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 National Rivers Authority

THE ELY OUSE CATCHMENT MANAGEMENT PLAN



FINAL PLAN - JANUARY 1994



NRA

*National Rivers Authority
Anglian Region*

INTRODUCTION

Established in 1989 the National Rivers Authority has as its role the "Guardians of the Water Environment". As such it is committed to protecting and improving the water environment and protecting people and property from flooding. Establishing a sound planning base for the development of river catchments is essential to our future management.

Catchment Management Planning is a procedure designed to create a consistent framework within which the diverse responsibilities of the NRA can be applied within a catchment in a co-ordinated manner.

Catchment Management involves the NRA using its powers and working with others to ensure that the rivers, lakes, coastal and underground waters of a particular area are protected and where possible improved for the sake of generations to come, and the water is made available for all reasonable needs.

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 balance differing, and sometimes conflicting needs whilst protecting the water environment;
- Develop fisheries, and promote recreation, navigation, and conservation;
- Influence planning authorities to control development through Town and Country planning liaison.

OVERVIEW

The Authority published the Ely Ouse Catchment Management Plan in February 1993 as a consultation document seeking comment from all those interested in the water environment. As a result of the consultation process we are now able to publish the Ely Ouse Catchment Final Plan for the five year period commencing April 1993.

Comments were received from the following organisations on the Consultation Draft:

South Cambridgeshire District Council, Great Ouse Boating Association, Norfolk Society, Suffolk Preservation Society, Brecks Project, Suffolk County Council, Inland Waterways Association, Suffolk Wildlife Trust, English Nature, Norfolk Naturalists Trust, Council for the Protection of Rural England, Norfolk County Council, Countryside Commission, Anglian Water Services Limited, Cambridgeshire County Council, Eastern Council for Sport and Recreation, Forest Heath District Council, King's Lynn and West Norfolk Borough Council, Wildlife Trust for Beds and Cambs, MAFF/ADAS, Elmswell Parish Council, Royal Society for the Protection of Birds, Knights of Norfolk, British Sugar

The Final Plan includes and reflects many of the comments received from the listed organisations.

CATCHMENT FACTS

CATCHMENT DETAILS

Area	2510 km ²
Population	272,000 (est 1993) 309,450 (est 2006)
Topography	Min level -2m ODN Max level 125m ODN
Geology	East - Boulder Clay on Chalk Central - Chalk West - Clay with fen deposits and some Greensand outcrops

ADMINISTRATIVE DETAILS

County Councils:	Cambridgeshire 17%	Norfolk 43%	Suffolk 40%
District Councils:	Babergh, Breckland, East Cambs, Forest Heath, King's Lynn & West Norfolk, Mid Suffolk, St Edmundsbury, South Cambs, South Norfolk		
NRA:	Anglian Region, Central Area		
Water Companies:	Anglian Water Services Limited Cambridge Water Company		

MAIN TOWNS AND POPULATIONS

Bury St Edmunds	32,310	Thetford	19,485
Newmarket	16,920	Mildenhall	13,120
Ely	12,060		

WATER QUALITY

Length of River in National Water Council Class - 1991

Class 1A (Very Good)	40.6km	Class 3 (Poor)	72.2km
Class 1B (Good)	218.6km	Class 4 (Bad)	0km
Class 2 (Fair)	94.1km		

WATER RESOURCES

Availability: Lower Greensand - none
 Chalk Aquifer - limited
 Some surface water available, in winter only

FLOOD PROTECTION (Main River Only)

Length of designated Main River: 407km
 (Watercourses maintained by NRA)
 Length of embanked watercourse: 161km
 Area of Flood Plain: 71km²
 Area at risk of flooding: 566km²

FISHERIES (Monitored by NRA)

Length of game fishery: 106km
 Length of coarse fishery: 227km

CONSERVATION

Water dependent Sites of Special Scientific Interest (SSSI's): 39 No

NAVIGATION

Length of Recreational Waterway/Navigation: 103km

THE CATCHMENT

The Ely Ouse catchment covers 2510km² mainly within the western part of both Norfolk and Suffolk, with the remainder in Cambridgeshire.

All tributary rivers flow from east to west into the Ely Ouse, although in times of flood the Lark, Little Ouse and Wissey are intercepted by the man-made Cut-Off Channel which discharges into the Relief Channel at Denver for storage and then discharge into the Great Ouse at Kings Lynn.

