

local environment agency plan

KENTISH STOUR CONSULTATION DRAFT MAY 1999



HO



ENVIRONMENT AGENCY

Information Services Unit

Please return or renew this item by the due date

Due Date



ENVIRONMENT
AGENCY

YOUR VIEWS

The Kentish Stour LEAP Consultation Draft describes the environmental issues within our remit that we consider are important for the Kentish Stour Catchment. It also includes a range of options for tackling these issues and potential partners. Your responses to this draft will be considered and where appropriate and practicable will be incorporated in the Final Plan which identifies our 5 year environmental enhancement action programme.

We welcome your views which you can submit by:

- 1) completing and returning this questionnaire or;
- 2) sending a written statement (separately/with the questionnaire).

Unfortunately we are unable to respond individually to your comments but the overall results of the process will be summarised in a Statement on Public Consultation which will be automatically sent to everyone who makes a response.

COMMENTS ARE REQUIRED BY 16TH AUGUST 1999

All responses should be sent to the LEAPs Officer (Kent) at this address:

The Environment Agency
Orchard House
Endeavour Park
London Road
Addington
West Malling
Kent
ME19 5SH

Privacy Note

Response to this consultation is purely voluntary. The content of all responses will be used by the Agency to assist it in carrying out its statutory duties and the general details will be made public (this includes informing the applicant). Unless you specifically request otherwise or indicate that your response is confidential, we will make public (and provide to the applicant) your name and address and a general summary of your comments in response to this consultation. If you have no objection to or would prefer the full content of your response being made public and copied freely please indicate this in your response.

Your right of access to the information held and right to apply for rectification of the information are as prescribed in current data protection legislation.

Please tick the appropriate box:

- I wish my comments to remain confidential
- I have no objection to my comments being made public

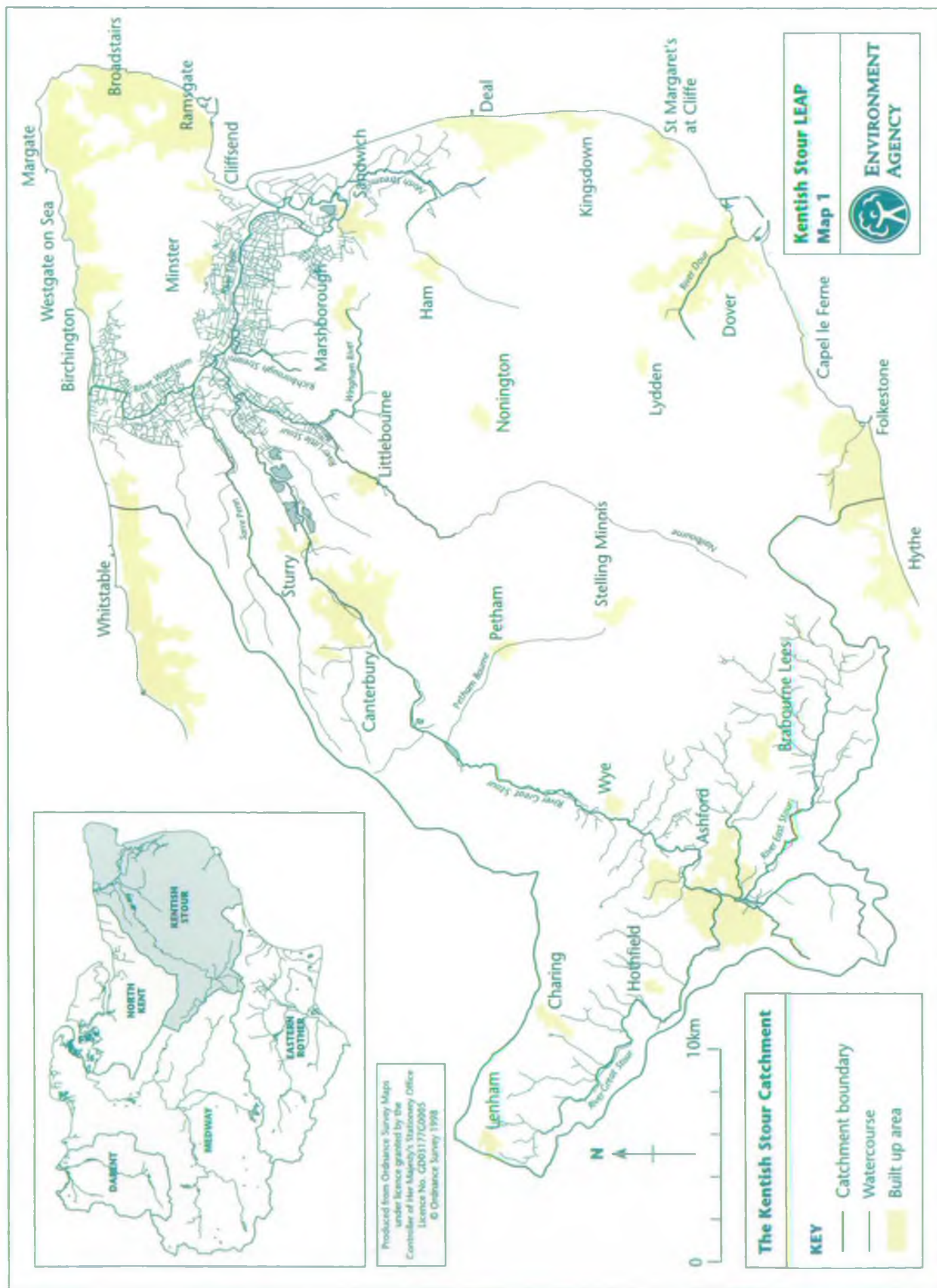
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ENVIRONMENT AGENCY



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Catchment Overview



Kentish Stour Area Key Details

General

Area (sq km) 1081

Administrative Details

Councils and the % of the Kent area they administer

Ashford	21.8
Canterbury	23.4
Dover	29.7
Maidstone	1.5
Shepway	13.0
Swale	0.6
Thanet	10

Population

Year	Population
1991	452 000
2001 (Estimate)	476 400

Water Resources

Rainfall	(mm/yr)
Average	246
Drought Conditions	125

Number of licensed Abstractions

Surface Water	216
Ground Water	127
Impoundments	2

Flood Defence

Coastline including main tidal waters	80.6
Main River including main tidal lengths	254.6
Sea Defences Agency Responsibility	17.9
Tidal Banks Agency Responsibility	38.1

Conservation

Sites of Special Scientific Interest	31
Water Dependant SSSIs	14
National Nature Reserves	3
Ramsar or Special Protection Areas	4
Water dependent Special Areas of Conservation	2
Sites of Nature Conservation Interest	18

