LOUTH COASTAL CATCHMENT MANAGEMENT PLAN

CONSULTATION REPORT SUMMARY

INTRODUCTION

The catchment management approach helps us to collect and present data in a systematic way, to analyse it and make comparisons with agreed targets and standards. Through this process we have identified areas where the state of the catchment falls below the standard we would like. We have shown these shortfalls in the table at the back of this document.

Claythorpe

YOUR VIEWS

To implement the plan will require consulting and working with many bodies and individuals. We are keen to receive your views on the issues and challenges we have identified and to hear whether there are any other matters affecting the water environment in the catchment which you think should be examined by the N.R.A.

To comment on the plan, or to obtain a full copy please write to:-
Louth Coastal Catchment Management Plan,
Corporate Systems,
National Rivers Authority,
Kingfisher House,
Goldhay Way,
Orton Goldhay,
Peterborough PE2 5ZR.

If you wish to discuss the plan, please speak to John Handley on Peterborough 371811 (Extn. 4233).

Comments must be received by Friday 25 September, 1992. Thank you.

WHAT IS CATCHMENT PLANNING?

Catchment management involves the NRA using its powers and working with others to ensure that the rivers, lakes, coastal and underground waters of particular areas are protected and where possible improved for the sake of generations to come.

River catchments are subject to increasing use by a variety of activities. Many of these interact and some conflicts arise. The conflicting requirements and interests of users and beneficiaries must be balanced.

We use our resources to:

- Maintain existing assets and invest in new assets to provide flood protection, manage water resources and provide other NRA services;
- Control pollution by working with dischargers to achieve improvements and responding to emergencies;
- Determine, police, enforce and review the conditions in water abstraction licences, discharge consents and land drainage consents to achieve operational objectives;
- Develop fisheries, and promote recreation, navigation, and conservation;

Storm 1990

- Influence planning authorities to control development through Town and Country planning liaison.

CATCHMENT FACTS

Area 1040 km^2.
Population 88,000 (existing 1991) 100,000 (est. 2001).

1953 Floods

WATER QUALITY

Length of River in National Water Council Class.
Class 1A (Very Good) 13.5 km
Class 3 (Poor) 6.2 km.
Class 1B (Good) 106.1 km Class 4 (Bad) 0.
Class 2 (Fair) 34.7 km.

WATER RESOURCES

Availability: Spilsby Sandstone - none.
South Lincs. Limestone - none.
Other limestone and gravels - minor quantities only.
Chalk Aquifer - none.
Some surface water available, in winter only.

FLOOD PROTECTION

Length of Designated Main River: 226 km (watercourses maintained by NRA). (Includes 13.4 km of tidal river)
Length of Embanked Watercourse: 114 km.
Length of Sea Defences: 62 km. Area at risk of tidal flooding: 376 km^2 Area at risk of freshwater flooding: 468 km^2.

FISHERIES (monitored by NRA)

Length of game fishery: 83 km.
Length of course fishery: 108 km.

THE CATCHMENT

The Louth catchment covers 1040 km^2 mainly within the county of Lincolnshire, although part of the catchment is in Humberside. There are seven sub-catchments which drain to the sea. There is considerable physical and biological diversity in the sub-catchments. The catchment includes a sandstone catchment (River Lymm), chalk catchments (River Lud, Great and Long Eau) and clay

lower catchments on the coastal strip. The coastal strip extends for about 60 km much of which is low lying and protected by flood defences.

LAND USE

The catchment is predominantly rural with populations centred in a number of towns and villages. Farming is mainly arable with limited grazing on the poorer soils.

The population of the catchment is 88,000 with over 40,000 of the population centred on Louth, Skegness, Mablethorpe and Sutton.

Industry is limited. During the summer season there is a thriving tourist industry. The population of the catchment can increase by 150,000 during the peak holiday season with an additional 33,000 day visitors.

