

Box 3

# local environment agency plan

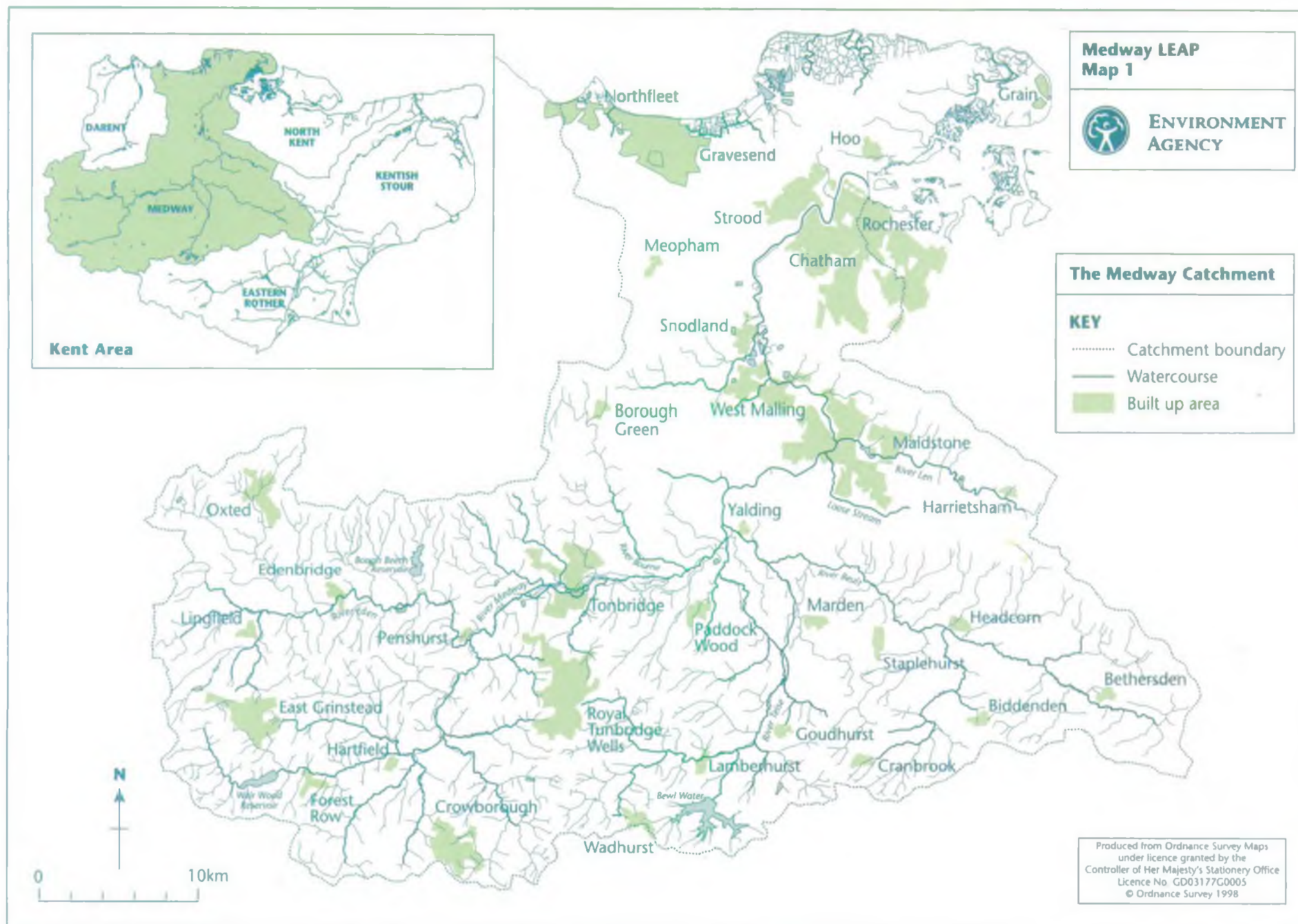
**MEDWAY**

**NOVEMBER 1999**



ENVIRONMENT  
AGENCY

# Catchment Overview



This book is due for return on or before the last date shown below.