Fisheries

Length of EC Designated Fisheries (km):

Freshwater	
Cyprinid	36.6
Salmonoid	4.5

Water Quality

River Ecosystem Classification as % of the Stour catchment between 1995-1997

Class	
RE1	0
RE2	37.33
RE3	50.34
RE4	1.90
RE5	10.43

Chemical GQA as % of sites in each class for the Stour catchment

Class	
A	2.94
B	61.01
C	2.61
D	9.71
E	0

Number of EC Designated Bathing Waters 12

Pollution Prevention and Control

Licensed Waste Sites	47
Processed Industry Regulations	7
Radioactive Substance Regulations (sites authorised to accumulate and dispose of radioactive waste)	10

FOREWORD

The Environment Agency is one of the most powerful environmental regulators in the world. By combining the regulation of air, land and water, we have a unique opportunity to look at our environment in an integrated way and further the objective of sustainable development.

Local Environment Agency Plans (LEAPs) aim to provide a means for setting priorities, solving problems and protecting and improving the environment in a co-ordinated way for the next five years. The Kentish Stour LEAP Consultation Draft gives everyone interested in the environment of the area an opportunity to be actively involved in making a difference to its future.

This LEAP examines local issues which support the more strategic and broader ones identified by the Kent Area LEAP. The LEAP considers the stresses and strains on a relatively dry, largely rural area that is subject to localised development pressures. It provides a focus for all participants to undertake and achieve environmental enhancement in a sustainable manner and includes the identification of partnership opportunities.

This plan represents a shared vision for the future and will play a vital role in the protection of our environment, whilst recognising the ever competing pressures on the environment and the need to balance cost and benefit.

I would like to thank you for your time spent studying this plan and welcome any comments you wish to make about it. Your responses to this consultation exercise will be considered and where appropriate, incorporated into the final action plan – The LEAP identifying how the Agency will enhance the environment of the Kentish Stour Catchment during the next five years.



Dr Binny Buckley
Kent Area Manager

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memo



ENVIRONMENT
AGENCY

To See Distribution List
From Ann Binks
Ext. Number 4460

Our ref AHB/L/G
Your ref
Date 28 July 1999

KENTISH STOUR DRAFT LEAP

Please find attached the Kentish Stour draft LEAP for your perusal.

1. Nice 'cheap Your Views Count.
2. Page 10 - a cop-out for costing, or perhaps a useful tool.
3. A nice low manageable number of Issues (13)

Regards and Happy reading! Please return to Brigid Newlands at the Regional Library on completion of the circulation.

ANN BINKS
Assistant Technical Planner
Technical Planning

John Macrae *RE/AS/AS*
Distribution List - ~~John Macrae and LEAPs Team, Ipswich, Rona Cheliew & LEAPs Team, Brampton, Richard Kisby & LEAPs Team, Lincoln, Paul Dykes, Public Relations, last~~
- Brigid Newlands Regional Library.

Comments:

Page 10 - a useful tool for a consultation / Draft LEAP as this is quite difficult to do & could change after consultation (R)

1. THE ENVIRONMENT AGENCY

The Agency's vision is:-

- *A better environment in England and Wales for present and future generations.*

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 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

The Agency will do this by:-

- being open and consulting others about our work
- basing our decisions around sound science and research
- valuing and developing our employees; and
- being efficient and businesslike in all we do

The Environment Agency has a wide range of duties and powers relating to different aspects of environmental management. (These duties together with those areas where the Agency has an interest, but no powers in, are described in more detail in the Environmental Overview). The Agency is required and guided by Government to use these duties and powers in order to help achieve the objective of sustainable development. The Brundtland Commission defined sustainable development "*as development that meets the needs of the present without compromising the ability of future generations to meet their own needs*".

At the heart of sustainable development is the integration of human needs and the environment within which we live. Indeed the creation of the Agency itself was in part a recognition of the need to take a more integrated and longer-term view of environmental management at a national level. We therefore have to reflect this in the way we work and in the decisions we make.

Taking a long-term perspective will require the Agency to anticipate risks and encourage precaution, particularly where impacts on the environment may have long-term effects, or when the effects are not reversible. The Agency must also develop its role to educate and inform society as a whole, as well as carrying out its prevention and enforcement activities, in order to ensure continuing protection and enhancement of the environment.

One of the key outcomes of the United Nations "Earth Summit" held in Rio de Janeiro in 1992 was agreement by governments that, in order to solve global environmental problems, local action is crucial: we must all therefore think globally but act locally.

Against this background the Agency has drawn up an Environmental Strategy to deal with the major problems by an integrated approach to the management of the whole environment. This approach has led to the identification of nine environmental concerns which will be used for the Agency's planning processes:-

- Addressing climate change
- Improving air quality
- Managing our water resources
- Enhancing biodiversity
- Managing our freshwater fisheries
- Delivering integrated river-basin management
- Conserving the land
- Managing waste
- Regulating major industries

1.1 Local Environment Agency plans

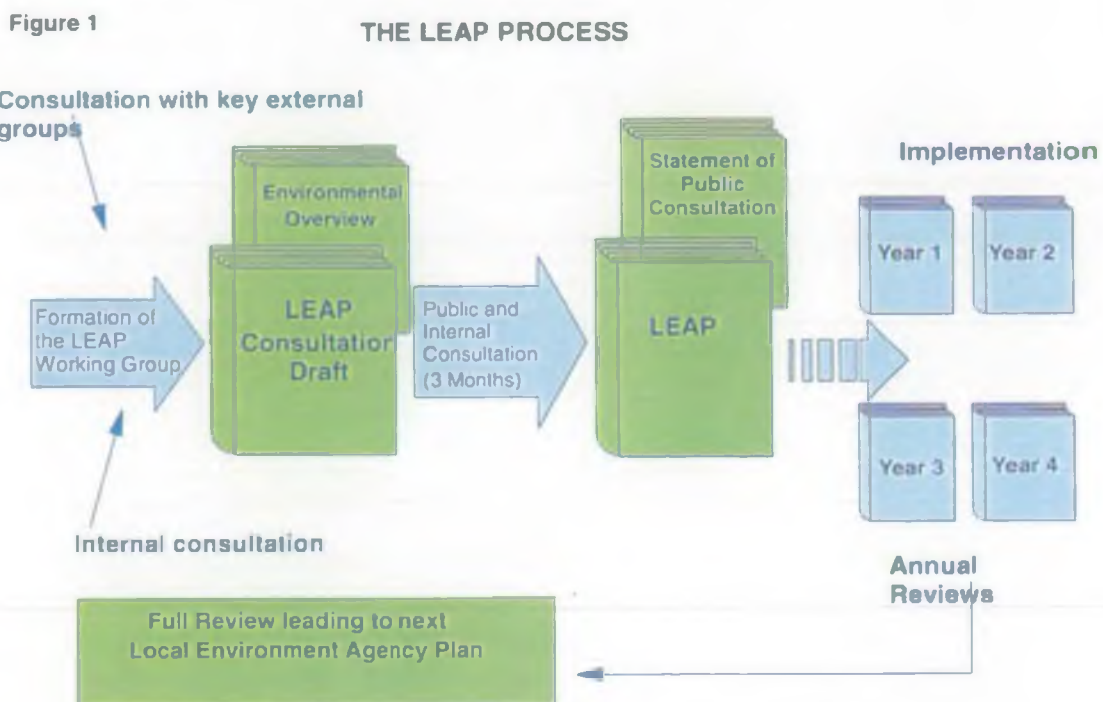
The Agency is committed to a programme of Local Environment Agency Plans (LEAPs) in order to produce a local agenda of integrated action for environmental improvement within the catchment. These will also allow the Agency to deploy its resources to best effect and optimise benefit for the local environment.