DEVELOPMENT

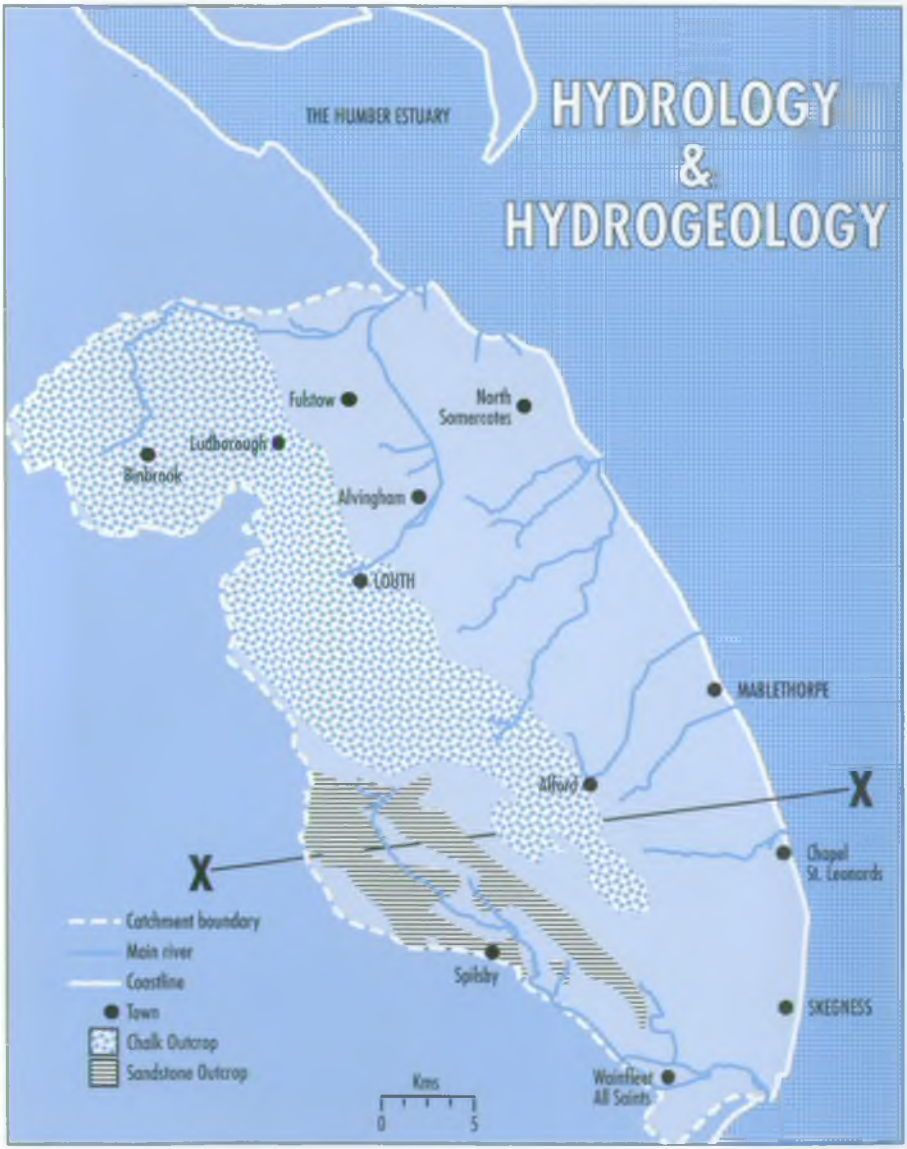
The Lincolnshire Structure Plan recognises a need for growth and provides for 4,550 new homes by 2001. The catchment population is forecast to increase from 88,000 (1991) to 100,000 (2001) with new population being located mainly in the villages and towns. Large scale industrial warehousing and office development is included in the Structure Plan for Louth and Skegness.

WATER QUALITY

Of the 160 km of river included in the National Water Council 1990 survey nearly 120 km (75%) are in the very good and good category. The major pollutant risk is likely to arise from agriculture and the 22 sewage treatment works. There are three industrial discharges in the catchment. The NRA

regularly monitors all the discharges and works closely with farmers to reduce the risk of agriculture pollution.
There is one sea outfall (Ingoldmells) and this complied with the EC Bathing Water Directives in both 1990 and 1991.

