatively poor fishery with both the diversity in fish species and biomass being low.

Since 1989 a decline in fish biomass in the river Rase has been observed. This could be attributed to loss of habitat and the recent drought when many small watercourses were adversely affected by low flow conditions. Fish species present include brown trout, dace, stoneloach, gudgeon and chub.

Parts of the main river Ancholme, some of it's major tributaries and some still waters are fished commercially for eels.

5.5 RECREATION

Recreational use of the River Ancholme is high and demand for it's use is growing. A variety of local groups and individuals take advantage of the opportunities presented by this river system. Representatives of users on this river meet informally to discuss issues and contribute to the management of this recreational resource.

Water based recreational uses involve; angling, motor cruising, canoeing and general recreation. Associated activities include walking, horse-riding and relaxation. Facilities such as disabled fishing pegs, toilets, footpaths and car parks have been provided to support these activities.

Throughout the catchment there are several stillwater fisheries, including the Toft Newton reservoir which is owned and leased out by the Agency. Other fisheries are run in conjunction with caravan holiday parks and provide important tourist facilities for the area. These waters contain both coarse and game fish.

Footpaths are also an important recreational facility within the catchment. The Humber Estuary CMP Action Plan proposed to produce a Management Plan for Agency owned banks, to improve and provide recreation facilities and access where appropriate.

Moorings at South Ferriby

5.6 CONSERVATION

The largest proportion of the Catchment consists primarily of reclaimed fresh and salt water wetlands. Drainage started as early as 1289 for navigation purposes but as late as 1830, five to six thousand acres were still flooded each winter. By the turn of the 20th century the present drainage pattern was largely complete. This man-made system has resulted, however, in an impoverished wetland environment. River corridor and "in-channel" habitat and plant diversity are poor, and fenland habitats are only represented by waterside margins and a small number of abandoned brick pits. The majority of river corridors are under intensive arable farming. In a few places riverside "buffer zones" of trees or grassland significantly increase local conservation value but these form only a small proportion of the Catchment.

The Government, through the Ministry of Agriculture Fisheries and Food is now encouraging farmers to combine their commercial farming practices with conservation awareness. The scheme, called Stewardship allows farmers financial compensation for returning land to a more natural state. This has obvious environmental benefits and in some instances flood defence benefits for the Agency.

The Catchment has a range of features which are of archaeological and architectural interest. These include both Roman remains and more recent artefacts such as the bridges along the River Ancholme, built by Rennie. Many features lie beneath the ground, undiscovered, and at risk both from development and changes in groundwater levels.

Extensive woodland exists along the Lincolnshire Edge in the vicinity of Brigg. Far Wood and Broughton Alder Wood are both Sites of Special Scientific Interest (SSSI's). In the latter, springs emerge feeding the West Drain. In the east of the Catchment, springs are also found along the edge of the chalk Wolds at Elsham Marsh, Site of Nature Conservation Importance (SNCI). Close by, at Wrawby Moor, small areas of woodland and heathland also occur.

The majority of the more swiftly flowing becks and streams in the Catchment are to be found in the south eastern corner feeding the River Rase. These contain lengths with riffle and pool sequences, which are valuable for the biological and habitat diversity they provide. Some areas have been adversely affected by impoundments and land drainage works. Any future proposals to abstract water from these streams will require careful consideration, to assess their impact on the water environment.

River Rase at Tealby

5.0 OVERVIEW OF THE CATCHMENT

Harlam Hull Lock - currently being restored

5.7 NAVIGATION

The river Ancholme is a statutory Navigation between Bishops Bridge near Market Rasen and South Ferriby, where it outfalls into the Humber. There are two lock structures along the 31 km length at South Ferriby and at Harlam Hill. The South Ferriby Lock which is also a Scheduled Monument, links the Ancholme Navigation with the Humber estuary. The lock at Harlam Hill is currently being restored by the Inland Waterways Association and the Agency - consequently the top 4 kilometres (Harlam Hill - Bishops Bridge) is not currently navigable.

There are currently around 200 boats registered on the Ancholme Navigation. The majority of these are sea-going vessels and most of their cruising is through the lock and out to the Humber. River cruisers make up a third of the registered numbers with the remaining craft including canoes and rowing boats. The major attraction for boaters using the Ancholme is that it is 'local' and an easy system to use.

The focal points on the river with respect to navigation moorings and facilities are at South Ferriby, Brigg and Brandy Wharf:

In Brigg the old river channel provides mooring facilities for boats, and footpaths along the river bank allow good public access. As a waterway, recreational boat use is an important feature. Access is provided through the lock at South Ferriby to the Humber, and numerous craft take advantage of the link with Brigg.

The Agency, in partnership with the North Lincolnshire Council, have constructed sanitary facilities and a car park at South Ferriby Lock. The Agency also own and manage 50 moorings at South Ferriby, which together with the 66 moorings at Clapson's Marina enable this area to cater for a significant number of boats.

Elsewhere in the Catchment, a recently constructed marina in Brigg has a number of private moorings, and Glanford Boat Club have 100 moorings at Coaldyke End in Brigg. Moorings and facilities are also available adjacent to the Cider Centre at Brandy Wharf.

6.0 ACTIVITY PLANS

This section sets out the issues identified during the development of this Plan and for each specifies:

- **an overall objective;**
- **the action the Agency proposes;**
- **those organisations with a responsibility towards resolving the issue;**
- **the timescale of proposed actions;**
- **an estimation of the costs involved (where possible).**

It has to be recognised that for some issues identified, the solutions will be achieved within the timescale of this Plan (5 years), and for others it will take considerably longer. Proposed actions may be constrained by changing priorities of both the Agency and "interested parties", and by the availability of resources. All schemes promoted by the Agency are subject to strict cost benefit analysis before they are approved, and in seeking the commitment from other organisations, the Agency will seek to balance the interests of different water users. Given these constraints, the Agency expects the timescales denoted in the Plan will be accommodated.

6.1 INDEX OF ISSUES

Issue 1 Flood protection at certain locations in the catchment are below target standards.

Issue 2 Seven "accommodation" bridges crossing the River Ancholme have an inadequate load bearing capacity.

Issue 3 The standard of flood forecasting provided for Market Rasen, Middle Rasen and West Rasen is inadequate.

Issue 4 Locally inadequate riparian drainage systems result in flooding problems in a number of locations.

Issue 5 Intermittent pollutions of the upper River Ancholme can limit abstraction for public water supply and other uses.

Issue 6 A number of landfill sites in the catchment have the potential to pollute.

Issue 7 A number of watercourses within the catchment fail to achieve their river ecosystem (RE) target class.

Issue 8 Surface water from land contaminated as a result of past industrial practice, adversely affects water quality in the upper reaches of the Winterton Beck.

Issue 9 Inadequate oil storage facilities within the catchment increases the risk of oil pollution, affecting water quality.

Issue 10 The River Ancholme exceeds the nitrate level of 50 milligrammes per litre specified in the EC Surface Water Nitrate Directives.

Issue 11 Water quality of the Lower Ancholme, Land Drain and West Drain is adversely affected by saline intrusion.

Issue 12 Inadequate local sewerage systems result in localised pollution and may have public health implications.