~~18 JAN 2003~~

~~LSHAE~~

~~20.14.03~~

16 FEB 2004

Zoe Bell



## FOREWORD

Welcome to the Local Environment Agency Plan (LEAP) for the Medway Catchment. 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 February 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 Medway Catchment as we move into the next 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.



Binny Buckley  
Kent Area Manager  
November 1999



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

## 2.0 THE LEAP PROCESS

### 2.1 Local Environment Agency Plans

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.

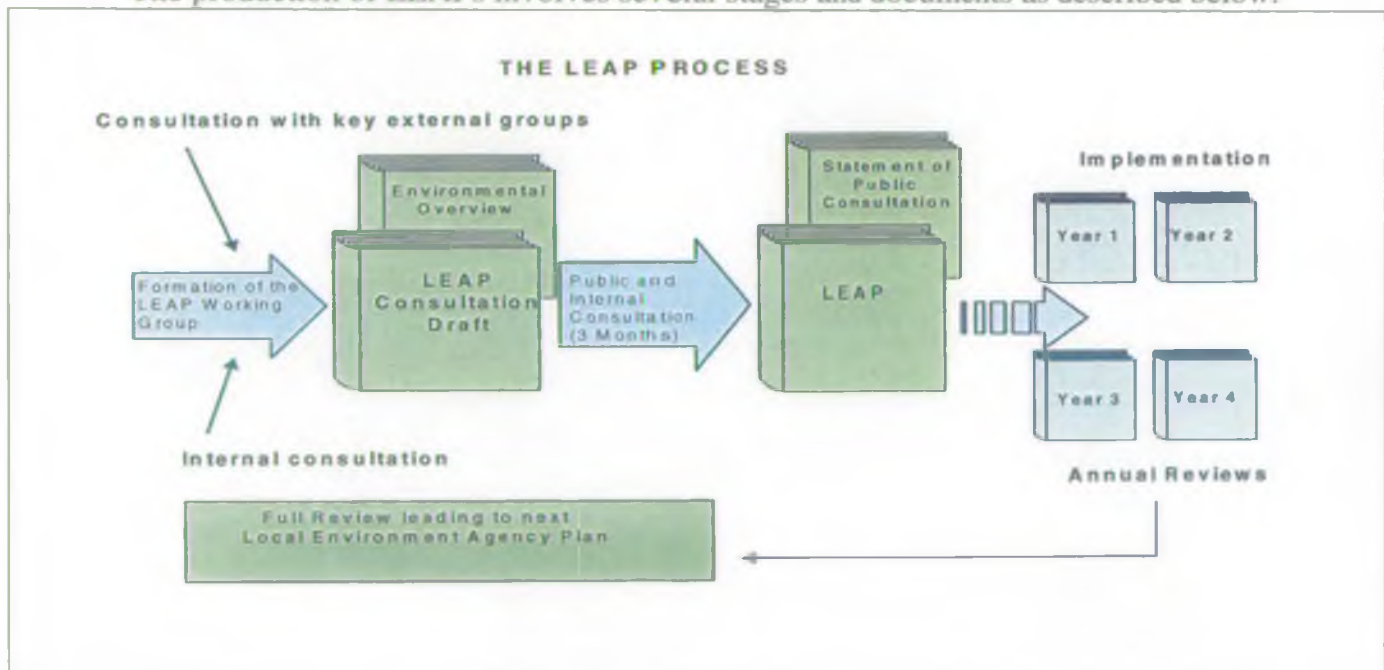
The LEAP is not designed to reflect the Agency's routine activities within the plan area. The Agency's everyday work commits substantial resources to managing the environment including extensive monitoring and survey operations. The Agency is not responsible for regulating every aspect of the environment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

The production of LEAPs involves several stages and documents as described below:



## 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:

The 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 Medway LEAP Documents

This **Medway 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 Medway 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 Medway 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.

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### **3.0 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" report provides more specific details of the influence of the public consultation process on the development of the final document.

##### **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.

##### **Launch Publicity**

The LEAP was launched on 2<sup>nd</sup> February 1999 in Archbishops Palace, Maidstone. Over 300 invitations were sent out to key stakeholders and approximately 100 people attended. Press releases generated interest from a number of local newspapers and several reports on television and radio. Over 500 Consultation Drafts were sent out to individuals and a broad range of organisations. Leaflets explaining the public consultation process and copies of the Consultation Draft were sent to the main libraries in the LEAP Area including all libraries in the relevant parts of East and West Sussex and Surrey. As the consultation period was drawing to a close, a "last chance to comment" press release was released and this again generated coverage in local newspapers and radio.