Groundwater quality is good, but there is risk of saline intrusion into the coastal aquifer. The NRA is considering implementing a groundwater protection zone in part of the catchment.



FISHERIES

The rivers support a mixture of coarse (108 km) and game (83 km) fisheries. The Waithe Beck and the River Steeping are important fisheries and contain a healthy fish population.

FLOOD PROTECTION

NRA flood defences stop the freshwater from the higher ground spilling out into the low lying coastal strip and prevent the sea gaining access to the land. There are nearly 114 km of embanked watercourses and 62 km of sea defence.

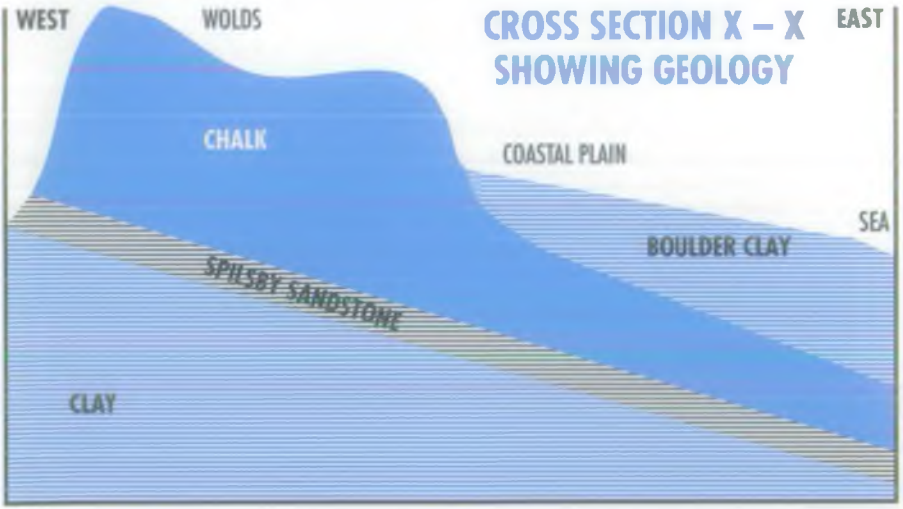
The last major flood occurred in 1953 when 41 people drowned and many houses were destroyed.
The NRA maintains and replaces the defences and provides a flood warning service to ensure the safety of those living in the flood risk areas.

The NRA will shortly embark on a major beach recharge project to provide further protection to this vulnerable coastline.

WATER RESOURCES

Groundwater and surface water is abstracted in the catchment for public water supply, private use, industry and agriculture. Public water supply is the main user accounting for 98% of all water abstracted in the catchment.

A particular characteristic of the catchment is the 231 private groundwater



sources licensed for domestic supply. Anglian Water has 15 licensed groundwater sources.

The principal abstractor of surface water is Anglian Water through the Great Eau scheme. Surface water is also abstracted for agricultural use including spray irrigation, but this accounts for less than 2% of the total water used in the catchment.

Whilst surplus surface water is available in the winter very little surplus summer surface water is available. Groundwater resources are substantially committed. The principal resource issue in the catchment is the over-commitment of the chalk resource.

The NRA controls the amount of water abstracted to avoid overabstraction and hence sustain environmental uses and preserve the ecology of rivers and streams.

NAVIGATION

The navigation of the Louth Canal and the ancient navigation at Wainfleet have both fallen into disuse. The scope for sailing and boating on the rivers is limited because of the narrowness of the river channels and the height of banks restricting access. On the tidal waters there are a number of sailing clubs.

CONSERVATION

The coastline of the catchment falls between two recognised internationally important wildfowl and wader wintering sites, namely the Humber and the Wash. This coastline is therefore important and includes an RSPB reserve at Tetney and a National Nature Reserve (NNR) at Saltfleet.