There is considerable physical and biological diversity within the rivers and streams, ranging from chalk streams to fenland rivers. Some 495km² of fenland is protected by flood embankments, with most of this around mean sea level.

CURRENT SITUATION AND PLANNED ACTIONS

The actions to be taken in the catchment, as a result of the consultation exercise, are outlined in the following tables. A number of issues will require feasibility studies and appraisal of options prior to work commencing on site, and in some cases the solving of issues may not be viable.

Since there is limited funding available to meet regional requirements, funds are allocated on a priority basis. Therefore, timing of planned actions will depend upon their priority compared with actions proposed elsewhere in the Anglian Region.

a) Water Quality

Nearly 260km of the 425km of river included in the National Water Council 1991 survey are classified as good or very good. The NRA regularly monitors these surface waters and also the highly vulnerable aquifers which supply potable water for much of the population living in this catchment. The groundwater in particular is at risk from diffuse pollution sources primarily nitrates and pesticides from agricultural sources. Industrial pollutants including oils, chlorinated solvents and chemicals have already polluted the aquifers in a number of locations and the NRA has given a high priority to remediation work and to preventing further pollution within this catchment by undertaking site visits.

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD					DETAILS	BENEFITS	
				93/4	94/5	95/6	96/7	97/8			
1 Cottenham Lode - failure to achieve eco system class 3.	Med	NRA/AWS							Subject to national negotiations with DoE and Water Services Companies (AWS)	Although recent extensions at Cottenham STW have improved the water quality, further improvements are necessary to meet the river targets.	Cleaner water/Flora and fauna/Improved fishery.
2 Soham Lode - failure to achieve fisheries eco system class 3.	Low	NRA		●	●	●				Recent improvement works made to Soham STW and Newmarket STW should result in the Soham Lode being able to meet the fisheries eco system class 3.	Cleaner water/Flora and fauna/Improved fishery
3 River Lark - failure to achieve fisheries eco system 3/2 from Bury St Edmunds to Mildenhall.	Med	NRA/AWS/ Abstractors					■	■	■	Improvements to Bury St Edmunds STW (subject to national negotiations with DoE and Water Service Companies - AWS). Greater control of polluting run off from the urban area. Feasibility study into river support scheme or revocation of abstraction licences.	Cleaner water/Flora and fauna/ Improved fishery.

■ = Feasibility Study Appraisal ● = Work on Site/Action AWS = Anglian Water Services STW = Sewage Treatment Works

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS	
4 River Kennett - failure to achieve eco system class 2.	Low	NRA/AWS			Subject to national negotiations with DoE and Water Services Companies (AWS)	Improvements are required at Gazeley STW if the watercourse is to meet its target. Feasibility study into benefits of revoking licences.	Cleaner water/ More water/ Flora and fauna/ Improved Fishery.
5 Cavenham Stream - failure to achieve fisheries eco system class 4.	Med	NRA/AWS			Subject to national negotiations with DoE and Water Services Companies (AWS)	Improvements to Barrow STW would improve the water quality of the watercourse. Increased river flows providing greater dilution to the effluent can be obtained by revoking surface and groundwater abstraction licences. (Subject to feasibility study).	Cleaner water/ More water/ Flora and fauna/ Fishery.
6 Little Ouse - failure to achieve fisheries eco system class 4 in Botesdale to Blo Norton ford stretch.	Med	NRA	5K	● ●		Poor water quality occurs during the summer months. More study is required to enable further action or revised classification to take place.	Cleaner water/ Flora and fauna/ Improved fishery.
7 River Sapiston - failure to achieve fisheries ecosystem class 4.	Med	Farm Kitchen Foods/NRA		■ ■ ●		Improvements in water quality can be achieved by further improvements to the effluent treatment plant at Farm Kitchen Foods. Continued monitoring of Elmswell STW necessary to ensure compliance. A pollution prevention survey of farms within the catchment area is required.	Cleaner water/ Flora and fauna/ Improved fishery.
8 Stowlangtoft Stream - failure to achieve fisheries eco system class 3.	Med	NRA/Farming Community	1K - 50K+ Per Site	■ ● ● ● ●		Suspected to be discharges from a number of agricultural premises. Pollution inspection of farms within catchment will be undertaken.	Cleaner water/ Flora and fauna/ Improved fishery.
9 River Thet - failure to achieve fisheries eco system class 3.	Low	NRA/Industry		■ ● ● ●		Poor quality discharges from industrial effluent has affected the upland area of the River Thet. Enforcement action has already been taken and will be repeated as necessary. Continued monitoring and inspection will be carried out to ensure that other discharges are not affecting this stretch.	Cleaner water/ Flora and fauna/ Improved fishery.
10 River Wissey - failure to achieve fisheries eco system class 3.	Low	NRA/British Sugar		■ ■ ●		Recent improvements in the effluent from the British Sugar Factory at Wissington should result in the watercourse meeting its target. Continued monitoring is required to ensure that this is the case.	Cleaner water/ Flora and fauna/ Improved fishery.