Issue 13 The West Drain at South Ferriby is adversely affected by an industrial discharge.

Issue 14 The provision of services and facilities on the River Ancholme navigation are limited.

Issue 15 The physical structure of South Ferriby Lock has deteriorated and this had the potential to close the navigation.

Issue 16 Boats are unable to cruise the full length of the Ancholme navigation because of the derelict lock at Harlam Hill.

Issue 17 River channels lack habitat diversity and support an impoverished plant community.

Issue 18 The catchment has lost all of its natural fenland habitat.

Issue 19 Conflict exists between the needs of the IDB to maintain all of its gravity outfalls into the Ancholme, and the needs of the Agency to manage river levels for abstractions and environmental purposes.

Issue 20 There is insufficient information available on the environmental effect of groundwater abstraction, in the Waddingham and Redbourne area.

Issue 21 The ability to manage the Trent Witham Ancholme (TWA) Scheme and residual flows to tide, is limited by a lack of information on river flow and day to day information on major abstractions from the lower River Ancholme.

Issue 22 The weight of fish, and the number of fish species fall below target standards, along lengths of the West Drain, Winterton Beck, River Rase, the Land Drain, and in certain locations on the main River Ancholme.

Issue 23 This issue has been combined with Issue 22.

Issue 24 The current development and growth of recreational demands within the catchment are unco-ordinated.

6.0 ACTIVITY PLANS

Issue 25 Members of the public do not appreciate the dangers associated with swimming in rivers.

Issue 26 Changes in land use and development, pose a risk to the sustainability of the environment.

Issue 27 Issue removed following consultation.

Issue 28 Recreation and navigation on the River Ancholme is restricted at times by excessive weed growth.

Issue 29 The management of the river levels in the River Ancholme takes no account of prevailing "catchment" conditions.

Issue 30 Changes in the dewatering operation of underground mines at Dragonby and Santon may impact upon the local water environment.

Issue 31 The migration of fish in the catchment is hampered by river structures.

6.2 ISSUES

ISSUE 1

FLOOD PROTECTION AT CERTAIN LOCATIONS IN THE CATCHMENT ARE BELOW TARGET STANDARDS.

BACKGROUND

RIVER RASE

High flows in the River Rase caused flooding of properties in 1981 and 1993. Investigations have identified that events greater than a 1 in 20 year return period will cause flooding in the future. A feasibility study carried out during 1995 has identified flood storage upstream of Market Rasen as the preferred option for providing flood protection. The implementation of this scheme is dependent on agreements with landowners and necessary funding being obtained.

RIVER ANCHOLME AND TRIBUTARIES

The frequency of flooding of agricultural land alongside the Ancholme and its tributaries culminated in the event of 24/26 April 1981 when about 6500 acres (2500 hectares) of land were flooded for periods of up to 6 weeks. This was caused by a combination of changing patterns of cultivation and drainage, the banks being too low in places, and breaches of the banks caused by seepage through or underneath the banks when river levels were high. The town of Brigg is at some risk of flooding but has escaped largely because breaches elsewhere have lowered river levels during floods.

Since a scheme designed in 1982 was postponed, the standard of protection has deteriorated further.

Objective	Action	Responsibility Lead	Responsibility Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Provide effective defence for people and property against flooding.	Promote an improvement scheme, to provide target standards of flood protection to Market, Middle and West Rasen.	Environment Agency/ MAFF		■	■					450 (C)
	Carry out a study into existing standards of defence on the River Ancholme and its tributaries.	Environment Agency		■	■					20-50 (C)
	Consider any shortfalls against target standards and decide on an appropriate strategy to improve flood defences.	Environment Agency/ MAFF		■	■					
	Implement strategy for River Ancholme/ tributaries.	Environment Agency/ MAFF				■	■	■		TBE

MAFF (C) = Capital Costs (R) = Revenue Costs TBE = To be estimated

6.2 ISSUES

ISSUE 2

SEVEN "ACCOMMODATION" BRIDGES CROSSING THE RIVER ANCHOLME HAVE AN INADEQUATE LOAD BEARING CAPACITY.

BACKGROUND

The Agency is responsible for seven bridges crossing the River Ancholme by virtue of The Ancholme Act 1767. All were built between 1840 and 1890, and have timber decks. Five of the bridges are listed Grade 2 structures. In addition to having footpaths or bridleways crossing them, adjacent landowners have rights of access over the bridges for farm vehicles. Analysis of their load bearing capacity by modern codes of practice, has resulted in them being classified as unsuitable for vehicular traffic. Bridge users have been advised of the situation by the provision of warning signs.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Ensure that Agency satisfies its statutory obligations under the 1767 Ancholme Act.	Improve the following bridges to acceptable load bearing capacities: HORKSTOW SAXBY BROUGHTON CASTLETHORPE CADNEY HIBALDSTOW SNITTERBY	Environment Agency/ MAFF	LA	■	■					300 (C)

(C) = Capital Costs

ISSUE 3

THE STANDARD OF FLOOD FORECASTING PROVIDED FOR MARKET RASEN, MIDDLE RASEN AND WEST RASEN IS INADEQUATE.

BACKGROUND

120 properties in Market Rasen, Middle Rasen and West Rasen were flooded in April 1981, and around 60 properties were affected in October 1993.

Because of a lack of flow gauging in the River Rase and Rainfall Recording Sites within the Rase catchment area, it is not possible to provide adequate warning of such events. As a result, damage is caused which could otherwise be avoided.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Provide advanced warning of floods, in order that flood damages may be minimised.	Provide additional rain and flow gauging sites on telemetry.	Environment Agency/ MAFF			■					20-50 (C)
	Issue warnings of predicted flooding via local radio/television	Environment Agency	Local radio	■	■	■	■	■		(1)

(C) Capital Costs (1) Internal operational costs

6.2 ISSUES

ISSUE 4

LOCALLY INADEQUATE RIPARIAN DRAINAGE SYSTEMS RESULT IN FLOODING PROBLEMS IN A NUMBER OF LOCATIONS.

BACKGROUND

There are locations within the catchment such as Redbourne and Owmby which suffer from, or at risk of flooding from non-main rivers. This results as a consequence of insufficient maintenance of riparian watercourses, inappropriate culverting and the insufficient capacity of watercourses to accommodate the increased surface water run-off which may follow development.

Ultimately, the responsibility to deal with these problems lie with the riparian owner. Local Authorities who have supervisory powers to resolve this problem are increasingly reluctant to do so because of its resource implications and/or the lack of expertise.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To reduce the incidence of local flooding from riparians drainage systems and encourage a greater understanding of responsibilities for non-main river watercourses.	Agree consistent approach and actions with bodies having responsibilities and power under the Land Drainage Act 1991.	Environment Agency	District and County Councils/ IDB/Riparian owners	■	■	■	■			Costs depend on actions required to resolve individual problems
	Produce information brochures for public education.	Environment Agency	District and County Councils /IDB	■	■	■	■			1 p.a. (1)

(R) = Revenue Costs (1) = Internal Costs

6.2 ISSUES

ISSUE 5

INTERMITTENT POLLUTIONS OF THE UPPER RIVER ANCHOLME CAN LIMIT ABSTRACTION FOR PUBLIC WATER SUPPLY AND OTHER USES.