There are many varied and valuable ranges of habitat, notably the Waithe Beck, the River Lymm and the Upper Great Eau and Long Eau. There are wetland sites and several spring sites which contain notable varieties.

The NRA in carrying out all its functions and in dealing with proposals by others, will further the conservation of flora, fauna, landscape and archaeology.

ISSUES AND OPTIONS

The catchment management approach helps us to collect and present data in a systematic way, analyse it and make comparisons with agreed targets and standards. Through these processes we have identified areas where the state of catchment falls below the standards we would like. These shortfalls are identified in the following table as issues 1 to 25. Each issue represents an intended plan to improve the water environment for the benefit of all users.

YOUR VIEWS

To implement the plan will require involvement of many individuals and bodies working together. We would welcome your views on the plan, the issues and options and any suggestions for improvement.

ISSUES AND OPTIONS

ISSUE	OPTIONS
ISSUE No. 1 River Lud - Headwaters to Ticklepenny Lock Failure to achieve F1 status, i.e.breeding population of trout.	Review Discharge Consents. AWS to uprate sewerage system in Louth Town to remove storm overflows.
ISSUE No. 2 Louth Canal - Downstream of Louth STW - Reduced dilution flow has affected biology of watercourses.	Review Discharge Consent at Louth STW. Partly included in Issue 1 - Uprating sewerage system/or works to Louth STW.
ISSUE No. 3 Saline intrusion in Louth Canal affecting PWS, fisheries/conservation uses.	Permanent structures to replace clay dams. (Not required if pumping station at Grainthorpe is provided). Provision of pumping station at Grainthorpe Haven. Ensure compliance with MRF at all times. Improved operation of Tetney Weir. Improvement of intake possibly by variable speed pumps. Augment with raw water via pipeline from Toft Newton. Sacrifice area of land to act as tidal storage to facilitate flushing of the channel.

ABBREVIATIONS USED

AWS Anglian Water Services Ltd.

IOB Internal Drainage Board

STW Sewage Treatment Works

PWS Public Water Supply

SSSI Special Site of Scientific Interest

	RESPONSIBILITY	ADVANTAGES	DISADVANTAGES
	NRA.	Improved Water Quality.	
	AWS Ltd.	Ditto.	Cost of uprating system including water separation.
	NRA.	Improved Water Quality.	Discharge currently meets legal requirements.
	AWS Ltd.	Ditto.	Cost to AWS Ltd of uprating sewage treatment facility. (If Issue 1 adopted reduced stormflows may negate need for works at STW).
	Louth IDB.	Secure means of reducing saline input. Improved Water Quality.	Possible flood protection reduction.
	Louth IDB.	See Above. Improve standard of flood protection.	
	NRA.	See above.	Reduction in quantity of water available to AWS.
	AWS Ltd.	See above	Reduction in quantity of water available to AWS.
	AWS Ltd.	More flexibility and control over water abstraction.	Costs to AWS.
	AWS Ltd/NRA.	Maintain velocity at outfall.	Cost of transfer. Effects of transferred water on receiving systems ecology.
	NRA.	Reduce saline intrusion. Conservation benefit from creation of wetland area.	Difficult to find area of land and the cost.

ISSUES AND OPTIONS

ISSUE	OPTIONS
ISSUE No. 3 Continued.	Improved monitoring of water levels and quality. Dredging the channel. Suitably designed weir above Tetney Weir on Louth Canal upstream of Waithe Beck confluence.
ISSUE No. 4. Insufficient continuous water quality monitoring on Louth Canal.	Provision of Automatic Water Quality Monitoring Station in the vicinity of Covenham intake. This work is planned to take place in the next 5 years, subject to Annual Appraisal.
ISSUE No. 5 Saline Intrusion in the Grayfleet Drain/South Dyke System, causing water quality deterioration.	Dredging the Haven. Tilting plate weir to cut off ingress upstream of sea doors plus over pumping. Augmentation of flow from borehole/ remote surface water source.
ISSUE No. 6 Upper Great Eau - Failure of F1 objective, i.e. breeding population of trout.	Review consents for abstraction and discharge for all trout farms.
ISSUE No. 7 Lower Great Eau - Saline intrusion, fails quality objective on chloride level only for water quality purposes.	Construct permanent structure upstream of sea doors. Reclassify as an F2 fishery.
ISSUE No: 8 Woldgrift Drain - Failure to meet F2 classification, i.e. a breeding population of non-salmonid fish.	Ensure compliance with discharge consent following improvement works to Mablethorpe STW.