LEAPs help the Agency to identify and assess, prioritise and solve local environmental issues grouped around the nine environmental concerns, taking into account the views of local stakeholders. The outcome of the process is a local programme of integrated action for environmental improvement in order to optimise benefit for the local environment.

LEAPs replace the Catchment Management Plans which were produced by the former National Rivers Authority and build on their success by covering all the Agency's functions.

1.2 The LEAP process

Each LEAP will take a long term view of local environments and set out a five year plan of action for solving local issues. Published Draft Consultation Reports will cover all parts of England and Wales, including the Southern Region of the Environment Agency, by the end of 1999, but this is only the first milestone in what will be an ongoing national programme of LEAPs, which will be regularly updated, developed and improved.



1.3 LEAP Consultation Draft

The Kentish Stour LEAP Consultation Draft concentrates 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. This document is the main focus for public consultation. The issues and options for action put forward to address those issues have been structured around the Agency's nine environmental concerns, which aim to protect and enhance the environment in an integrated way and contribute towards the goal of sustainable development.

The publication of the Consultation Draft is the first output in the LEAP process and marks the start of a three month period of formal consultation. The consultation programme is intended to enable external organisation and the general public to work with the Agency in planning the future of the local environment. It gives you an opportunity to:

- highlight any issue/actions not already identified for the Kentish Stour catchment
- work towards establishing and implementing a five year action plan.

Please send your response in writing to the LEAP Officer at the address given on the cover of this report by 16 August 1999.

At the end of the consultation period a Statement on Public Consultation will be produced which will provide feedback on the results of the consultation programme.

1.4 Environmental Overview

An Environmental Overview has been produced as a factual description and analysis of the local environment, looking at the impact of stresses on its state, and generating a list of issues for consideration by the Agency and others. The Environmental Overview supports the Consultation Draft and provides the background to the issues.

1.5 LEAP Plan

The final LEAP Plan will take into account the results of consultation and will be produced by the end of 1999. It contains a list of actions that take account of costs and benefits, identifying timescales and partner organisations. Agreed actions will be incorporated into the Agency's annual business plans.

1.6 Annual Review

The Agency will monitor implementation of the LEAP and report on progress in an Annual Review. The Annual Review 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.

1.7 Relationship with the Kent LEAP

In the Kent Area of the Agency an Area-wide LEAP has been prepared addressing strategic and significant issues. Local issues of particular relevance to the Kentish Stour catchment are addressed in this document (other catchment LEAPs for the Darent, Eastern Rother, Medway and North Kent are being produced separately). If you would like a copy of any of these LEAPs, as they become available, please send a request to the Agency at the address on the cover.

2. THE KENTISH STOUR CATCHMENT

2.1 Introduction

The Kentish Stour catchment is the second largest catchment in Kent, encompassing a land area of 1081 km², and a main river length of 255 km including tidal lengths. This is the easternmost catchment in the county and includes the stretch of coastline between Folkestone and Herne Bay.

2.2 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 which has been raised and folded 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. This coast is also 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.

2.3 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.

2.4 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.

2.5 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 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 its 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 which 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.

2.6 Administration

The Stour catchment falls entirely within the County of Kent. The majority of the catchment lies within the administrative boundaries of Dover District Council, Thanet District Council, Canterbury City Council and Ashford Borough Council. However, parts of Swale Borough Council, Maidstone Borough Council and Shepway District Council also lie within the Stour catchment.

3. ENVIRONMENTAL ISSUES AND OPTIONS FOR ACTION

3.1 Introduction

This section of the LEAP details the environmental issues that the Agency considers need to be addressed within the Agency's future 5 year Action Plan for the catchment. This initial list of issues has been identified from an Agency review of the environment in consultation with the Area Environment Group (AEG) whose members represent a wide range of interests. The Agency has also considered the concerns of organisations with particular interests and responsibilities in the catchment.

Discussion meetings were held with the AEG and various departments of local authorities, as well as English Nature and the River Stour (Kent) Internal Drainage Board (IDB). The Agency also invited comment by correspondence with other organisations. Comments and ideas have been incorporated wherever possible and the Agency is grateful for the contribution of the time and effort of respondents and consultees. Appendix 1 lists those organisations who were contacted during this preliminary consultation.

The issues presented in this Consultation Draft are intended to encourage debate and seek your views on the environmental issues that face the Kentish Stour catchment.

3.2 Classification of issues

The issues are not arranged in order of relative importance but have been grouped in accordance with the Agency's nine principal concerns, as detailed in the Agency's *Environmental Strategy for the Millennium and Beyond*. Many of the issues are inter-related and this reflects the need for integrated environmental management. Although the Environmental Overview makes reference to a number of issues, only thirteen have been brought forward into the Consultation Draft because:

- these are issues which are of particular significance to the Kentish Stour catchment which are not being addressed on a strategic basis through the Kent Area LEAP;
- they are directly relevant to the Agency's responsibilities and are not being addressed by other organisations (e.g. local authorities); or
- they are not matters which can be addressed by the Agency through its day to day responsibilities, such as regulating water abstraction licences, issuing discharge consents, and responding to planning applications.

