EA-Southern LEAPs

Box 3

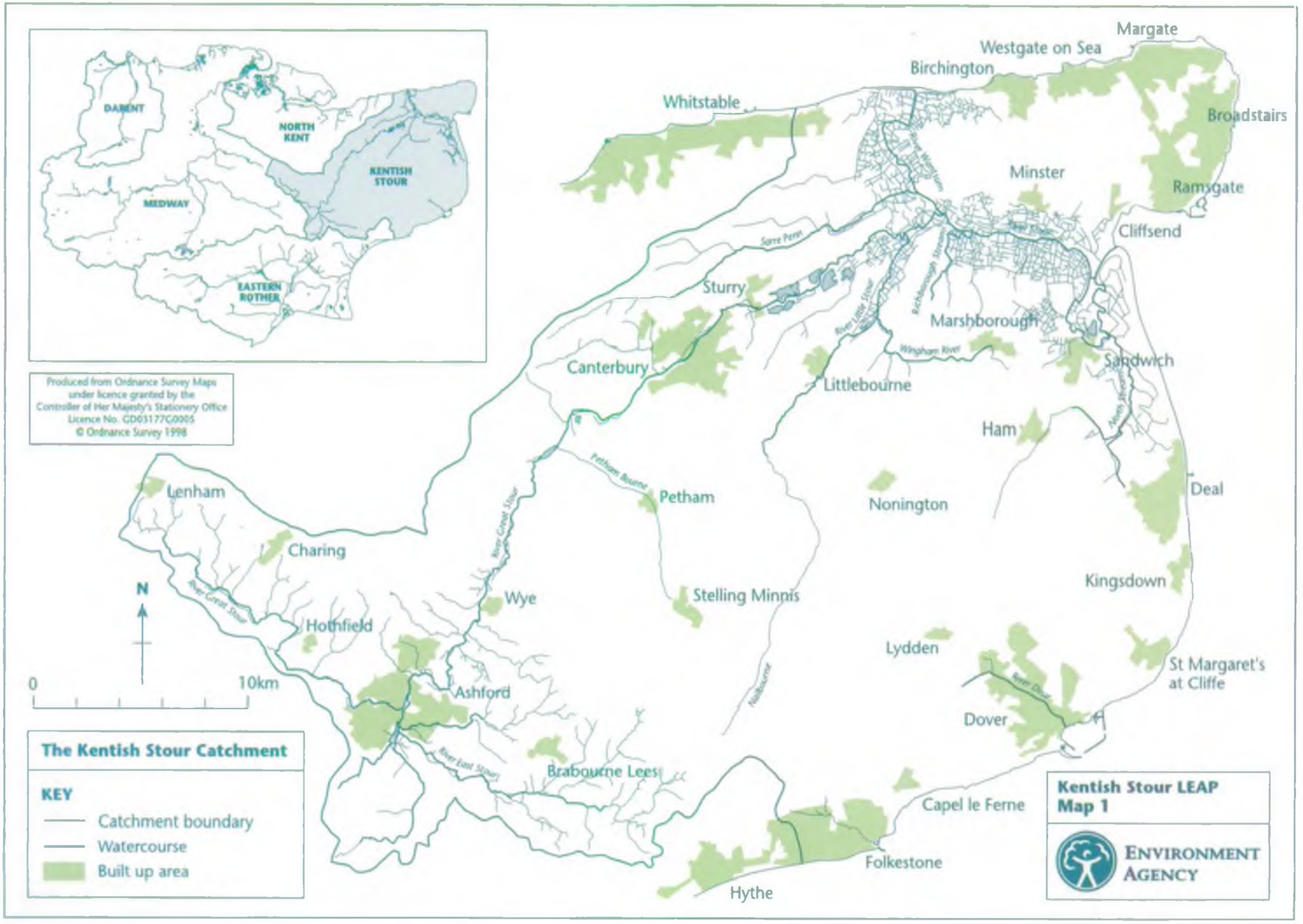
local environment agency plan

KENTISH STOUR

MARCH 2000

ENVIRONMENT AGENCY

Catchment Overview



FOREWORD

Welcome to the Local Environment Agency Plan (LEAP) for the Kentish Stour. This LEAP examines issues specific to the catchment in support of the more strategic and broader-based issues identified in the Kent Area LEAP.

One of the fundamental objectives of the LEAP process is to involve all interested parties in working with the Agency in planning for the future well-being of the local environment, ensuring decisions on the future management of the LEAP area are based on a range of views from interested parties. As a result, this document has been produced after public consultation following the launch of the Consultation Draft in May 1999. We are grateful to the many people who responded to the draft document. Their comments have enabled us to evaluate the issues raised in the original report and refine them into an action plan framework which sets out the work that the Agency intends to carry out in the catchment in partnership with others over the next 5 years. Actions identified in the plan will be monitored and progress reviewed annually.

Many of the issues in this plan cannot be resolved by the Agency alone and are over and above the statutory duties of the Agency. This highlights the need for co-operation bringing together the complementary responsibilities, objectives and resources of different groups. The work of the Agency is increasingly being implemented through partnerships as it becomes recognised that we can achieve more by working together.

I hope you find the LEAP interesting and informative. I am convinced that the implementation of the actions in this LEAP will lead to improvements in the environment of the Kentish Stour in this new millennium. If you have any comments or wish to become involved in addressing the issues raised, we would like to hear from you.

Thank you for your involvement in the LEAP process.

Dr Binny Buckley
Kent Area Manager

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1. INTRODUCTION

1.1. THE ENVIRONMENT AGENCY

The Environment Agency was established on 1 April 1996 as a result of the Environment Act 1995. The Agency was created by merging the expertise of Her Majesty's Inspectorate of Pollution, the Waste Regulation Authorities, the National Rivers Authority and several small units of the Department of the Environment. The Agency therefore provides a more comprehensive approach to the protection and management of the environment by integrating the regulation of air, land and water. The Agency's overall aim is to protect and enhance the whole environment and thus contribute to the goal of sustainable development.

1.2. THE ENVIRONMENT AGENCY'S VISION

The Agency's vision is to create: *a better environment for present and future generations.*

A better environment means different things to different people and the Agency has developed the following set of objectives to clearly focus its efforts on what it means by a better environment and what it is trying to achieve. They relate to the Agency's national objectives and to the powers and duties that it has been given by Government.

The Agency's aims are:

- to achieve major and continuous improvements in the quality of air, land and water
- to encourage the conservation of natural resources, animals and plants
- to make the most of pollution control and river-basin management
- to provide effective defence and warning systems to protect people and property against flooding from rivers and the sea
- to reduce the amount of waste generated by encouraging people to re-use and recycle their waste
- to improve standards of waste disposal
- to manage water resources to achieve the proper balance between the country's needs and the environment
- to work with other organisations to reclaim contaminated land
- to improve and develop salmon and freshwater fisheries
- to conserve and improve river navigation
- to tell people about environmental issues by educating and informing
- to set priorities and work out solutions that society can afford

Achieving sustainable development in the Kentish Stour catchment requires long term planning, careful balancing of priorities and the commitment of everyone that uses or manages the environment. The Kentish Stour LEAP will help contribute to the principle of sustainable development through integrated management and improvement.

2. THE LEAP PROCESS

2.1. LOCAL ENVIRONMENT AGENCY PLANS (LEAPS)

LEAPs take a long-term view of local environments and set out a five-year plan of action for solving local issues. They are non-statutory plans based on river catchments that help to fulfil the Agency's principal aim of contributing to sustainable development through integrated environmental management and improvement. LEAPs sit alongside existing statutory and non-statutory plans from other organisations and recognise that partnership working between the originators of such plans is the key to achieving their aims.

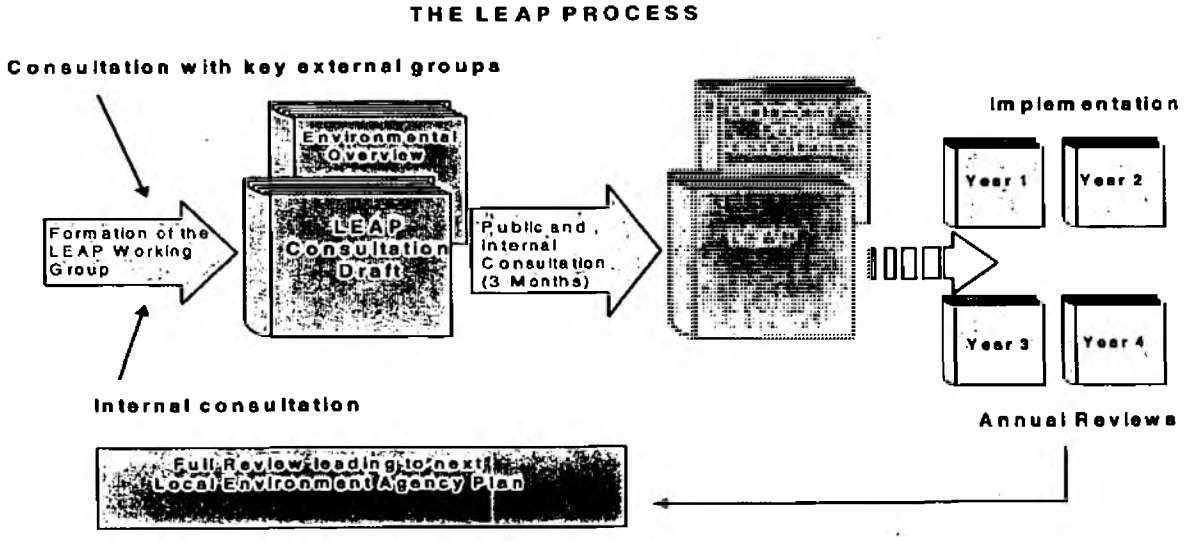
The LEAP is not designed to reflect the Agency's routine activities within the plan area. The Agency's everyday work commits substantial resources to managing the environment including extensive monitoring and survey operations. The Agency is not responsible for regulating every aspect of the environment and for certain issues, other organisations are primarily responsible.