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11 Watton Brook - failure to achieve fisheries eco system class 3.	Med	NRA/Farming Community	1K - 50K+ Per Site	■ ● ● ●	The brook has been affected by urban and industrial run off. Pollution prevention inspections will be carried out in the area.	Cleaner water/ Flora and fauna/ Improved fishery.
12 Unsewered villages where septic tanks discharge to watercourses, e.g. Kenninghall and Carbrooke.	Low	Householder/ AWS/ District Council	5K - 1M	■ ■ ■ ■	The only effective means of solving the problem on a long term basis is for the installation of first time rural sewage schemes.	Cleaner water/ Flora and fauna.
13 Quality problems in groundwater.						
13(1)(a) Groundwater contamination by nitrates.	High	Farmers/MAFF		■ ● ● ● ●	A reduction in the application rates for fertilisers in highly sensitive areas is required.	Public Water Supplies. Improved water quality. Long term benefits to ecology.
13(1)(b) Groundwater contamination by ammonia from British Sugar, Bury St Edmunds.	High	British Sugar		■ ● ● ● ●	Further investigation into the effects of long term discharges from lagoons into the aquifer are required. A feasibility study is necessary to investigate whether remediation measures are required.	Industrial Water Supplies. Groundwater Protection.
13(2)(a) Groundwater contamination by solvents - RAF Honington.	High	MOD/NRA		● ● ● ● ●	Further investigations into the extent and source of the solvent is required. A feasibility study into possible remediation measures is planned.	Public Water Supply. Groundwater Protection.
13(2)(b) Groundwater contamination by solvents - Mildenhall.	High	MOD/ Site Owners/ NRA		● ● ● ● ●	Investigations into a number of solvent contaminations on the industrial estate and airfield are ongoing. Remediation measures are required to remove solvents and other chemicals found during the investigation.	Public Water Supply. Groundwater Protection.
13(2)(c) Groundwater contamination by solvents - Industrial Estate, Bury St Edmunds.	High	Site Owner		● ● ● ● ●	Monitoring of contaminated groundwater to continue after major remediation project on site. Study into whether further remediation work required. Long term monitoring of groundwater will be necessary.	Public and Industrial Water Supply. Groundwater Protection.
13(2)(d) Groundwater contamination from fuel - RAF Mildenhall.	High	MOD/NRA		● ● ● ● ●	Continued monitoring of groundwater following remediation work carried out to retrieve fuel lost to the aquifer.	Public Potable Supply. Groundwater Protection.

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 MOD = Ministry of Defence

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13(3) Groundwater contamination by pesticides - High levels of atrazine, Mildenhall area.	High	NRA		■	●	●	●	●	Increased monitoring of the groundwater in the industrial estate and area adjacent to the airfield is required to investigate the extent of the pollution.	Public Water Supplies. Groundwater Protection.
13(4) Groundwater contamination from waste disposal sites at Ingham and Barton Mills.	Low	Site Operator		■	■	■	●		Leachate from these water disposal sites has polluted the aquifer. An investigation is required to monitor the extent of the problem and suggest remediation measures if practicable.	Groundwater Protection.
13(5) Impact of Waste Disposal Sites generally on Water Quality.	Med	Site Operator/ County Council/ NRA			■		●		A study into the potential for leachate affecting water quality on a number of waste disposal sites is required.	Groundwater Protection. Cleaner Water.
14 Little Ouse and Lark - Oil discharges from surface water sewers.	Med	AWS	100K+		■		●	●	Regular pollution of the rivers in Bury St Edmunds and Thetford are caused by the discharge of oil from surface water sewers. A programme of installation of oil interceptors at the outfalls would greatly reduce the pollution.	Cleaner Water. Wildlife. General Public.
15 High Nitrate Concentrations in River Wissey.	Low	NRA/MAFF/ Land Owners		■	●	●	●	●	A reduction in agricultural applications of nitrates within this catchment is required to reduce leaching into the watercourse. Control might be necessary using legislation available in the Water Resources Act.	Public Water Supplies. Improved Water Quality.

