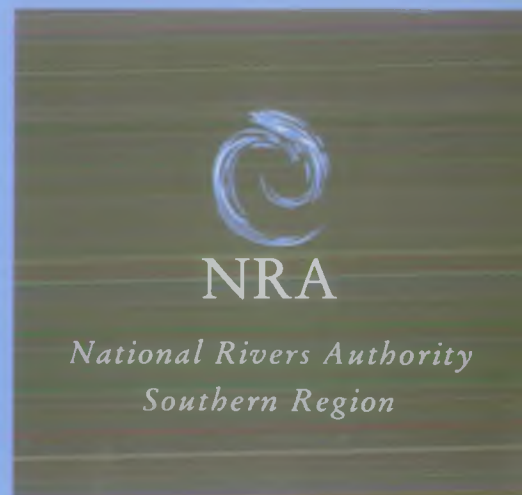


# KENTISH STOUR CATCHMENT MANAGEMENT PLAN ACTION PLAN



## MISSION STATEMENT

The NRA's mission is :

"We will protect and improve the water environment by the effective management of water resources and by substantial reductions in pollution. We will aim to provide effective defence for people and property against flooding from rivers and the sea. In discharging our duties we will operate openly and balance the interests of all who benefit from and use rivers, groundwaters, estuaries, and coastal waters. We will be businesslike, efficient and caring towards our employees".

**Our Aims are to :**

- \* Achieve a continuing overall improvement in the quality of rivers, estuaries and coastal waters, through the control of pollution.
- \* Manage water resources to achieve the right balance between the needs of the environment and those of the abstractors.
- \* Provide effective defence for people and property against flooding from rivers and the sea.
- \* Provide adequate arrangements for flood forecasting and warning.
- \* Maintain, improve and develop fisheries.
- \* Develop the amenity and recreation potential of inland and coastal waters and associated lands.
- \* Conserve and enhance wildlife, landscape and archaeological features associated with inland and coastal waters of England and Wales.
- \* Improve and maintain inland waters and their facilities for use by the public where the NRA is the navigation authority.
- \* Ensure that dischargers pay the costs of the consequences of their discharges, and, as far as possible, to recover the costs of environment improvements from those who benefit.
- \* Improve public understanding of the water environment and the NRA's work.
- \* Improve efficiency in the exercise of the NRA's functions and to provide challenge and opportunity for employees and show concern for their welfare.

---

NRA Copyright waiver

This document is intended to be used widely and may be quoted, copied or reproduced in any way, provided that extracts are not quoted out of context and due acknowledgement is given to the National Rivers Authority.

---

© Crown Copyright

The plans in this document are based on the Ordnance Survey and are reproduced with the permission of the Controller of Her Majesty's Stationery Office.

---

Published August 1995

ENVIRONMENT AGENCY



099848

## *Kentish Stour Catchment Management Plan*

### *Kentish Stour Catchment Management Plan Action Plan*

#### CONTENTS

	Page No
A. THE NRA VISION FOR THE CATCHMENT	3
B. THE CATCHMENT PLANNING PROCESS	4
C. THE KENTISH STOUR CATCHMENT	5
D. INTERACTION WITH DEVELOPMENT PLANS	7
E. CATCHMENT STATISTICS	8
F. CATCHMENT ISSUES	13
G. MANAGEMENT PROPOSALS	16
H. ACTION PROGRAMME	23



ENVIRONMENT AGENCY

NATIONAL LIBRARY &  
INFORMATION SERVICE

HEAD OFFICE

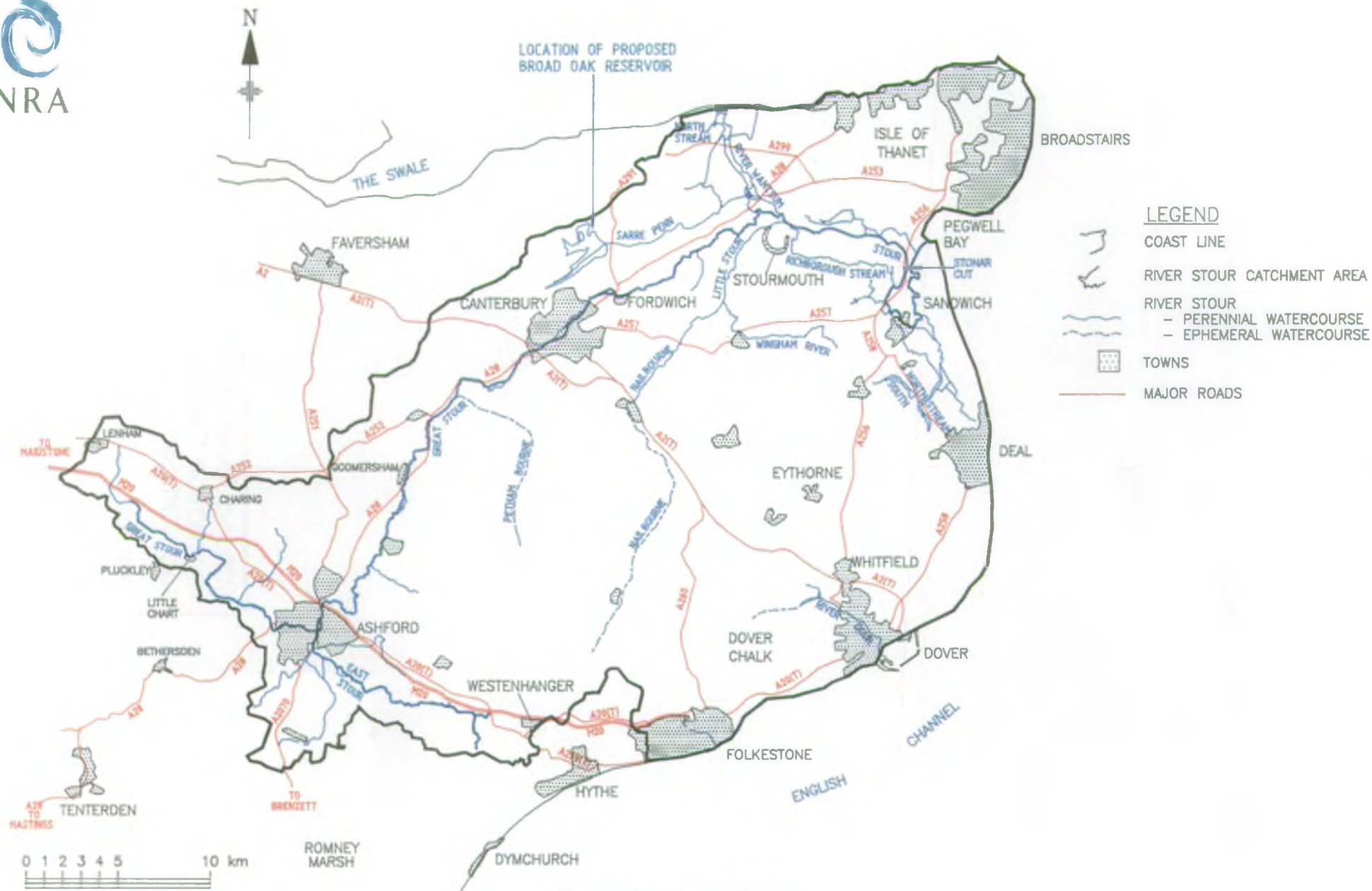
Rio House, Waterside Drive,  
Aztec West, Almondsbury,  
Bristol BS32 4UD