The Agency is committed to a programme of LEAPs as they enable the Agency to identify, assess, prioritise and solve, local environmental issues, taking into account the views of local stakeholders. These will also allow the Agency to deploy its resources to best effect and optimise benefit for the local environment.

LEAPs replace the Catchment Management Plans that were produced by the former NRA and build on their success by covering all the Agency's functions. The LEAP process and documents that it comprises are shown below. LEAPs also have a role in:

- Promoting openness and accountability
- Developing closer links with public/community and other organisations
- Educating and informing the public on local environmental issues
- Realising the environmental potential of the area

Figure 1: The LEAP Process



2.2. KENT AREA APPROACH

An over-arching Kent Area LEAP has been produced addressing significant strategic issues that are common across several catchments in the Area. Specific local issues are then dealt with in a series of catchment LEAPs as follows:

Darent Eastern Rother Kentish Stour Medway North Kent

Copies of the Kent Area and catchment LEAPs are available from the Kent Area Office.

2.3. THE KENTISH STOUR LEAP DOCUMENTS

This **Kentish Stour LEAP** sets out a programme of action which the Agency and partner organisations intend to carry out over the next five years in order to protect and enhance the local environment of the catchment. As with all such programmes, funding for these actions will be subject to availability and to changes in priority, within the Agency and externally, both locally and nationally.

The LEAP has been developed from the Consultation Draft and is intended to be a stand-alone document but is best used in conjunction with the documents detailed below which support it and from which it has been developed. The LEAP transforms the proposals put forward in the Consultation Draft into agreed actions in the light of comments received during the consultation process. It will guide the Agency's activities in the Area for the next five years and will hopefully influence the activities of other key bodies. Where more background information or greater detail of an issue is required, reference should be made to the Environment Overview.

The Consultation Draft is the main focus for public consultation, concentrating on the prioritisation of environmental issues relevant to the Agency and the identification of possible options for action necessary to restore/improve the local environment.

The Environmental Overview is a factual description and analysis of the local environment, looking at the impact of stresses on its state. It provides the background to the identification of the environmental issues of importance in the Kentish Stour for public consultation.

The Statement of Public Consultation details the results of the consultation process and the influence it has had on the development of the final LEAP.

Regular monitoring and updating are an integral part of the LEAP process. Progress in implementing LEAP actions will be monitored and reported on in a published **Annual Review**. This will also identify any additional actions needed to maintain progress in light of any changes in the LEAP Area and also whether any actions need removing or amending where they are no longer appropriate.

After five years, or sooner if required, the Agency will carry out a major review of the progress that has been made. At this stage the Agency will produce a new LEAP Consultation Draft to reflect these changes to further improve the local environment.

3. REVIEW OF THE CONSULTATION PROCESS

3.1. LEAPS AND PUBLIC CONSULTATION

A fundamental objective of the LEAP process is to involve all interested parties in working with the Agency towards planning for the future well being of the local environment. The Agency is committed to the process of public consultation on all of its LEAPs. This section provides a brief overview of the three-month consultation period. A separate "Statement of Public Consultation" provides more specific details of the influence of the public consultation process on the development of the final document.

3.1.1. Initial Consultation

A number of organisations were consulted during the preparation of the Consultation Draft and several meetings were held with relevant organisations. The draft was put together using data and information supplied by Area and Regional staff and the Agency's National Centre for Environmental Data and Surveillance.

3.1.2. Launch Publicity

The LEAP was launched on 25th May 1999 at the Old Sessions House, Canterbury. Over 300 invitations were sent out to key stakeholders and approximately 75 people attended. Press releases generated interest from a number of local newspapers and radio stations. Over 400 Consultation Drafts were sent out to individuals and a broad range of organisations. Copies of the Consultation Draft and Environmental Overview were sent to the main libraries in the LEAP Area. As the consultation period was drawing to a close, a "last chance to comment" press release was released and this again generated local media coverage.

3.1.3. The Kent Area Environment Group (AEG)

Members of the Kent AEG represent local authorities and the wide range of interests of the Agency's customers, including anglers, farmers and local businesses. The purpose of the AEG is to advise the Agency on local environmental issues and opportunities for partnerships, and to provide feedback on Agency initiatives, including LEAPs. To this extent, the AEG is a form of partnership with the public and its contribution is highly valued by the Agency. The AEG was kept informed of the progress of the plan and given the opportunity to comment and shape the document by providing advice and information at key stages.

3.2. SUMMARY OF RESPONSES

A total of 71 consultees responded to the Consultation Draft. All comments have been considered and where appropriate and practicable, incorporated into the Plan. A number of consultees expressed an interest in partnership working and they have been included in the actions tables.

Errors and omissions were also drawn to our attention. A number of issues picked up as omitted had already been dealt with as an issue in the over-arching Kent Area LEAP. It is hoped that the relationship between the two documents has been clarified in this document. A number of consultees also congratulated the Agency on producing a comprehensive document and welcomed the Agency's commitment to integrated environmental management.

4. THE KENTISH STOUR CATCHMENT

4.1. INTRODUCTION

The Kentish Stour catchment is the second largest catchment in the Kent Area, encompassing a land area of 1081km^2 and a main river length of 255km including tidal lengths. This is the easternmost catchment in the county and includes the stretch of coastline between Folkestone and Herne Bay.

4.2. GEOLOGY, LANDSCAPE AND CONSERVATION

The geology of the catchment is predominantly chalk, overlain by Tertiary deposits in the north with outcrops of Gault Clay, Lower Greensand and Weald Clay to the south west. The North Downs is composed of Cretaceous Chalk that has been uplifted and eroded to form the characteristic shape of the Downs. Weathering and erosion of the chalk geology has given rise to the landscape features such as coombes and dry valleys. Arable farmland probably occupies the largest area of any of the main habitat types of the North Downs, although semi-natural habitats such as chalk grassland persist on the thin, dry calcareous soils. The white cliffs of Dover at the eastern most end of the North Downs represent the most dramatic and widely recognised feature of the Downs. The North Downs is designated as an Area of Outstanding Natural Beauty in recognition of its landscape value.

The Stour Marshes and Isle of Thanet in the north of the catchment form part of the North Kent Plain. The nature conservation interest of this area is protected under a number of international, national, and local designations. Many of the habitats and species which this area supports, such as the shining ram's-horn snail, are threatened by activities such as development and agricultural improvement and are subject to individual biodiversity action plans. The area is also recognised locally as an Area of High Landscape Value.

The coastline of the Stour catchment incorporates a number of important landscape and conservation features including chalk cliffs, wave-cut chalk platforms and mud and sand flats. Offshore submerged reefs of exposed chalk form flat bedrock plains, which support communities of rare marine organisms. The landscape and nature conservation value of the coast is protected through a range of international, national and local designations.

Although predominantly rural in character there are a number of large urban settlements in the catchment. Folkestone, Dover, Ramsgate and Margate lie on the coast while Canterbury and Ashford are located inland on the Great Stour.

4.3. INDUSTRY AND WASTE

The Stour catchment has an extensive history of heavy manufacturing industry, including chemicals and pharmaceuticals, and the paper industry. Major industrial complexes are centred around Ashford and Canterbury. Outside these areas the catchment is principally agricultural with the cultivation of vegetables and salad crops increasing since the 1950s due to the introduction of spray irrigation.

There are 47 licensed waste facilities in the Stour catchment, including 4 clinical waste transfer sites and 4 liquid waste treatment sites. Landfill remains the principal means of disposal for domestic waste arisings.

4.4. AIR QUALITY

The main influences on air quality within the Stour catchment result from industry and transport related emissions. This is reflected in the locations of higher than average concentrations of nitrogen dioxide and sulphur dioxide in the vicinity of the major towns and the principal transport routes.

4.5. WATER RESOURCES

The area's hydrology is controlled by a complex drainage system with the River Stour representing a source of fresh water in the summer, and a high level drain in the winter. With rainfall averaging 714mm per year, the catchment is considerably drier than most of the country, and similar to the County of Kent as a whole. Precipitation decreases across the area from west to east and north to south such that the Isle of Thanet receives only 500 - 600mm of rainfall per year. Average rainfall exceeds 800mm per year, with an effective rainfall of 400mm.

The River Stour rises as two main tributaries on the Weald Clay and the Lower Greensand: the Great Stour at Lenham near Maidstone and the East Stour near Folkestone. Downstream of their confluence at Ashford the river flows north east through the North Downs and reaches it's tidal limit downstream of Canterbury at Fordwich. Beyond this point the narrow embanked estuary extends 33 km through low lying marshland before reaching the sea at Pegwell Bay.

The Little Stour drains the chalk area south of Canterbury and due to historic subsidence water is pumped to the tidal River Stour at Pluck's Gutter. Above its permanent source at Well Chapel Springs near Bridge, the river, now known as the Nailbourne, can be traced as a winterbourne for up to 37 km that runs only when groundwater levels are high.

The River Dour, which flows through Dover, is the only surface watercourse within the Dover Chalk Block. It rises in the Lydden Valley and drains to the English Channel. Flows in the Dour are significantly influenced by groundwater abstraction for public supply. A major coastal spring known as Lydden Spout discharges from the cliffs to the west of Dover.