3.3 Options for action

For each issue, a number of options for action have been proposed. Costing of actions has not been attempted for this draft but have been accorded High (H - above £250,000), Medium (M - £50,000 - £250,000), and Low (L - below £50,000). It has to be remembered that these are Agency costs. It can be assumed throughout that the "do nothing" option incurs no costs at present. This could be considered an advantage but it should be remembered that this is a short term situation and may only serve to delay costs until a later date when it will have to be resolved.



ENVIRONMENT AGENCY

KENTISH STOUR LEAP

YOUR VIEWS COUNT

The Kentish Stour LEAP Consultation Draft describes the issues within our remit that we consider are important for the Kentish Stour Catchment. It also includes a range of options for tackling these issues and potential partners. Your responses to this draft will be considered and where appropriate and practicable will be incorporated in the Final Plan which identifies our 5 year environmental enhancement action programme.

We welcome your views which you can submit by:

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Please tick the appropriate box:

- I wish my comments to remain confidential
- I have no objection to my comments being made public

YOUR VIEWS ON THE ISSUES

1) The Kentish Stour LEAP identifies 13 issues which are listed below. From these 13, please number in the boxes the 5 issues which are most important to you (1 = most important, 5 = least important). Please write any comments about the issues or options in the spaces provided (or use a separate sheet if necessary).

Issue 1 Climate change implications for the future balance of water resources in the Kentish Stour.

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 3 Deterioration in the balance of catchment water resources.

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 resources.

Issue 6 Pressure on the Stour catchment biodiversity and how to achieve the Agency's biodiversity objectives.

Issue 7 Changes in migratory fish populations.

Issue 8 Impact of the operation of privately owned sluice gates.

ABOUT YOURSELF

1) Where do you live? (Please tick box)

Within the LEAP Area Outside the LEAP Area

2) How did you first find out about the Kentish Stour LEAP? (Please tick box)

- Letter from the Environment Agency
- Environment Agency poster or display
- Newspaper
- Radio or Television
- Other (please specify)

.....

3) What best describes your interest? (Please tick one box only)

- Officer working for a local authority, government agency or department
- Elected member of a local authority or government
- Officer/representative of a national organisation
- Member/representative of an environmental pressure group
- Member/representative of a local recreation group
- Local resident
- Other (please specify)

.....

4) Your name and address (Please see note about privacy on front)

Name:

Address:

.....

.....

Post Code:

Issue 9 Reduced river flow unable to sustain consented and unconsented discharges.

Issue 10 Difficulties in controlling pollution from non-consented discharges.

Issue 11 Underprovision and regulation of recreational resources in the catchment.

Issue 12 Environmental stresses caused by land development pressures, particularly in the Ashford area.

Issue 13 Awareness of contaminated sites to enable risks to be established when developing brownfield sites.

Other Comments

2) Are there any other issues or actions you would like to see included in the Final Plan? Yes / No
If yes please give details:

3) Are there any major errors in the report? Yes / No
If yes please give details:

4) Are there any ways in which you or your organisation can work in partnership with the Agency to improve the Kentish Stour Area? Yes / No
If yes please give details:

ISSUES SUMMARY

Environment Agency Concern*	Issue
Addressing Climate Change	1. Climate change implications for the future balance of water resources in the Kentish Stour
	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
Improving Air Quality	No issues identified
Managing Water Resources	3. Deterioration in the balance of catchment water resources
	4. Need for a comprehensive drought contingency plan.
	5. Need to promote good water resource conservation practice by making best use of marginal resources
Enhancing Biodiversity	6. Pressure on the Stour catchment biodiversity and how to achieve the Agency's biodiversity objectives
Managing Freshwater Fisheries	7. Changes in migratory fish populations
Delivering Integrated River-Basin Management	8. Impact of the operation of privately owned sluice gates
	9. Reduced river flow unable to sustain consented and unconsented discharges
	10. Difficulties in controlling pollution from non-consented discharges
	11. Underprovision and regulation of recreational resources in the catchment
	12. Environmental stresses caused by land development pressures, particularly in the Ashford area
Conserving the Land	13. Awareness of contaminated sites to enable risks to be established when developing brownfield sites
Managing Waste	No issues identified
Regulating Major Industries	No issues identified

* From: An Environmental Strategy for the Millennium and Beyond (Environment Agency 1997)

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 which 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, we must expect to see a further deterioration in the balance of resources 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.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Implement Kent Area Water Resources Policy incorporating periodic review of resource balance and drought contingency plans.	Provides basis for anticipating resource deficits and for taking effective action under drought or other peak demand conditions.	Resources.	L.	LAs Water companies NFU
Do nothing.	None.	Precludes effective action to secure proper use of resources in the long term and makes no provision for co-ordinated drought action.	-	-

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

The predicted effects of climate change with rising sea levels and potentially increasing intensity of rainfall, combined with the settlement of the south-east of England will place existing flood defences under pressure with new areas consequently becoming exposed to risk of flooding. This issue has been addressed strategically in the Kent Area LEAP and the Agency will be working with local authorities to ensure that development takes place in appropriate areas and that planning and resources are focused on areas subject to risk. This will include the review of the River Stour tidal and fluvial defences, the sea defences in Sandwich Bay, and the exercising of general supervisory powers of the Agency to encourage the implementation and maintenance of flood defences on IDB and private watercourses. Existing flood defences will be reviewed with respect to conditions, effectiveness and cost of maintenance. The impact of the flood storage reservoirs upstream of Ashford on the regime of the Stour will also be reviewed.

In recent years, in the absence of severe flooding in the catchment, an air of complacency is perceived with respect to flood risk. The flood plain of the Stour is being squeezed by industrial and farming interests and the Agency will continue to advise on proposed development locations to ensure protection of flood plains and designated flood storage areas. Following the Easter 1998 floods in the Midlands, the Agency has accelerated its programme to ensure that it can accurately identify and alert householders and landowners at risk. At present the Agency is not confident that its database is accurate or adequate for existing or predicted areas where people or property are at risk. The Agency will continue to monitor weather conditions, rainfall, tidal and river levels to forecast where flooding may occur and issue flood warnings to the public as appropriate to minimise risk and avoid damage.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Confirm areas at risk from flooding.	Reliable baseline information.	Cost.	M	LAs
Ensure that owners and occupiers in flood risk areas are on the Agency's database.	More efficient and effective flood warning.	Cost. Reluctance of home owners/occupiers to accept flood risk.	L	Landowners/ occupiers LAs
Review Stour fluvial and tidal flood provision.	Reliable information for decision making.	Potential inadequacy of defences.	L	LAs Landowners
Review flooding issues.	Protection of life and property.	Resources.	L	LAs Landowners
Do nothing.	No costs.	Potential risk of harm to life and property.	-	-

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:

- 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 which influence the likely future pressure include population increase, planned economic growth and development, and per capita increases in demand. For further information see section 2.2.4 of the Environmental Overview.