National Rivers Authority  
Information Centre  
Head Office

Class No .....

Accession No A PSA .....





**THE CATCHMENT**

**A. THE NRA VISION FOR THE KENTISH STOUR CATCHMENT**

This is an area of great landscape, wildlife and historic interest which the NRA is pledged to protect. Of special note are the Little Stour, the Great Stour between Wye and Canterbury and the wetlands of the lower catchment, which are internationally renowned for their wildlife.

The NRA will continue its careful stewardship of the catchment's water resources, which are limited by low rainfall and have been heavily developed for public supply. Further abstraction of groundwater for consumptive uses, particularly from the Chalk and Lower Greensand, will be opposed. The Authority will require evidence of the prudent management of an applicant's existing supplies before new resource development schemes are licensed. The NRA will support the import of bulk water supplies from other catchments, integrated resource management schemes and the diversion of treated effluents from sea outfalls to inland waters, allowing their re-use.

The Authority will apply its Groundwater Protection Policy to prevent aquifer pollution and will be vigilant in the maintenance of river water quality. Solutions to the problem of elevated groundwater nitrate concentrations will be investigated. Close liaison will be maintained with Local Authorities to ensure that unsuitable development does not increase flood risks and that major projects, such as the Channel Tunnel rail link, do not cause environmental damage. Flood defence works will be carried out with sensitivity, in accordance with conservation guidelines.

As a partner in the Stour Countryside Project, the NRA will continue to promote public involvement in conservation schemes and the development of appropriate recreation in the river corridor. The Authority will work with riparian owners and angling organisations to maintain, improve and develop fisheries and will investigate the reported decline of coarse fish populations below Canterbury. The use of native brown trout (in preference to exotic species) will be encouraged for river stocking. Where required, fish passes will be built to enable sea trout to penetrate the river and to allow the recolonisation of the catchment by salmon.

NRA Kent Area Manager

## **B. THE CATCHMENT PLANNING PROCESS**

### **Plan Production**

The Water Act 1989 established the National Rivers Authority (NRA) as the "Guardian of the Water Environment", a non-departmental government organisation with responsibility for regulating and managing water resources, water quality in coastal and inland waters, flood defence, salmon and freshwater fisheries, water recreation and, in some areas, navigation. An additional duty laid on the NRA was to further conservation of the natural environment, seeking opportunities for enhancement wherever possible.

NRA Regions are defined by river catchment boundaries, comprising single catchments, as in the Thames Region, or groups of adjoining smaller catchments. With the exception of sea defence and coastal water pollution control all the NRA's functions are managed within this catchment framework, the need to resolve conflicts arising from differing functional objectives makes it essential to integrate the NRA's planning in the same way.

Catchment Management Plans relate firstly to the Authority's own operations, including that of a statutory regulator controlling the actions of others. However, the Plans also offer an opportunity for input from the public to the development of NRA policy, and for the Authority itself to draw attention to its aspirations for the improvement of the water environment.

The Plans concentrate on topics where the Authority has a direct interest and are focused mainly on the river corridor, although some functions such as water resource management and pollution control inevitably extend over the whole catchment area. Whilst they lack the status of statutory planning documents, it is hoped that Catchment Plans will make a positive input to the Town and Country planning process.

Catchment Planning Consultation Reports are produced as a vehicle for wide public consultation about catchment issues. This Final Report has been prepared in the light of comment received.

### **The Results of Consultation**

The Kentish Stour Catchment Consultation Report was published in October 1994 and launched at a Public Meeting in Canterbury. Representations were received from the organisations listed in Table 1 (see page 21) and from fifty three individuals.

### **Plan Review**

The NRA will be responsible for the implementation of this Catchment Management Plan in partnership with the organisations identified in the Action Programme. Progress will be monitored and reviewed annually to ensure that the Plan meets current needs, and there will normally be major revisions at five yearly intervals.

## **C. THE KENTISH STOUR CATCHMENT**

The River Stour rises as two main tributaries, the Great Stour and East Stour, which meet at Ashford. From here the river flows through the North Downs to Canterbury and the tidal limit is at Fordwich, beyond which point the narrow embanked estuary extends some thirty three kilometres through low lying marshland to the sea at Pegwell Bay.

The Little Stour drains the Chalk block south of Canterbury and is pumped to the tidal Great Stour at Plucks Gutter, as subsidence following coal mining has left the lower reaches below high tide level. Above its permanent source at Bridge the river can be traced, for up to thirty seven kilometres, as a winterbourne which runs only when groundwater levels are high.