In recent years river flow levels have been reduced due to a combination of prolonged dry weather and increased abstractions for agricultural and development purposes. Low flows have also had an effect on water quality as the dilution capacity of the rivers has been reduced and effluent has constituted a larger proportion of the total river volume.

4.6. ADMINISTRATION

The Stour catchment falls entirely within the County of Kent. The catchment covers the whole area administered by Dover and Thanet District Councils, most of Canterbury City Council, significant parts of Ashford Borough and Shepway District Councils and small parts of Maidstone and Swale Borough Councils.

5. A BETTER ENVIRONMENT THROUGH PARTNERSHIP

5.1. INTRODUCTION

The Agency is well placed to influence many of the activities affecting the environment through the Environment Act 1995 (EA95) and other associated legislation. The Agency must work in partnership with others to ensure that, where appropriate, the actions identified in Section 6 are implemented and the environmental issues addressed.

The Agency alone cannot achieve these aims as it has neither the statutory powers, nor the resources or technical expertise. For this reason it will continue to work in partnership with local authorities and other organisations.

5.2. CURRENT PARTNERSHIPS AND PROJECTS IN THE LEAP AREA

As well as the general partnership opportunities presented in the Kent Area LEAP there are a variety of current projects in the LEAP area involving partnership between the Agency and different organisations. A selection of them is summarised below:

5.2.1. Countryside Management Projects

The Kentish Stour Countryside Project and the White Cliffs Countryside Project are Countryside management projects, which aim to conserve and enhance the rural local environment. Through these projects the Agency helps to undertake small scale conservation and informal countryside recreation management activities.

5.2.2. South East Otters and Rivers Project

The South East Otters and Rivers Project is a collaboration supported by the Agency. The project is providing advice and support for otter conservation in Kent. An otter strategy has been prepared in which habitat improvement is the priority action. This is being followed by targeted action on a river by river basis.

5.2.3. Farming and Wildlife Advisory Group (FWAG)

In collaboration with Kent, East Sussex and West Sussex County Councils the Agency has supported the advisory work of the Kent and Sussex Weald Farming and Wildlife Advisory Group post since 1994.

5.2.4. Waterwatch

The Agency, Kent Police and anglers on the Great Stour have formed a Waterwatch group (similar to Neighbourhood Watch groups). The respective parties communicate by telephone but in addition post information onto an electronic mailboard to maintain a useful flow of intelligence. The partners also have specific joint arrangements for addressing poaching incidents. The Stour

Waterwatch group has been successful in detecting incidents but a greater Kent-wide scheme has been proposed to increase the level of intelligence.

Representatives of organisations wishing to belong to the Waterwatch group should contact the Fisheries section of the Agency in Kent for more information.

5.2.5. Water Level Management Plans (WLMPs)

Water Level Management Plans are written agreements between landowners, the Agency and English Nature by which the water level requirements for a range of activities in a particular area can be balanced and integrated, for example agriculture, flood defence and conservation. The plans define the areas that require attention, outline procedures for maintenance, recording and monitoring and set the intervals at which the plan is reviewed.

The WLMPs that have been produced for the Kentish Stour Area are:

- Stodmarsh SSSI;
- Preston Marshes SSSI;
- Sandwich Bay and Hacklinge Marshes SSSI.

5.2.6. Internal Drainage Board (IDB)

The Agency works closely with the River Stour (Kent) IDB acting as their land drainage advisor and carrying out their maintenance programme. The board was set up following the Land Drainage Act 1930 to deal with specific drainage problems in relatively low-lying agricultural areas and still carry out this work today.

The powers of the IDB and the Agency are clearly defined by the Land Drainage Act 1991 and the Water Resources Act 1991. Within an Internal Drainage District the IDB supervises all matters relating to land drainage although these powers do not extend to any "main river" within an Internal Drainage District.

5.3. FUTURE PARTNERSHIP PROCESS

To meet the challenge of achieving sustainable development in the Kentish Stour area will require the Agency and partner organisations to develop an appropriate policy framework, together with a high level of public interest and support. This stage of the LEAP process identifies actions, developed after consideration of the comments and suggestions of consultees, that can be undertaken in partnership with a range of organisations. The Agency welcomes new partnership opportunities and would be pleased to hear from individuals or organisations with any such proposals.

6. ACTIONS FOR THE KENTISH STOUR

6.1. INTRODUCTION

Implementation of the LEAP is based on the actions identified to address the 13 key environmental issues that are of particular significance to the catchment.

The intended actions are presented with proposed time scales, anticipated costs, Agency lead contact and the identification of potential partners. As far as possible, actions are specific, measurable, agreed, realistic and time defined. In most cases actions are over and above the statutory responsibilities of the Agency and are not matters that can be addressed by the Agency through its day to day work. As such, the plan represents the non-routine investment by the Agency and others in the catchment.

Where possible, costs have been outlined for the period covered by the plan. This does not necessarily reflect the total cost of the schemes to the Agency and is sometimes an estimate to be more accurately costed later. A number of the actions will require feasibility studies and an appraisal of options prior to work commencing. In some cases, depending on the outcome of these studies, further action may not be required. The document is produced in good faith recognising current priorities both within the Agency and in other organisations. The implementation of the actions will be subject to, amongst other things, availability of resources (financial and human).

6.2. ENVIRONMENT AGENCY BUSINESS PLANNING PROCESS

It is the Agency's intention to implement all actions but activities need to be prioritised in conjunction with the Agency's core duties via the annual Business Planning Cycle. In addition, the Agency is jointly responsible with other identified organisations and individuals for implementing the actions in this plan. A number of the actions rely on external funding and are also heavily dependent on the changing priorities of partnership organisations. The Annual Review process enables the Agency to regularly assess progress and incorporate changing local and national priorities as necessary.

6.3. THE ACTIONS TABLES

Each Issue is accompanied by short explanatory text but please refer to the Environmental Overview for more background information. Many of the issues and actions are inter-related which reflects the need for integrated environmental management. Cross-referencing between issues and actions has been carried out where appropriate.

LEAPs translate the Agency's long term *Environmental Strategy for the Millennium and Beyond* into action on the ground. Each action is marked by one or more symbols representing which of the nine key themes in the Strategy the action addresses, as detailed below:


Addressing climate change


Improving air quality


Managing our water resources


Enhancing biodiversity


Managing freshwater fisheries


Delivering integrated river-basin management


Conserving the land


Managing waste


Regulating major industries

6.4. RELATIONSHIP BETWEEN THE KENT AREA AND KENTISH STOUR LEAPS

The Kent Area LEAP is the strategic over-arching action plan that deals with issues that are common to at least three catchments in the Area. Catchment LEAPs detail issues and actions that are specific to the catchment. There are three basic relationships between issues in the two layers of LEAPs as detailed below:

- A generic issue in the Kent Area LEAP where actions addressing the issue cover activity in the Kentish Stour. The issue does not appear again in the Kentish Stour LEAP with the exception of Issues 2 and 13 for which text is included to ensure comprehensive coverage of significant issues.
- A generic issue raised in the Kent Area with particular relevance to the Kentish Stour catchment and therefore addressed with specific actions in this catchment LEAP.
- A local issue of relevance to less than three catchment LEAPs and therefore not in the Kent Area LEAP but addressed in the Kentish Stour LEAP.

AREA OF INTEREST	KENT AREA LEAP	KENTISH STOUR LEAP
FLOOD MANAGEMENT	Issue 1: Standard of flood and coastal defences will not be adequate for predicted effects of climate change	Issue 2: Flood defence provision and operation in the Stour catchment needs to be reviewed to address the increased flood risk due to the predicted effects of climate change
	Issue 20: Maintenance of existing flood defences	Actions in the Kent Area LEAP cover the Kentish Stour catchment
MANAGING WATER RESOURCES	Issue 2: Sustainable water resources management and the effects of climate change	Issue 1: Climate change implications for the future balance of water resources in the Kentish Stour
	Issue 4: Deterioration in the balance of water resources	Issue 3: Deterioration in the balance of catchment water resources
	Issue 5: Forecast demand – growth; impact on the overall balance of public supplies	Actions in the Kent Area LEAP cover the Kentish Stour catchment
		Issue 4: Need for a comprehensive drought contingency plan
		Issue 5: Need to promote good water resource conservation practice by making best use of marginal quality sources
IMPROVING AIR QUALITY	Issue 3: Need for increased knowledge of impacts of Agency regulated industrial releases on air quality	Actions in the Kent Area LEAP cover the Kentish Stour catchment
ENHANCING BIODIVERSITY	Issue 6: Protection and enhancement of biodiversity	Issue 6: Pressure on the Stour catchment biodiversity and how to achieve the Agency's biodiversity objectives
	Issue 8: Protection and enhancement of important wetlands	Actions in the Kent Area LEAP cover the Kentish Stour catchment