	RESPONSIBILITY	ADVANTAGES	DISADVANTAGES
	NRA.	Improve Management information.	Cost.
	NRA.	Maintain velocity through the haven removing siltation problem.	Cost of repeated dredging effects on SSSI.
	NRA.	Reduce saline contamination. Reduce Covenham intake effects on Waithe Beck.	Cost. Interference with existing flood defences. Effects on AWS Ltd. licensed abstraction.
	NRA.	Improve Management information.	Cost.
	NRA.	Maintaining velocity through the haven removing siltation problem.	Cost of repeated dredging. Effects on SSSI and NNR. Disruption of moorings.
		Reduce saline intrusion.	Noise pollution on Residents.
	NRA.	Maintains minimum velocity and reduces saline intrusion.	Lack of resource from groundwater/cost.
	NRA/Trout Farms.	Improves water quality.	Potential restriction on trout farm activities.
	NRA.	Improves water quality.	Cost. Reduces standard of flood protection.
	NRA.	Compliance with statutory objective for chloride.	Reclassification may not be acceptable.
	NRA/AWS Ltd.	Failure linked to historic problems which should be overcome by new works commissioned recently.	

ISSUES AND OPTIONS

ISSUE	OPTIONS
ISSUE No: 8 Continued	Monitoring conditions of consent/review if necessary. Further improvement works at Mablethorpe STW to ensure compliance with EC Bathing Water directive at haven.
ISSUE No. 9 River Steeping - Foilure to achieve NWC classification 1B	Increase monitoring over the whole river to improve data. Reclassify as Class 2 but with no detriment to classifications F2 fishery and no deterioration to water quality. Restrict application of agricultural nutrients and improve nutrient removal from SIW effluent to reduce algal weed growth.
ISSUE No. 10 Binbrook - Likely to be designated as polluted groundwater under the Nitrate Directive.	Relinquish licence. Recommend as NSA/designate as Source Protection Zone.
ISSUE No. 11 Impact of Waste Disposal sites on Water Quality.	Improve monitoring activities.
ISSUE No: 12 Available water resources are inadequate to meet current PWS demand from chalk aquifer.	Amend authorised abstractions to balance supply via negotiation. (Ongoing).
Issue No. 13 Available water resources in the catchment are inadequate to meet future PWS demands.	Meet demand from outside the catchment, e.g. Trent - Witham - Ancholme Scheme. via 1. Piped treated water. 2. Raw water transfer.

	RESPONSIBILITY	ADVANTAGES	DISADVANTAGES
	NRA. AWS Ltd.	 Improve water quality.	 Cost of works.
	NRA. NRA. NRA/AWS Ltd/Farmers.	Improve management information. Conforms with other similar water bodies. Improve water quality.	Cost. Reclassification may not be acceptable. Requires revision of agricultural practice. Cost of improvement works by AWS Ltd.
	AWS Ltd. NRA/Farmers.	 Improve water quality.	Cost. Requires revision of agricultural practice.
	NRA/Site operators.	Improves management and identification of leachate effect on water quality.	Cost to NRA and site owners in manpower resources.
	NRA/AWS Ltd.	Co-operation can reduce demand on resources.	Cost to NRA/AWS in transfer of requirement from elsewhere.
	1. AWS Ltd. 2. NRA/AWS Ltd.	Reduces pressure on catchment sources which has enormous environmental benefits.	Dependent on availability of outside resources. Cost of transfer to NRA/AWS Ltd. Effect on system ecology. Inappropriate use of chalk systems for transferred waters.