Julius Caesar landed at Richborough when Thanet was truly an island and the River Wantsum a tidal inlet similar to the modern Swale. Since then the whole area has been reclaimed from the sea and the estuary mouth has moved more than twenty kilometres from Stourmouth to Pegwell Bay. The current population of the catchment is around 450,000, concentrated in Ashford, Canterbury, Folkestone, Dover and the coastal Thanet towns. Away from these centres the area is agricultural, with intensive farming on the rich reclaimed soils of the Stour Estuary. Grazing was the predominant land use until the 1950s when improved drainage and increased mechanisation led to arable production. More recently, spray irrigation has enabled vegetables and salad crops to be grown on these fertile soils. The marsh drainage system is complex, controlled by a network of ditches, sluices and pumps, with the River Stour being a source of fresh water in summer and acting as a high-level drain in the winter. The lower catchment has great ecological value, which is vulnerable to damage by development, intensive agriculture, excessive abstraction or insensitive land drainage.

The threat of flooding is a recurring problem, particularly around Ashford and Canterbury. Flood storage reservoirs have been constructed on each of the two main tributaries above Ashford, considerably reducing peak flows from the upper catchment. Downstream of here the river is fed largely by Chalk groundwater which does not cause the same peak flow problems.

The Chalk aquifers of the North Downs have been highly developed for public water supply, such that abstraction contributed to the low-flow problems experienced in the drought of 1989-92. There are local problems of high groundwater nitrate and chloride concentrations which have forced the closure of some supply boreholes. Water demand within the catchment is growing and is forecast to exceed the current reliable yield, even demand management and mains-leakage reduction will not redress the deficit in the long term. To meet their obligations water undertakings will have to consider other strategic options, which must be acceptable to the NRA. In this context construction of Broad Oak Reservoir, which has been under consideration for the last forty years, has been deferred until after the turn of the century.

Where population is concentrated along the coast effluent disposal is to the sea or to estuarine waters. In the upper catchment, where low stream flows provide little dilution, effluent discharges may cause water quality problems in dry summers.

The ecological value of the catchment is high with many designated conservation areas. The internationally important National Nature Reserve at Stodmarsh which has been proposed as an Ramsar Site for the conservation of wildfowl. A recent initiative by the NRA and Local Authorities has been the launch of the Stour Project to coordinate management of the river corridor, to promote access to the river and to encourage public involvement in conservation schemes.

## *Kentish Stour Catchment Management Plan*

---

The River Stour supports high quality fisheries - trout are stocked between Wye and Canterbury and the tidal reaches between Fordwich and Plucks Gutter are a popular competition coarse fishery. Brown trout occur throughout the catchment and migratory sea trout are found in most rivers, with the exception of the Little Stour where the pumped outflow bars their entry. Even salmon have been recorded upstream of Canterbury following investment in sewage treatment and improvements in river water quality over the last twenty years. The NRA has built fish passes at major obstructions, making most of the Great Stour system accessible to migratory fish.



**D. INTERACTION WITH DEVELOPMENT PLANS**

As a statutory consultee for Local Authority development plans and for individual development proposals, the NRA has the following objectives:-

- \* To protect surface, groundwater and coastal waters from pollution arising from development
- \* To ensure that development does not result in over-exploitation of water resources.
- \* To ensure that the risk of fluvial or marine flooding is not significantly increased by development, and that proposed developments are not themselves at risk from flooding.
- \* To minimise the adverse effects of development on the water environment, particularly with regard to fisheries, wildlife conservation, landscape and historic sites, and to maximise the potential environmental benefits which development may offer.

Details of NRA planning policies are given in "Guidance Notes for Local Planning Authorities on the Methods of Protecting the Water Environment through Development Plans"

## *Kentish Stour Catchment Management Plan*

---

### **E. CATCHMENT STATISTICS**

#### **E.1 GENERAL INFORMATION**

Catchment area            1,080.77 km<sup>2</sup>

##### Topography

Maximum Level	205 m AOD
Minimum Level	0 m AOD

##### Geology

Predominantly Chalk, overlain by Tertiary deposits in the north. Gault Clay, Lower Greensand and Weald Clay outcrop on the south west margin of the catchment.

##### Estimated Catchment Population

Year	Population	Change per decade
1991	452,000	
2001	476,000	+5.3%

##### Districts and Estimated Population (1991)

District	Persons per km <sup>2</sup>	Ha in catchment	% area of catchment	Population in catchment
Ashford	250	23,600	21.8%	58,300
Canterbury	430	25,200	23.4%	107,100
Dover	330	32,100	29.7%	105,600
Maidstone	350	1,700	1.5%	5,900
Shepway	320	14,100	13.0%	45,700
Swale	320	600	0.6%	1,900
Thanet	1,180	10,800	10.0%	127,200

Note: The population figures are approximate and portray overall trends rather than precise values.

## *Kentish Stour Catchment Management Plan*

---

### **E.2 WATER RESOURCES**

#### Resource Areas

	Number	Ha in catchment	% area of catchment
Stour Marshes	9	17,350	16.1%
Great Stour	10	17,120	15.8%
Upper Great Stour	11	23,320	21.6%
Little Stour	12	28,500	26.4%
Thanet Chalk	13	7,610	7.0%
Dover Chalk	14	14,150	13.1%

#### Rainfall (mm)

	Mean Year	1:10 yr Drought
Mean Annual Total	730	575
Effective Rainfall	246	125

#### Abstraction (average daily volume)

Licensed Abstraction	367 Ml/day
Actual Abstraction (1989)	171 Ml/day
Actual as % of Licensed	46.6%
Licensed abstraction from groundwater	309 Ml/day
Percentage from groundwater	84%
Percentage in High/Med Loss category	88%

#### River Flow (cumecs)

		R.Stour	R.Dour
Mean Flow	(Q50)	3.34	0.32
95 percentile Flow	(Q95)	1.56	0.07

## *Kentish Stour Catchment Management Plan*

---

### Water Supply Companies serving the catchment

	Area (Ha)	% Catchment
Mid Kent Water Plc	44,200	40.9%
SWS (Kent)	35,700	33.0%
Folkestone & Dover	28,200	26.1%