##### **The Kent Area Environment Group**

Members of the Kent Area Environment Group (AEG) represent local authorities and the wide range of interests of the Agency's customers, for example, angling groups, farmers and local businesses. The group 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**

In total 67 consultees responded in writing to the Consultation Draft. All comments have been considered and where appropriate and practicable, incorporated into the Action Plan. During the consultation process and via the responses, a number of organisations expressed an interest in working with the Agency in resolving the issues identified 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. Several consultees also congratulated the Agency on producing a comprehensive document and welcomed the Agency's commitment to integrated environmental management.

#### 4.0 THE MEDWAY CATCHMENT

*Pooh could get his chin on to the bottom rail if he wanted to, but it was more fun to lie down and get his head under it, and watch the river slipping slowly away beneath him.*

*(The House at Pooh Corner, A A Milne 1928)*

The Medway is a catchment of contrasts and the above description of the river near Hartfield as it flows quietly through the picturesque Weald may be difficult to recognise as the same river which spawned the Royal Naval Dockyard, paper making, the cement industry and power generation in its lower reaches where its estuary joins the Thames.

The Medway is one of England's great rivers, flowing more than 100 kilometres from its source in the Tunbridge Wells Sands in Ashdown Forest, East Sussex to its mouth at Sheerness. The origin of its name is derived from the Celtic *Medu*, meaning mead or sweet water, but by the time it reaches the estuary it becomes muddy with a considerable load of clay and silt which it picks up as it crosses the Gault and Wealden Clays of Kent. The river's power, used since Roman times for forges to create iron from the deposits in the clays, led to the early establishment of industry in the headwaters, now a quiet agricultural area - a further manifestation of the contrasting nature of the Medway.

Although the Medway is the traditional boundary between the Men of Kent to the east and Kentish Men to the west, a more tangible difference today is the urban, industrial character of the river once it cuts through the chalk of the North Downs and the largely rural nature of the river in the Weald to the south. Not only does the northern area include the Medway towns of Chatham, Gillingham, Rochester and Strood but there is also evidence of twentieth century enterprise along the banks of the estuary such as docks, oil terminals, chemical, paper and cement works, waste disposal sites and power stations. Thamesport on the Isle of Grain is one of the world's most advanced container ports, while away from the river, the marshes are a superb haven for wildfowl and the reclusive water vole.

It is the geology of the catchment that has produced these contrasts over time. The sands and clays of the High Weald in the south produce deeply incised tributaries; the cut through the chalk block to the north results in few surface watercourses. The clays of the headwaters are relatively impermeable to rainfall and a multitude of small streams are formed which meet to form the Medway itself which joins with the River Eden at Penshurst. As the Medway flows eastwards across the Vale of Kent the gradient reduces and collects tributaries which rise in other parts of the High Weald including the rivers Bourne, Teise and Beult. The Wealden rivers respond rapidly to rainfall and are subject to extremes of flow between summer and winter. There are three water storage reservoirs in this part of the catchment: Bough Beech, Weir Wood and Bewl Water. Bewl near Lamberhurst is the largest of these and is filled partly from its natural catchment and partly by water pumped from the River Teise near Goudhurst and from the Medway itself at Yalding. This normally takes place in the autumn and winter and water is then released to support Southern Water's abstraction for water supply from the Medway at Springfield near Maidstone; Mid Kent Water also takes water directly from Bewl for treatment. These reservoirs support both fishing and recreational activities.

The Wealden part of the catchment is principally agricultural with dairy and arable farms, fruit orchards, vegetable growing and hopfields and deserves its title as the Garden of England. Cobbett said of this stretch in his Rural Rides "*I believe (it) to be the very finest, as to fertility and diminutive beauty in the whole world*". Pollution from agricultural run off from the dairy farms or

from fertilisers and pesticides is a potential hazard in this area given the sloping ground and the relative impermeability of the clays. Spray irrigation is used particularly on the River Teise and River Beult.

