

**GIPPING / STOUR CATCHMENT MANAGEMENT PLAN**

**FIRST ANNUAL REVIEW**



**JUNE 1995**



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## Catchment Panels

The Annual Review was undertaken in consultation with the Essex, and Norfolk and Suffolk Catchment Panels, who have 24 and 21 members respectively. Each member has a particular interest in the water environment but none is a direct employee of the National Rivers Authority. The catchment areas covered by the panels are denoted on page 3 and panel membership is detailed below.

### Essex Catchment Panel

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## EXECUTIVE SUMMARY

The Annual Review summarises the progress made in achieving targets to improve the water environment in the Gipping / Stour catchment in the year following the publication of the Action Plan in December 1993. There has been good progress generally by all parties responsible for carrying out the actions planned for this year. It is particularly pleasing to note that many actions have been carried out by organisations working in collaboration with others.

Out of 26 actions proposed for the 1994 / 1995 financial year, four actions have been completed, four have been deferred, and the other eighteen are on target. Two actions have been brought forward and completed ahead of schedule.

Improvement of water quality is a major objective in the Gipping / Stour Catchment, and a key event in 1994 was the announcement of Anglian Water's twenty year programme (AMP2). Part of the programme procedure included the development of a jointly agreed Environmental Quality Enhancement Programme with Anglian Water, with the intention of developing a programme of improvements designed to give the greatest environmental cost benefit.

This will result in major capital expenditure during 1995 - 2015, and particularly during the first five years of this period. It should be noted that in some cases money allocated to ensure compliance with European Directives may not be sufficient to upgrade watercourse quality as identified in this Plan. Expenditure under the programme is to be invested in the Ipswich sewerage system, Cliff Quay sewage treatment works (Ipswich) and the coastal discharges from Felixstowe, Harwich and Dovercourt.

The tables in Section 4.0 form an integral part of this review, and should be referred to for a summary of progress on each action.

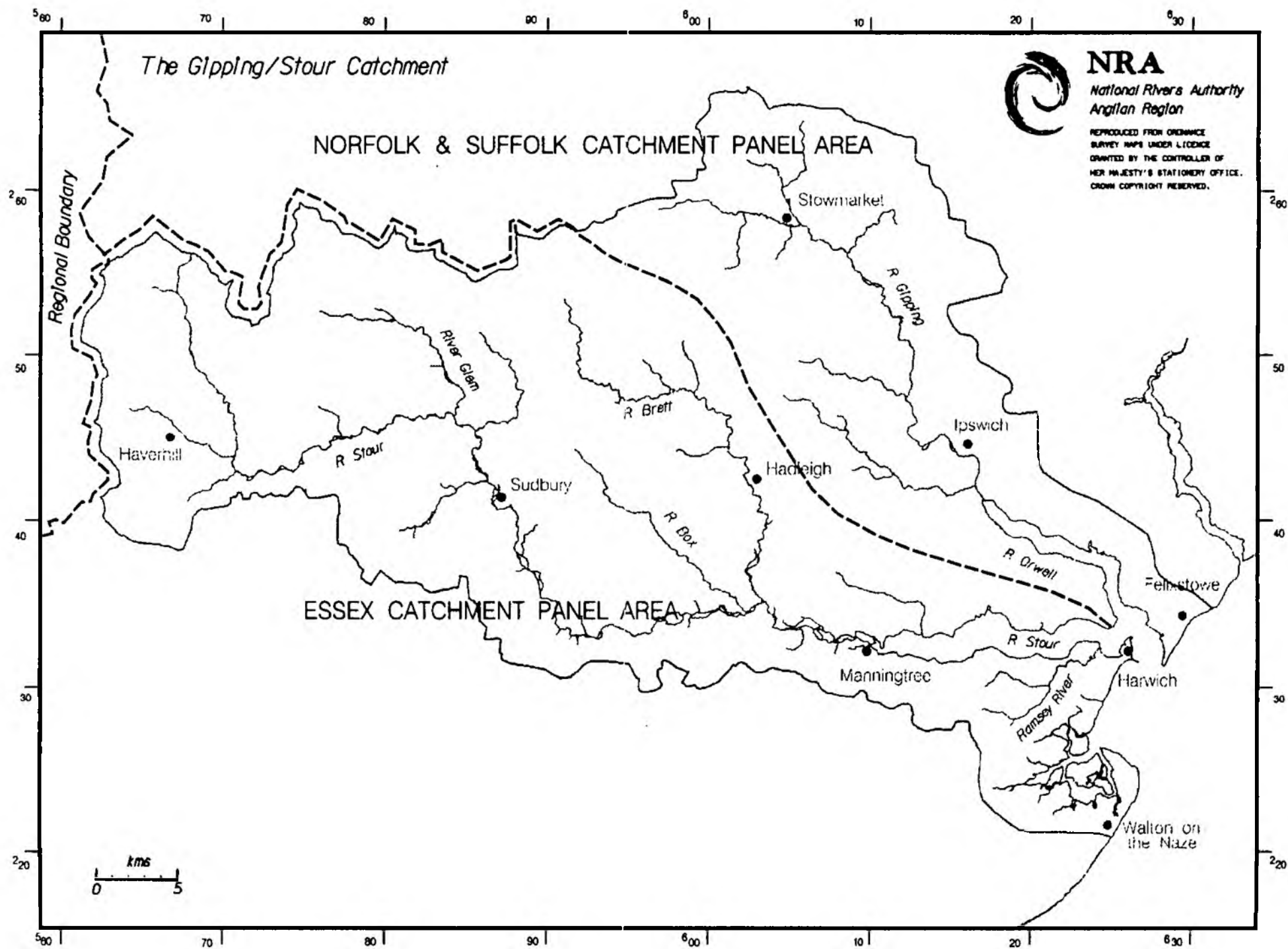
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Copies of the Gipping / Stour Consultation Report (February 1993), the Summary Leaflet for the Gipping / Stour Catchment Management Plan (February 1993), and the Gipping / Stour Action Plan ["Final Plan"] (December 1993) are also available.