### **E.3 WATER QUALITY**

#### Length of River in each Quality Class (km)

Class	Description	Target	Achieved 1990
1A	Good	20.5	38.1
1B	Good	117.7	71.7
2	Fair	28.6	50.0
3	Poor	0.8	7.8
4	Bad	0.0	0.0
	TOTAL	167.6	167.6

#### Length Designated under the EC Freshwater Fisheries Directive (km)

	Freshwater	Tidal
Cyprinid Designation	26.9	13.9
Salmonid Designation	0.0	4.5

#### Sewage Discharges

	Number	Consented Vol.(Ml/day)
To rivers	26	52.848
To estuary	4	2.192
To sea	8	102.406

## *Kentish Stour Catchment Management Plan*

---

### **E.4 FLOOD DEFENCE**

Length of Main River (km)      254.58 (includes tidal lengths)

Length of Coastline (km)

Schedule 4	80.6
Main Tidal Waters	80.6 (included in Schedule 4)
Sea Defences (NRA)	17.85
Sea Defences (LA)	7.56
Tidal Banks (NRA)	38.05

Internal Drainage Districts (Ha)

River Stour (Kent)              11,914

### **E.5 CONSERVATION**

Number of Designated Sites in the Catchment

Type	Total	Water Dependent
Ramsar Sites	2	2 (designated and proposed)
National Nature Reserves	2	2
Sites of Special Scientific Interest	34	29

### **E.6 NAVIGATION**

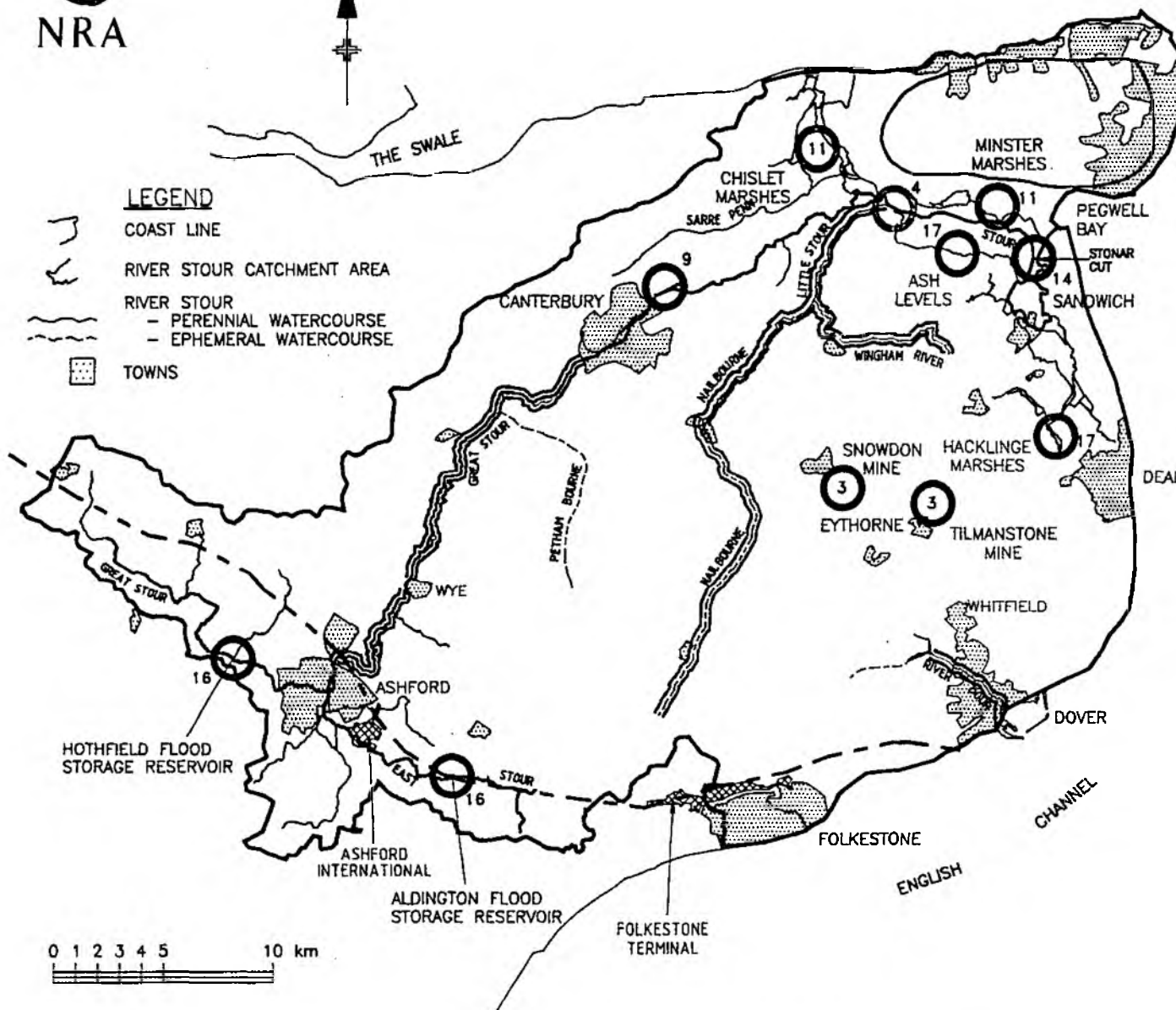
Length of navigation (estuary)      32.0 km