The Wealden rivers support good populations of coarse and game fish with consequent angling interests; the Medway as a whole attracts large numbers of anglers. However, the existing conditions in the estuary prevent a self-sustaining population of sea trout or salmon although they are seen occasionally in wet seasons.

The southern catchment is of particular value for its nature conservation. Ashdown Forest is a Site of Special Scientific Interest as is the River Beult itself, with the otter known to be present in some stretches - an indication of a high quality environment. However low summer flows, nutrients and high temperatures pose a challenge for the maintenance of water quality. The upper catchment is protected from development either by Green Belt or by the designated High Weald Area of Outstanding Natural Beauty. The Wealden area remains comparatively unknown and its mixture of copses, hedges and mosaic of streams creates an intimate pastoral landscape. This contrasts with the wider vistas of the vale of Kent across which the Beult and middle Medway flow.

The clay soils, together with the spread of urban development, give the river a 'flashy' character and historically the area has suffered from flooding of both property and agricultural land; in September 1968 considerable damage was caused in Tonbridge and surrounding areas. In order to alleviate flooding, the largest flood storage area in Britain was created in 1982 at Leigh, upstream of Tonbridge. This holds back floodwater, which is then released at a controlled rate once flood flows have abated.

After leaving the clay vale, the Medway cuts through the Greensand Ridge beyond Yalding and collects two more tributaries, the Loose stream and the River Len before reaching the County Town of Maidstone. The Medway is navigable downstream of Tonbridge and the tidal limit is reached at Allington Lock from where the river flows north cutting through the chalk of the North Kent Downs. The North Kent chalk provides the major groundwater source for the catchment's water supply and the North Downs themselves are designated as an AONB. This LEAP includes the Isle of Grain, the Hoo Peninsula and the North Kent marshes west as far as Gravesend but excludes the lower Medway estuary and marshes which are covered by the North Kent LEAP.

The Medway towns, together with Maidstone, are anticipated to be the focus for future housing development in Kent, placing particular pressure on water supply, sewage treatment, and flood defences. Waste management is also of concern in the catchment given the limited remaining space in existing landfills and the need to export waste to other counties. This has resulted in recent years in a number of proposals being put forward for alternatives including waste to energy plants which are seen as the best option by some and opposed by others. Other development pressures are derived from the continued mineral working of sand, clay brick earths and chalk and proposed new cement works and power stations.

The Channel Tunnel Rail Link will pass through the catchment entailing a new crossing of the River Medway. Particular care will be required to ensure that natural resources and environmental quality are not compromised by its construction and operation. The extensive road network, particularly along motorway routings and the system around the Medway towns, results in depressed air quality in these areas and this is of particular concern to the local authorities.

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In the upper estuary of the Medway there are numerous discharges from paper and chemical industries, cooling waters from power stations and sewage effluents from the major treatment works. Although these are treated to the required standards set by the Agency, in times of low river flow, lower dilution rates mean that much of the flow is comprised of these discharges thus limiting the river's ability to sustain fish life.

The grazing marshes of the Hoo Peninsula are notable for their value for wildlife and have been identified as such by international designation. The water vole, whose habitat is protected and which is declining in numbers in Britain, finds shelter in the ditches of these marshes. The marshes are managed by farmers to promote nature conservation interests under the MAFF Environmentally Sensitive Areas Scheme.

The catchment is administered by four county councils, eleven district councils and one unitary authority, all of which produce the relevant statutory local plans such as structure plans and minerals local plans, which provide an administrative framework for the development of the catchment. Similarly water is supplied by five different water companies and there are three Internal Drainage Boards in the catchment.

In summary, the catchment is one of contrasts - designated for its natural beauty yet subject to some of the greatest housing and industrial development pressure in Britain. A wide range of designations serve to protect the catchment from over-development and numerous organisations and voluntary groups exist to maintain and protect that natural environment. It is hoped that this LEAP will act as a framework for identifying and confirming issues and subsequent actions which can be taken forward by the Environment Agency and others to ensure that the Medway catchment provides a sustainable source of employment and enjoyment for the next millennium.