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.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Implement Action Plan.	Restoration of catchment resource balance. Conservation of low flow streams and wetlands.	Resources.	M	Water companies LAs
Do nothing.	None.	Water shortages and low river flows lead to supply restrictions and habitat degradation.	-	-

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.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Prepare and implement contingency plans which address the impact of winter droughts on the management of groundwater storage.	Maintain catchment resource balance under drought conditions.	Resources.	L	LAs Water companies NFU
Do nothing.	None.	Depletion of water resources.	-	-

Issue 5: Need to promote good water resource conservation practices 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 would include:

- Support schemes for diversion of waste water treatment works effluent into the upper Stour Estuary. In some instances, as already demonstrated with the Herne Bay / Grove Ferry scheme, the resulting improvement in the low flow regime of the river could be sufficient to justify a corresponding increase in abstraction for public supply.

- Retain the existing network of rural waste water treatment works, many of which provide the greater proportion of the base flow to headwater streams.
- Support development of non-potable groundwater sources for spray irrigation in order to help relieve pressure on public supply sources at times of peak demand.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Extend scope of water resource management policy to assist identification of suitable ideas for localised development.	Improves water resource balance. Reduces pressure on environmentally sensitive areas.	Resources.	L	Water companies
Do nothing.	None.	-	-	-

Issue 6: Pressure on the Stour catchment biodiversity and how to achieve the Agency's biodiversity objectives

Protected species and habitats are under threat from a range of sources including low flows, pollution and inappropriate riparian management. The Agency are considering producing a catchment Biodiversity Action Plan (BAP) for the Stour, for species and habitats in which it has an interest, which will supplement the Kent BAP. A number of species for which national action plans have been produced are present within the catchment, including otter, white-clawed crayfish, water vole, and shining ram's-horn snail. A catchment BAP will provide a focus for the conservation of these and other locally important species which are currently under threat. For further information see section 2.4.10 of the Environmental Overview.

Several BAP species occur in sites within the catchment which receive no statutory protection. The largest population of the shining ram's-horn snail, a species which is sensitive to both water levels and water quality, occurs in the Ash Levels, a wetland which is currently subject to pressure from agricultural run-off and abstraction. The marsh warbler occurs in two coastal sites within the catchment, neither of which receive statutory protection. One of the colonies has suffered from damage and disturbance by 4 wheel drive vehicles using the area for recreational use.

The Stour catchment supports a number of internationally and nationally important wetland habitats for which the Agency has a legal requirement to contribute to the protection of, under the Conservation (Natural Habitats) Regulations, 1994 and the Environment Act 1995. Despite efforts by the Agency to protect water levels by ensuring a minimum residual flow in the river, abstractions and authorisations under the control of the Agency are causing a reduction in water levels and leading to saline intrusion at Stodmarsh, a wetland site of international significance which is fed by water from the Great Stour. Several of the habitats for which the site is designated such as reed bed and grazing marsh, depend on stable water levels to maintain their nature conservation interest.

Management of the river channel for flood defence purposes can potentially conflict with the nature conservation interest. Programmes of weedcutting and dredging, carried out by the Agency to ensure that waterways and structures are maintained to the standard required for adequate flood control and land drainage have to be undertaken with care to avoid damage to the bank and bed of the river.

Hothfield and Aldington relief systems, which were constructed to prevent flooding in Ashford, have changed flow regimes in the Stour. Concerns have been received from Ashford Borough Council that the area around South Wilsborough has tended to dry out in recent years. Reduced flushing by flood water as a result of the Aldington flood alleviation scheme is perceived to have led to an increase in siltation and a reduction in habitat quality. For further information see sections 2.3.3 and 2.3.4 of the Environmental Overview.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Prepare a catchment BAP for water related species in which the Agency has an interest and ensure full consultation with all interested parties.	Involvement of all local conservation groups with the protection of BAP species and enhancements of their habitats.	Replication of regional BAP.	M	LAs EN Landowners KWT Conservation groups FWAG FRCA
Increase monitoring in order to gain information on the effects of flows on wetland and riparian habitats.	Gain data to support the maintenance or increase of the MRF to enhance water available for species and habitats.	Resources.	H	EN Conservation groups KCC KWT
Undertake baseline surveys and initiate specific monitoring studies for BAP species relevant to the Agency: water vole, otter, crayfish, marsh warbler, and shining ram's-horn snail.	Increased understanding of habitat requirements.	Resources.	M	Landowners Conservation groups KWT SEORP MAFF Universities
Implement habitat enhancements for above species in collaboration with landowners, including appropriate actions of the Stour Otter Strategy prepared by the South East Otters and Rivers Project (SEORP).	Increased population size and viability. Improved environment.	Resources.	M	Landowners Conservation groups SEORP IDB Farmers Highways Agency
Implement a series of habitat enhancements and educational initiatives for the marsh warbler colony at St Margaret's Bay.	Enhancement of habitats. Increased awareness of environmental issues among landowners. Expansion of database.	Resources.	M	Landowners Conservation groups RSPB White Cliffs Countryside Project

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Produce and implement guidelines for the management of sites for the benefit of the marsh warbler.	Protection and enhancement of biodiversity.	Potential conflicts with other interests. Resources.	M	Conservation groups RSPB White Cliffs Project
Devise and implement a programme of ditch management in the Ash Levels to ensure the protection of the shining ram's-horn snail.	Increased biodiversity.	Resources. Potential conflict with agriculture due to the species' reliance on ditches and high water levels.	H	Conservation groups KWT Landowners MAFF
Encourage a sense of ownership of the River Dour by local people through liaison with local bodies.	Increased value placed upon the River Dour. Enables environmental improvements to be made.	Resources.	M	Public LAs Conservation groups.
Enhance the management of Agency landholdings to increase their biodiversity and recreational value, especially at Worton, Aldington, Sellindge, and Westbere.	Increased biodiversity and recreational value.	Resources.	H	-
Continue programme of in-stream habitat improvements.	Reverses damage of habitat. Increases biodiversity and fisheries quality.	Resources	L	Landowners Angling clubs
Record occurrences of invasive water related plants in the catchment. Prepare an action plan to prevent establishment of giant hogweed and Himalayan balsam, and to eradicate Japanese knotweed downstream of Canterbury.	Expansion of database. Improvement in riverine habitat.	Resources. Not an Agency responsibility.	H	Riparian owners LAs Conservation groups MAFF EN