### **Further information:**

Requests for further information on any catchment issue should also be directed to the Planning Manager at the Eastern Area office.



## **1.0 VISION FOR THE CATCHMENT**

The NRA's vision for the Gipping / Stour Catchment is to restore streams and rivers to a sustainable condition closer to a natural state by:

- addressing poor water quality and the problems caused by over abstraction and flooding.
- extending green river-corridors for conservation and recreational use.
- increasing easily accessible water based amenities and recreation, especially fisheries.

While seeking to achieve a more natural state in the Gipping / Stour catchment's rivers it is a key objective to:

- maintain acceptable standards of tidal and freshwater flood defence.

## **2.0 INTRODUCTION**

The National Rivers Authority is undertaking a programme of Catchment Management Plans. These allow the NRA to balance competing requirements and interests of users of the water environment. The process realises the environmental potential of a catchment in terms of water quality, water quantity and physical features. The first stage is the production of a Consultation Report. This outlines the issues within the catchment and options for their solution. Following the period of consultation, an Action Plan is produced. This includes an Activity Plan for improvements to the water environment. It outlines areas of work and investment proposed by the NRA and others.

An important part of the Catchment Management Plan process is to monitor the performance of the Activity Plan to ensure that targets and actions are achieved and that the plan still addresses all significant issues in the catchment in an appropriate manner. This Annual Review summarises the progress made since the publication of the Action Plan in December 1993 (then titled "Final Plan"). It is recommended that this Review is read in conjunction with that plan.

### **2.1 The Catchment**

The area of this catchment plan is 1485 square kilometres, and lying mostly on the Suffolk / Essex border with a small proportion being in Cambridgeshire and the greatest part in Suffolk. Both The Rivers Gipping and Stour have large tidal estuaries: the tidal section of the River Gipping is called the Orwell Estuary. To the south-east of these river systems is Hamford Water. This is a small but significant area of rural land interlaced with tidal channels and open water.

Land use in the catchment is primarily agricultural, but some industry is associated with the major towns. The largest of these is Ipswich but the towns of Stowmarket, Needham Market, Haverhill, Sudbury, Harwich and Felixstowe are also important. The last two of these are both major ports which handle large scale international trade.

## **2.2 Key Objectives of the Gipping / Stour CMP**

Key objectives are to:

- Minimise the adverse affects of urban development on the water environment. This is best addressed by significant NRA input to statutory and local plans, and is on-going as part of the planning liaison process.
- Improve water quality in those catchment rivers which fail to comply with their quality objectives, notably in the River Gipping below Sproughton and in the Orwell Estuary.
- Progressively improve and maintain water quality and the water environment throughout the catchment. One of the initiatives being undertaken within the catchment is the preparation of a Memorandum of Understanding, delineating responsibilities with regard to oil pollution. It will be signed by the NRA, Harwich Haven Port Authority, Felixstow Port Authority, Ipswich Port Authority, Parkeston Quay and Harwich Navy Yard, on 14 July 1995. The Haven Oil Working Group, composed of the signatories and the relevant District and Borough Councils, will produce a formal plan for the area, within the next year.
- Educate, encourage and promote the use of MAFF's Code of Good Agricultural Practice, in order to effect a reduction in the concentration of herbicides and pesticides entering watercourses.
- Ensure that development of waste disposal sites or redevelopment of contaminated land does not compromise groundwater quality. This is achieved through the statutory planning consultation procedures.
- Manage water resources in an environmentally sustainable manner to achieve the right balance between the needs of the environment and those of the abstractors. This will be achieved in several ways, including the encouragement of winter farm storage, and the production of a Gipping Water Resource Management Plan in 1995/6.
- Assess the impact of the operation of the Ely Ouse to Essex Transfer Scheme on the environment and other users, and undertake weir improvements and changes in method of operation.
- Prepare Water Level Management Plans; it is now an essential requirement

that WLMPs are incorporated within the Catchment Management Planning process. All high priority sites, of which there are two within the plan area, are to have agreed plans by March 1996.

- Increase biological diversity of the water environment and improve the management of wetland SSSI's. At Cornard Mere, near Sudbury a management plan has been drawn up and the situation is being monitored.
- Maintain and conserve landscape areas and archaeological sites related to the water environment.
- Improve fish stocks throughout the catchment, notably in Belstead Brook, a tributary of the River Stour. This will require improvement to the effluent being discharged from Chantry sewage treatment works.
- Increase scope for water related recreational uses within the catchment.
- Implement flood defence schemes to protect land and property to NRA target standards. Improvements are currently underway at Parkeston, and between Dovercourt and Bramble Island. improvement schemes to alleviate both freshwater and tidal flooding.
- Finalise and commence implementation of the Orwell Stour Estuary Management Plan, which will be completed in 1995.