BACKGROUND

The River Ancholme is used extensively for public water supply, industrial use, spray irrigation and other uses.

Intermittent pollutions on the River Ancholme can affect these uses.

Despite investigation by the Agency, the source of those pollutions have not been established and the threat to the reliability of abstraction remains.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To improve early warning of pollution incidents.	Provide an automatic Water Quality Monitoring Station upstream of the PWS intake.	Environment Agency		■						60 (C)
To improve water quality.	Identify the sources of intermittent pollution and prevent their recurrence.	Environment Agency		■	■	■	■	■	■	TBE

(C) = Capital Costs (TBE) = To be estimated

6.2 ISSUES

ISSUE 6

A NUMBER OF LANDFILL SITES IN THE CATCHMENT HAVE THE POTENTIAL TO POLLUTE.

BACKGROUND

The Agency is now responsible for regulating the treatment, storage and disposal of wastes arising from industrial household and commercial uses. By far the greatest portion of such waste (70% nationally) is sent to landfill. However, regardless of how well landfill sites are located and engineered they still have the potential to release chemicals into surface and underground water and soil.

There are 24 Landfill Sites in the Catchment, some of which have caused pollution problems in the past. Leachate produced in some of these sites is highly polluting if allowed to enter either surface or groundwater.

Some landfill sites have closed, others are still operating.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Identify pollution problems from open and closed sites.	Site inspections.	Environment Agency/ District Councils		■	■	■	■	■	■	3-4 p.a. (R)
Reduce risk of pollution in operational sites.	Promote improved management of leachate and initiate remedial measures, where appropriate.	Environment Agency/ Site Owner/ Operator		■	■	■	■	■	■	TBE
Ensure that pollution prevention measures are incorporated into future developments.	Provide effective input into planning and Waste Management Licence Applications.	Environment Agency	Local Councils	■	■	■	■	■	■	1 p.a. (R)
Reduce the amount of waste to be disposed.	Promote waste minimisation/ recycling.	Environment Agency	Local Councils	■	■	■	■	■	■	TBE
Ensure better use of monitoring information.	Review existing monitoring data. Encourage operators to produce an annual report on the status of their site.	Environment Agency/ Site Operator		■	■	■	■	■	■	1 p.a. (R)

TBE = To be estimated (C) = Capital Costs (R) = Revenue Costs

6.2 ISSUES

ISSUE 7

A NUMBER OF WATERCOURSES WITHIN THE CATCHMENT FAIL TO ACHIEVE THEIR RIVER ECOSYSTEM (RE) TARGET CLASS.

BACKGROUND

The Land Drain, Old River Ancholme, Winterton Beck and North Kelsey Beck fail to achieve their respective RE target class. The majority of failures against Water Quality targets are due to low dissolved oxygen levels associated with eutrophic conditions. Other failures appear to be due to single, exceptional results that require further investigation.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Achieve compliance with Water Quality Standards.	Investigate analytical results for Winterton Beck, Old River Ancholme and North Kelsey Beck.	Environment Agency		■						(1)
	Identify the factors affecting eutrophication in the Land Drain and elsewhere in the catchment.	Environment Agency		■	■					(1)
	Review action to reduce eutrophication.	Environment Agency			■	■				(1)
	Provide a step approach to achieving suitable long term targets, by setting interim RE Targets where appropriate and review existing long term targets.	Environment Agency		■						(1)

(1) = Internal operational costs

ISSUE 8

SURFACE WATER FROM LAND CONTAMINATED AS A RESULT OF PAST INDUSTRIAL PRACTICE, ADVERSELY AFFECTS WATER QUALITY IN THE UPPER REACHES OF THE WINTERTON BECK.

BACKGROUND

The upper reaches of the Winterton Beck flows through an old blast furnace site. Water Quality is affected by high pH levels, and the bed of the watercourse is covered with a white precipitate which affects the visual appearance of the Beck.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Improve water quality and visual appearance.	Reclamation of site to include removal of contaminated material.	Site Owner/ Environment Agency		■	■					(2)
	Continue to monitor.	Environment Agency/ Site Owner		■	■	■	■			(1)

(1) = Internal operational costs (2) = Part of a £38m redevelopment scheme

6.2 ISSUES

ISSUE 9

INADEQUATE OIL STORAGE FACILITIES WITHIN THE CATCHMENT INCREASES THE RISK OF OIL POLLUTION, AFFECTING WATER QUALITY.

BACKGROUND

Water quality within the Catchment is intermittently affected by localised pollution incidents. Many of these incidents are oil related.

Numerous industrial and agricultural sites within the Catchment have oil storage facilities which are not adequately bunded. Accidental spillage or leakage from such tanks and occasional acts of vandalism causes pollution and subsequently environmental damage.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To reduce the frequency of pollution incidents.	Carry out pro-active pollution prevention inspections.	Environment Agency		■	■	■	■	■	■	(1)
	Undertake Enforcement action where necessary.	Environment Agency		■	■	■	■	■	■	TBE
	Use new anticipated regulatory powers to require work to be done to prevent pollution.	Environment Agency		■	■	■	■	■	■	(1)
To educate the public in Pollution Prevention (Measures/ Techniques).	Use various media to publicise: school visits, talks etc.	Environment Agency		■	■	■	■	■	■	(1)
Ensure new developments have adequate oil storage facilities.	Advise developers of the need at the planning stage.	Environment Agency/ Developers	Local authorities	■	■	■	■	■	■	(1)

TBE = To be estimated (1) = Internal operational costs

6.2 ISSUES

ISSUE 10

THE RIVER ANCHOLME EXCEEDS THE NITRATE LEVEL OF 50 MILLIGRAMMES PER LITRE SPECIFIED IN THE EC SURFACE WATER AND NITRATE DIRECTIVES.

BACKGROUND

Agricultural practices within the Catchment have led to the presence of high concentrations of nitrates in the River Ancholme.

The EC Nitrate Directive will require compulsory controls where nitrate concentrates exceed or are expected to exceed 50mg/l as a result of agricultural activity and where water is abstracted for public water suppply. Nitrate Vulnerable Zones have been designated by the Ministry of Agriculture, Fisheries and Food. Part of the catchment has been designated as the North Lincolnshire Wolds NVZ.

Through this designation, the Ministry aim to change farming practices and water quality improvements are expected to follow.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Reduce nitrate concentrations.	Designate Nitrate Vulnerable Zones.	MAFF/DoE		■						(1)
	Implement Zones.	DoE					■			(1)
	Promote "Code of Good Agricultural Practice for Protection of Water".	MAFF/ Environment Agency		■	■	■	■			(1)

(1) = Internal operational costs

6.2 ISSUES

ISSUE 11

WATER QUALITY OF THE LOWER ANCHOLME, LAND DRAIN AND WEST DRAIN IS ADVERSELY AFFECTED BY SALINE INTRUSION.