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Review authorisations under the Habitat Regulations for European Sites: Thanet coast, Sandwich and Hacklinge Marshes, and Stodmarsh.	Increase protection of designated sites.	Potential conflict with users of these sites.	L	EN Industry Farmers Water companies
Facilitate production of the Thanet coast SAC Management Strategy to the fullest extent of the Agency's responsibilities.	Input to Management Strategy. Promotion of Agency interests and responsibilities. Opportunity for partnership.	Resources.	M	SAC management team
Implement agreed actions for Water Level Management Plans for Stodmarsh, Preston Marshes and the Sandwich and Hacklinge Marshes where the Agency is the operating authority.	Enhancement of habitats. Resolution of some conflicts.	Some conflicts are likely to remain. Source of funding.	H	Landowners LAs Farmers EN
Assist landowners and occupiers in the management of wetlands, especially grazing marsh, reedbeds or fenland.	Improved management of these habitats. Habitat enhancement.	Resources.	M	Landowners
Do nothing.	No costs.	Degradation of habitat and associated remediation costs.	-	-

Issue 7: Changes in migratory fish populations

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, 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. For further information see section 2.3.3 of the Environmental Overview.

Consideration needs to be given to the need to monitor fish stocks, and to assess the success of fish passes which have been installed on the river to aid the passage of fish.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Investigate and implement improved fish monitoring procedures for the Stour.	Consistent record. Improved dataset.	Resources.	M	Fishing interests Landowners
Install fish counter.	Consistent record at an acceptable site.	Installation and running expense.	M	Fishing interests Landowners
Do nothing.	None.	Potential adverse environmental impact due to uncoordinated operation.	-	-

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 private sluices has been a problem in the past. For example, in 1972 a flood event in Ashford was 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 which 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. For further information see section 2.2.6 of the Environmental Overview.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Education and liaison with owners of flood defence structures.	Better control over flooding situations and environmental effects.	Resource costs.	M	Flood defence structure owners
Installation of telemetry and automation of key structures.	Reduced need for human involvement, resulting in better control over operation of structures.	Cost.	H	LAs Private owners
Agency to assume ownership of and responsibility for key problematic structures.	Ability to consider the needs of the environment when operating sluices.	Conflict with private owners.	H	LAs Private owners
Do nothing.	No costs.	Potential adverse environmental impact due to uncoordinated operation.	-	-

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.

A general water quality problem seems to have also been created from moving coastal discharges to river discharges (Weatherlees and Grove Ferry). Although this has led to an improvement in the quality of bathing waters, the increased flow of nutrients into the river systems has caused a decline in river quality and increasing eutrophication. For example, Weatherlees STW which replaced the coastal discharges at Ramsgate and Deal and the Sandwich Town discharge direct to the river, was commissioned in 1996. Although the new discharge helps to reduce saline intrusion there may be future quality issues should development continue in the area or flows from Margate and Broadstairs catchments be incorporated.

A further example is 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 continuing to be made to the Hogwell Sewer.

In order to assess the impact of licenced 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 unconsented discharges. In order to attempt to reduce input of nutrients to the river, 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.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Continue to encourage water companies to reduce catchment effluent discharges through negotiation in the next round of Asset Management Plans.	Reduce amount of nutrients discharged in effluent leading to reductions in eutrophication.	Possible increased costs to consumers leading to public relations problems. Conflict with water companies.	M	Water companies OFWAT
Improved monitoring and increase in the number of monitoring points to assess effects of moving discharges inland.	Identification of STWs which need improvements.	High costs and resources.	H	Water companies
Investigate low flow alleviation measures.	Improve dilution to help improve water quality.	Reduce abstractions.	H	Water companies OFWAT
Production and implementation of an Action Plan to reduce eutrophication.	Improved riverine habitat and compliance with RE classifications.	May require stricter licencing of discharges.	M	Conservation groups MAFF NFU Water companies.
Do nothing.	No costs.	Increasing eutrophication and failure of GQAs.		

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, runoff 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 river bank. 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.

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. Saline intrusion from fossil water has led to the closure (licence revoked) of the Eastry borehole. For further information see section 2.2.5 of the Environmental Overview.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Encourage public awareness of pollution risks through increased local awareness campaigns.	Improved environmental protection and awareness.	Resources.	M	LAs Stakeholders
Work with MAFF to improve implementation of good agricultural codes of practice.	Reduce nutrient and chemical run-off from land and therefore improve water quality.	Resources.	M	MAFF NFU
Develop buffer strips, adjacent to the river bank between Longport Bridge and Wye to reduce pollution of watercourse.	Improved environmental protection.	No change in practices on land adjacent to watercourses.	M	Farmers MAFF Farming and Rural Conservation Agency
Education of developers to ensure environmental awareness and good construction practice.	Reduce accidental pollution.	Resources.	H	Water Companies LAs
Proactive action with Highways Agency, farmers and local authorities to consider effects of pollution on the environment.	Education rather than punishment.	Resources.	M	Highways Agency LAs Farmers
Do nothing.	Some sites will slowly recover. No costs.	Increased incidents of pollution with significant environmental degradation and associated high economic costs for clean-up.	-	-

Issue 11: Underprovision and regulation of recreational resources in the catchment

The Agency has a duty to promote the use of water and associated land for recreational purposes where desirable. Public demand for more recreational facilities within the catchment is reflected in both Canterbury City and Shepway District Local Plans. There is also pressure from the public, throughout the catchment, for improved access to the water's edge, particularly in the form of riverside walks. However, concern has been raised by English Nature and other nature conservation organisations about the potential impact of recreation on sensitive wetland and riparian habitats.

Whilst the Agency supports 'in principal' the Sustrans National Cycle Network each route is considered on its own merit. The banks of the Stour have been identified as one possible route. Concerns were raised, however, over the potential flood risk posed by routing the path under a narrow bridge in Ashford. For further information see section 2.2.7 of the Environmental Overview.