MANAGING FRESHWATER FISHERIES	Issue 7: Illegal movement of freshwater fish through Kent	Actions in Kent Area LEAP cover Kentish Stour catchment
		Issue 7: Sustainable fisheries management including changes in migratory fish population
CONSERVING THE LAND	Issue 11: Deterioration in the condition of land drainage.	Actions in Kent Area LEAP cover Kentish Stour catchment
	Issue 21: Development pressures on environmental resources	Issue 12: Environmental stresses caused by land development pressures, particularly in the Ashford area
	Issue 22: Contaminated land to be made suitable for development use	Issue 13: Awareness of contaminated sites to enable risks to be established when developing brownfield sites
	Issue 23: Environmental impact of the Channel Tunnel Rail Link	Actions in Kent Area LEAP cover Kentish Stour catchment
WATER QUALITY	Issue 12: Water Quality improvements	Actions in Kent Area LEAP cover Kentish Stour catchment
	Issue 13: Improving bathing beaches	Actions in Kent Area LEAP cover Kentish Stour catchment
	Issue 14: Coastal Oil Pollution	Actions in Kent Area LEAP cover Kentish Stour catchment
	Issue 17: Pollution prevention	Actions in Kent Area LEAP cover Kentish Stour catchment
	Issue 29: Danger of contamination of water for drinking water	Actions in Kent Area LEAP cover Kentish Stour catchment
	Issue 10: Reduction in river baseflow producing a loss of dilution capacity	Issue 9: Reduced river flow unable to sustain consented and unconsented discharges
		Issue 10: Difficulties in controlling pollution from non-consented discharges
INTEGRATED RIVER-BASIN MANAGEMENT	Issue 9: Declining flows in Kent Area Rivers	Actions in Kent Area LEAP cover Kentish Stour catchment
	Issue 15: Increased managed access to the water for recreation	Issue 11: How to promote water related recreation that is compatible with other uses
	Issue 16: Protection of Archaeological Heritage	Actions in the Kent Area LEAP cover the Kentish Stour catchment
	Issue 19: Development pressures and sustainable surface water management	Actions in the Kent Area LEAP cover the Kentish Stour catchment
		Issue 8: Impact of the operation of privately owned sluice gates
ENVIRONMENTAL AWARENESS	Issue 18: Raising public awareness of environmental issues in Kent Area	Actions in the Kent Area LEAP cover the Kentish Stour catchment
SUSTAINABLE WASTE MANAGEMENT	Issue 24: Sustainable Wastes Management	Actions in the Kent Area LEAP cover the Kentish Stour catchment
	Issue 25: Waste management facilities	Actions in the Kent Area LEAP cover the Kentish Stour catchment
	Issue 26: Sites claiming exemption from waste management licensing	Actions in the Kent Area LEAP cover the Kentish Stour catchment
	Issue 27: Pollution from the metal recycling (scrap) industry	Actions in the Kent Area LEAP cover the Kentish Stour catchment
	Issue 28: Land application of sewage sludge	Actions in the Kent Area LEAP cover the Kentish Stour catchment
	Issue 30: Sustainable management of landfill gas	Actions in the Kent Area LEAP cover the Kentish Stour catchment
	Issue 31: Risk of illegal waste disposal (flytipping)	Actions in the Kent Area LEAP cover the Kentish Stour catchment

ISSUE 1: CLIMATE CHANGE IMPLICATIONS FOR THE FUTURE BALANCE OF WATER RESOURCES IN THE KENTISH STOUR

There are certainly features of the rainfall record for parts of the Stour catchment that could be taken as indicative of localised but progressive changes attributable to climate change. For a few of the stations, the records show a measurable decrease in average annual rainfall, equivalent to a loss of more than 10% over the last 100 years.

The decrease would seem to be divided about equally between winter and summer periods, the winter effect being particularly significant bearing in mind that this would be reflected in a commensurate reduction in the annual replenishment of groundwater storage.

If the general trend continues, a further deterioration in the balance of resources must be expected with consequences for the water environment. It is assumed that continuation of the climate change process will be marked by further drought episodes of comparable, if not greater, duration and intensity than those experienced in the last ten years. In this event the Agency will have an increasingly demanding role in exercising its Drought Order powers to reduce environmental stress and protect low flows. Water companies may continue to seek our support for relaxation of Minimum Residual Flows (MRFs) and other controls on abstraction. Drought experience shows however that even under winter flow conditions there are important environmental constraints limiting the extent to which MRFs can be reduced on the river.

It is expected that within the next 2 to 3 years the tasks defined by the action for this Issue will be incorporated in the new Catchment Abstraction Management Strategy.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Implement Kent Area Water Resource Management policy incorporating periodic review of resource balance and drought contingency plans. • *(Agency Lead: Water Resources Manager)*	Reduced frequency of Emergency Drought Orders. No progressive deterioration in the balance of resources. No long term depletion of river baseflows on wetland levels.	Ensures a sustainable regime for management of water resources and protection of river and wetland environments.	1999-2004	LAs, water companies.	To be determined.	

ISSUE 2: FLOOD DEFENCE PROVISION AND OPERATION IN THE STOUR CATCHMENT NEEDS TO BE REVIEWED TO ADDRESS THE INCREASED FLOOD RISK DUE TO THE PREDICTED EFFECTS OF CLIMATE CHANGE

Actions for addressing this Issue have been dealt with on an Area-wide basis in Issue 1 of the Kent area LEAP. Particular locations under consideration in the LEAP Area are the River Stour tidal and fluvial defences, the sea defences in Sandwich Bay and the impact of the flood storage reservoirs upstream of Ashford on the regime of the Stour.

ISSUE 3: DETERIORATION IN THE BALANCE OF CATCHMENT WATER RESOURCES

In the Kentish Stour catchment a key issue is the deterioration in the balance of water resources. The development of groundwater for public supply has been accompanied by a progressive decrease in aquifer resources to the point where, in some instances, water table levels are insufficient to support the baseflows of major spring-fed streams. The current imbalance results from a combination of factors, the most significant of which are considered to be:

- increased water supply demand, principally for domestic purposes although demand for irrigation, particularly spray irrigation, is also rising;
- climate change, bringing an increase in water demand and reducing the average annual rate of effective rainfall;
- loss of resource by discharge of waste water treatment works effluent to the sea.

The Kent Area of the Agency faces the task of restoring the balance of resources for the most severely affected areas by implementing a policy aimed at reducing the dependence on groundwater. This policy will comprise the following elements, which will provide references for redressing the resource imbalance taking into account environmental requirements:

- a water resource management strategy,
- an environmental enhancement programme,
- licensing guidelines,
- drought contingency plans.

Within the Stour catchment the Little Stour and Dour are the most seriously affected. The decline in baseflow in the Little Stour and the Dour has led to a number of problems including degradation of riverine habitat and reduction in dilution capacity with increasing water quality problems. Low Flow Alleviation Schemes are now being implemented on the Little Stour and the Dour.

Future increases in the pressures on resources resulting from climate change and public supply demand must be anticipated and dealt with by stringent standards for environmental protection. Factors influencing the likely future pressure include population increase, planned economic growth and development, and per capita increases in demand.

New developments are likely to increase future demand for water further. This is especially relevant to the Borough of Ashford where 10,300 new homes and approximately 700,000 square metres of employment floorspace is expected to be developed between the period 1991 - 2006.

The control of development and associated management of water demand would be prerequisites for reversing the deterioration in the balance of water resources. The Agency is a statutory consultee on certain planning issues. Its role in this respect is to ensure that the planning authority is made fully aware of the constraints on further development of indigenous resources and that these could influence the supply strategies of the relevant water undertakings.

There is also a clear need to address the likely effects of future climate change and increased water demand strategically in order to promote the sustainable management of water resources.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Complete the National Environment Programme for the alleviation of low flows in the Little Stour and Dour. • *(Agency Lead: Water Resources Manager)*	Achievement of ALF Target Flows for Little Stour and Dour.	Restoration of an environmentally acceptable flow regime.	1999-2004	Water companies.	To be determined.	
2. Maintain the general presumption against authorisation of any further increases in groundwater abstraction from the Chalk and Lower Greensand aquifers. • *(Agency Lead: Water Resources Manager)*	Stable long-term groundwater levels.	Restoration of a sustainable balance of resources.	1999-2004	Water companies.	To be determined.	
3. Maintain strict enforcement of abstraction licence conditions. • *(Agency Lead: Water Resources Manager)*	Stable long-term groundwater levels.	Restoration of a sustainable balance of resources.	1999-2004	Water companies.	To be determined.	
4. Continue close liaison with planning authorities to ensure that future development takes full account of the resource deficit which may result in water companies being obliged to source new public supply requirements from outside the Kent Area. • *(Agency Lead: Water Resources Manager)*	Stable long-term groundwater levels.	Restoration of a sustainable balance of resources.	1999-2004	Water companies, LAs.	To be determined.	

ISSUE 4: NEED FOR A COMPREHENSIVE DROUGHT CONTINGENCY PLAN

The principal aim of the plan would be to minimise the impact of emergency drought measures on the water environment and secure an equitable distribution of resources. There is a heavy dependence on groundwater for public supply and the lack of winter-fed capacity reduces the water companies' scope for effective peak demand management under drought conditions. The Stour basin is therefore particularly vulnerable to the carry-over effect of relatively dry winters and this has to be taken into account in the development of both Agency and water company drought contingency plans.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Implement Agency Drought Contingency Plan which for the Stour will have an emphasis on measures to address the impact of winter droughts on the management of groundwater storage. • *(Agency Lead: Water Resources Manager)*	Reduced frequency of Drought Order applications by water companies. Reduced need for Agency to seek Environmental Drought Orders or apply restrictions on summer-period abstraction for irrigation.	A more sustainable balance of resources for the management of drought conditions. Improved performance by water companies against their levels-of-service requirements.	1999-2004	Water companies.	To be determined.	

ISSUE 5: NEED TO PROMOTE GOOD WATER RESOURCES CONSERVATION PRACTICE BY MAKING BEST USE OF MARGINAL QUALITY SOURCES

The Kent Groundwater Management policy introduced in 1993 embodies a general presumption against increased abstraction for consumptive use from major aquifers. Special conditions are also routinely imposed on river abstraction in order to protect low flows and wetland water levels. At the same time, however, the Agency has been anxious to encourage the use of resources in coastal or estuary locations or in aquifers where abstraction would not prove environmentally detrimental or conflict with the lawful interests of other users.