BACKGROUND

The Agency currently manages saline intrusion on the Ancholme at South Ferriby by a combination of measures. These include transferring saline water from the lock\sluices into the West Drain, the management of residual flows, lock operation procedures and bubble curtains. Excessive salinity is a particular concern to abstractors in the lower river, in addition the ecological balance of the river is upset, and fish mortality can occur. The primary source of this salinity is thought to be ingress through the tidal structure during lock operations.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £k
Improve Water Quality in the R. Ancholme.	Undertake study to quantify the environmental impact of saline ingress and assess the effectiveness of current management methods.	Environment Agency		■	■					3 p.a.
	Improve existing methods of control and make further improvements where necessary.	Environment Agency			■	■	■			TBE

TBE = To be estimated

6.2 ISSUES

ISSUE 12

INADEQUATE LOCAL SEWERAGE SYSTEMS RESULT IN LOCALISED POLLUTION AND MAY HAVE PUBLIC HEALTH IMPLICATIONS.

BACKGROUND

A number of small watercourses and ditches suffer from localised pollution because of inadequate village sewage disposal systems, where discharges to the watercourse are made from septic tank overflows. The problem manifests itself in terms of smell and appearance.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Improve water quality.	Requisition of first time sewerage schemes for villages affected.	AWS/ Individual Property Owners/ Local Councils/ Environment Agency		■	■	■	■	■	■	(1)
	Individual householders to provide suitable sewage disposal facilities.	Property Owners/ Environment Agency/ Local Council.		■	■	■	■	■	■	(1)
	Co-operative investment in package treatment plant.	Property Owners/ Environment Agency		■	■	■	■	■	■	(1)

(1) Indeterminate

ISSUE 13

THE WEST DRAIN AT SOUTH FERRIBY IS ADVERSELY AFFECTED BY AN INDUSTRIAL DISCHARGE.

BACKGROUND

The high pH level of the discharge causes a precipitate to form in the watercourse which affects the visual appearance of the Drain. Following authorisation of the site by HMIP, an improvement plan is underway to resolve this issue.

There is already a visible improvement in the effluent quality into the West Drain. Further elements of the improvement plan should finally resolve this issue within the life of this plan (5 years).

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Improve water quality.	Monitor progress of existing improvement plan agreed with company.	Environment Agency		■	■	■	■			(1)
	Company to implement agreed action plan	Discharger		■	■	■	■			TBE

(1) = Internal Operational Costs TBE = To be estimated

6.2 ISSUES

ISSUE 14

THE PROVISION OF SERVICES AND FACILITIES ON THE RIVER ANCHOLME NAVIGATION ARE LIMITED.

BACKGROUND

In 1994 the Anglian Region of the NRA undertook a survey of all registered boat owners. The survey indicated that many boat owners feel they are not getting value for money for their registration fee. The survey identified shortfalls in terms of facilities and services. Facilities include chemical toilet disposal points, pump outs, refuse disposal points, water points and moorings. Services relate to the depth of water and bridge headroom. On the Ancholme users were particularly concerned about excessive weed growth which limits navigation, and the waiting time associated with South Ferriby Lock.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £k
Increase the provision of services and facilities on the Navigation.	To develop collaborative projects with other parties to improve the level of facilities.	Environment Agency	North Lincs Council			■	■	■	■	50-100 (C)
	Produce and implement a strategy to improve the level of services on the Navigation.	Environment Agency	River Users		■					(1)

(1) = Internal operational costs (C) = Capital Costs

ISSUE 15

THE PHYSICAL STRUCTURE OF SOUTH FERRIBY LOCK HAS DETERIORATED AND THIS HAS THE POTENTIAL TO CLOSE THE NAVIGATION.

BACKGROUND

The Agency is the Navigation Authority for the Ancholme and therefore has a duty to maintain the navigation fairway including South Ferriby Lock. South Ferriby Lock was constructed in 1844, the 8 doors were refurbished in 1944. Since that time no major repairs have been undertaken. The lock doors leak and the timbers are rotten in places. The stone structure may need some attention.

In 1996 a preliminary study assessed the condition of the locks and estimated the repair costs to be in the order of £350K.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £k
Maintain functional lock.	Assess the state of the lock and undertake any necessary repairs.	Environment Agency	North Lincs Council	■	■	■	■			350 (C)

(C) = Capital Costs

6.2 ISSUES

ISSUE 16

BOATS ARE UNABLE TO CRUISE THE FULL LENGTH OF THE ANCHOLME NAVIGATION BECAUSE OF THE DERELICT LOCK AT HARLAM HILL.

BACKGROUND

In 1992/93, the Inland Waterways Association (IWA) with the Agency's cooperation began work to restore the Lock at Harlam Hill to an operational condition. The Ancholme Navigation extends four kilometres upstream of the lock and therefore its restoration would increase the cruising distance to boat users.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Reinstate boat access to the full length of navigation.	Restore lock.	IWA/ Environment Agency		■	■	■				50 (C)

(C) = Capital Costs

ISSUE 17

MANY RIVER CHANNELS LACK HABITAT DIVERSITY AND SUPPORT AN IMPOVERISHED PLANT COMMUNITY.

BACKGROUND

Intensively managed rivers are subject to works, aimed primarily at supporting the land drainage function. The resultant river channel lacks features, that influence the plant community it could support. The ecological value of the banksides and wetted margin of these rivers is degraded and minimal.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Improve the amount of valuable wet margin present on rivers and drains.	Undertake habitat enhancement and restoration as part of flood defence maintenance and capital works.	Environment Agency/ IDB	Landowner	■	■	■	■	■	■	150/5 Yrs (C/R)
	Collaborate with landowners to restore wetland habitat.	Environment Agency/ Landowner/ MAFF	RSPB	■	■	■	■	■	■	(1)
	Enhance the ecological status of Environment Agency owned river banks, by reviewing operational management and encouraging grazing.	Environment Agency	FWAG	■						TBE
To increase the number of bankside trees.	Encourage tree planting on river banks not deemed flood bank.	Environment Agency/ IDB/ Landowner	MAFF/ English Nature	■	■	■	■	■	■	15/5 Yrs (C/R)
Create natural buffer zones along watercourses.	Work with landowners and other groups to encourage development of natural features along watercourses.	Land-owner/ MAFF/ Environment Agency	FWAG/ EN/ North Lincs Council	■	■	■	■	■	■	100 (C/R)

TBE = To be estimated (1) = Internal operational costs (C) = Capital Costs (R) = Revenue Cash

6.2 ISSUES

ISSUE 18

THE CATCHMENT HAS LOST ALL OF ITS NATURAL FENLAND HABITAT.

BACKGROUND

Serious attempts to drain the marshes and low fens of this catchment started in 1635, by Sir John Munson, but as late as 1830, five to six thousand acres were still flooded each winter. Over the last century however, intensive agricultural practices have resulted in the fenlands being fully drained to increase its productivity and economic value. The consequence of this has been the loss of an environmentally important habitat along with its associated flora and fauna.