There is a need to address the issue of the provision of recreational sites and facilities which do not place excessive stress on the environment.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Review and contribute to debate on R&D report on the impacts of recreation on flood banks.	Establish a code of practice that will promote the provision of recreational facilities that are not detrimental to flood defence structures.	Resources.	M	Sustrans Recreation groups LAs Landowners
Review Agency owned flood structures, embankments and properties for potential to improve recreation.	Provision of recreational facilities on new sites providing there is no conflict with flood defence practices.	Resources.	M	-
Support recreational initiatives by external organisations where consistent with Agency objectives.	Improved recreational resources. Opportunity to ensure consideration of environmental factors.	Resources.	L-M	Recreation groups LAs Sports Council

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Consider inclusion of recreation facilities when carrying out capital works.	Improved recreational resources.	Cost.	M	Developers LAs
Assist in the development of appropriate riverside walking and cycling routes within the Stour catchment which are sustainable and compatible with other interests.	Increased access to river. Improved recreational facilities. Potential for improving local understanding of riverine environment.	Lack of regulation of these routes. Potential disturbance to nature conservation interest at sensitive sites	M	LAs
Assist in the development of facilities for canoeing, wind surfing, and sailing at agreed locations.	Increased recreational facilities.	Increased pressure on riverine habitats.	M	Landowners Sports clubs
Assist in the provision of appropriate interpretive material and recreation facilities to increase the appreciation of the wetland environment and the wildlife it supports.	Increased awareness of the environment. Improved recreational facilities.	-	M	Las Conservation groups Schools
Address issues of facilities for young anglers.	Improved recreational facilities.	Increased pressure on the riverine environment.	H	Angling clubs
Do nothing.	None.	No improvements in recreational resources.	-	-

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 for development in the Stour catchment due to its proximity to the Channel Tunnel Rail Link.

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 such 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 to raise land to provide 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. For further information see section 2.2.6 of the Environmental Overview.

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.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Education of, and liaison with, LAs and developers to identify impacts associated with development in flood risk areas.	Reduce development in the floodplain. Improve provision for flood storage capacity and drainage where development is unavoidable.	Resources.	H	LAs Developers
Influence creation of appropriate local development plan policy, particularly in relation to flood risk areas.	Reduced development in the floodplain.	None.	M	LAs
Do nothing.	No costs.	Increased development on sensitive sites leading to environmental degradation.	-	-

Issue 13: Awareness of contaminated sites to enable risks to be established when developing brownfield Sites

Current Government guidance advises that the target for new housing development to be on 'brownfield sites' should rise from 50% to 60%. However, many of the brownfield sites identified for development are contaminated and mobilisation of contaminants during redevelopment can pose a pollution risk to human health, ground and surface water and ecology. In the Kentish Stour catchment, groundwater is particularly vulnerable to contamination due to the heavy reliance upon aquifers for public water supply.

Agency involvement only begins through the planning consultation process after a site has been identified for potential development. Once a site is identified as potentially contaminated, developers are required to clean it up in accordance with procedures and standards approved by the local authority and the Agency. However in the Kentish Stour catchment the number of contaminated sites is unknown. Therefore, there is a need to identify sites in order to:

- evaluate the contamination risk;
- provide appropriate advice to local authorities and developers;
- ensure sites are monitored and cleaned up appropriately.

Once remediated, former contaminated land sites offer an opportunity for redevelopment. This helps conserve land as a resource and reduces pressures on greenfield sites, thus conserving agricultural land and natural habitats. The aim is to ensure that sites presenting the biggest risks are dealt with first, and that risks are assessed in relation to the intended use of the land. For further information see section 2.1.2 of the Environmental Overview.

Options for Action	Advantages	Disadvantages	Financial Cost	Potential Partners
Strategies to be prepared in conjunction with local authorities to identify and remediate contaminated land.	Presents opportunity to meet housing needs on brownfield sites as set by Government. Allows full consideration of environmental issues of development on such sites.	Extent and number of such sites is not currently known. Decontamination may be expensive. Redevelopment may involve moving pollution from one site to another.	H	DETR LAs Industry
Do nothing.	Sites may have stabilised in respect of pollution and redevelopment may lead to reactivation of the pollution unless carefully controlled.	Sites remain as potential health and pollution risk. Pressure continues for green field development. Potential value of land not realised. Failure to fulfil Agency Duty.	-	-

4.0 PROTECTION THROUGH PARTNERSHIP

4.1 Introduction

The Agency is well placed to influence many of the activities affecting the environment through the Environment Act 1995 (EA 95) and other associated legislation. This section examines the major opportunities for the Agency to address environmental issues through partnerships with others.

The Agency must work in partnership with others to ensure that where appropriate the options for action included in Section 3 become real actions and are implemented so that the environmental issues are addressed.

Close links are already established with local authorities, water companies, industry, farmers, landowners, conservation bodies, angling clubs and recreation groups. New partnerships will be sought, both with these organisations and others. It is hoped that this draft LEAP will help us to achieve even more by working closely with others to address issues in the Kentish Stour catchment and secure a stronger basis for environmental protection and enhancement.

4.2 Partnership opportunities

4.2.1 Air quality

Kent Air Quality Partnership

EA 95 Part IV places responsibility for local air quality management on the local authorities. They are required to carry out a three stage review and assessment of air quality within their boundaries, taking into account factors from neighbouring areas. The Agency is a consultee to this process. The review must assess whether it is likely that air quality objectives laid down in the Air Quality Regulations (SI 1997 No 3043) will be complied with by the 31 December 2005. If it is likely that one or more of the objectives will be breached the local authority is required to designate that area where the breach is likely to occur as an air quality management area. An action plan must be prepared which sets out the measures required to achieve these objectives.

The Agency's role is one of liaison, support, technical consultation and provision of data relating to Part A IPC processes. Part B processes (those with lower potential to pollute) are already regulated by local authorities under the Local Authority Air Pollution Control (LAAPC) provisions of EPA 90 Part 1.

The Kent Air Quality Partnership is an existing forum which promotes co-operation and co-ordinated action on air quality issues. It is the custodian of an emissions inventory and air quality model which are now being used to facilitate member local authority Air Quality Reviews. The Agency is a full member of the partnership and Kent County Council (KCC) provides secretarial facilities.

The air quality model is also used by KCC to assist with planning decisions by evaluating the impact of proposed developments.

4.2.2 Water resources

The Agency is committed to water-demand management and will work closely with water companies and developers, local authorities and relevant organisations to promote the efficient use of water.

The Agency acknowledges that new resources may be needed in the future and supports a twin track approach of planning for water resource development alongside the promotion of demand-management measures. The Agency seeks to influence planning decisions for new development by encouraging the inclusion of water-conservation measures in new properties, particularly in areas where water resources are under stress, and by ensuring that planning authorities allow for the lead time for resource development.

South East Water Forum

The Environment Agency works closely with the water companies in the Kent Area through the South East Water Forum in order to manage water resources in the area to achieve the proper balance between water development objectives, and the needs of the environment.

South East Region Strategy Group

The Strategy Group is comprised of the water companies, Environment Agency, OFWAT and the unitary authorities. The Group are currently developing a regional water resources strategy for south east England which will address demand management and resource development across the region. Specifically within the Stour catchment the issue of water shortages in Thanet and lack of winter water storage areas will be addressed.