Examples making use of marginal quality sources would include:

- schemes for diversion of waste water treatment works effluent into rivers or aquifers;
- retention of the existing network of rural waste water treatment works, many of which provide the greater proportion of the base flow to headwater streams;
- development of non-potable groundwater sources for spray irrigation in order to help relieve pressure on public supply sources at times of peak demand.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Extend scope of water resource management policy to assist identification of suitable ideas for localised development. • *(Agency Lead: Water Resources Manager)*	Promote diversion of wastewater treatment works effluent to rivers wherever this can be achieved without adverse environmental impact. In some instances the resulting improvement in flow could be sufficient to justify a limited increase in abstraction for public supply. Retain the existing network of rural STWs feeding headwater streams. Development of non-potable supplies for peak demand.	Low cost alternative to capital development of new strategic sources of supply. Secures sustainable environmental improvements in marginal areas.	2000-2004	Water companies, NFU	Manpower	

ISSUE 6: PRESSURE ON THE STOUR CATCHMENT BIODIVERSITY AND HOW TO ACHIEVE THE AGENCY'S BIODIVERSITY OBJECTIVES

Biodiversity is the word now commonly used to describe the variety of life. In the UK over 100 species of wildlife have been lost this century. The need to tackle the global decline in biodiversity was recognised in 1992 with the signing of the Biodiversity Convention by over 150 world leaders. This requires the development of national strategies, plans or programmes for the conservation and sustainable use of biological diversity. In the UK, Biodiversity planning is leading to the prioritisation of habitats and species for action. 'Biodiversity: The UK Steering Group Report' was published in 1995, and a growing number of county plans, including the Kent Biodiversity Action Plan (BAP), produced.

The Environment Agency has a general commitment to conserve wildlife associated with the water environment and is taking part in the Biodiversity process in the following ways:

- UK contact for a range of water-related species, several of which occur in the Stour catchment. As contact, our responsibilities include stimulating action to achieve targets, monitoring results and reporting progress to the national group.

- Joint lead partner for a range of species responsible for preparing detailed work plans, directing resources and over seeing plan implementation.

The Agency has decided nationally to give priority to implementing UK actions and any local initiatives must be seen in this context. Although several of the actions detailed in the Kent Area LEAP are relevant to the Stour LEAP, they are not repeated as actions here. However, it is worth noting that in the Kent LEAP we outline how in discussion with others

we are setting catchment specific targets for key habitats and species, implementing water level management plans and meeting additional responsibilities placed upon us under the European Habitats Directive. The Agency has been supporting the Kentish Stour Countryside Project since its inception and sees this as a key mechanism for delivering actions on the ground. A significant commitment to supporting countryside'projects is given in the Kent LEAP.

Many actions under other issues in this LEAP will help towards reversing the decline in biodiversity. Rather than repeat targets and actions from the Kent BAP, in this LEAP we highlight local actions where we see most need to devote our conservation efforts over the next few years. For example, the Stour is a target catchment for re-creation of grazing marsh in the national grazing marsh plan. In addition to the ALF studies presently underway (Issue 3), the fisheries studies and enhancement programmes (Issue 7) and the water quality studies (Issue 9) the Conservation section also wishes to initiate further action. Certain reaches of the Great Stour and a number of other watercourses within the LEAP area fall within the definition of a chalk river, as defined by the UK BAP Steering Group Report 1995. With growing knowledge and changing circumstances it is likely further actions will be added in later revisions of this LEAP.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Continue to work with English Nature on the creation, management and monitoring of wetland habitats at Stodmarsh and Preston Marsh • *(Agency Lead: Team Leader Conservation and Recreation)*	Creation of a mosaic of wetland habitats. Continued presence of BAP species, eg water vole. Return of BAP species, eg bittern.	Continued working relationship with EN. Habitat and biodiversity improvements. Improved water level management.	1999-2002	EN, IDB	£7k	
2. Re-create grazing marshes where they have been lost and create new areas where partnership opportunities arise. • *(Agency Lead: Team Leader Conservation and Recreation)*	At least one site created by 03/04.	Meeting UK and County BAP actions and targets. Successful partnership approach.	2000-2003	EN, RSPB, KWT, NFU, landowners, farmers.	To be determined.	
3. Take the lead in attempting to devise a programme of ditch management in the Ash Levels and Chislet Marshes for the benefit of aquatic flora and fauna, including the shining ram's-horn snail. • *(Agency Lead: Team Leader Biology)*	Strategy produced 01/02. Strategy implemented 02/03. Strategy reviewed 03/04.	Increased liaison with landowners. Create protection afforded to Biodiversity interest. Continued presence of the shining ram's-horn snail.	2000-2004	Landowners, Stour IDB, KWT, NFU, farmers.	£3k	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
4. Continue to monitor the native crayfish population on the River Stour and encourage protection of key stretches as Sites of Nature Conservation Interest (Wildlife Sites). • *(Agency Lead: Conservation and Recreation Officer)*	Report on distribution 99/00. Report survey 01/02. Designation of key sites by 03/04.	Meeting UK and County BAP actions and targets. Improved knowledge of distribution. Create protection afforded to Biodiversity species.	1999-2000, 2001-2002, 2003-2004	KSCP, landowners, KWT, Stour IDB, LAs.	£5k	
5. Implement a series of partnership in-river crayfish habitat enhancements in appropriate locations. • *(Agency Lead: Conservation and Recreation Officer)*	At least one enhancement per year (99/00 – 01/02). Continued presence of crayfish in the catchment.	Meeting UK and County BAP actions and targets. Successful partnerships.	1999-2002	KSCP, landowners, Stour IDB, angling clubs, farmers.	£5k	
6. Assist in the completion and implementation of the Stour Otter Strategy and in particular support the creation of otter refuges throughout the catchment and mitigation of obstructions to passage, especially through Canterbury and Ashford. • *(Agency Lead: Conservation and Recreation Officer)*	Stour Otter Strategy produced 99/00. At least two refuges and one mitigation per year (01/02 – 03/04). Continued presence of otters in the catchment.	Meeting UK and County BAP actions and targets. Successful partnerships. Habitat improvements.	1999-2002	SEORP, KSCP, landowners, LAs, angling clubs, developers, Mid Kent Water.	To be determined.	 
7. Work with partners to complete a habitat and water vole survey of the catchment and seek opportunities to improve habitat protection and management at key sites, including the Great Stour upstream of Ashford, East Stour, Little Stour and marshland areas. • *(Agency Lead: Conservation and Recreation Officer)*	Complete coverage by 01/02. At least one habitat enhancement per year.	Improved knowledge of water vole distribution. Opportunity for greater protection and adoption of more sensitive management techniques. Continued presence of water vole in the catchment.	1999-2004	Stour IDB, LAs, landowners, KSCP, SEORP, EN, NFU, farmers.	£10k	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
8. Support production of a report on habitat management to benefit marsh warbler and continue to assist in protection and management of key breeding sites in particular around St Margaret's Bay. • *(Agency Lead: Team Leader Conservation and Recreation)*	Habitat Management Report produced 99/00. Continued presence of marsh warbler in the catchment.	Meeting UK BAP actions and targets. More sensitive management techniques.	1999-2002	RSPB, landowners, WCCP.	£8k	
9. Continue to record occurrences of invasive water-related plants in the catchment and support control programmes where consistent with our national policy. • *(Agency Lead: FER Technical Officer)*	Database established 00/01. Distribution map produced every three years.	Improved understanding of distribution. Improved targeting of resources. Ability to report on distribution.	1999-2004	KSCP, WCCP, landowners, farmers, public, LAs.	£2k	 
10. Assist in the production and implementation of the Thanet Coast SAC Management Strategy to the fullest extent of the Agency's responsibilities. • *(Agency Lead: Environment Planning Manager)*	Support production of Management Strategy by 00/01. Implementation of strategy 00/01–03/04. Support review of strategy by 03/04.	Compliance with Habitat Regulations. Successful partnership approach. Better targeting of resources.	1999-2004	EN, LAs, conservation groups, public bodies.	£5k	
11. In consultation with the local community, manage the middle reaches of the Great Stour and other chalk rivers within the catchment to maintain their characteristic flora and fauna. • *(Agency Lead: Conservation and Recreation Officer)*	Review the need and potential for restoration by 00/02. Develop and maintain a demonstration stretch 99/00 - 01/02. Initiate at least 3 habitat enhancement projects 02/03 - 03/04.	Meets UK BAP actions and targets. Ensures the recognition and appropriate management of the chalk river habitat.	1999-2004	KSCP, landowners, farmers, Stour IDB	£4k	 

ISSUE 7: SUSTAINABLE FISHERIES MANAGEMENT INCLUDING CHANGES IN MIGRATORY FISH POPULATION

Although other actions benefiting fisheries have been identified throughout the LEAP, following consultation particularly specific actions have been brought together under this issue.

Fish populations in the Stour catchment are affected by many factors including variable river flows and levels, pollution, siltation, degradation of habitat, and the presence of structures, which prevent the movement of migratory fish. Quantifying and understanding the status of fish stocks which has been noted within the Stour catchment is fundamental to the effective and sustainable management of fisheries.

No Salmon Action Plan has been required for the River Great Stour because only occasional small runs of salmon (and small runs of sea trout) occur from year to year. While not of commercial importance, the stocks can be considered to be of conservation significance.

Annual rod catch returns are insignificant, and give no indication of population strength. Monitoring the annual variation in the size of the adult populations, particularly their distribution in relation to the five fish passes installed during the past fifteen years to aid the passage of fish, has been achieved using a rapid electrofishing technique each December, river flow and conditions permitting. This comparatively inexpensive method is not favoured by some of the fishing interests who fear it may damage fish stocks. Consideration needs to be given to alternative methods of monitoring fish stocks and assessing the success of the fish passes.