Fenland habitat has been identified in the "UK Biodiversity Action Plan" as requiring special protection and restoration.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To increase the amount of fenland habitat.	Identify suitable areas of land and undertake fenland restoration schemes.	Environment Agency/ MAFF/ Landowners	Landowners/ RSPB/ IDB/ FWAG	■	■	■	■	■	■	100 (per major site) (C)
	Support organisations considering fenland restoration.	RSPB/ IDB/ Landowners	Environment Agency	■	■	■	■	■	■	(1)

(C) = Capital Costs (1) = Internal operational costs

6.2 ISSUES

ISSUE 19

CONFLICT EXISTS BETWEEN THE NEEDS OF THE IDB TO MAINTAIN ALL OF ITS GRAVITY OUTFALLS INTO THE ANCHOLME, AND THE NEEDS OF THE AGENCY TO MANAGE RIVER LEVELS FOR ABSTRACTION AND ENVIRONMENTAL PURPOSES.

BACKGROUND

Until the early 1990's, it was normal practice to lower the level in the River Ancholme to 0.15m ODN for a 2 or 3 week period each year, outside of the navigation season. Normal retention level in the navigation season (April to October) is 1.2m ODN and outside of the season is 0.9m ODN.

The level was lowered to 0.15 to allow Ancholme Internal Drainage Board to maintain their gravity outfall flap valves and structures. The Agency have used this period to carry out bank maintenance and survey.

In recent years it has been the practice to only lower the level to 0.4m ODN, as a result of environmental and fishing concerns and the increased importance of the river for abstraction purposes. The result of this change in practice has been that the IDB are unable to properly maintain 12 of their structures.

Changes in river level from normal retention level down to 0.4m ODN are managed very carefully over a period of at least one week, to take account of river users interests.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Resolve conflict over retained water levels in the River Ancholme.	Identify optimum river levels to be maintained during winter months.	Environment Agency/ IDB		■						5-10 (C)
	Carry out works to IDB outfalls, to allow future inspection and maintenance without the need to lower the River Ancholme below the optimum level.	IDB			■					50-200 (C)

(C) = Capital

6.2 ISSUES

ISSUE 20

THERE IS INSUFFICIENT INFORMATION AVAILABLE ON THE ENVIRONMENTAL EFFECT OF GROUNDWATER ABSTRACTION, IN THE WADDINGHAM AND REDBOURNE AREA.

BACKGROUND

Anglian Water Services abstract water from three sources in the Waddingham/Redbourne area, which were the subject of applications for licence variations in 1993/94. As a consequence of Agency concern for the impact of these abstraction changes upon the local water environment, the Agency granted licence variations in 1994 for 3 years conditional upon Anglian Water Services carrying out environmental surveys. This approach is in line with our precautionary principle.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £k
To collect environmental information, assess the impact of groundwater abstraction upon the environment, and to implement remedial actions where required to balance abstraction and environmental needs.	Carry out baseline environmental surveys to identify water dependent features.	AWS		■						10-20
	Provide environmental report that identifies the impact of abstraction upon the local environment, to meet future abstraction proposals. Submit report with application for abstraction licence following expiry of time limited licence.	AWS		■	■					

6.2 ISSUES

ISSUE 21

THE ABILITY TO MANAGE THE TRENT WITHAM ANCHOLME (TWA) SCHEME AND RESIDUAL FLOWS TO TIDE, IS LIMITED BY A LACK OF INFORMATION ON RIVER FLOW AND DAY TO DAY INFORMATION ON MAJOR ABSTRACTIONS FROM THE LOWER RIVER ANCHOLME.

BACKGROUND

The TWA Scheme is designed to transfer water to meet abstraction needs and to manage water quality. Currently the Agency collects weekly forecast abstraction details from the 2 major abstractors, Anglian Water and Brigg Power Station. The Agency attempts to maintain a 5 TCMD (thousand cubic metres per day) flow to tide. The Agency must balance the transfer of sufficient water to meet these needs.

There are currently no river gauging stations on the Lower Ancholme to assist in managing the control of river flows.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To ensure adequate provision of information to effectively manage the Trent-Witham-Ancholme River Transfer scheme.	Install/commission telemetry on major Ancholme abstractions.	Environment Agency		■	■					80 (C)
	Assess sites and a suitable technical design for a river gauging station, on the Lower Ancholme.	Environment Agency		■						
	Construct and instrument a river gauging station with telemetry.	Environment Agency			■	■				

(C) = Capital Costs

6.2 ISSUES

ISSUE 22

THE WEIGHT OF FISH, AND THE NUMBER OF FISH SPECIES FALL BELOW TARGET STANDARDS, ALONG LENGTHS OF THE WEST DRAIN, WINTERTON BECK, RIVER RASE, THE LAND DRAIN, AND IN CERTAIN LOCATIONS ON THE MAIN RIVER ANCHOLME.

(THIS ISSUE COMBINES ISSUES 22 AND 23 FROM THE CONSULTATION DOCUMENT)

BACKGROUND

Fisheries' survey work indicates the desired standard for fisheries status is not being achieved for these watercourses within this catchment. The reasons are unclear and require further investigation to identify possible courses and solutions. Limiting factors likely to be involved include low flows, river level management, poor habitat and poor water quality.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Improve fish species diversity and biomass.	Undertake additional fisheries and environmental analysis to identify limiting factors.	Environment Agency		■	■	■	■	■	■	(1)
	Carry out appropriate improvement works.	Environment Agency/ Landowners	IDB/ Landowners/ Angling Assoc./ North Lincolnshire Council		■	■	■	■	■	TBE

(1) = Internal operational costs TBE = To be estimated

ISSUE 23

THIS ISSUE HAS BEEN COMBINED WITH ISSUE 22.

ISSUE 24

THE CURRENT DEVELOPMENT AND GROWTH OF RECREATIONAL DEMANDS WITHIN THE CATCHMENT ARE UNCO-ORDINATED.

BACKGROUND

Co-ordinated development of the Catchment's recreational resource is required to meet the increasing demands of users.

Access along sections of river bank has been lost because of bank erosion and changes in farming practices, eg. Grassland to arable.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To co-ordinate the development of recreation in the Catchment.	Conduct a study with partner organisations and user groups, to produce a co-ordinated plan.	Environment Agency/ LA's	North Lincolnshire Council/ Ancholme Users	■	■					40 (C)

(C) = Capital Costs

6.2 ISSUES

ISSUE 25

MEMBERS OF THE PUBLIC DO NOT APPRECIATE THE DANGERS ASSOCIATED WITH SWIMMING IN RIVERS.

BACKGROUND

During warm periods and school holidays reports have been received of children swimming in the river and jumping from structures into the river.

There are inherent dangers from weeds, underwater structures and undercurrents which can endanger even the strongest swimmers. There is also the risk of catching waterborne illnesses, eg. Weils disease.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To dissuade members of the public from swimming in local watercourses.	Publicise danger to the public (particularly children).	Environment Agency/ LA's/ Schools		■	■	■	■	■	■	TBE

TBE - To be estimated

ISSUE 26

CHANGES IN LAND USE AND DEVELOPMENT, POSE A RISK TO THE SUSTAINABILITY OF THE ENVIRONMENT.

BACKGROUND

Development and change in land use can bring with them the risk of; increased flooding through changes in surface water run-off; pollution through increased effluent discharges to ground and surface water, and a threat to the flora and fauna associated with the water environment.