## **5.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP**

### **5.1 Introduction**

The Agency is well placed to influence many of the activities affecting the environment through responsibilities placed upon it by 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 welcomes new partnership opportunities in the catchment and would be pleased to hear from individuals or organisations with any such proposals; please contact us at the address on the cover.

General partnership opportunities are presented in the Kent Area LEAP and the Agency is currently involved in many projects and activities that rely on such partnerships in the Medway catchment. Examples of these are listed below:

- **Medway River Project (MRP)**  
The MRP is a partnership between the Agency, Kent County Council (KCC), Tonbridge and Malling Borough Council, Maidstone Borough Council, Medway Council and the Countryside Agency. The Project has the primary aim of enhancing the Medway Valley as a green corridor for the benefit of wildlife and the local community, through the promotion of community awareness and action.
- **South East Otters and River Project (SEORP)**  
The Agency funds the SEORP hosted by Kent Wildlife Trust (KWT). The Project is taking the lead in otter conservation in Kent and assisting with water vole conservation. Priorities for action in habitat improvement and an otter strategy for the catchment are currently being developed. These will be followed by targeted action on a river by river basis.
- **Internal Drainage Boards (IDBs)**  
Within the Medway catchment there are 3 IDBs: the Commissioned Areas East and West of Gravesend, the Lower Medway and the Upper Medway. These were set up following the Land Drainage Act (LDA) 1930, to deal with specific drainage problems in relatively low-lying agricultural areas.  
  
The powers of the IDBs 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. Agency staff work in partnership with the IDBs to assist them with promoting more environmentally sensitive management practices.
- **Medway and Swale Waste Minimisation Project**  
Over the last two years, the Medway and Swale Waste Minimisation Project has helped companies minimise waste at source and has been backed by the Agency and KCC. It has been co-ordinated by the Centre for Exploitation of Science and Technology and supported by the Government's Environmental Technology Best Practice Programme.

- **Water Resources in the South East Group**

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

- **Kent Air Quality Partnership**

EA95 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 IPC processes (those with lower potential to pollute) are already regulated by local authorities under the Local Authority Air Pollution Control (LAAPC) provisions of the Environmental Protection Act 1990 (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 is now being used to facilitate member local authority air quality reviews. The air quality model is also used by KCC to assist with planning decisions by evaluating the impact of proposed developments. The Agency is a full member of the partnership and KCC provides secretarial facilities.

- **Farming and Wildlife Advisory Group (FWAG)**

In collaboration with KCC, East Sussex County Council and West Sussex County Council, the Agency's Kent Area Office has supported the work of the Farming and Wildlife Advisory Group's Kent and Sussex Weald Advisor since September 1994. This is in recognition of the high percentage of advice provided to landowners relating directly to the protection, enhancement and creation of watercourses and wetlands. The work delivered contributes to Agency conservation aims through, for example, the production of farm reports, Countryside Stewardship applications and farm biodiversity action plans.

- **Colleges and Universities**

Through a collaborative projects programme, much conservation and recreation benefit is achieved and valuable partnerships with other organisations are formed and strengthened. Academic institutions are a potential new partnership target.

- **Kent Sustainable Business Partnership**

The Agency is a partner in the Sustainable Business Partnership project led by KCC which is seeking to target small and medium businesses in the area.

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## 6.0 ACTIONS FOR THE MEDWAY CATCHMENT

Implementation of the LEAP is based on the actions identified to address the 22 key environmental issues which are of particular significance to the catchment.

The intended actions for the Agency which address each of the identified issues are presented with proposed time scales, anticipated costs, Agency lead contact (the majority of actions involve more than one function of the Agency) and the identification of potential partners. All actions should be SMART (specific, measurable, agreed, realistic and time based) and as such the plan represents the non-routine investment by the Agency and others in the catchment. They are not matters that 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.

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). The timescales for action may vary depending on future political change and priority changes within the economic and environment sectors.

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 possible.

### **Environment Agency Business Planning Process**

Actions identified as taking place in the first year of this plan are already in the Agency's Kent Area Business Plan for Year 1999-00 and in the majority of cases are already underway. Actions listed under subsequent years are actions the Agency is intending to carry out but which need to be prioritised in conjunction with the Agency's core duties via the Business Planning Cycle.