In addition to a number of local actions, the Agency is currently investigating ways of improving integration between our Ecology and Water Resources departments. This is being co-ordinated through a Southern Region Water Resources/Ecology Steering Group. The aims are to identify strategic needs, improve dissemination of best practice, and review current ecological monitoring. This is particularly relevant to the Stour catchment in view of the low flows on certain rivers and considerable development pressure within the catchment, notably the Channel Tunnel Rail Link (CTRL) and proposed housing around Ashford. Specific impacts of the CTRL have been covered in the Kent LEAP and other development pressure are identified in Issue 12. Accordingly other actions that are linked to the general maintenance of biodiversity, covered by Issue 6, but also related to sustainable fisheries management have been identified in this section.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Implement improved fish monitoring procedures for the Stour by the operation of a logbook scheme. • *(Agency Lead: Fisheries Scientist)*	Achievement of a 90% annual return from anglers in the logbook scheme (likely to be a maximum of 50 people in the Stour catchment). Establish the effectiveness of the five installed fish passes.	Consistent record and improved dataset. Cost effective means of monitoring salmon and sea trout runs and of proving that the public investment in fish passes is worthwhile.	2000-2004	Angling associations and syndicates.	£7k	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
2. Continue programme of in-stream habitat improvements. • *(Agency Lead: Fisheries Scientist)*	Improved cover with increased fish stock density, biomass and diversity.	Increases general environmental biodiversity.	1999-2004	Angling clubs, landowners.	£7k	
3. River Stour enhancements. • *(Agency Lead: Team Leader Fisheries Management and Enforcement)*	Develop one reach of the Great Stour as a self-sustaining native brown trout fishery.	Maximises fishery. Meets self-sustaining criteria.	2000-2001	Mid Kent Fisheries	£10k	
4. Monitor the population of allis and twaite shad, particularly in the Sandwich Bay area. • *(Agency Lead: Fisheries Scientist)*	Presence or absence of these species in the Sandwich Bay area determined. Proof of juveniles in the River Stour determined.	Reliable data for BAP reporting. Application can be made for SPA status and constraints applied to fishing effort to further protect these species if spawning can be shown.	2000-2004	Anglers, netsmen.	£4k	
5. Initiate a detailed investigation into eel stocks and their health. • *(Agency Lead: Fisheries Scientist)*	25 samples analysed by 99/00. Report produced by 00/01.	Improved information including possible effects on predators.	1999-2000	Angling clubs, Brampton and Exeter Laboratories	£8k	
6. Work with Area and Regional colleagues and others to improve understanding of the ecological needs of the Stour catchment and ensure these are integrated into our work. • *(Agency Lead: Team Leader Biology & Fisheries Scientist)*	Attend quarterly meetings of the Regional Steering Group and implement findings.	Improved information and integration. Greater environmental protection.	1999-2004	Angling clubs, landowners / occupiers.	£3k.	

ISSUE 8 : IMPACT OF THE OPERATION OF PRIVATELY OWNED SLUICE GATES

Increasing pressure for development, especially in the flood plain, and climate change, are placing increasing focus on the flood defence role of the Agency. Flood defence is carried out on the "main river" system by the Agency through the operation of a series of sluices and control gates.

However, not all flood defence structures come under Agency control, as some are operated by private owners. Private sluices remain in operation at several mill sites, and sluices in Canterbury are controlled by Canterbury City Council. The operation of some private sluices has caused some difficulties in the past. For example, in 1972 a flood event in Ashford was partly caused by private sluice operation.

Recently the ownership of a sluice gate has changed. When ownership changes the Agency endeavours to contact the new owners and educate them in their responsibilities and monitor those sluice gates that are of most importance to flood defence. The Agency reports that there have been few problems with private sluice owners, but with private ownership the state of repair and the effectiveness of operation can not be guaranteed by the Agency.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Identify privately owned sluices in the Kentish Stour catchment so as to educate owners in relation to their responsibilities regarding riparian duties and offer advice regarding the operation of sluices. • *(Agency Lead: Team Leader Flood Defence Operations - South East Kent)*	Operation of privately owned sluices in a manner that balances the needs of all river uses.	Added value for the water environment and recreational amenity.	1999-2002	Sluice owners, LAs	£3k.	

ISSUE 9: REDUCED RIVER FLOW UNABLE TO SUSTAIN CONSENTED AND UNCONSENTED DISCHARGES

Improving the quality of the water in the rivers and streams in the Kentish Stour catchment is a high priority of the Agency.

For many spring fed streams groundwater abstraction has led to a substantial reduction in the volume of water available for the dilution of effluent from sewage treatment works (STWs) leading to water quality problems and eutrophication in areas of the river above and below Ashford. In some cases this has been exacerbated by drought conditions and with the prospect of future climate change there is a likelihood of further deterioration in the dilution capacity of receiving waters.

Low flows in rivers have led to major problems in terms of water quality and compliance with River Ecosystem (RE) classification. In certain parts of the Stour, such as below Lenham, flows have been so low that flows are almost entirely made up of effluent discharged from STWs. However as identified in Issue 5 these discharges from small works are essential in maintaining the base flow in the rivers.

Further changes have resulted from moving coastal discharges to river discharges. In particular, Weatherlees STW was commissioned in 1996, replacing the coastal discharges at Ramsgate and Deal and the Sandwich Town discharge direct to the river and a further example has been the removal of the discharge of crude sewage from King's Hall outfall at Herne Bay. Sewage from this area is now fully treated at May Street STW. The bulk of the flow draining to this works is now discharged to the River Stour at Grove Ferry with the balance made to the Hogwell Sewer.

In order to assess the impact of licensed discharges the Agency relies heavily on monitoring data. Water quality improvement plans are based on stretches of river. The stretches of river at Little Chart and Shalmsford Street on the Stour have failed to meet their RE targets, due to both consented and diffuse discharges. In order to attempt to reduce inputs of nutrients to the river from Ashford STW, phosphate stripping commenced in January 1999. Agricultural abstractions have exacerbated low flow in the Wingham River, a tributary of the Little Stour, in particular the stretches at A257 Road Bridge and Durlock.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Continue to encourage water companies to improve the quality of effluent discharged through negotiation in the next round of Asset Management Plans. • *(Agency Lead: Team Leader Consents & Tactical Planning Officer)*	Improved water quality.	Reduced amount of nutrients and organic matter discharged in effluent. Retained flow.	1999-2004	SWS	£20k.	
2. Improve monitoring to assess the effects of moving existing discharges inland eg Herne Bay to Grove Ferry. • *(Agency Lead: Team Leader Consents, Team Leader Tactical Planning & Team Leader EP Programme Co-ordination)*	Successful renegotiation of consent conditions if this is determined to be necessary. Improved water quality.	Improves information available for assessing future proposals to move discharges inland and setting discharge consent conditions to protect water quality.	1999-2003	Consent holders.	£20k.	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
3. Investigate scope for low flow alleviation measures. • *(Agency Lead: Water Resources Manager)*	Establish an Environmentally Acceptable Flow Regime for the Great Stour below Ashford STW (01/02). Identify options for low flow alleviation as the basis for AMP IV (02/03 – 03/04)	A sustainable flow regime supporting a healthy Chalk stream habitat and ensuring adequate effluent dilution.	2001–2004	Water companies	£100k	

ISSUE 10: DIFFICULTIES IN CONTROLLING POLLUTION FROM NON-CONSENTED DISCHARGES

In 1997 there were five major pollution incidents in the Kentish Stour catchment, resulting mainly from activities involving sewage and farm waste. Releases of chemicals such as pesticides can have a very serious impact on the aquatic environment, killing fish, contaminating water supplies and destroying the ecological balance of aquatic habitats. Pollution incidents can also be caused by leakage from sewage pipes and underground fuel tanks and lines, run-off from industrial estates (Cobbs Wood) and other developments, and road accidents involving the release of fuel or harmful cargoes.

Poor farming practice which results in the release of silage and slurry effluent is also a serious cause of pollution in rivers. Whilst 'point source' releases of slurry and silage effluent are the cause of acute pollution incidents, run-off from agricultural land represents a diffuse source of pollutants such as pesticides and fertiliser. This type of pollution is often difficult to address and results in the chronic degradation of riverine habitats.

Pollution from agricultural sources is more likely to occur where land is farmed close to the riverbank. The land adjoining the Great Stour between Longport Bridge and Wye is farmed to the bank edge, which may contribute to impoverished populations of fish and invertebrates as well as other causes such as poor in-stream habitat.

Contamination of groundwater has occurred at a number of different sites in the catchment. In particular that resulting from minewater pollution from disused coal mines at Tilmanstone, Chislet, Snowdown and Betteshanger.

Area-wide pollution prevention actions are also detailed in Issues 12,17 & 29 and raising awareness of environmental issues is detailed in Issue 18 of the Kent Area LEAP.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Encourage public awareness of pollution risks to the environment through local awareness campaigns, with particular emphasis on education establishments, transport organisations, farmers and local authorities. • *(Agency Lead: Tactical Planning Officer & Team Leader Environment Protection)*	Reduction in the number of pollution incidents.	The Agency becomes more proactive than reactive in controlling pollution.	1999-2004	LAs, education establishments, transport organisations, farmers.	£10k.	
2. Work with MAFF to improve implementation of good agricultural codes of practice. • *(Agency Lead: Team Leader Environment Protection)*	Reduction in the number of pollution incidents.	Improves the quality of watercourses.	1999-2004	MAFF, NFU, farmers.	£25k.	
3. Education of developers to ensure environmental awareness and good construction practice. • *(Agency Lead: Tactical Planning Officer & Team Leader Development Control)*	Reduction in the number of pollution incidents.	The Agency becomes more proactive than reactive in controlling pollution. Development of a sustainable approach.	1999-2004	Developers	£10k.	