### LEGEND

- COAST LINE
- RIVER STOUR CATCHMENT AREA
- RIVER STOUR
  - PERENNIAL WATERCOURSE
  - EPHEMERAL WATERCOURSE
- TOWNS



### ISSUES IDENTIFIED

- 2 GROUNDWATER NITRATE CONCENTRATIONS IN THANET CHALK BLOCK EXCEED THE MAXIMUM ADMISSABLE VALUE FOR PUBLIC WATER SUPPLY
- 3 DISCHARGES OF SALINE WATER PUMPED FROM FORMER SNOWDON AND TILMANSTONE COAL MINES HAVE CONTAMINATED THE CHALK AQUIFER
- BROADSTAIRS
- 4 AN ENVIRONMENTALLY ACCEPTABLE FLOW REGIME NEEDED FOR PLUCKS GUTTER
- 7 GROUNDWATER ABSTRACTION FOR PUBLIC SUPPLY INCREASES THE TIME WHEN THE EPHEMERAL NAILBOURNE IS DRY
- 8 GROUNDWATER ABSTRACTION FOR PUBLIC SUPPLY SIGNIFICANTLY REDUCES FLOW IN THE LITTLE STOUR, RIVER DOUR AND WINGHAM RIVER
- 9 SURFACE AND GROUNDWATER POLLUTION FROM DISUSED REFUSE DISPOSAL SITE AT CANTERBURY
- 10 CHANNEL TUNNEL DEVELOPMENT AND PROPOSED RAILLINK ROUTE - CARE MUST BE TAKEN TO MINIMISE PROBLEMS OF DISRUPTION TO SURFACE DRAINAGE, CHANNEL SILTATION AND RIVER POLLUTION
- 11 CROP DAMAGE DUE TO EXCESS SALINITY OF IRRIGATION WATERS REPORTED FROM MINSTER AND CHISLET MARSHES
- 14 STONAR CUT OPENED DURING HIGH FLOWS TO PREVENT FLOODING BUT THIS REDUCES SCOURING FLOW THROUGH SANDWICH AND MAY LEAD TO INCREASED SILTATION
- 16 CONSTRUCTION OF HOTHFIELD AND ALDINGTON RESERVOIRS REDUCED FLUSHING FLOWS DOWNSTREAM AND INCREASED RISK OF SILTATION ABOVE WYE
- 17 POTENTIAL FOR CONFLICT BETWEEN NEEDS OF LAND DRAINAGE AND WILDLIFE CONSERVATION
- 20 COARSE FISHERY NOT DESIGNATED UNDER EC FRESHWATER FISHERIES DIRECTIVE

## CATCHMENT ISSUES

## *Kentish Stour Catchment Management Plan*

---

### **F. CATCHMENT ISSUES**

1. There is an increasing demand for water for public supply in this part of SE England, but resources have been developed to such an extent that the NRA operates a presumption against licensing further consumptive abstractions from groundwater in this catchment.
2. Groundwater nitrate concentrations in the Thanet Chalk block exceed the maximum admissible value for public water supply, leading to the closure of some sources. This loss is particularly important as most Thanet groundwater drains direct to the sea and could be abstracted without significant impact on surface water flows.
3. Discharges of saline water pumped from the former Snowdon and Tilmanstone coal mines have contaminated the Chalk aquifer, making parts of it unsuitable for supply.
4. River flow criteria recommended for the lower reaches of the Stour include targets for summer marsh feeding, fish migration, navigation and water supply to Richborough Power Station. An Environmentally Acceptable Flow Regime is needed for Plucks Gutter, formally incorporating these flow requirements.
5. The demand for water for marsh feeding is increasing steadily and is not fully met in a drought year.
6. Groundwater abstraction for public supply from the upper and middle reaches of the Great Stour significantly reduces river flows, particularly in late summer and at times of drought.
7. Groundwater abstraction for public supply increases the time when the ephemeral Nailbourne is dry.
8. Groundwater abstraction for public supply significantly reduces flows in the River Dour and Wingham River at times of low rainfall. Water quality in the River Dour is depressed when dilution for effluents and urban run-off is low.
9. Surface and groundwater pollution is known to arise from the disused refuse landfill site at Canterbury. Similar problems may occur at other operating and disused sites.
10. Care must be taken in the design and construction of the Channel Tunnel Rail Link to minimise the problems of disruption to surface drainage, siltation of river channels and river pollution, which were experienced during construction of the M20 motorway and the Channel Tunnel.
11. Crop damage due to brackish irrigation water has been reported from the Minster and Chislet Marshes. There is a need to ensure that land drainage outfall structures exclude sea water efficiently. Bacterially contaminated irrigation water may render horticultural crops unsuitable for market unless they are processed before sale.

(Increasing demands for spray irrigation may result in the use of lower quality water. It is the responsibility of the abstractor to ensure that water is suitable for his purpose - it may be necessary for farmers to monitor water quality more closely, to process crops before sale, or to restrict irrigation to less sensitive crops).

## *Kentish Stour Catchment Management Plan*

---

12. There is a need to ensure that future development does not increase flood risks. The flood defence scheme for Ashford was designed to allow for some urban growth, but additional development is being proposed which, if permitted, could reduce the level of flood protection provided for existing property in the town.
13. There is concern regarding the standard of protection against tidal flooding provided by the Stour estuary embankments. The risk of flooding may be increased in the future by sinking land levels, the settlement of flood embankments and a rise in mean sea level caused by climate change.
14. Stonar Cut sluice is opened at times of high flow to prevent flooding. More frequent use of the Cut could reduce scouring flows through Sandwich, leading to increased siltation and the need for dredging to maintain the navigation.
15. Private sluices in the catchment need to be operated correctly during flood events to minimise both flood risk and detriment to fisheries.
16. The construction of Hothfield and Aldington flood storage reservoirs has resulted in reduced flushing flows downstream and has increased the risk of siltation of the river above Wye.
17. In marshland areas (particularly Hacklinge Marshes and the Ash Levels) there is potential for conflict between the needs of land drainage and wildlife conservation.
18. The East Stour and the Great Stour above Ashford generally provide poor bankside habitat with a lack of marginal vegetation in areas of intensive farming.
19. There is a potential conflict between the water level requirements of arable and stock farming, fisheries and wildlife conservation, particularly in the marshland areas.
20. Neither the coarse fishery between Ashford and Wye nor the trout fishery between Wye and Canterbury has been designated under the EC Freshwater Fisheries Directive.
21. Conflict between conservation, angling and other recreation interests has been minimised by cooperation between participants, but problems may become more significant as recreational use of the river increases.
22. Many public footpaths in the catchment are obstructed or are poorly maintained. In places the bank separating the river channel from adjacent still waters has been destroyed, making riverside footpaths impassible. Public access to the river is poor in parts of the catchment.
23. The wash from powered boats may damage river banks in navigable reaches.
24. Changes in the abundance, species composition and shoaling behaviour of the fish population downstream of Canterbury are reported to make the coarse fishery less attractive, especially to match anglers.
25. Some river structures are impassible to salmon and sea trout migrating upstream to their spawning grounds.
26. (New Issue). There is a need to maintain and, where possible, to enhance the wildlife value of the river corridor, particularly in the case of designated conservation areas and protected or endangered species