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 heavily on the changing priorities of partnership organisations. The Annual Review process enables the Agency to assess progress on a regular basis and incorporate changing local and national priorities as necessary.

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## The Actions Tables

Each Issue is accompanied by short explanatory text but please refer to the Environmental Overview for more background information.

LEAPs translate the Agency's long term "Environmental Strategy for the Millenium and Beyond" into action on the ground. Actions are grouped into nine themes set out in the strategy:



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



## THE KENT AREA LEAP AND THE CATCHMENT LEAPS

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

- A generic issue raised in the Kent Area LEAP. Actions addressing the issue cover activity in the Medway catchment. The issue does not then appear again in the Medway LEAP with the exception of Issues 3, 14, and 18 which are mentioned to ensure comprehensive coverage of significant issues.
- A generic issue raised in the Kent Area with particular relevance to the Medway catchment and therefore addressed with specific actions in the 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 Medway.

In developing the Medway LEAP, several actions have arisen which although they are relevant in the Medway catchment, also apply to other catchments and therefore warrant a strategic mention in the Kent Area LEAP. In the actions tables these actions have been marked with an asterisk \* and will be identified in the Kent Area LEAP when it is reviewed.

Area of Interest	KENT AREA LEAP	MEDWAY LEAP
FLOOD MANAGEMENT	Issue 1: Standard of flood and coastal defences will not be adequate for predicted effects of climate change	Issue 1: Flood defence provision and operation in the Medway 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	Issue 13: Adverse impacts of flood defence operations on habitats and fisheries
MANAGING WATER RESOURCES	Issue 2: Sustainable water resources management and the effects of climate change	Issue 2: Impact of predicted climate change effects on water management in the Medway catchment
	Issue 4: Deterioration in the balance of water resources	Issue 4: Effect on Water Resources of Blue Circle Industries moving cement works from Northfleet
	Issue 5: Forecast demand – growth; impact on the overall balance of public supplies	Issue 3 Implications of the water resources supply and demand management strategy in the South East Region. Actions in the Kent Area LEAP cover the Medway catchment
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 Medway catchment
ENHANCING BIODIVERSITY	Issue 6: Protection and enhancement of biodiversity	Issue 5: How to enhance biodiversity in the Medway catchment
	Issue 8: Protection and enhancement of important wetlands	Issue 14: Protection and enhancement of important wetland habitats Actions in the Kent Area LEAP cover the Medway catchment
		Issue 6: Spread of invasive species
MANAGING FRESHWATER FISHERIES	Issue 7: Illegal movement of freshwater fish through Kent	Actions in the Kent Area LEAP cover the Medway catchment
		Issue 7: There are barriers to the movement of fish on the Medway
		Issue 8: Sustainable Fisheries Management





CONSERVING THE LAND	Issue 11: Deterioration in the condition of land drainage.	Actions in the Kent Area LEAP cover the Medway catchment
		Issue 9: Increased incidence of river bank erosion & associated siltation
		Issue 10: Redevelopment of older waterside areas to maximise use of the land
		Issue 19: Extraction of minerals may create environmental impacts within the catchment
	Issue 22: Contaminated land to be made suitable for development use	Issue 18: Redevelopment of industrial areas in the Medway catchment needs to ensure that any contaminated land is appropriately remediated Actions in the Kent Area LEAP cover the Medway catchment
	Issue 23: Environmental impact of the Channel Tunnel Rail Link	Actions in the Kent Area LEAP cover the Medway catchment
WATER QUALITY	Issue 12: Water Quality improvements	Issue 15: Non-compliance with EU Standards & Agency objectives for water quality
	Issue 13: Improving bathing beaches	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 14: Coastal Oil Pollution	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 17: Pollution prevention	Issue 16 Intermittent pollution of surface and ground waters
	Issue 29: Danger of contamination of water for drinking water	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 10: Reduction in river baseflow producing a loss of dilution capacity	Issue 12: Need to improve our understanding of flow and water quality in the Upper Medway Estuary
INTEGRATED RIVER-BASIN MANAGEMENT	Issue 9: Declining flows in Kent Area Rivers	Issue 11 Protection of river flows in River Beult
	Issue 15: Increased managed access to the water for recreation	Issue 17: Managing access to water for recreation in the catchment
	Issue 16: Protection of Archaeological Heritage	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 19: Development pressures and sustainable surface water management	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 21: Development pressures on environmental resources	Actions in the Kent Area LEAP cover the Medway catchment
ENVIRONMENTAL AWARENESS	Issue 18: Raising public awareness of environmental issues in Kent Area	Issue 22. Raising public awareness of environmental issues in the Medway catchment.
SUSTAINABLE WASTE MANAGEMENT	Issue 24: Sustainable Wastes Management	Issue 21: Waste management options for the Medway Catchment Actions in the Kent Area LEAP cover the Medway catchment
	Issue 25: Waste management facilities	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 26: Sites claiming exemption from waste management licensing	Issue 20: Spreading of paper sludge wastes on agricultural land
	Issue 27: Pollution from the metal recycling (scrap) industry	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 28: Land application of sewage sludge	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 30: Sustainable management of landfill gas	Actions in the Kent Area LEAP cover the Medway catchment
	Issue 31: Risk of illegal waste disposal (fly-tipping)	Actions in the Kent Area LEAP cover the Medway catchment