ISSUE 11: HOW TO PROMOTE WATER RELATED RECREATION THAT IS COMPATIBLE WITH OTHER USES

The Agency has a general duty to promote water-related recreation where we consider desirable. This can be interpreted as meaning where there is agreement with landowners and other partners, where compatible with our operational and environmental requirements and where both finance and staff time allow. It should be noted that at present there is no dedicated recreation officer in Kent Area and no specific recreation budget for the Stour catchment.

Many of the Area wide actions detailed in Issue 15 of the Kent Area LEAP are relevant to the Stour catchment. For example, acting as a mediator where requested to do so by the parties concerned, raising awareness about issues and opportunities to enjoy water-related recreation and improving understanding and working with SUSTRANS and local authorities in promoting the long-distance cycle network. Water quality issues, which are important for water based recreation, are also identified in Issues 12 and 13 of the Kent Area LEAP.

As stated in the Kent LEAP, one of the main challenges for this catchment will be to agree a balance between recreational use and other interests and only promote a level of recreation that can be sustained by the environment. Public demand for more facilities is reflected in the Canterbury City Local Plan and there is pressure from individuals and organisations, as evident in the responses to the consultation draft of this LEAP, for improved access to the river. Also of particular note is that the tidal stretch of the Stour is a public right of navigation, though the Agency is not the body responsible for maintaining this.

The Agency owns relatively little land in the catchment and is not responsible for the management or provision of facilities at water-filled former excavations. Much of how the Agency wishes to promote water-related recreation for all those who wish to participate, including the young and not-so-young, disabled and able-bodied, can only be achieved through partnership. Over the past seven years the Kentish Stour Countryside Project has achieved a great deal to promote the enjoyment of water-related recreation, not least through footpath enhancements. The Agency's continued support for this Project is outlined in the Kent Area LEAP, though this will have to be considered against other priorities, and they are identified as a partner in many of the actions.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Consider opportunities to improve the safe recreational use of Agency maintained river structures through our maintenance and capital works programmes. • *(Agency Lead: Team Leader Conservation and Recreation & Team Leader Flood Defence Planning and Projects)*	Review of structures by 01/02. At least one improvement by 03/04.	Improved facilities on the river. Good working relationships with users. Better targeting of resources	2000-2004	BCU, landowners, Sport England	£10k.	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
2. Actively participate in a collaborative litter removal initiative on the River Stour and encourage local canoe centres and fishing clubs to clean up stretches of the river. • *(Agency Lead: Conservation and Recreation Officer)*	At least one litter clean per year.	Improved river environment.	2001-2003	Landowners, canoe centres, fishing clubs, KSCP, LAs, Parish Councils, ramblers.	£1k.	
3. Review and improve liaison between the Agency, landowners and interest groups on the tidal Stour Public Right of Navigation. • *(Agency Lead: FER Manager)*	Reduced complaints.	Create understanding. Good working relationships between users.	1999-2004	NABO, BCU, fishing clubs, landowners, ramblers.	£2k.	
4. Assist in reaching a recreationally and environmentally acceptable solution over the future of the footpath along the north bank of the River Stour at Westbere. • *(Agency Lead: FER Manager)*	Agreement reached over the future of the footpath by 02/03.	Balance recreation and environmental interests. Working in partnership	2000-2003	Landowners, KCC, Canterbury City Council, ramblers, EN, KSCP, fishing clubs, Parish Council.	To be determined.	
5. In collaboration with other partners encourage the appreciation and sense of ownership of the River Dour by local people, including support for the establishment of an Interpretation Centre. • *(Agency Lead: Conservation and Recreation Officer)*	At least one litter clean per year (00/01 – 02/03). Raising awareness leaflet (01/02). Interpretation centre agreed by 03/04.	Improved public enjoyment of the River. Working in partnership.	2000-2004	Crabble Corn Mill Trust, WCCP, landowners, local industry, Parish Councils.	£20k.	
6. Consider supporting proposals to develop redundant mineral workings in the Stour valley for water related sports. • *(Agency Lead: Team Leader Conservation and Recreation)*	Establishment of a water-related sport facility.	Improved access and facilities in the catchment. Working in partnership.	2001-2004	Landowners, Sport England	To be determined.	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
7. Support (subject to a successful bid for resources) the strategic provision of improved landing and launching facilities for small boats at appropriate locations around the coast of the catchment. • *(Agency Lead: Team Leader Conservation and Recreation)*	At least one improved landing / launching facility.	Improved facilities. Working in partnership.	2001-2004	Landowners, NABO	£10k.	

ISSUE 12: ENVIRONMENTAL STRESSES CAUSED BY LAND DEVELOPMENT PRESSURES, PARTICULARLY IN THE ASHFORD AREA

The Kent Structure plan outlines the strategic policy for East Kent which covers most of the Kentish Stour catchment. The policy is to stimulate economic activity and create new employment opportunities, whilst recognising the environmental constraints which apply.

The increasing level of development in the Kentish Stour area is leading to increased pressure on environmental resources. One of the centres of development in the Kentish Stour area is Ashford, which has increased in size markedly over the last thirty years. Ashford will continue to be the focus in the Stour catchment for development of a substantial number of new homes in response to planned population rise due to its proximity to the CTRL.

There is a need for the Agency to work closely with local authorities, especially Ashford Borough Council, and developers to ensure that development is not located in sensitive areas. This is facilitated in Ashford by a good working relationship between the Environment Agency and the Borough Council. The Agency is trying to educate developers on the impacts of development in the flood plain and the need to consider factors such as drainage before construction begins.

Land raising in the flood plain is not regarded as an acceptable solution to enable development. Proposals involving land raising would normally be opposed by the Agency as flood storage and flow paths may be lost, exacerbating the flood risk elsewhere. Proposals including creation of compensatory storage may however be acceptable providing this does not add to the risk of flooding on site or elsewhere and that there is no environmental loss in terms of habitat value.

In the Dover District Council area the Pfizer site is a particularly sensitive issue. Land for the future needs of Pfizer is identified in the local authority development plan. The Agency has indicated that its development could proceed as long as it is demonstrated that the flood risk to Sandwich is not exacerbated.

The Agency is concerned that the natural functioning of flood plains should be maintained and wherever possible restored and that development should be discouraged from areas at risk from riverine and coastal flooding. Developments will also be discouraged in groundwater protection zone areas and where water related biodiversity is at risk.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Foster joint approach with LAs and developers to identify, minimise and where possible eliminate environmental impacts associated with development, particularly in flood risk areas. • *(Agency Lead: Team Leader Development Control)*	No increase in flood risk. Safeguarding biodiversity.	Minimises the impact of flooding.	1999-2004	LAs, developers	£50k.	 
2. Influence creation of appropriate local development plan policy relevant to the interests of the Agency. • *(Agency Lead: Team Leader Planning Liaison)*	Appropriate policies in local plans in the Kentish Stour area.	Minimal flood damage. Less contentious planning proposals. A more sustainable approach.	1999-2004	LAs	£25k.	

ISSUE 13: AWARENESS OF CONTAMINATED SITES TO ENABLE RISKS TO BE ESTABLISHED WHEN DEVELOPING BROWNFIELD SITES

Like other parts of the Kent Area there is a significant industrial legacy in the Kentish Stour catchment. The increasing demands from development, identified in Issue 12, are focusing additional attention on contaminated land and the possible pollution risks to human health, ground and surface water, ecology and the built environment.

Actions for addressing this Issue have been dealt with on an Area-wide basis in Issue 22 of the Kent area LEAP, particularly concerning the implementation of the contaminated land regulations.

7. FUTURE REVIEW AND MONITORING

Regular monitoring and updating of the Plan are integral parts of the LEAP process.

The Agency is jointly responsible with other identified organisations and individuals for implementing the actions in this plan. The Agency will monitor implementation of the LEAP and report on progress in a published Annual Review, which will coincide with the Business Planning Cycle.

The Annual Review will be disseminated to all the key partners and other interested parties and will identify any additional actions needed to maintain progress in light of any changes in the LEAP Area and also whether any actions need removing or amending where they are no longer appropriate.

The Annual Review will take the form of a short progress report and will:

- examine the need to update the LEAP in the light of changes in the plan area;
- compare actual progress with planned progress and explain the reason for any changes to the content or timing of individual actions;
- report on other matters including any legislative and classification scheme changes affecting the LEAP;
- roll forward the detailed actions.

After five years, or sooner if required, the Agency will carry out a major review of the progress that has been made. At this stage the Agency will produce a new LEAP Consultation Draft to reflect these changes to further improve the local environment.