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b) Water Resources

Availability of water resources from both groundwater and surface is limited. Surface water is available in winter during periods of high flow. In summer when crop irrigation takes place, surface water availability is limited.

In the catchment Anglian Water Services is the major abstractor for public water supply, with Cambridge Water Company and Suffolk Water operating a small number of sources. In addition, 420 licences for general agricultural abstraction and 50 licenses for industrial abstraction are in effect. Water is transferred from the Ely Ouse catchment to Essex to supplement principally Essex Water Company supplies.

Water abstractions for public water supply, industry, agriculture and private use are controlled by licences, and it is becoming common practice to include conditions that stop abstraction during low flow conditions or low

ground water levels in order to protect the environment and the rights of existing users.

The environmental requirements for water to sustain the riverine and wetland habitats and ecology are important water resource management issues and investigation work has been identified.

The other principal water resource issue in the catchment is the future availability of groundwater and surface water resources if demands increase. National and Regional strategic resource plans are in the preparation and consultation stages respectively and, until they are completed, the action plan for this catchment cannot be fully resolved. The action period has been identified but no costs.

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
16 and 17 Future growth in abstraction demands cannot be met from groundwater or surface water.						
(1)	High	NRA/ Abstraction Licence Holder		● ● ● ● ●	Effective demand management. E.g. selective leakage control and metering of PWS.	Better use of existing resource. Potential for more reliable supply.
(2)	High	NRA	100K	● ● ●	Improve understanding of groundwater mechanisms and resource availability in Little Ouse, Wissey and Lark groundwater units.	Groundwater licence holders and environment. Improve groundwater management.
(3)	Low	NRA/ Abstractors		■ ■	Evaluate import water from other catchments (subject to Regional Strategy and only after Project and Environmental Appraisal).	Increased water availability for abstractors.
(4)	High	NRA/ Consortium of Abstractors		■ ■ ■	Evaluate storage of winter water in new Major Storage Reservoir. (Subject to Regional Strategy and only after Project and Environmental Appraisal).	Increased water availability.
(5)	Med	Farmers	100K pa	● ● ● ● ●	Storage of winter water in small farm reservoirs.	Increased water availability and reliability.
(6)	Low	NRA	None	● ●	Revoke unused licences to reallocate water.	Increased water availability.
18 Transfer of water from the major watercourses into IDB drains via 'slackers' is not controlled by the Water Resources Act.						
(1)	High	NRA/IDB	None	● ● ● ●	Voluntary agreement with IDB's to control quantity abstracted and give better management of the existing resource.	Licence holders and river environment.
(2)	Low	NRA/MAFF/DoE		■ ■	Legislation change to clarify Water Resource and Land Drainage activities.	More effective control of resource and removes legal uncertainty.
(3)	Med	IDB and individual farmers	100K pa	● ● ● ●	Increase water storage in IDB areas by retaining higher water levels or constructing winter storage reservoirs.	Farmers and the river environment. More reliable water supply.

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● = Work on Site/Action

PWS = Public Water Supply

MAFF = Ministry of Agriculture, Fisheries and Food

IDB = Internal Drainage Board

DOE = Department of the Environment

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS		
19 "In River Needs" are not quantified and minimum acceptable flows need to be determined.								
(1)	High	NRA	60K	● ● ● ●	Undertake extensive ecological studies throughout the catchment to determine "In River Needs".	River habitat and ecology. Verification of water resource availability		
(2)	Low	NRA	50K		■	Assessment of the minimum acceptable flow regime in the catchment. (Need R & D studies and consultation).	Verification of water resource availability. Satisfies legal requirements	
20 Catchment Areas for wetland sites of conservation value need to be defined.								
(1)	High	NRA, in conjunction with English Nature	30K	● ●	Continue R & D study to define methodology. (Existing regional study).	Wetland conservation sites. Improves water resource management and retains wetland habitat.		
(2)	High	NRA, in conjunction with English Nature	50K pa		■ ● ●	Install hydrometric monitoring.	Wetland conservation sites. Improves water resource management and retains wetland habitat.	
21 Transfer of water from River Lark to Cut-Off Channel for Amenity and Environmental purposes.	Low	NRA	50K			■	Undertake hydrological and environmental study of Cut-Off Channel and River Lark to appraise relative benefits.	River environment and amenity. Effective water resource management.
22 Possible reduction of the Ely-Ouse MRF at Denver.	Med	NRA	Part of Regional Investigation		■ ●		Undertake environmental assessment of the impact of the possible reduction. (Ongoing). To be reviewed as part of the River Ouse Management Project.	Water users primarily in Essex.