### **2.3 Assessment of the Catchment and Major Changes since Publication of the Action Plan**

The catchment has been assessed to review the relevance of the actions in the Action Plan. Since December 1993 there have been changes in the catchment that have required revisions to this plan.

Water Level Management Plans were introduced by the Ministry of Agriculture, Fisheries and Food during 1994. They provide a means by which water level requirements for a range of activities in a particular area, including agriculture, flood defence and conservation, can be balanced and integrated. WLMP's are to be produced, in the first instance, for wetland dependant Sites of Special Scientific Interest according to priorities assigned by English Nature. Plans for the High Priority sites will be produced by the end of March 1996, Medium Priority sites by March 1997, and Low Priority sites by March 1998. NRA will produce WLMP's only where they are the Operating Authority and have control over structures influencing water levels. However, NRA will liaise closely with other bodies who also have responsibility for drawing up WLMP's. Where a large number of sites require WLMP's to be drawn up during the year, Interim Management Statements may be produced before the full plan is agreed.

All the issues from the Action Plan remain in this Annual Review. However, two water resource issues "Available surface water resources are inadequate to meet

present and future demands" and "Available groundwater resources are inadequate to meet present and future demands" have been combined to cover all water resources. In many cases the actions have been changed or amended dependant on individual issues. Any major changes to actions, costs and timescales have been indicated where possible. Seven new issues have been incorporated into this Annual Review.

The current status of statutory plans within the catchment is:-

Plan	Status	Date Implemented
Essex Structure Plan	Issues Report - Consultation Document	October 1994
Suffolk Structure Plan	Draft Alteration No.3 - Modifications	February 1994
Cambridgeshire Structure Plan	Examination in Public. Panel Report	February 1995
Braintree Local Plan	Statement of Decisions on Inspector's Report	February 1995
Babergh Local Plan	Alteration No.1 - Proposed Alterations. Deposit Stage	May 1992
Colchester Local Plan	Adopted Review	January 1995
East Cambridgeshire Local Plan	Adopted	December 1993
Ipswich Local Plan	Deposit Draft Post Deposit Suggested Changes	December 1994
Mid-Suffolk Local Plan	Deposit Draft	June 1994
St. Edmundsbury Local Plan	Post Deposited Changes	June 1994
South Cambridgeshire Local Plan	Adopted	June 1993
Suffolk Coastal Local Plan	Schedule Proposed Further Modifications	October 1994
Tendring Local Plan	Statement of Proposed Changes	April 1995

### 3.0 SUMMARY OF PROGRESS

Out of 26 actions planned for the year 1994/95, progress was on target for fifteen actions and five were completed as planned (Actions 1a, 5a, 7, 12, & 25a). Six actions have been deferred (Actions 1b, 3, 6a, 11, 19c, & 23). Three actions have been brought forward and started ahead of schedule, two of which have been completed (Actions 18a & 25b) and one where the investigation is progressing (Action 8a). Seven new issues have been identified and included in the Monitoring Report table (Issues 14, 29, 30, 31, 32, 33, & 34). Many of the actions have involved organisations working in collaboration with others.

Of particular note has been the improvement in performance of many of the catchments sewage treatment works resulting in a higher quality of effluent. The quality of the Stour Brook, Chad Brook, Ramsey River, and River Box are all now compliant with their River Ecosystem target class.

For details of progress, please refer to the 'Progress' column in the tables in Section 4.0. Notable achievements and key events are summarised under each issue sub-heading below.

### 3.1 WATER QUALITY

- **Under the provisions of the *EC Urban Waste Water Treatment Directive* investigations are in hand to determine nutrient balances within the River Gipping system.** This will have particular importance for Stowmarket and Needham Market sewage treatment works. Under the provisions of the AMP 2 a number of discharges are scheduled for improvements. Most important of these are the storm overflows into the River Gipping in Ipswich (Issue 1).
- **The Ipswich sewerage system is significantly overloaded and as a consequence overflows of crude sewage occur in dry weather, into the River Gipping and Orwell.** Although a remedial scheme has been scheduled in AMP 2, a start date for the scheme has yet to be agreed. Currently three options are being considered by AWS, with a decision on the preferred options expected July / August 1995 and an estimated completion date of 1999 (Issue 2).
- **Although national research has investigated impact of heavy metal discharges into the marine environment, investigations still need to be progressed with respect to the River Orwell.** Investigations have revealed the likely inputs to be Zinc from sacrificial anodes on boats in four marinas, and Copper originating from boat antifouling additives. Revision of the Copper and Zinc limits for marine waters is currently under consideration by the European Union (Issue 3).
- **A joint investigation with AWS into the odour problem from Haverhill sewage treatment works is continuing.** Further long term enhancements will be necessary to the works to mitigate this intermittent problem that has affected the River Stour down as far as

Langham (Issue 5).