APPENDIX 1: DUTIES, POWERS AND INTERESTS OF THE ENVIRONMENT AGENCY

The Environment Agency has a wide range of interests in the areas of water management, waste management and pollution prevention and control. Whilst many of these interests are supported by statutory duties and powers, much of the Agency's work is advisory, with the relevant powers resting with other bodies such as local planning authorities. The following list identifies the Agency's principal interests (full details are given in Appendix 1 of the Kent Area LEAP):

- Water Resources
- Flood Defence
- Water Quality
- Air Quality
- Radioactive Substances
- Waste Management
- Contaminated Land
- Conservation (including landscape and archaeology)
- Fisheries
- Recreation
- Navigation (in certain specified areas)

APPENDIX 2: INDIVIDUALS/ORGANISATIONS WHO RESPONDED TO THE CONSULTATION DRAFT

Allanson, G
Boden, Mr R T
Bracher, P L
Brunwin, Mr D
Ellcock, Mr M
Johnson, F K
Gilly, Mrs P R
Harrison, Mr M
Meaden, Dr G J
Pearce, M J
Philip, Cllr P
Preddy, K H
Rose, Mr M
Ross, Mr V
Semple, Mr B M
Smythe, Mr K
Swire, Sir J
Waller, Mr D M
Whitestone, Mr P
Ashford Borough Council
Bishopsbourne Parish Council
British Canoe Union (National Office)
British Canoe Union (London and South East Region)
Broadstairs & St Peter's Town Council
Brook Parish Council
Clean Rivers Trust
CPRE Kent
Crabble Corn Mill Trust
Deal Friends of the Earth
Dover Harbour Board
Dover Town Council
Folkestone & Dover Water Services
Friends of North Deal
Government Office for the South East
Great Chart with Singleton Parish Council
Hackington Parish Council
Kent County Council
Kentish Stour Countryside Project
Kent Wildlife Trust
Kingston Village Society
Mid Kent Fisheries
Minster Parish Council
National Association of Boat Owners
Nonington Parish Council
Pegwell & District Association
Pfizer Limited
Ramblers Association (Kent) (Two responses)
Robert Brett & Sons Limited
RSPB
Salmon & Trout Association (Kent Division)
Sandwich Town Council
Shadoxhurst Parish Council
Shepway District Council
Southern Water
Sport England
Stour Catchment Fisheries Consultative Group
Stour Fishery Association
St Margaret's-at-Cliffe Parish Council
Sturry Parish Council
Thanet District Council
The Broadstairs Society
The Dover Society
The Great Stour Navigation – Kent (Downstream Interests Group)
The Inland Waterways Association
The National Trust (Kent & East Sussex Region)
The River Stour (Kent) Internal Drainage Board
The Sandwich Port & Haven Commissioners
Westbere Parish Council
Wickhambreaux Parish Council
Wingham Parish Council

APPENDIX 3: GLOSSARY

Abstraction
Removal of water from surface water or groundwater.

Abstraction Licence
Licence issued by the Agency under the Water Resources Act 1991 to permit water to be abstracted.

Aquifer
A layer of underground porous rock that contains water and allows water to flow through it.

Authorisation
A legal licence issued by the Agency under the EPA 90 for industrial processes that use or produce potentially polluting substances in significant amounts.

Biodiversity
The variety of plant and animal life.

Catchment
The total area of land which contributes surface water to a specified watercourse or water body.

Consent to discharge
A licence granted by the Agency to discharge effluent of specified quality and volume.

Effective rainfall
Rain remaining as runoff after all losses by evaporation, interception and infiltration have been allowed for.

Floodplain
Land adjacent to a watercourse over which water flows or would flow but for flood defences, in times of flood.

Flytipping
The unregulated and, hence, illegal, dumping of waste.

Groundwater
Water contained in underground rocks (aquifers).

Internal Drainage Boards
Autonomous public bodies under the control of board members (including those elected by agricultural ratepayers and those nominated by local authorities), with responsibilities and powers for flood defence on ordinary watercourses (non-Main Rivers) under the Land Drainage Acts.

Main River
All watercourses are designated as either "main river" (defined in maps held by the Environment Agency and MAFF) or ordinary watercourse ("non-main river"). The Agency has permissive powers to carry out works to protect land and property from flooding by improving the drainage of main rivers only, under the Water Resources Act 1991.

Potable water
Water of suitable quality for drinking.

Sea defences
Natural or man-made features protecting land below 5m AOD contour.

Site of Special Scientific Interest
A site given statutory designation and protection by EN because it is particularly important, on account of its nature conservation value under the Wildlife and Countryside Act 1981 as amended.

Special Area for Conservation
Internationally important nature conservation site designated under the EEC Habitats Directive.

Special Protection Areas
Internationally important nature conservation sites designated under the EEC Wild Birds Directive. All SPAs are also SSSIs.

Sustainable development
'Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs' (from World Commission on Environment & Development, 1987. Our Common Future - The Brundtland Report).

APPENDIX 4: ABBREVIATIONS

AEG	Area Environment Group
ALF	Alleviation of Low Flow
AMP	Asset Management Plan
BAP	Biodiversity Action Plan
BCU	British Canoe Union
CTRL	Channel Tunnel Rail Link
EA 95	Environment Act 1995
EN	English Nature
EPA 90	Environmental Protection Act 1990
FER	The Agency's Fisheries, Ecology and Recreation function
FWAG	Farming & Wildlife Advisory Group
IDB	Internal Drainage Boards
KCC	Kent County Council
KSCP	Kentish Stour Countryside Project
KWT	Kent Wildlife Trust
LA	Local Authority
LEAP	Local Environment Agency Plan
MAFF	Ministry of Agriculture, Fisheries and Food
MRF	Minimum Residual Flows
NABO	National Association of Boat Owners
NFU	National Farmers Union
NRA	National Rivers Authority (predecessor body to the Environment Agency)
RE	River Ecosystem
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SEORP	South East Otters and Rivers Project
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
SWS	Southern Water
WCCP	White Cliffs Countryside Project
WLMP	Water Level Management Plan

APPENDIX 5: FURTHER INFORMATION

A selection of relevant publications available from the Environment Agency is listed below. This list is only intended as a guide to the type of information available rather than as a complete list as new information is becoming available all the time. Please contact the Customer Contact Department at the Area Office for more information.

Corporate Publications:	• An Environmental Strategy for the Millennium and Beyond, Bristol. 1997. • A Better Environment For England and Wales, Bristol. 1998. • Environment Agency Corporate Plan 2000/01, Bristol. 1999. • An Introduction to the Southern Region, Worthing. 1998. • Regional Review and Forward Look: Southern Region. 1998.
Improving Air Quality	• The Environment Agency's Pollution Inventory, Bristol, 1999.
Managing Water Resources	• Policy and Practice for the Protection of Groundwater. Bristol. 1998 • Saving Water: Taking Action. Bristol. 1998. • Abstraction Licensing and Water Resources, Bristol. 1997. • Sustaining Our Resources. Southern Region, Worthing. 1997.
Enhancing Biodiversity	• Understanding Buffer Strips, Bristol. 1996. • Freshwater Crayfish in Britain and Ireland, Bristol. 1999. • Freshwater Fisheries and Wildlife Conservation – A Good Practice Guide, Bristol. 1997.
Managing Freshwater Fisheries	• Fishing in the South. Southern Region, Worthing. 1999. • Anglers and the Environment Agency 1999-2000, Bristol. 1999. • Catch and Release: A Guide to Careful Salmon Handling, Bristol. 1998. • Coarse Fish Biology and Management, Bristol. 1999.
Delivering Integrated River Basin Management	• The Quality of Rivers and Canals in England and Wales, 1995, Bristol. 1997. • The State of the Environment of England and Wales: Fresh Waters – A Summary Report, 1998. Bristol. 1998. • Water Related Recreation Strategy for the Southern Region – Consultation Draft, 1997, Worthing. 1998. • Policy and Practice for the Protection of Floodplains. Bristol. 1997
Conserving the Land	• Action Plan for Land Quality, Bristol. 1998. • Action Plan for Flood Defence, Bristol. 1998. • East Kent Sea Defences, Worthing. 1997.
Managing Waste	• Money for Nothing – Your Waste Tips for Free, Bristol. 1998. • The Medway & Swale Waste Minimisation Project, Bristol. 1998. • Waste Minimisation and Waste Management, Bristol. 1997.
Regulating Major Industries	• Bringing in Integrated Pollution Prevention and Control, Bristol. 1998. • An Action Plan for Process Industries Regulation, Bristol. 1998. • Radioactive Substances Regulation, Bristol. 1999.

IN ADDITION, FURTHER INFORMATION CAN BE OBTAINED FROM THE AGENCY WEBSITE:

WWW.ENVIRONMENT-AGENCY.GOV.UK

MANAGEMENT AND CONTACTS:

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

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

Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol BS32 4UD
Tel: 01454 624 400 Fax: 01454 624 409

Internet World Wide Web www.environment-agency.gov.uk

ENVIRONMENT AGENCY REGIONAL OFFICES

ANGLIAN
Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 5ZR
Tel: 01733 371 811
Fax: 01733 231 840

MIDLANDS
Sapphire East
550 Streetsbrook Road
Solihull B91 1QT
Tel: 0121 711 2324
Fax: 0121 711 5824

NORTH EAST
Rivers House
21 Park Square South
Leeds LS1 2QG
Tel: 0113 244 0191
Fax: 0113 246 1889

NORTH WEST
Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 01925 653 999
Fax: 01925 415 961

SOUTHERN
Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tel: 01903 832 000
Fax: 01903 821 832

SOUTH WEST
Manley House
Kestrel Way
Exeter EX2 7LQ
Tel: 01392 444 000
Fax: 01392 444 238

THAMES
Kings Meadow House
Kings Meadow Road
Reading RG1 8DQ
Tel: 0118 953 5000
Fax: 0118 950 0388

WELSH
Rivers House/Plas-yr-Afon
St Mellons Business Park
St Mellons
Cardiff CF3 0LT
Tel: 01222 770 088
Fax: 01222 798 555

For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

ENVIRONMENT AGENCY GENERAL ENQUIRY LINE
0645 333 111

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

ENVIRONMENT AGENCY EMERGENCY HOTLINE
0800 80 70 60

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