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c) Fisheries

Rivers within the catchment support both coarse fisheries (227km) and brown trout fisheries (106km). A modest sea trout run is also known within the River Wissey and possibly the River Little Ouse. The principal coarse fisheries in the catchment have a target fish biomass of 20 grammes per square metre (approximately 210lbs per acre). Taken as a whole the fishery within the

'Denver Pond' supports close to this biomass, although the movement of fish within the system will result in an unequal distribution. The Denver Pond includes all of the lower, navigable sections of the Rivers Wissey, Little Ouse and Lark, as well as the main Ely Ouse River and the Old West River. The absence of locks permit the free movement of fish throughout this part of the catchment.

To maximise the natural production of fish within the Denver Pond, habitat enhancements detailed in conservation issue number 25 are recommended.

Upstream of the navigable sections the fish populations are more variable and are sensitive to the quality of in-river habitat. Enhancements detailed in conservation issue number 24 are recommended to address the

problem of degraded habitats. The Little Ouse between Thetford and Brandon supports a modest 6-7grammes per square metre fish biomass and is a high priority area for habitat enhancement. The provision of a coarse fish, fish-pass at Brandon Staunch should be considered to enhance the fish population in this section of the Little Ouse.

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
42 Little Ouse fish pass at Brandon Staunch.	Med	NRA	20K	■ ●	Feasibility study into the provision of a fish pass to allow the passage of coarse fish at Brandon Staunch. May not be required if navigation is extended to Brandon town centre.	NRA Fisheries enhancement.
40 Failure to reach fish biomass class target.						
(1) River Little Ouse below Knettishall.	High	NRA	50K	● ● ●	} Habitat enhancement as detailed in conservation issue 24.	Increase fish biomass. Reduced need for restocking.
(2) River Thet below East Harling.	Med	NRA	30K	● ● ●		
(3) River Sapiston below Ixworth.	Med	NRA	30K	● ● ●		

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d) Conservation

Most of the rivers which rise in the east of the catchment flow for at least part of their length through the Breckland Environmentally Sensitive Area. This is an area of free draining sandy soils which support a wide diversity of important wildlife habitats, and in which the river corridor is an important component. The Brecklands are also rich in sites of archaeological significance.

The lower sections of all the catchment rivers flow through areas of fenland, within embanked high level channels. Again the river corridor in these areas provides a valuable wildlife habitat, often through areas of intensive arable agriculture. In carrying out all of its functions NRA will seek to protect and enhance the conservation of flora, fauna, landscape and archaeology.

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
23 River Corridor Habitat Classification required.	High	NRA	4K	●	Analyse Rivers Environmental Database (RED) to provide a standard classification and assist in strategic planning for conservation enhancement.	NRA Conservation enhancement
24 Degraded instream habitat in non-navigable rivers.	High	NRA/IDB/ District and County Councils	100K	● ●	Recreate riffle pool sequences. Create two stage channels. Construct current deflectors, croyes, etc. Prioritised after issue 23 conservation classification.	NRA Conservation enhancement and possible reduction in flood defence maintenance requirements.

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ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
25(1) - (3) Degraded instream habitat in navigable channels.	Med	NRA	50K	● ● ●	Review instream weed cutting to provide greater habitat diversity. Create 'wet berms' when dredging. Create off-river refuge areas. Prioritise after issue 23 conservation classification.	NRA Conservation enhancement.
26 River Corridor habitat diversity on embanked watercourses.	Med	NRA/Riparian Owners	50K	● ● ●	Review grass cutting regime to protect sensitive areas, e.g. Cut-Off Channel. Encourage tree planting in agreed areas to enhance habitat and improve landscape.	NRA Conservation enhancement.
27(1) Loss of wet grassland adjacent to rivers in rural areas.	High	NRA/Riparian Owners/MAFF/Countryside Commission	50K	● ● ● ●	Increase flooding to natural floodplain by construction of 'riffle weirs' to increase water table locally. With agreement of landowners and using ESA or Countryside Stewardship as appropriate.	NRA Conservation enhancement and benefit to flood defence.