- **The water quality of the Stour Brook, Chad Brook, Ramsey River, and River Box all meet their River Ecosystem target class.** Improvements in compliance with the standards is attributable to a better performance by their respective sewage treatment works; Haverhill, Shimpling, Wix, Boxford, and Great Waldingfield. (Issues 4, 5, 6, 7, & 12). The improved quality in the Stour Brook has been reflected in the re-establishment of a significant fish stock, enabling the brook to meet its fisheries biomass target class (c) for the first time.
- **The campaign to investigate and remedy farm waste disposal in the Chad Brook catchment has been completed.** Sources of pollution have been dealt with resulting in the improvement to the brook's water quality. A similar investigation is continuing in the River Box catchment and remaining sources should be identified by July 1995 (Issues 5 & 6).
- Due to the absences of evidence that trade effluents impact upon the salt marsh at Brantham there is a need for further evaluation of potential strategy which will be pursued (Issue 11).
- **To ensure full and consistent compliance with EC mandatory bathing water bacterial limits at bathing beaches.** Sampling points within the plan area occur at Felixstowe (Spa Pavilion & opposite Russell Road), Harwich (opposite Wellington Road), Dovercourt (adjacent to Wick Lane) and Walton (at the parade). As part of AWS's Project Clearwater, a £266 million programme to improve the quality of Bathing Waters along the Anglian Coast, has now been determined for Felixstowe and Dovercourt / Harwich (Issue 9). The Felixstowe scheme is to incorporate a new Sewage Treatment Works and pipeline at an estimated cost of £14 million and expected completion by March 1997. The Dovercourt / Harwich scheme is due for completion by December 1997 at an estimated cost of £26 million.
- **Improvements in discharges into the River Orwell to meet river Water Quality Objectives are progressing.** Cliff Quay sewage treatment works will have biological treatment by the end of 1996 and Pauls Maltings will connect to the sewage treatment works at the same time. The only remaining discharges into the River Orwell requiring improvements are the storm overflows from the Ipswich sewerage system. It is unlikely that these will be improved before the end of the century. Pollution prevention work continues within the area of the Ipswich Docks (Issue 10).
- **Excessive use of emergency boreholes at Langham, necessitating nitrate removal.** The scheme by Essex and Suffolk Water is in abeyance, but ways of addressing this problem are to be investigated



by utilising other borehole options.

### 3.2 WATER RESOURCES

- **National and Regional NRA studies are progressing to identify methodologies for evaluating River Flow Objectives.** Research & Development into *Determination of Minimum Acceptable Flows* is reviewing the legislation which could lead to the following concept of River Flow Objectives. A Regional study *In River Assessment: Validation and Application*, due for completion in summer 1995, develops this concept of River Flow Objectives and attempts to define a target flow regime (not just lowest) to meet environmental objectives (Issue 15).
- **The *Regional Water Resource Strategy* was launched in 1994 and reviewed water resource availability.** The report confirmed that resources are fully committed in the Gipping / Stour catchment. It recognises the benefits of water savings through demand management and is endorsed by the NRA. The production of the *Gipping Water Resources Management Plan* is proposed as part of the *Ipswich Water Resources Management Study*. The plan will review water resources, demands and refine licensing policy; due for completion in March 1996 (Issue 18).
- **Further research into the effects of the Ely Ouse to Essex Transfer Scheme has been identified by the *Regional Water Resources Strategy*.** An 18 month study was let in January 1995 entitled *Assessment of the Impact of the Existing Ely Ouse to Essex Transfer*. This research should provide a "baseline" assessment against which any future increases in transfer rates can be assessed as well as making recommendations for more refined operational control of the transfer scheme to minimise impact.

### 3.3 FLOOD PROTECTION

- **Parkeston and Dovercourt / Bramble Island Flood Defence schemes are both progressing and on target.** Phase 2 (Stage 2) of the Parkeston contract has been let for the steel piling along the frontage; the scheme represents about 50% of the total capital work. All materials are on site and Phase 2 (Stage 2) has commenced. The Dovercourt / Bramble Island project has also commenced and the construction of the reinforced concrete wave wall is approximately 90% complete. Rock armouring to the toe of the sea wall is underway.
- **The Essex Sea Walls Strategy Group has been established and will report on its findings this financial year.** The groups Suffolk equivalent is due to be set up this year.

### **3.4 DEVELOPMENT CONTROL**

- **The flood defence Standards of Service exercise has progressed well.** A computer system is installed and data is available for 65% of the Anglian Region. Contracts will be let over the next three to five years to provide full geographical coverage of the flood risk associated with the coast, estuaries and Main Rivers; the database will also provide flood damage assessments (Issue 23).
- **There are two County Structure Plans and seven Borough / District Local Plans covering all or parts of the catchment.** The NRA is a statutory consultee on these development plans, and since publication of the Action Plan (Final Plan) it has been actively seeking the inclusion of its development guidelines in all their plans. As district-wide Local Plans become adopted, the value of NRA comment on individual planning applications is reduced. This is because the new Local Plans are designed to form a fairly detailed brief to potential developers of individual site requirements. It is therefore imperative that the NRA's planning resources are targeted on these plans (Issue 24a).
- **The DoE Circular 30/92 lists types of development on which Local Authorities should consult the NRA.** As "Guardians of the Water Environment" the NRA seeks to ensure that all development is sustainable. In making development recommendations on Structure and Local Plans, the NRA is now referencing each of its major comments to the relevant section of the Circular. In this way the importance and necessity of the NRA's comments to be taken into account is emphasised (Issue 24b).