4.2.3 Landscape

KCC produces River Landscape Assessments and Design Guidelines which the Agency uses when working with local authorities and developers to conserve and enhance diverse river landscapes. The Agency will liaise with those organisations which have direct control over archaeological and heritage issues to assist in the conservation and enhancement of these interests.

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.

4.2.4 Biodiversity

The Agency supports action to sustain or improve natural and man-made assets so that they are made available for the benefit of present and future generations. Many development schemes have significant implications for conservation. The Agency will work with developers, local authorities, conservation bodies and landowners to conserve and enhance biodiversity.

Many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and local authorities to protect fisheries.

South East Otters and Rivers Project

The South East Otters and Rivers Project is a collaboration between the Environment Agency and Kent Wildlife Trust for which the Agency funds a full-time officers post. The project is taking the lead in otter conservation in Kent and assisting with water vole conservation. An otter strategy is currently being prepared in which habitat improvement is the priority action. This will be followed by targeted action on a river by river basis.

Farming and Wildlife Advisory Group

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

4.2.5 Flood defence

Planning liaison is the link between the Agency's functions and local authority planners. The Agency is committed to developing close working relationships with local planning authorities to promote effective links between planning and environmental protection.

The Agency will encourage best practice, including source control measures and common standards, among local authorities and riparian owners to protect and enhance the environment.

Internal Drainage Board

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 (LDA) 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. These powers do not extend to any 'main river' within an Internal Drainage District.

4.2.6 Waste management

The Agency will work with waste producers, the waste-management industry and local authorities to reduce the amount of waste produced, increase re-use and recycling and improve standards of disposal; and with users of the radio-active materials to ensure that radio-active wastes are not unnecessarily created, and that they are safely and appropriately disposed of.

Waste minimisation

In Kent over the last two years a major project (the Medway and Swale Waste Minimisation Project involving Pfizer Ltd.) helping companies minimise waste at source has been backed by the Agency, and Kent County Council. This project was coordinated by the Centre for Exploitation of Science and Technology and supported by the Government's Environmental Technology Best Practice Programme.

4.2.7 Recreation

The Agency will work with the Countryside Commission, the Sports Council, British Waterways, the Central Council for Physical Recreation and other recreational and amenity organisations to optimise recreational use of the water environment.

4.2.8 Fisheries

The Agency, Kent police and anglers in 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.

4.2.9 Education

The Agency will seek to educate and influence individuals, groups and industries to promote best environmental practice. It will work in partnership with statutory and voluntary groups to carry out improvement projects and develop a wider public awareness of environmental issues.

The Agency is actively developing an education strategy to help schools and colleges at all levels of the curriculum. We encourage local liaison and project-related work with schools such as initiatives which assist schools with environmental enhancement projects.

Local Agenda 21

The Agency recognises the potential of Local Agenda 21 and will continue to work with local authorities to ensure protection and enhancement to improve the local environment. A number of the local authorities in the Stour catchment, such as Canterbury City and Shepway District Councils have produced Local Agenda 21 strategies. A number of the proposals for action within the LEAP could be implemented through Local Agenda 21 Strategies.

Kent Sustainable Business Partnership

The Agency is a partner in the Sustainable Business Partnership project led by Kent County Council which is seeking to target small and medium business in the area.

4.3 Summary

Many other partnerships occur or are planned within the Agency, all of which are designed to deliver the mutual objectives of the partners involved. The Agency has a diverse network of relationships with many national, regional and local organisations as well as landowners and the general public. One significant area for future development will be the building of partnerships to aid environmental education. It is through these partnerships that we are able to contribute fully towards the goal of sustainable development.

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 the Kent Area LEAP):

- Water Resources
- Flood Defence
- Water Quality
- Air Quality
- Integrated Pollution Control
- Radioactive Substances
- Waste Management
- Contaminated Land
- Conservation including landscape and archaeology
- Fisheries
- Recreation
- Navigation

APPENDIX 2: CONSULTATION UNDERTAKEN

In addition to extensive consultation with members of the Environment Agency, consultation was also undertaken with external consultees. These included the local authorities whose jurisdiction falls within the LEAP area, and various interest groups.

The following organisations were consulted during the preparation of this LEAP:

Ashford Borough Council*
Canterbury City Council*
Dover District Council*
English Nature (Kent)*
Farming and Rural Conservation Agency*
Folkestone and Dover Water Services
Kent County Council
Maidstone Borough Council
Mid Kent Water
Pfizer Ltd
River Stour (Kent) Internal Drainage Board*
Southern Water Services
Shepway District Council
Stour Countryside Project
Thanet District Council*
Whitecliffs Countryside Project*

* = Response received

Meetings were held with the following organisations:

Ashford Borough Council
Canterbury City Council
Dover District Council
English Nature (Kent)
Kent County Council
River Stour (Kent) Internal Drainage Board
Shepway District Council
Thanet District Council

APPENDIX 3: GLOSSARY

Abstraction	Removal of water from surface water or groundwater, usually by pumping.
Abstraction License	License issued by the Environment Agency under Section 38 of the Water Resources Act 1991 to permit water to be abstracted.
Aquifer	A layer of underground porous rock which contains water and allows water to flow through it.
Catchment	The total area of land which contributes surface water to a specified watercourse or water body.
Groundwater	Water which is 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"). Main Rivers include all watercourses which contribute significantly to a catchment's drainage. The Agency has 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.

APPENDIX 4: ABBREVIATIONS

AEG	Area Environment Group
BAP	Biodiversity Action Plan
DETR	Department of the Environment, Transport and Regions
EA 95	Environment Act 1995
EN	English Nature
FRCA	Farming and Rural Conservation Agency
FWAG	Farming and Wildlife Advisory Group
GQA	General Quality Assessment
IPC	Integrated Pollution Control
IDB	Internal Drainage Board
KCC	Kent County Council
KWT	Kent Wildlife Trust
LA	Local authority
LAAPC	Local Authority Air Pollution Control
LEAP	Local Environment Agency Plan
LDA	Land Drainage Act
MAFF	Ministry of Agriculture, Fisheries and Food
MRF	Minimum Residual Flows
NFU	National Farmers Union
OFWAT	Office of Water Services
RE	River Ecosystem
RSPB	Royal Society for the Protection of Birds
SEORP	South East Otters and Rivers Project
SI	Statutory Instrument
STW	Sewage Treatment Works

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.

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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



**ENVIRONMENT
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