ISSUES AND OPTIONS

ISSUE	OPTIONS
ISSUE No. 14 Available water resources in the catchment are inadequate to meet future industrial demands.	Take from PWS Direct surface water abstraction from water transferred from outside the
ISSUE No: 15 Cannot reliably meet demand for spray irrigation in summer months.	Provide winter storage for summer use - subject to maintaining minimum flows. Augmentation of water courses. Review licence controls and ensure minimum control levels are set. Introduce restrictions on usage to ensure environmental quality standards are maintained. Provision of winter/flood water storage reservoirs. Retention of higher levels during summer in IDB lowland system.
ISSUE No: 16 Lack of understanding of the workings of groundwater south of Louth.	Develop plans/models to improve understanding.
ISSUE No: 17 Over abstraction from chalk aquifer leading to depleted spring flows.	Cut back licensed abstraction to sustain spring flows and associated wetland areas in dry periods.

	RESPONSIBILITY	ADVANTAGES	DISADVANTAGES
	AWS Ltd.	Reduces pressure on catchment sources which has enormous environmental benefits. Industrial demands can be met.	Cost to industry - depletion of scarce supply.
	NRA.		Derogation of existing users. Cost of transfer to NRA.
	Spray irrigators.	More reliable supply. Reduces summer demand on watercourses.	Cost of construction. Subject to Planning Control. Monitoring storage facility integrity.
	NRA.	See Issue 13.	See Issue 13.
	NRA.	Balance demand on summer resource.	Cost of compensation.
	NRA.	Maintains water quality. In severe drought years environmental damage is reduced.	Increased cost to NRA (Enforcement) Reduced profit to agricultural interests.
	NRA/Users/ IDB's.	Reduce demand on summer resource. Reservoirs have environmental benefits.	Cost of construction. Planning restrictions. Monitoring of integrity. Cost of monitoring release to negate environmental effects.
	IDB's.	Reduce demand on summer resource.	Reduction of flash flood capacity in lowland system. Increased cost of weed control.
	NRA.	Improved aquifer management.	Cost of investigations.
	NRA/AWS Ltd.	Secures environmental needs.	Effects on AWS Ltd requirements. Improper use of resource as reduction in abstraction required would be in excess of spring flow produced.

ISSUES AND OPTIONS

ISSUE	OPTIONS
ISSUE No. 18. Spilsby Sandstone - Over abstraction may lead to depleted spring flows or saline intrusion.	Consider the redistribution of abstraction sources with time limited licences. (Being undertaken). Undertake enhanced monitoring and improved modelling. Control existing abstraction via licence controls to ensure no saline intrusion or spring flow depletion.
ISSUE No. 19 Minimum flows are inadequate in dry periods to prevent saline intrusion in the lower reaches of the rivers.	Augment flows to meet targets. Cut back licensed abstraction by AWS Ltd. Review Q95, Q90 basis for MRF's to fully establish in river needs
ISSUE No. 20 Actual minimum flows are inadequate in middle and upper reaches of many rivers to meet in river needs.	Cut back abstraction on Waithe Beck only. Augment to meet Q90 flows. Review MRF's. Review licence conditions to ensure MRF is specified as cessation control.
ISSUE No. 21. Minimum river levels in the Louth Canal in the Covenham to Alvingham stretch are inadequate to meet in river needs	Dredge river channel. Construct retention weirs. Change profile of flow channel.