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e) Flood Defence

Major flooding in the catchment in 1947 and 1968 resulted in a series of improvement schemes. An investigation is underway to determine whether the land adjoining the principal, embanked, rivers is protected to the Region's target standard of service, from which it is

anticipated capital works will be required. Regular maintenance, sympathetic to the environment, is required to preserve the flood carrying capacity of the watercourses and to maintain the integrity of the high fenland embankments.

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS	
25(4) Degraded in-stream Habitat-Navigable Rivers.	High	NRA	1.75m	■ ● ● ● ●	Soft option engineering to embanked watercourse (already ongoing assessment).	Protects river margin habitat. Still provides adequate flood defence. Prevents erosion of berm by river traffic.	
26(1) River Corridor Habitat Diversity on Embanked Watercourses.	High	NRA		● ● ● ● ●	Review grass cutting regimes-late cutting in sensitive non-grazed areas.	Increased conservation value of flood bank grassland.	
27(2) Loss of Wetland sites adjacent to rivers in rural areas.	Low	NRA			■	Increase height of weirs/slucices or amend operational controls on non-navigable main river.	Conservation enhancement to riverside meadows. Retain river levels. Possible recharge to groundwater. Increased flexibility from flood defence point of view.

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ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
34 Hold water on flood plains.	Low	NRA/ Land owners/ MAFF		■	Increase height of weirs/slucices to retain more water on flood plain during flood event.	Environmental Improvement (see issue 25). Possible improved aquifer recharge. Increased flood protection to downstream urban areas.
35 Reduced capacity of flood plains within embanked channels.	Med	Landowner/NRA		■ ● ●	Options:- Restore grazing Mowing Increased channel capacity to off set loss of flood plain Designate as Washlands	Environmental benefits. Maintain flood plain capacity. Maintain flood plain capacity. Maintains grass land habitat. Increase in river storage. Navigation benefits. Regulation and enforcement for maintenance. Maintains flood plain capacity. Possible environmental benefit.
36 Standards of Service for flood defence.	High	NRA		● ●	To assess the area at risk from flooding, the effective Standard of Service, and the target Standard of Service.	Identifies planning gaps and enables Capital and Maintenance works to be prioritised. Utilises resources to best effect.
38 Litter collection on NRA owned land.	High	NRA	10K	● ● ● ● ●	Introduce and implement Standard of Service to meet legal requirements. Imposing conditions to leasees.	Environmental enhancement to countryside. Reduces risk of pollution and damage to wildlife.
41 Flood Defence Infrastructure Improvements/ refurbishment (main river).						
41 (1) River Thet Coffee Mill	Med	Landowner		●	Structure refurbishment.	Maintain river regime.
41 (2) Mildenhall Control Structure	High	NRA	40K	●	Improvement of discharge capacity.	Standards of Service capacity.
41 (3) Beck Bridge	High	NRA	10K	●	Improvement of discharge capacity.	Standards of Service Improvement.

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ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
41 (4) Ely Ouse Flood Defences	High	NRA	4.0M	■ ■ ● ● ●	Embankment Improvements.	Standards of Service Improvement.
41 (5) River Lark Structures	Low	NRA	230K	■ ●	Refurbishment.	Asset Management/ Standards of Service.
41 (6) Soham Lode	High	NRA	300K	■ ■ ● ●	Bank Improvements.	Standard of Service.
41 (7) Ely Ouse upstream of Ely	Low	NRA		■	Channel Improvements.	Standard of Service.
41 (8) Denver Sluice Improvements	High	NRA	20K	● ●	Semi Automate.	Standard of Service.
41 (9) Brandon Staunch	High	NRA	10K	■ ●	Automation.	Standard of Service.

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f) Land Use

The predominant land use is agriculture, the area of urbanisation being only 1%. The population of 272,000 is centred in small to medium sized towns and in villages. Growth is proposed to be concentrated in the existing major population centres with the exception of a new

settlement at Red Lodge in Suffolk. Population growth is expected to be 1% per annum. Industry is varied in type and is located generally at the major settlements in designated industrial areas.