Through the planning process the Environment Agency seeks to minimise the impact of development proposals on the water environment, by liaising with local planning authorities and developers.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To ensure that changes in land use are sustainable.	Increase the Agency's influence in the Town and Country planning process:									
	by contributing to the formulation of National Planning Policy and Regional Guidance and negotiating the inclusion of Agency interests in development plans.	Environment Agency/ LPAs		■	■	■	■	■	■	(1)
To establish the effectiveness of current practices.	Monitor uptake of Agency guidance, in Development Plans	Environment Agency/ LPAs		■	■	■	■	■	■	(1)
	Address any shortfalls with councils as appropriate.	Environment Agency		■	■	■	■	■	■	(1)

(1) = Internal operational costs

6.2 ISSUES

ISSUE 27

ISSUE REMOVED FOLLOWING CONSULTATION.

ISSUE 28

RECREATION AND NAVIGATION ON THE RIVER ANCHOLME IS RESTRICTED AT TIMES BY EXCESSIVE WEED GROWTH.

BACKGROUND

During summer months excessive weed growth on the main River Ancholme has resulted in the restriction of recreation and navigational uses. Floating weed eg. duckweed and algae cause particular difficulties to anglers and boat users, and result in numerous complaints.

Excessive weed growth results as a consequence of the enrichment of water with nutrients, primarily arising from surface water run-off from agricultural land and sewage treatment discharges.

The Agency currently undertake annual weed control on the Ancholme for flood defence purposes which involves cutting the weeds with a weed boat.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
Reduce excessive weed growth.	Review effectiveness of current Environment Agency weed management routines, to meet recreation and navigation needs.	Environment Agency			■	■	■	■	■	(1)
	Assess methods and effectiveness of reducing nutrient enrichment.	Environment Agency				■				TBE

(1) = Internal operational costs

6.2 ISSUES

ISSUE 29

THE MANAGEMENT OF RIVER LEVELS IN THE RIVER ANCHOLME TAKES NO ACCOUNT OF PREVAILING "CATCHMENT" CONDITIONS.

BACKGROUND

The level of the Ancholme is currently managed so that on certain dates of the year, river levels are raised or dropped from summer to winter levels or vice versa, by controlling gates at South Ferriby. This method of river management is not sensitive to prevailing catchment conditions, particularly during very dry periods.

Normal summer (April to October) retention level is 1.2m ODN and normal winter level is 0.9m ODN.

Objective	Action	Responsibility		96/97	97/98	98/99	99/00	00/01	Future	Cost £K
		Lead	Other							
To manage river levels in the River Ancholme to take account of prevailing Catchment conditions.	Review alternative methods of managing river levels and their legal implications. (This action to be undertaken in association with actions identified for Issues 1 and 19).	Environment Agency	IDB/ Recreational Users/ Abstractors		■					(1)

(1) = Internal operational costs

6.2 ISSUES

ISSUE 30

CHANGES IN THE DEWATERING OPERATION OF UNDERGROUND MINES AT DRAGONBY AND SANTON MAY IMPACT UPON THE LOCAL WATER ENVIRONMENT.

BACKGROUND

For some years water from currently unused underground iron ore mines at Dragonby and Santon (in the R.Ancholme Catchment) has been pumped into the Bottesford Beck (in the Trent Catchment). This dewatering operation by British Steel was initially undertaken to allow the mines to be worked, and latterly to allow maintenance of redundant mines which would otherwise collapse and cause ground subsidence.

To resolve the issue of ground subsidence, one option being considered is to fill vulnerable areas of the unused mines with appropriate material. This option could result in a reduction in the flow discharging to the Bottesford Beck and resultant increases in flows to watercourses, such as the Appleby Beck. Increases in local groundwater levels might also result. There are water quality and water resource implications arising from this option in both Catchment areas.

British Steel's primary action in respect of this matter is to ensure groundwater quality is not significantly affected by their proposed operations.

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To protect the environmental needs of both catchments in the light of proposals to stabilise redundant mineworkings.	To improve understanding of the implications on water quality and groundwater flows, which may arise from proposals/works by British Steel.	Environment Agency	British Steel	■	■					(1)
	To monitor impact of British Steel's actions on water resources and quality.	Environment Agency	British Steel	■	■	■	■	■	■	(1)
To establish the best use available water.	Review the existing and future water resource and water quality requirements within both catchments.	Environment Agency/ British Steel		■	■					(1)

(1) = Internal operating costs

ISSUE 31

THE MIGRATION OF FISH IN THE CATCHMENT IS HAMPERED BY RIVER STRUCTURES.

BACKGROUND

The construction in the past of river structures such as weirs and locks impacts on the ability of fish to migrate between river lengths. The River Ancholme supports a commercial eel fishery and the upstream migration of elvers appears to be limited by structures such as South Ferriby Lock.

This issue is similar to Issue 19 in the Humber Estuary CMP Action Plan (1995).

Objective	Action	Responsibility Lead	Other	96/97	97/98	98/99	99/00	00/01	Future	Cost £K
To establish the effect on fish populations of existing river structures.	Undertake survey to consider the costs and benefits of facilitating free fish movement around structures.	Environment Agency			■					1-3 (C/R)

(C) = Capital Costs (R) = Revenue Costs

7.0 FUTURE REVIEW AND MONITORING

The Agency will be jointly responsible, with other identified organisations and individuals for implementing this Action Plan. Progress will be monitored and reported annually to the Area Environmental Group, to those who responded to the Consultation Document, to Action Plan "partners", to local authorities and to other individuals and groups.

The reviews will examine the need to update the CMP in the light of changes within the Catchment and feedback from interested parties. Annual Reviews will take the form of a short progress report for all issues, to include work achieved compared to that planned and to highlight any changes to the Plan. The period between major revisions will normally be five years.

If you have any comments to make concerning this Plan, or concerns you would like to express for this or any other catchment plan area please contact:

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8.0 GLOSSARY

Abstraction. The removal of water from any source, either permanently or temporarily.

Abstraction Licence. A statutory document issued by the Agency to permit removal of water from a source of supply. It can limit the quantity of water taken daily etc.

Algae. Microscopic (sometimes larger) plants, which may be floating or attached. Algae occur in still and flowing water.

AMP2. An acronym for the second Asset Management Plan produced by the Water Companies for the Office of Water Services (OFWAT). It sets out the water industry investment programme for the period 1995 to 2005.

Aquatic. Pertaining to the water environment.

Aquifer. A water bearing-stratum situated below ground level. The water contained in aquifers is known as groundwater.

Arterial Watercourse. Main watercourse into which tributaries flow.

Augmentation. The addition of water by artificial input. (Usually to "top up" low flows in summer by either groundwater pumping or via reservoir release.)

Authorisation. Issued as part of the Agencys function of Integrated Pollution Control under Part 1 of the Environmental Protection Act.

Base Flow. The proportion of river flow that is provided by groundwater discharge from an aquifer.

Bubble Curtain. A perforated pipe laid across the river and secured to the bed. Compressed air passes through the pipe such that bubbles form a 'curtain' in the water column. The curtain helps to prevent the passage of the heavier saline water from one side of the curtain to the other by a circulatory/mixing action

Buffer Zone. Strip of land 10-100m wide, alongside rivers which is removed from intensive agricultural use and managed to provide appropriate habitat types.