	RESPONSIBILITY	ADVANTAGES	DISADVANTAGES
	NRA/AWS Ltd.	Increase/maintain outflows.	Impair AWS abstraction. Deplete aquifer where sources redistributed to.
	NRA.	Improve management of aquifers.	Investigation costs.
	NRA.	Reduce demand on Catchment Resource.	Possible disruption to AWS supply Costs.
	NRA.	Reduce demand on catchment resource.	Cost.
	NRA/AWS Ltd.	Reduce demand on catchment resource.	Severe reduction in Covenham yield.
	NRA.	Improved resource management. The impact of discharge during periods of low flow would remain acceptable.	Cost of investigations. No progress can be made until study is complete. Any reduction in MRF's would have serious implications on discharge consents.
		Reduce demand on resource.	Reduction of yield to AWS Ltd supply.
	NRA.	Reduce demand on catchment resource	Cost and possible environmental impact.
	NRA.	Improved resource management	As Issue No. 19.
	NRA/ Abstractors.	Reduced demand during periods of low flow.	Effect on abstractors. Cost of compensation.
	NRA.	Provide adequate depth to maintain/ improve ecology.	Cost. Environmental impacts of the dredging scheme.
	NRA.	Provide adequate depth to maintain/ improve ecology.	Cost. Effect on IDB gravity outfalls. Reduced flood protection standard.
	NRA.	Provide adequate depth to maintain/ improve ecology.	Cost. Potential for bank destabilisation. Effects on bankside vegetation.

ISSUES AND OPTIONS

ISSUE	OPTIONS
ISSUE No. 22. Development impacts upon the water environment.	To gain a direct influence in the planning process using existing legislation and adoption of NRA Anglian Region model policies. (See Appendix 3).
ISSUE No. 23. Six rivers identified for instream and bankside increased habitat diversity.	Increase diversity without loss of channel capacity in consultation with Local Trusts, EN, etc.
ISSUE No. 24. Maintaining adequate outfall at river havens to facilitate flushing of the channel.	Dredging to facilitate gravity discharge. Pumped freshwater outfall to tide. (Assuming it is available to pump). Sacrifice area of land to act as tidal storage to facilitate flushing of the channel.
ISSUE No. 25 To restore the Louth Canal as a fully operational navigation.	Full program of works to re-establish the navigation. Partial works to re-open some sections. Commission study into both above

	RESPONSIBILITY	ADVANTAGES	DISADVANTAGES
	Local Authorities/NRA/ Developers/Landowners.	Ensure matters the NRA are responsible for are fully taken into account in all development proposals.	Implications on LA control. Possible cost implications to landowners/developers.
	NRA +.	Improve conservation and amenity value of the streams.	Increased cost of routine maintenance programme.
	NRA.	Maintains outflow velocity to reduce siltation.	Effects on SSSI and NNR Ongoing conflict with conservation.
	NRA.	Maintains adequate outflow.	Costs. Interference with SSSI's and NNR's during construction. Long term effects on haven morphology.
	NRA +.	Maintains adequate outflow velocity. Benefits to nature conservation. Stewardship Schemes.	Land take. Cost of construction and maintenance.
	NRA/BWB navigation interests/conservation societies.	Provides increased facilities for recreational use.	Huge cost of construction/maintenance. Potential environmental damage. Conflict with other users. Significant effects on flood defence.
	As above.	As above.	As above.
	As above.	Could promote advantages above.	Cost.

The National Rivers Authority

Guardians of the Water Environment

The National Rivers Authority is responsible for a wide range of regulatory and statutory duties connected with the water environment.

Created in 1989 under the Water Act it comprises a national policy body coordinating the activities of 10 regional groups each one monitoring an area served by a former regional water authority.

The main functions of the NRA are:

Water resources	— The planning of resources to meet the water needs of the country; licensing companies, organisations and individuals to abstract water and monitoring the licences.
Environmental quality and Pollution Control	— maintaining and improving water quality in rivers, estuaries and coastal seas; granting consents for discharges to the water environment; monitoring water quality; pollution control.
Flood defence	— the general supervision of flood defences; the carrying out of works on main rivers and sea defences.
Fisheries	— the maintenance, improvement and development of fisheries in inland waters including licensing, re-stocking and enforcement functions.
Conservation	— furthering the conservation of the water environment and protecting its amenity.
Navigation and Recreation	— navigation responsibilities in three regions — Anglian, Southern and Thames and the rovision and maintenance of recreational cilities on rivers and waters under its ontrol.

Published by the Public Relations Department of the National Rivers Authority, Anglian Region, Kingfisher House, Orton Goldhay, Peterborough PE2 5ZR. Telephone (0733) 371811.

P76/7/92