## *Kentish Stour Catchment Management Plan*

---

27. (New Issue). There is pressure for industrial development on land which is at risk from fluvial and tidal flooding.

**G. MANAGEMENT PROPOSALS**

<b>ISSUE 1</b> <b>Shortfall of water resources to meet increasing demands</b>	
<b>MANAGEMENT OPTIONS</b>	
*	Implement demand management and reduce leakage. (Water Companies)
*	Import bulk water supplies from other catchments. (Water Companies, NRA)
*	Investigate the growth in demand and plan for the construction of additional storage capacity at an appropriate time. (Water Companies)
<b>ISSUE 2</b> <b>Excessive nitrate concentration in the Thanet groundwater</b>	
<b>MANAGEMENT OPTIONS</b>	
*	Investigate the use of alternative strategies and advanced treatment of drinking water to meet nitrate limits. (Water Companies)
*	Consider the designation of Thanet as a Nitrate Vulnerable Zone. (NRA)
<b>ISSUE 3</b> <b>Chalk aquifer contaminated by saline mine water</b>	
<b>MANAGEMENT OPTIONS</b>	
*	Continue monitoring natural recovery of groundwater quality. (NRA)
<b>ISSUE 4</b> <b>Abstraction at times of low flow can cause environmental problems</b>	
<b>MANAGEMENT OPTIONS</b>	
*	Develop an Environmentally Acceptable Flow Regime for the lower River Stour (NRA)



## *Kentish Stour Catchment Management Plan*

### **ISSUE 5** **Growing demand for water for marsh feeding**

#### **MANAGEMENT OPTIONS**

- \* Require newly licensed abstractors to provide winter storage for summer use. **(NRA)**
- \* Continue to maximise the effective use of available water by managing resources in accordance with the agreed policy. **(NRA, IDB, Farmers)**
- \* Investigate ways to apportion the costs of improving the marsh distribution system between the beneficiaries. **(NRA, IDB, Farmers)**

### **ISSUES 6, 7 & 8** **River flows in the Great Stour and winterbournes reduced by abstraction of groundwater for public water supply**

#### **MANAGEMENT OPTIONS**

In accordance with the Kent Area Groundwater Management Policy:

- \* Minimise the growth of demand for potable water by introducing demand management measures and the effective control of leakage from the distribution system. **(Water Companies)**
- \* Reduce abstraction from boreholes. **(Water Companies)**
- \* Make abstraction seasonal, using groundwater in sensitive areas conjunctively with other sources. **(Water Companies, NRA)**
- \* Relocate boreholes to less sensitive sites. **(NRA, Water Companies)**
- \* Investigate the potential for low-flow river augmentation. **(NRA)**

### **ISSUE 8** **Poor water quality in the River Dour at times of low flow**

#### **MANAGEMENT OPTIONS**

- \* Improve control over storm sewage and urban surface water discharges. **(NRA, Discharges, Highways Authority)**

## *Kentish Stour Catchment Management Plan*

<b>ISSUE 9</b> <b>Pollution from landfill waste disposal sites</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Investigate the impact of landfill sites on the water environment. (NRA, Site operators, Waste Regulation Authority).</li><li>* Apply NRA groundwater protection policy to all new sites. (NRA, LA, Waste Regulation Authority)</li></ul>
<b>ISSUE 10</b> <b>Potential problems from construction of the Channel Tunnel rail link</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Liaise with developers, Local Authorities and Government to ensure that risks are minimised. (NRA)</li><li>* Adopt NRA recommendations for protective provision in the Union Railway Bill. (Union Rail)</li></ul>
<b>ISSUE 11</b> <b>Irrigation water too saline for crops, or contaminated with bacteria</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Ensure that tidal outfall structures exclude sea water. (NRA)</li><li>* Monitor salinity of irrigation water. (Abstractors)</li><li>* Process crops after harvest to remove bacterial contamination. (Abstractors)</li><li>* Where bacterial contamination is a problem, replace spray irrigation with trickle or sub-surface irrigation. (Abstractors)</li><li>* Grow crops which are more salt tolerant, or which are processed or cooked to remove bacterial contamination. (Abstractors)</li></ul>
<b>ISSUE 12</b> <b>Danger of increased flood risk following development</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Promote good liaison between the NRA and Planning Authorities to ensure that unsuitable development does not occur. (NRA, LA)</li></ul>

## *Kentish Stour Catchment Management Plan*

### **ISSUE 13** **Increasing flood risk from the embanked estuary**

#### **MANAGEMENT OPTIONS**

- \* Survey flood defence structures and introduce an asset management plan. (NRA)

### **ISSUE 14** **Risk of siltation in the Sandwich reaches**

#### **MANAGEMENT OPTIONS**

- \* Review the 1776 Statute controlling the use of Stonar sluice and ensure that it is operated correctly. (NRA, Port Commissioners)

### **ISSUE 15** **Operation of private sluices**

#### **MANAGEMENT OPTIONS**

- \* Advise owners on the operation of their sluices to minimise flood risks in a way which avoids adverse impacts on fisheries and wildlife. (NRA, IDB, Owners)

### **ISSUE 16** **Increased siltation above Wye following flood storage works**

#### **MANAGEMENT OPTIONS**

- \* Monitor channel capacity and dredge when necessary. (NRA, LA)