### **3.5 FISHERIES**

- **Although a River Needs Consent for Chantry sewage treatment works has been derived, the need for improved effluent quality, is still uncertain.** NRA do not consider improvements at the Chantry works to be high priority, and none is planned before 2005 as major financial expenditure is approved and committed until that date under AMP2. A review of the fishery requirements below the sewage treatment works outfall is to be undertaken during 1995 (Issue 25).

### **3.6 CONSERVATION AND RECREATION**

- **Co-ordination of research into loss of salt marsh is continuing.** The NRA Regional Shoreline Management Plans are to incorporate the estuaries and will, along with the Conservation function, carry on co-ordinating research (Issue 27).
- **Suffolk Wildlife Trust have produced a management plan for**

**Cornard Mere due to concern over the decline in water levels.** NRA and AWS are helping the Trust to implement the plan. The central part of the mere is to be excavated by 1 metre with the help of the NRA. A quantity of 13.5 million litres per year is to be licensed to the SWT, agreed by the NRA, diverted by AWS to compensate for the declining water levels. AWS are also to abstract water from their near-by borehole at a lower rate to mitigate the declining levels (Issue 28).

- **A National NRA document *Landscape Assessment Technical Handbook No. 3* has been produced.** A strategy for the Area can be adopted once information is upgraded; both Essex and Suffolk County Councils will be undertaking landscape strategies and subsequently, information will be exchanged between interested parties (Issue 32). At Bramford Meadow the historic course of the River Gipping has been reinstated, thus opening up the water meadow and enhancing landscape value, as well as maintaining wetland areas for conservation purposes.
- **Recreation, conservation and landscape improvement projects carried out include;** the replacement of stiles with kissing gates along c. 0.7km of public footpath near Dedham Hall, to improve disabled access. This work was carried out in conjunction with the Dedham Vale and Stour Valley Project. The NRA also contributed (c. 75%) to the cost of replacing the boat landing jetty at Flatford, in commemoration of the National Trust Centenary Year. Two footbridges have been made and will be installed at Nayland (in the vicinity of Park Road) this September, at a capital cost of £40 k. In tandem with this project the old turning basin is being dredged and linked to the main channel. Opportunities for angling are being promoted on one bank, whilst the other bank is being landscaped, and nationally scarce black poplar is being planted. Along the path of the " Gipping Valley Walk" important tree management has been carried out to enhance the wildlife value. This work has been done in conjunction with the Gipping Valley Project; and in association with the Greenways Project, the NRA have sponsored footpath leaflets for the Gipping, and Alderman Canal.
- **A management plan is currently being compiled for the Orwell and Stour estuaries.** The plan follows on from an Issues Report produced in 1994 (and part funded by the NRA). The management plan is being co-ordinated through a sub-group of the Suffolk Coast and Heaths Partnership and consists of a comprehensive range of all the relevant organisations concerned with the sustainable management of the estuaries. The NRA is playing a full part in the group and has drafted the topic papers for Coastal Processes, Flood Defence and Coastal Protection, and Water Quality. The plan is programmed to be finished in 1995 and takes into consideration the actions outlined in the Gipping/Stour Catchment Management Plan.

### 3.7 NAVIGATION

- Feasibility studies to determine the impact of the two issues, reinstate the River Gipping navigation and renovate the River Stour navigation structures, are both on target (Issues 35 & 36). A bid for capital money will occur prior to the study. The lack of public access to estuaries and the coastal zone is being addressed as part of routine liaison (Issues 35 & 38).

### 4.0 MONITORING REPORT

The following table has been taken from the Gipping / Stour Action Plan ("Final Plan") document, and is updated to show the progress and any changes that have occurred since the Action Plan was published. Progress for each action is summarised in the column on the right hand side.

## MONITORING REPORT

(I) THE MANAGEMENT OF WATER QUALITY OBJECTIVES THROUGH STATUTORY (EC) AND NON - STATUTORY WATER QUALITY OBJECTIVES										
Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £*	Progress
1: River Gipping Headwaters to Sroughton Failure to achieve target class	Review existing discharge consents	■						NRA	Minimal	Model runs completed, to determine river needs consents.
	This will lead to the imposition of "In-River Needs" limits	■	■	■	■	■	■	AWS & Industry	To be evaluated	After 2005 due to AMP2
2: River Gipping Sroughton to tidal limit Failure to achieve target class and fishery status	Update the Ipswich area sewerage system	Following evaluation of scheme options in late summer 1995, AWS will confirm scheme details and anticipated start and completion dates.						AWS	35-40M (capital)	Discussions have taken place over the proposals to update sewerage system. Money from AMP2. To be completed by 1999.
3: River Orwell Ipswich to Chelmondiston Failure to achieve EC limits for copper and zinc	Research to assess sources and the extent of the effect	■	■					NRA	10,000 (capital)	National Research and Development project progressing
4: River Stour and Stour Brook Downstream of Haverhill STW. Failure to meet class targets and use objectives, coupled with odour problems	Improve Haverhill STW to meet odour and "In-River Needs" limits	■	■	■	■	■	■	AWS	To be evaluated	Stour Brook meets current target (91 - 93 data). RNC cannot be imposed until the next century. Odour problem on-going; Research and Development continuing
*Details of whether estimated cost represents capital or revenue expenditure is given, in brackets, adjacent to the cost. Capital expenditure is expenditure which results in the production of, or tangible improvement to, a fixed asset. Revenue expenditure, is expenditure associated with operational costs to maintain existing Standards of Service.										

Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
5: Chad Brook - Headwaters to Acton Failure to achieve target class	Survey to identify polluting sources	■						NRA	4,000 (revenue)	In excess of 40 sites were visited. A small number of problematic practices were identified, and subsequently rectified.
	Review consent limits of discharges	■	■	■	■	■	■	NRA	0	Shimpling STW complies with its Long Term Consent
	Research to assess influence of variable river flows						■	NRA	10,000 (capital)	
6: River Box - Headwater to Edwardstone Failure to meet target class and low biological score	Survey to identify polluting sources	■	■					NRA	4,000 (revenue)	Survey currently being undertaken; completion anticipated early July 1995.
	Review consent limits of discharges	■	■	■	■	■	■	NRA	0	R Box meets its target class (1991-93 data). Boxford is now compliant with its RNC.
	Research to assess influence of variable river flows						■	NRA	10,000 (capital)	
7: River Box - Boxford to River Stour Failure to meet target class	Monitoring to assess the effect of recent improvements to Boxford STW	■						NRA	0	As above; Boxford STW is now compliant with its RNC, and the River Box meets its target class.
8: River Stour Kirtling Brook to Tidal Limit Failure to meet predicted biological score with loss of flora due to eutrophication Concern over agricultural pollution from diffuse sources	Operational investigation (Research and Development) to find the cause	■	■	■				NRA	10,000 (capital)	Regional Research and Development study has commenced
	Pollution prevention and enforcement	■	■	■	■	■	■	NRA	NRA reserve budget	In progress
	Await completion of NRA's R & D project into buffer zones. If acceptable, encourage this use.	■	■	■				NRA	Minimal	Research and Development project, by MAFF in Blackwater catchment, has commenced

Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
9: Adverse effects from existing Harwich, Dovercourt and Felixstowe sewage outfalls	Improvement / relocation of outfalls		■	■	■			AWS	40M approx. (capital)	New works at Parkeston (for Harwich and Dovercourt) and Felixstowe - completion by 1997.
10: River Orwell. Non compliance with class limits upstream of Woolverston	Improved discharges of sewage and industrial effluents			■	■	■	■	AWS Industry	AWS 12M approx (capital); Industry to be evaluated	New works proposed at Cliff Quay STW for 1996, to ensure compliance with RNC.
11: Concern over the effect of trade effluent discharges on the local salt marsh at Brantham	Review of consent limits in liaison with conservation bodies	■	■					NRA	10,000 (revenue)	Discharge having minimal effect on water quality. Consent limit review postponed. Negotiations underway with industry
12: Ramsey River upper reaches Failure to meet class limits	Monitoring to assess the effect of recent improvements to Wix STW	■						NRA	0	Wix STW is now compliant with its RNC.

Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
13: Excessive use of emergency boreholes at Langham to overcome water quality problems	Research and investigation into appropriate effluent limits  Nitrate removal from raw water supply  Investigate supplies from other borehole options	Timetable unpredictable.  Timetable is dependant upon the water undertaker.  — —						NRA  ESW  ESW	To be evaluated  To be evaluated  To be evaluated	Stour odour group is still investigating  Nitrate Vulnerable Zone proposed for the lower Stour by MAFF ESW scheme in abeyance  Commencing May 1995
14: NEW ISSUE Adverse effects for marine oil spills, originating from port activities - Harwich, Felixstowe, and Ipswich area.	Pollution prevention work in association with Harbour Authorities. Improve clean up patrols with appropriate authorities.	—	—	—	—	—	—	NRA Harbour Authorities	10,000 (revenue)	Pollution prevention visits continuing in dock-side premises. Memorandum of understanding now being agreed between NRA and Harbour Authorities to clarify responsibilities for clean up and other legal duties.
(II) THE MANAGEMENT OF WATER RESOURCES, THE AMOUNT NEEDED BY PEOPLE AND THE ENVIRONMENT										
Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
15: Actual minimum flows are perceived to be inadequate to meet river needs	Await outcome of the "In-River Needs" study then assess options		—	—				NRA	To be evaluated	NRA are progressing many National and Regional studies to evaluate River Flow Objectives
16: Artificial river support by effluent discharges is unreliable	Co-operation with AWS and Industry	—	—	—	—	—	—	NRA, AWS, Industry	NRA 15,000 (revenue) Others to be evaluated	Appraisal of options & evaluation of costs can only take place when on-going AWS/NRA discussions reach suitable conclusions.



Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
17: Lack of detailed understanding of the working of the Stour chalk aquifer	Investigation/modelling of aquifer in the Stour catchment						■	NRA	50,000 (capital)	The assessment postponed from 1996/97 to future date. Low priority as resources are fully committed and the benefit of modelling would be outweighed by the cost.
18: Available water resources are inadequate to meet present and future seasonal demands	Await outcome of the <i>Strategic Options Study</i> ; and	■						NRA		Water Resources Strategy is now complete - recognises the benefit of water savings through demand management, wiser use of agriculture by industry and agriculture.
	Encourage winter storage	■	■	■	■	■	■	NRA	5,000 (revenue)	Spray irrigators continue to be encouraged to construct on-site winter storage reservoirs where appropriate.
	To produce Gipping Water Resource Management Plan		■					NRA	20,000 (revenue)	Further proposed action.
	Encourage more efficient agricultural practices	■	■	■	■	■	■	NRA, MAFF, Farmers, NFU, Country. Commiss.	Minimal	Appropriate advice.
	Consider revocation of under used and unused licences.	■	■	■	■	■	■	NRA	To be evaluated	Review licenced amounts against actual abstraction.
	Demand Management.	■	■	■	■	■	■	Water Companies	Known only to them	Continue to pressure Water Companies to practice Demand Management e.g. reduce leakages, & installation of domestic meters.

(III) THE MANAGEMENT OF FLOOD PROTECTION AND THE PHYSICAL ENVIRONMENT

Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
19: Some flood defences require upgrading to comply with NRA target standards. (The listed projects are from the NRAs Long Term Flood Defence Plans)	Parkeston Flood Defences	■	■	■	■	■		NRA	6M	Good progress, on-going
	Dovercourt and Bramble Island Flood Defences	■	■					NRA	609,000	Good progress, on-going
	Langard Point coast protection groynes		■					NRA	63,000	
	Bawdsey			■	■			NRA	430,000	
	Gipping fluvial structures						■	NRA	515,000	
	Ipswich flood defences						■	NRA	4.025M	
	Orwell sluices						■	NRA	230,000	
	Shotley marsh						■	NRA	280,000	
	Felixstowe Dock				■	■		NRA	575,000	
	Ipswich tidal defences						■	NRA	1.680M	
	Gipping (Sproughton to Gt. Blakenham)						■	NRA	275,000	
	Orwell Trimley Marshes						■	NRA	100,000	
									(All the above costs represent capital expenditure)	(NRA's FLOOD DEFENCE LONG TERM PLAN)

Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
20: Weirs and sluices. Problem of funding, responsibility, and co-ordination of operation and repairs to private structures	Carry out an investigation of the environmental and other effects of non-maintenance of structures to identify risks, needs and responsibilities	■	■					NRA	10,000 (revenue)	Linked to Action No.18. Broad investigation pending, some individual structures reviewed.
21: Flood protection. Review of tidal flood defence strategy related to future land use and environmental requirements	Establish a Essex coast working group	■						NRA	Minimal	Essex Sea Walls Strategy Group has been established and will report on its findings by summer 1995.  The Stour / Orwell Estuary Management Plan is now at the Topic Paper stage. Information is being co-ordinated, refined, and rewritten in collaboration with all the organisations involved.
	Establish a Suffolk coast working group		■					NRA	Minimal	
	Prepare strategy for the Essex coast and the Suffolk coast			■	■	■	■	NRA	20,000 (capital)	
	Prepare strategy for Suffolk estuaries			■	■	■	■	NRA	20,000 (capital)	
	Produce the Stour/Orwell Estuary Management Plan	■	■	■	■	■	■	Suffolk County Council District Councils English Nature Harbour Authorities NRA RYA	NRA minimal; Others 5,000 - 10,000 (revenue)	

Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
22: Concern over regulation of river levels and flows associated with the operation of the Ely Ouse to Essex Transfer Scheme	Await the outcome of National and Regional Water Resource Strategies	■						NRA		Strategies completed. Identifies the need to undertake study to assess impact of existing transfer scheme to provide baseline against which future operations can be assessed.
	Formulate a programme of automating river control structures	■	■	■	■	■	■	NRA	25,000 (capital)	Linked to Action No.16. Priority structures for automation being considered.
	Improve public awareness of river regulation scheme by appropriate public information			■	■			NRA	Minimal	Public information boards to be erected at appropriate sites.
23: Need to investigate current standards of flood defence protection in the catchment	Study to be carried out by consultants to determine current levels of service (Gipping/Stour catchment will form part of overall study)	■	■	■	■	■	■	NRA	45,000 (capital)	Computer database installed 1994. Contracts to obtain outstanding data start 1995.

(IV) THE MANAGEMENT OF DEVELOPMENT, IT'S IMPACT ON THE WATER ENVIRONMENT										
Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
24: Development increase risks to the water environment but NRA has the only limited powers to impose conditions on development	Endeavour to persuade planning authorities to adopt NRA Guidance Statements in their Structure and Local Plans	■	■	■	■	■	■	NRA	12,000 (revenue)	Satisfactory and on-going.
	Raise awareness of planning authorities to DoE Circular 30/92 and its importance in formulating Structure and Local Plans and in the determination of planning application	■	■	■	■	■	■	NRA	12,000 (revenue)	Satisfactory and on-going.
(VI) FISHERIES DEVELOPMENT; CONSERVATION AND RECREATION										
Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
25: River Gipping Belstead Brook Failure of Fishery use	Review existing discharge consents	■						NRA	Minimal	Completed; target relaxation now being considered.
	Undertake survey of fish population	■						NRA	5,000 (revenue)	Fish population survey was completed in 1994/95 one year ahead of schedule.
	Set "In-River Needs" limits on Chantry STW appropriate to the fish population						■	NRA	Minimal	Postponed to 2005 due to AMP2.
	Improve standard of effluent from Chantry STW, (if necessary to meet "In-River Needs" study)						■	AWS	To be evaluated	Not included in AMP 2. No expenditure currently planned.

Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
26: Need to identify catchment zones for wetlands of environmental importance	Await the outcome of existing research then formulate action to address areas of concern		■	■	■	■	■	NRA	50,000 (revenue)	Action to commence this year 1995.
27: Loss of salt marsh	Co-ordinate existing research findings to identify shortfalls in current activities for the promotion of salt marsh regeneration and retention	■	■	■	■	■	■	NRA	30,000 (capital)	Existing research is being co-ordinated to identify the shortfalls
28: Concern over decline of water levels at Cornard Mere	On-going monitoring prior to the establishment of a management plan	■	■	■	■	■	■	NRA SWT AWS	NRA minimal; Others unknown	Monitoring on-going. Management Plan by SWT completed.
29: NEW ISSUE Requirement to draw up Water Level Management Plans for wetland SSSI's in Suffolk where NRA is the Operating Authority.	Orwell Estuary (High Priority) NRA awaiting further information from English Nature regarding exact locations requiring WLMP's.		■	□	□	□	□	NRA	2,000 (revenue)	(WLMP's were introduced by MAFF during 1994)
30: NEW ISSUE Requirement to draw up Water Level Management Plans for wetland SSSI's in Essex where NRA is the Operating Authority.	Hamford Water (High Priority) Five plans required.  Cattawade Marshes (Medium Priority)  Glemsford Pits (Medium Priority) If NRA is confirmed as Operating Authority.		■	□	□	□	□	NRA  NRA  NRA	3,000 (revenue)	(WLMP's were introduced by MAFF during 1994)
N.B    □ = Annual Reviews										

Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
31: NEW ISSUE Improve damaged landscape areas related to water environment.	Identify damaged sites.		■	■	■	■	■	NRA	5,000 (revenue)	(On-going programme)
	Implement Improvements.		■	■	■	■	■	NRA	10,000 (revenue)	(On-going programme)
32: NEW ISSUE Improve knowledge on typical landscape styles to enable protection and enhancement to be done.	Upgrade NRA information in order to produce a landscape strategy.		■	■	■	■	■	NRA & Counties	5,000 (revenue)	(On-going programme)
33: NEW ISSUE Improve records on relevant archaeological sites in catchment.	Upgrade NRA records.		■	■	■	■	■	NRA	Minimal	(On-going programme)
34: NEW ISSUE Improve protection, interpretation of and access to sites of industrial heritage significance.	Incorporate protective measures in all NRA operations.		■	■	■	■	■	NRA	Minimal	(On-going programme)
	Encourage external bodies and developers to adopt protective measures.		■	■	■	■	■	NRA	Minimal	(On-going programme)
	Undertake projects to protect and interpret important sites.		■	■	■	■	■	NRA	To be evaluated	(Sites of greatest need will be targeted)
35: Lack of public access to estuaries and coastal zone	Promote the provision of suitable facilities when opportunities arise, as part of routine liaison with local authorities		■	■	■	■	■	NRA	15,000 (revenue)	On-going as part of routine liaison.

(V) THE MANAGEMENT AND DEVELOPMENT OF NAVIGATION										
Issue	Preferred Action(s)	94/95	95/96	96/97	97/98	98/99	Future	Responsibility	Estimated Cost £	Progress
36: Impact of proposed scheme to reinstate the River Gipping navigation	Carry out a feasibility study to identify potential impacts					■		NRA	20,000 (revenue)	The feasibility study is planned for 1998/99. Bid for funding to be made in 1997/98.
37: Impact of renovating the Stour navigation structures	Carry out a feasibility study on potential impacts		■	■				NRA	15,000 (revenue)	On-going in-house. Linked to issue 24. Additional bid for money to be made in 1995/96.
38: Lack of public access for launching small craft on estuaries	Promote the provision of suitable facilities when opportunities arise, as part of routine liaison with local authorities		■	■	■	■	■	NRA	10,000 (revenue)	On-going as part of routine liaison.



## **5.0 FUTURE REVIEW AND MONITORING**

The NRA will be jointly responsible, with other identified organisations and individuals, for implementing this Action Plan. Progress will be monitored and reviewed annually. These reviews will examine the need to update the Catchment Management Plan in the light of changes in the catchment. The period between major revisions will normally be five years.

## **APPENDIX I**

### **Notes on Abbreviations:**

AMP2	Asset Management Plan 1995 - 2000 .
AWS	Anglian Water Services
DoE	Department of the Environment
EC	European Commission / European Union
ESW	Essex & Suffolk Water
MAFF	Ministry of Agriculture, Fisheries and Food
R & D	Research and Development
RNC	River Needs Consents
RYA	Royal Yachting Association
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
SWT	Suffolk Wildlife Trust
WLMP	Water Level Management Plan