Bunded. Impervious wall surrounding a tank. The wall forms a void that can contain 110% of the volume of the tank.

Coarse Fish. Freshwater fish other than salmon and trout.

Committed. If all the licensed quantity of water was to be abstracted at the same time the aquifer could not support any further abstractions.

Controlled Waters. All rivers, canals, lakes, groundwaters, estuaries and coastal waters to three nautical miles from the shore, including the bed and channel which may for the time being be dry.

Cost Benefit Analysis. Expressed as a ratio of current benefit compared to current cost to shoe the viability of a scheme.

Culvert. Drain or covered channel carrying water across or under a road, canal etc.

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.

Ecology. The study of relationships between an organism and its environment.

Effluent. Liquid waste from industry, agriculture or sewage treatment plants.

Embanked Watercourse. Watercourse with raised banks to contain water levels higher than land level.

Eutrophic. A description of water which is rich in nutrients.

8.0 GLOSSARY

At worst, such waters are sometimes beset with unsightly growths of algae.

Fauna. Animal life.

Fish Biomass. A measure of the quality of a fishery as found in terms of surveys, weight by area ie g/m2.

Fisheries. Part or whole of river system with a fish population.

Flora. Plant life.

Flow Gauging. Measuring the quantity of water flowing down the watercourse.

Flow to Tide. When the tide level is lower than the river level the water will flow from the river to the sea.

Fluvial. Relating to the freshwater river.

Gauging Station. A site where the flow of a river is measured.

Geomorphology. Scientific study of land forms and of the processes that formed them.

Groundwater. Water which saturates a porous soil or rock substratum (or aquifer). Water held in storage below ground level.

Integrated Pollution Control. A function of the Environment Agency introduced in Part 1 of the Environmental Protection Act 1990. Considers discharges from industrial processes to all media

Integrated River Basin Management. A Coordinated approach to managing the various influences that affect a river catchment

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.

Landfill. Site used for waste disposal into/onto land.

Leachate. Liquor formed by the act of leaching.

Leaching. Action of liquid percolating through a soluble substance.

Leptospirosis (Weils disease). Bacterial disease contracted by humans from water that has been contaminated by rats urine.

Lowland Water. Water running of low lying land within the catchment.

Main River. The watercourse shown on the statutory 'Main River maps' held by NRA and MAFF. The NRA has permissive powers to carry out works of maintenance and improvement on these rivers.

Nitrate Levels. Level of concentration of nitrates in the ground.

Nitrate Sensitive Areas (NSA). An area where nitrate concentrations in sources of public drinking water exceed, or are at risk of exceeding the limit of 50 mg/l laid down in the 1980 EC Drinking Water Directive, and where voluntary, compensated agricultural measures were introduced in 1990 as a means of reducing those levels.

Nitrate Vulnerable Zone (NVZ). An area where nitrate concentrations in sources of public drinking water exceed, or are at risk of exceeding the limit of 50 mg/l laid down in the 1991 EC Nitrate Directive, and where compulsory, un-compensated agricultural measures will be introduced from 1996 as a means of reducing those levels.

Nutrient. Substance providing nourishment for plants and animals eg nitrogen, phosphorus.

Nutrient Enrichment. Increase of levels of nutrients within the watercourse.

Ordnance Datum Newlyn (ODN). 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.

Outfall. The point at which a river discharges to a downstream source eg estuary, sea; it may also include an outfall structure to prevent sea waters backing up the system.

Potable Water. Water of a suitable quality for drinking.

Public Water Supply. The supply of water by companies appointed as Water Undertakers by the Secretary of State for the Environment under the Water Industry Act 1991.

Riparian. Of, or on, land contiguous to the river.

Riparian Owner. Owner of riverbank and/or land adjacent to a river. Normally owns riverbed and rights to midline of channel.

8.0 GLOSSARY

River Ecosystem Scheme. A national scheme for setting River Quality Objectives based on the chemical quality requirements of plants and animals in the river.

Saline Ingress. Salt water may enter rivers through or around tidal structures - this is known as ingress. Once salt water has entered a watercourse it is difficult to remove other than by flushing with high flows during floods. It can have a profound effects on the ecology of a river.

Saline Waters. Water containing salts.

Sewerage. System of sewers usually used to transport sewage to a sewage treatment works.

Siltation. At low velocities water will deposit the material being carried in suspension. The slower the velocity the finer the material deposited. A deposit of clays and silt is very difficult to remove naturally as it requires turbulent and high velocities.

Site of Nature Conservation Importance. Non statutory site identified by County Wildlife trusts.

Site of Special Scientific Interest (SSSI). A site given a statutory designation by English Nature or the Countryside Council for Wales because it is particularly important, on account of its nature conservation value.

Spray Irrigation. The watering of crops by spraying. Can have a high impact on water resources.

Statutory Powers. Powers conferred (eg on the Agency) where it has a duty to do things.

Sub-catchment. Catchment area of a tributary of an arterial watercourse.

Surface Water. Water collecting on and running off the surface of the ground.

Sustainable Development. Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Telemetry. A means of directly collecting data from remote sites.

Tidal Defences. Defences of a river that protect the land from the Sea.

Tide Lock Periods. Periods when freshwater cannot leave a river system as the outfall structure, usually a flap, is closed by the pressure of the high tide against it. This corresponds with high tide sea levels being higher than the river water level.

Unitary Authority. Single tier Authority combining the responsibilities of District Councils with some/all of County Councils

Washlands. Extensive semi-natural area of flood plain adjacent to a river, where water is stored in time of flood. Structures can be added to control the amount of water stored in the washland and time its release to alleviate peak flood flows in areas downstream.

Water Quality Objectives (WQO). Water quality targets to secure specific formal minimum quality standards for specific stretches of water by given dates. A new component of these is introduced by "The Surface Waters (River Ecosystem Classification) Regulations 1994"; a classification scheme to be applied by NRA to the rivers and watercourses of England and Wales. Other existing standards operate already to give effect to various EC Directives for water quality.

Water Resource. The naturally replenished flow of recharge of water in rivers or aquifers.

Water Storage Reservoir. Reservoirs built by farmers to store water during the winter months when it is "plentiful" for re-use during the summer.

Water Table. Top surface of the saturated zone within the aquifer.

Water Transfer Scheme. An infrastructure provided to transfer water from one river system to another.

Watercourse. A stream, river, canal or channel along which water flows.

Weir. A dam built across a river to raise upstream levels.

Wet Shelves/Margins. An area of river bed just below water level.

Wetland. An area of low lying land where the water table is at or near the surface for most of the time, leading to characteristic habitats.