### **ISSUES 17 and 19** **Potential conflict between the needs of interest groups in marshland areas**

#### **MANAGEMENT OPTIONS**

- \* Promote close liaison between the interests involved and ensure that land drainage operations are carried out in accordance with NRA conservation policy. (NRA, IDB, Landowners, EN, Wildlife interests)
- \* Agree Water Level Management plans in accordance with MAFF guidelines. (NRA, IDB, MAFF, EN, Landowners)

## *Kentish Stour Catchment Management Plan*

<b>ISSUE 18</b> <b>Poor bankside habitat in areas of intensive farming</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Encourage the application of land-use grants to provide a buffer zone adjacent to the river to improve habitat diversity, to attenuate siltation and enrichment of the river from adjacent land, and to enhance the landscape value of the river corridor. (NRA, MAFF, EN, CC, Stour Countryside Project, Landowners)</li></ul>
<b>ISSUE 20</b> <b>More river reaches could be designated under the EC Freshwater Fisheries Directive</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Review the situation and, where appropriate, seek designation of new reaches. (NRA)</li></ul>
<b>ISSUE 21</b> <b>Increasing recreational use of the river may result in conflicts</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Support the work of the Stour Project in encouraging liaison between river users. (Stour Project sponsors, River users)</li></ul>
<b>ISSUES 22 and 23</b> <b>Restricted public access to the river.</b> <b>Some riverside footpaths obstructed, poorly maintained, or washed out</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Support appropriate Stour Project and Local Authority initiatives and encourage early consultation with regard to improvements and repairs to the footpath network. (Stour Countryside Project, NRA, LA, Landowners)</li><li>* Apply a Flood Defence byelaw speed limit to minimise bank erosion from boat wash. (NRA, Port Commissioners, Boat owners)</li></ul>
<b>ISSUE 24</b> <b>Changes in the composition, distribution and abundance of the fish population below Canterbury</b>
<b>MANAGEMENT OPTIONS</b>
<ul style="list-style-type: none"><li>* Investigate the fishery and propose a management plan. (NRA, Anglers)</li></ul>

## *Kentish Stour Catchment Management Plan*

<b>ISSUE 25</b> <b>Obstruction to fish migration</b>	
<b>MANAGEMENT OPTIONS</b>	
*	Investigate the problem and introduce a programme for building fish passes where they are needed. (NRA, Landowners)
<b>ISSUE 26 (New Issue)</b> <b>Need to maintain and enhance the wildlife value of the river corridor</b>	
<b>MANAGEMENT OPTIONS</b>	
*	Promote the Crayfish Action Plan agreed with English Nature. (NRA, EN, MAFF, Landowners)
*	Continue support for the South East Otters and Rivers Programme. (NRA, EN, KTNC, Landowners, Stour Countryside Project)
*	Support and promote suitable wildlife conservation projects. (NRA, EN, Kent County Council, DC, Landowners, Stour Countryside Project)
<b>ISSUE 27 (New Issue)</b> <b>Pressure to develop land at risk from flooding</b>	
<b>MANAGEMENT OPTIONS</b>	
*	The developer to commission an independent study of the effect of the development on flood risks on site and elsewhere. If planning permission is granted, the developer to provide compensatory flood storage capacity or such other measures as may be required by the NRA to mitigate the increased flood risk. (Developer)

**Table 1 ORGANISATIONS WHICH RESPONDED TO THE CONSULTATION REPORT**

Ashford Borough Council  
 British Canoe Union  
 Dover Society  
 English Nature  
 Folkestone and Dover Water Services Ltd  
 Grove Ferry Boat Club  
 Highway Marine Ltd  
 Ickham, Littlebourne and Wickhambreaux Conservation Society  
 Kent County Council  
 Lenham Parish Council  
 Littlebourne Parish Council  
 Mid Kent Water Plc



## *Kentish Stour Catchment Management Plan*

---



Ministry of Agriculture, Fisheries and Food  
National Association of Boat Owners  
National Farmers Union  
National Trust  
Pirates Canoe Club  
River Stour Society  
Royal Society for the Protection of Birds  
Royal Yachting Association  
Southern Water Services (Kent)  
Wickhambreaux Parish Council

and 53 private individuals.

## H. ACTION PROGRAMME

Management Task	95 96 97 98 99 Future	Action by	Estd £k
<u>Issue 1. Shortfall of water resources to meet rising demand</u>  Implement demand management and reduce leakage. Import bulk water supplies from other catchments. Plan for future construction of further storage capacity.	Continuing activity	Water Companies Water Companies,NRA Water Companies,NRA	
<u>Issue 2. Excessive nitrate concentration in Thanet groundwater</u>  Investigate operational solutions (eg. blending, advanced treatment) of drinking water to meet nitrate limits. Consider the designation of Thanet as a Nitrate Vulnerable Zone.		Water Companies NRA	
<u>Issue 3. Aquifer contaminated by saline minewater</u>  Allow natural recovery and monitor the situation.	No Action		
<u>Issue 4. Environmental problems in the Stour at times of low flow</u>  Develop Environmentally Acceptable Flow Regime and associated controls.		NRA	
<u>Issue 5. Growing demand for water for marsh irrigation</u>  Require winter storage and seasonal abstraction for new schemes. Manage existing resource in accordance with agreed policy. Improve marsh feeding system and apportion costs to beneficiaries.		NRA, Abstractors NRA, Abstractors NRA, IDB	