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
28 Persuade Planning Authorities to adopt NRA Model Policies/ Statements as policies in their Development Plans.	High	NRA/Local Authorities	Nil	● ● ● ● ●	NRA is a statutory consultee in the Development Plan process. Aim is to preserve and enhance water resources, quality and quantity, flood defence and drainage standards, nature conservation and recreation.	Water environment and the public.
29 Persuade Planning Authorities to amend planning application form to include source of water supply.	Med	NRA/Local Authorities	Nil	● ● ●	The impact of developments on water resources is becoming a high profile issue. NRA could assess proposals and give better advice to LPA's if this information was stated.	Water resources/ developers (to avoid unachievable projects).
39(1) Improve existing or install new infrastructure.	Med	County Councils/ District Councils/ AWS/Riparian Owners.	Unknown	● ● ●	Improvement of watercourses (non Main River) and sewers to alleviate property flooding.	Local communities and property owners.
39(2) Ensure new development does not exacerbate existing or cause new flooding problems.	High	NRA/District Councils/ Councils/AWS/ Developers.	Unknown	● ● ● ● ●	Avoid developments which will cause or exacerbate flooding and ensure developments include adequate infrastructure arrangements, via the Town & Country Planning process.	Local communities and property owners.

■ = Feasibility Study Appraisal ● = Work on Site/Action LPA = Local Planning Authority AWS = Anglian Water Services

g) Navigation

The catchment contains some 103km of navigable river, much of which lies within the embanked channels of the Cambridgeshire and Norfolk fen. There are three locks in the catchment; at Isleham on the River Lark and those at Hermitage on the Old West and Denver on the Ely Ouse which provide access to the tidal Great Ouse. The Ely Ouse is openly connected to the Lower River Cam for navigation and the system also provides a pleasant navigation link between the Bedford Ouse and

the Middle Level system.

Navigation on the Little Ouse and River Lark is now restricted to downstream of Brandon Stauch and Judes Ferry respectively. Historically navigation used to extend to Thetford on the Little Ouse and Bury St Edmunds on the River Lark and canoes continue to use both of these sections of river, particularly the Little Ouse between Thetford and Brandon.

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
30 Extend the Little Ouse navigation to Brandon town centre	Low	NRA/Local Authority/ Boat Users	100K	■	Promote study of options. Alteration to Brandon Stauch to create navigation lock. Provide mooring in Brandon.	Improve interest to head of navigation. Increase tourism and possibly boat licence income.
31 Extend the River Lark navigation to Mildenhall.	Low	NRA/Local Authority/ Boat Users	300K	■	Promote study of the option. Construction of new lock structure, new mooring and extensive channel works.	Improve interest to head of navigation. Increase tourism and possibly boat licence income.
32 Lack of navigation facilities.	High	NRA/Boat Users/ Marinas	300K	● ● ● ●	Promote customer survey and appraisal of navigation needs. Improve lock capacity if required. Provide, with others, boat pump out facilities. Provide increased number of short stay moorings. Provide increased number of public launch sites.	Improve amenity value and level of service to navigation. Increase boat licence revenue. Reduce risk of pollution from boats.
33 Boat Safety Standards.	High	NRA/Other Navigation Authorities/ Boat Users		● ● ● ●	Ensure compliance with existing safety standards. Move towards a harmonised national safety standard for boats.	General safety of boat users.

■ = Feasibility Study Appraisal ● = Work on Site/Action

h) Recreation

NRA will promote recreation associated with inland and coastal waters. When carrying out this duty NRA will take account of other users and seek to balance any conflict which may exist between different uses. Recreational access to rivers within the catchment is variable and where appropriate NRA will seek to improve this. This can be achieved by the

NRA on water such as the Cut-Off Channel, where they are the riparian owner. In other instances such improved access will require collaborative projects involving riparian landowners and local authorities. Currently many visitors are attracted to the Denver Complex, which is owned by NRA, and proposals exist to improve visitor facilities at the site.

ISSUES	PRIORITY H/M/L	RESPONSIBILITY	ESTIMATED COST £	ACTION PERIOD 93/4 94/5 95/6 96/7 97/8	DETAILS	BENEFITS
37 Lack of recreational facilities.	High	NRA/County Council	c 100K	● ● ● ●	Develop Denver Complex to accommodate Marina, Caravan and Camping site. Feasibility study for footpath creation on NRA land. E.g. Cut-Off Channel.	Promote tourism and provide income to NRA for further improvements. Increase public access to the countryside.

■ = Feasibility Study Appraisal ● = Work on Site/Action

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 8 regional groups.

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; 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 provision and maintenance of recreational facilities on rivers and waters under its control. |



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