9.0 SUMMARY OF COMMENTS - RIVER ANCHOLME

ISSUE	ORGANISATION	COMMENTS
General	Mr Lawledge, Nettleton Parish Council	Nettleton Waste Disposal Site is now closed.
	North Lincolnshire Archaeology	The Plan understates the archaeological interest and importance of the catchment.
	Coal Authority	There are no mining issues in this area.
	English Nature	North Lincolnshire is one of the remaining strongholds for water voles. To maintain this better, marginal vegetation is essential. There are also opportunities within the catchment to create more diverse habitat suitable for otters, bittern and other flora and fauna.
	Lincs Fieldpaths Ass.	Plan doesn't make the most of either the amenity value of public rights of way in the area, nor the historic value of the area's iron bridges across the Ancholme.
	Ancholme IDB	Map 35 and text Page 72 - there are in fact 6 IDB maintained river outfalls in this catchment (on additional outfall west of South Ferriby). Typing error Page 75 Paragraph 5, 0.04m ODN to read 0.4m ODN.
	West Lindsey District Council	The Plan fails to address aspects of the built environment and heritage. It should refer to areas of Outstanding Natural Beauty, Conservation Areas etc.
	Glanford Boat Club	Why does the Agency seek to recover costs (as a matter of policy) from navigation users when it does not apply this policy to other users eg conservation/recreation/ flood defence.
	Mr Thorpe (Farmer)	Flood defence options are not detailed enough for the public to comment on. The make up of the Catchment Panel does not appear to reflect the needs of the farming community.
	Lincs County Council	Supports the concept of creation of washlands along the river corridor. Agency should pursue improvements to the N.Kelsey Beck and focus on the reduction of nitrates in groundwater. LCC supports the restoration of the Harlam Hill Lock.
Page 14	National Farmers Union (NFU)	Do discharges originating from the urban area of Brigg impact on water quality in the Ancholme downstream.
Page 49	NFU	Agriculture is not the only sector which uses pesticides in quantities which may affect water quality.
Page 50	NFU	Eutrophication is not solely caused by 'agriculture'.
ISSUE 1	NFU	NFU urges the Agency to speed up improvements on the Ancholme.
	Market Rasen Town Council	Hope improvements to M.Rasen's flood defences will be addressed as a matter of urgency.
ISSUE 2	Lincolnshire Anglers Consultative Association (LACA)	The issue requires a speedy sollution as farmers are puttingthemselves at risk by using them.
	West Lindsey District Council	The option to re-build these bridges is not acceptable.
	NFU	Bridges should be rebuilt to meet standards relevant to new farm vehicles.
ISSUE 3		
ISSUE 4	English Nature	The wording of this issue might encourage improvement drainage of wetland areas which could lead to a loss of wet grassland and on dependent flora and fauna.
	West Lindsey District Council	Local problems with drainage could be overcome by co-ordination and standardisation of the roles played by various parties.
ISSUE 5	Regional Power Generators	The Agency could utilise analysis undertaken by Regional Power.
ISSUE 6		
ISSUE 7	Ancholme IDB	Could water quality problems also be caused by surface water run-off from the urban area of Brigg and/or from the motorway.
	NFU	Agency should identify the cause of eutrophication.
ISSUE 8		

9.0 SUMMARY OF COMMENTS - RIVER ANCHOLME

ISSUE	ORGANISATION	COMMENTS
ISSUE 9	West Lindsey District Council	Additional powers are needed by Environment Agency to resolve the problems associated with oil storage.
	Ministry of Agriculture, fisheries and Food (MAFF)	Option 1 - MAFF and ADAS have a responsibility towards this option. Where significant risks exist, the Agency can require works to be undertaken.
	NFU	Agency should use existing powers rather than seek additional powers.
ISSUE 10	West Lindsey District Council	The Council supports the designation of the nitrate vulnerable zone.
	NFU	NFU questions to validity of the 50mg/lt target.
ISSUE 11	Messrs Mouncey	Salinity in the East Drain could be contained by the construction of a weir at Horkstow.
	English Nature	Reducing saline intrusion also reduces opportunity for species of fish such as the Flounder! Could fish passes be constructed for Flounders and salmonids.
ISSUE 12	West Lindsey District Council	The co-operation of the Environment Agency, AWS and District Council is essential to identify potential solutions, having regard to financial considerations and legal responsibilities post 1 April 1996.
	Anglian Water Services (AWS)	"Inadequate local sewerage systems" - what is the size and scale of this problem.
ISSUE 13	Messrs Mouncey	Discharges into the West Drain appear to have increased significantly!
	LACA	Will HMIP's improvement plan be sufficient to improve water quality in the West Drain.
ISSUE 14		
ISSUE 15		
ISSUE 16		
ISSUE 17	English Nature	We should consider scalloping river banks and creating shallow areas to promote plant/habitat diversity.
	Lincolnshire Fieldpaths Association	Environment Agency should encourage the grazing of river banks with sheep and cattle to increase diversity of flora.
	NFU	Conservation improvements should not be made at the expense of flood defence measures.
ISSUE 18	MAFF	FWAG should read Farming and Wildlife Advisory Group.
	NFU	Schemes to improve fenland habitat should not be forced on landowners, their costs should be borne by central government.
ISSUE 19	English Nature	High water levels are essential to maintain and improve nature conservation interests.
	LACA	Lowering water levels creates specific advantages for anglers.
	NFU	Can augmentation of the Ancholme - later in the year - increase the risk of flooding in the catchment.
	AWS	AWS concerned that the practice of managing river levels to facilitate outfall maintenance causes problems for abstraction.
	Regional Power Generators	Lowering water levels in this manner impacts on the operation of RPG plant.
ISSUE 20	English Nature	What is the impact of abstraction on spring lines at Burton on Stather and Elsham Marsh.
ISSUE 21	AWS	An important issue for AWS is the need for them to demonstrate the reliability of the TWA Scheme (reliability of resources).
ISSUE 22		
ISSUE 23		
ISSUE 24	West Lindsey District Council	Supports the need to undertake a study to access the recreational demands within the catchment.
	NFU	Landowners should not be coerced into providing new access for recreational users.

9.0 SUMMARY OF COMMENTS - RIVER ANCHOLME

ISSUE	ORGANISATION	COMMENTS
ISSUE 25		
ISSUE 26		
ISSUE 27		
ISSUE 28	AWS	Ancholme not designated a Eutrophic Sensitive Area therefore AWS unlikely to pursue Option 2.
	Glanford Boat Club	Weed cutting by boats is ineffective - Agency needs to look at chemicals leaching from off the land.
ISSUE 29	LACA	Managing river levels impacts on fishing interests - it requires in-depth investigation.
	Regional Power Generators	Would like to be involved in any discussions concerning changing river levels.
Possible New Issues	North Lincolnshire Archaeology	The construction of flood defences must be undertaken sensitively to minimise their impact on the local archaeology.
	Messrs Mouncey	The transfer of saline water in to the West Drain at South Ferriby is affecting fish populations - is the solution a fish pass?
	LACA	Access to the river bank has been restricted by farming practices.
	LACA	Fish are lost into the Humber during periods of high flow.
	LACA	Responsible angling clubs deserve some continuity of fishing rights.
	AWS	Four unsatisfactory sewer overflows have been identified at Brigg, M-Rasen, N & S Kelsey.
	NFU	Does the water abstracted by British Steel from mines in the Scunthorpe area adversely impact on the water quality of the West Drain.

MANAGEMENT AND CONTACTS:

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

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

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

ENVIRONMENT AGENCY
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