**ACTION PROGRAMME (cont'd).**

Management Task	95 96 97 98 99 Future	Action by	Estd £k
<u>Issues 6, 7, 8. PWS abstraction reduces flows in Great Stour and winterbournes</u>  Introduce demand management measures and leakage control. Reduce abstraction from sensitive boreholes. Use boreholes seasonally, in conjunction with other sources. Relocate abstraction to less sensitive sites. Investigate low-flow river augmentation.	Continuing activity	Water Companies Water Companies Water Companies,NRA Water Companies,NRA NRA	
<u>Issue 8. Poor water quality in R. Dour at times of low flow</u>  Improve control over accidental discharges and surface water quality. Improve control over storm sewage discharges. Improve control over highway drainage.		NRA,Dischargers,OFWAT NRA,Dischargers,OFWAT NRA,HA	
<u>Issue 9. Pollution from wastefill disposal sites</u>  Investigate magnitude of the problem. Apply NRA Groundwater Protection Policy to new sites.	Continuing activity	NRA,WRA (ie EA) NRA	
<u>Issue 10. Environmental effects of Union Rail Channel Tunnel link.</u>  Liaise with Union Rail to ensure that adverse effects are minimised. Adopt NRA recommendations for protective provisions in the parliamentary Bill.	  	NRA, Union Rail  Union Rail	

# **ACTION PROGRAMME (cont'd).**

Management Task	95 96 97 98 99 Future	Action by	Estd £k
<u>Issue 11. Irrigation water saline or contaminated with bacteria</u>			
Ensure that tidal outfall structures exclude sea water.	Continuing activity	NRA,IDB	
Monitor salinity of irrigation water.		Abstractors	
Process harvested crops to remove bacterial contamination.		Abstractors	
Grow crops which are salt tolerant, or which are not affected by contamination.		Abstractors	
Replace spray irrigation with trickle or sub-surface irrigation.		Abstractors	
<u>Issue 12. Danger of increased flood risk following development</u>			
Promote good liaison between NRA and Planning Authorities to prevent unsuitable development.	Continuing activity	NRA,LA	
<u>Issue 13. Increasing flood risk from the embanked estuary</u>			
Survey embankments and structures, produce an asset management plan.	████████████████████	NRA	800
<u>Issue 14. Risk of siltation in Sandwich reaches of Great Stour</u>			
Review statutory controls over the operation of Stonar Sluice.	██████	NRA, Navigation Authority	450
<u>Issue 15. Operation of private sluices.</u>			
Advise sluice owners on correct operation of water control structures.	Continuing activity	NRA,Sluice Owners	
<u>Issue 16. Danger of increased siltation above Wye following Ashford Flood Defence scheme</u>			
Monitor channel and dredge when necessary.	Continuing activity	NRA	

**ACTION PROGRAMME (cont'd).**

Management Task	95 96 97 98 99 Future	Action by	Estd £k
<u>Issues 17, 19. Potential conflict over water level management</u>			
Promote liaison between interests involved.	Continuing activity	NRA,Farmers,Anglers, Conservation interests	
Carry out flood defence and land drainage operations in accordance with NRA conservation policy.	Continuing activity	NRA	
Introduce Water Level Management Plans in sensitive areas.	■	NRA,MAFF,EN,Farmers	200
<u>Issue 18. Localised poor bankside habitat</u>			
Encourage application of land use grants to conserve wetland habitat.	Continuing activity	MAFF,CC,EN	
Encourage the provision of bankside buffer strip between agriculture and river.	Continuing activity	NRA,MAFF	
<u>Issue 20. More river reaches could be designated under EC Fisheries Directive</u>			
Review situation and, where appropriate, seek new designations.		NRA,DoE	
<u>Issue 21. Conflict may increase as river recreation grows</u>			
Support Stour Project as the forum for liaison between river users.	Continuing activity	NRA,LA	14 pa
<u>Issues 22, 23. Poor public access, damaged footpaths</u>			
Support Stour Project initiatives.	Continuing activity	NRA,LA	
Apply flood defence byelaw limiting speed of powered craft on river.	Continuing activity	NRA	



### ACTION PROGRAMME (cont'd).

Management Task	95 96 97 98 99 Future	Action by	Estd £k
<u>Issue 24. Changing coarse fish population below Canterbury</u> Investigate fishery and propose a management plan.		NRA, Anglers	
<u>Issue 25. Obstructions to fish migration</u> Investigate and build fish passes where needed.	■	NRA (Chartham Corn Mill)	42
<u>Issue 26. Maintain and enhance wildlife value of river corridor</u> Promote Crayfish Action Plan. Support South East Otters and Rivers Programme. Promote suitable wildlife initiatives.	Continuing activity Continuing activity Continuing activity	Stour Project,EN,NRA,Landowners Stour Project,EN,NRA,Landowners Stour Project,EN,NRA,Landowners	
<u>Issue 27. Pressure to develop land at risk from flooding</u> Commission study of flood risks. Comply with requirements of NRA if planning permission granted.		Developer Developer	

## *Kentish Stour Catchment Management Plan*

---

### Abbreviations

The following are used in the Management Proposals and Actions Programme sections of this report and refer to those bodies that are relevant to the particular proposals.

CC	Countryside Commission
DC	District Council
DoE	Department of Environment
EA	Environmental Agency
EN	English Nature
HA	Highways Authority
IDB	Internal Drainage Board
KTNC	Kent Trust for Nature Conservation
LA	Local Authority
MAFF	Ministry of Agriculture, Fisheries and Food
NRA	National Rivers Authority
OFWAT	Office of Water Services
WRA	Waste Regulation Authority

TELEPHONE THE EMERGENCY HOTLINE TO REPORT ALL ENVIRONMENTAL INCIDENTS, SUCH AS POLLUTION, POACHING AND FLOODING, OR ANY SIGNS OF DAMAGE OR DANGER TO OUR RIVERS, LAKES AND COASTAL WATERS. YOUR PROMPT ACTION WILL HELP THE NRA TO PROTECT WATER, WILDLIFE, PEOPLE AND PROPERTY.

## NRA EMERGENCY HOTLINE

**0800 80 70 60**

**24 HOUR EMERGENCY TELEPHONE LINE**



**NRA**

*National Rivers Authority  
Southern Region*

### **Regional Office**

Southern Region  
Guildbourne House, Chatsworth Road  
Worthing, West Sussex, BN11 1LD  
Tel : (01903) 820692  
Fax : (01903) 821832



Awarded for excellence

*Printed on Environmentally Friendly Chlorine Free Paper*