## ISSUE 1: FLOOD DEFENCE PROVISION AND OPERATION IN THE MEDWAY 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 such as rising sea levels and the increasing intensity of rainfall, combined with the gradual sinking of South East England will place existing flood defences in the catchment under pressure with new areas consequently becoming exposed to risk of flooding. 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 with existing flood defences maintained and effectiveness reviewed. This issue has been addressed strategically in Issue 1 of the Kent Area LEAP.

Following the Easter 1998 floods in the Midlands, the Agency will ensure that it can accurately identify and alert householders and landowners at risk by updating and maintaining its database of 'at risk' people and property. See Issue 19 of the Kent Area LEAP. 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 damage.


*In addition to actions below, several actions relating to flood defence can be found under Issues 7 & 13.*

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Confirm areas at risk from flooding in the Medway catchment. • (Agency Lead: Development Control Team Leader)	Interim maps supplied 1999. Updated maps to be supplied 2001.	Best up to date information is available to assist in flood plain protection.	1999-2001	LAs	£300k (interim maps cost £20k: detailed in Kent Area LEAP)	 
2. Ensure that owners and occupiers in flood risk areas are on the Agency's database.* • (Agency Lead: Flood Defence Manager)	Review database every September to ensure it is as comprehensive and accurate as possible.	Best available data is used for issuing flood warnings.	1999-2004	Property owners & occupiers	£50k	 

## ISSUE 2: IMPACT OF PREDICTED CLIMATE CHANGE EFFECTS ON WATER MANAGEMENT IN THE MEDWAY CATCHMENT

Current climate change predictions associated with water resources include changes in rainfall and river flows, increased evaporation and a tendency for the South East to become drier. Because the effects are likely to be exacerbated in the South East it is necessary to institute a routine for monitoring the impact on the water environment. Special attention will need to be given to the flow regime at key measurement sections in the Medway catchment. The significance of any observed changes will be assessed with regard to:

- effective rainfall
- river flows
- long term changes in groundwater storage
- wetland regimes
- deployable outputs from public water supply (PWS) sources
- demand growth for PWS, agriculture
- overall balance of water resources

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Institute a routine for monitoring climate change impacts on water supply demand growth and the balance of resources in the Medway catchment.* • (Agency Lead: Area Water Resources Manager)	Accurate identification of significant changes.	More effective management of water resources (including drought contingency planning) and improved environment protection.	1999-2004	Water companies, conservation bodies	To be determined.	

## ISSUE 3: IMPLICATIONS OF THE WATER RESOURCE SUPPLY AND DEMAND MANAGEMENT STRATEGY IN THE SOUTH EAST REGION

Future development and management of water resources in the Medway must strike a delicate balance between environmental enhancement and the need to meet realistic public supply expectations. The action addressing this issue is under Issue 5 of the Kent Area LEAP and relates to the formulation of a Southern Region Water Resource Management Strategy and a subsequent Kent Area Strategy, taking local pressures and priorities into account. The role of the Medway in transferring and supplying water will be an important factor in the development of both strategies.

Whatever form the long-term strategies take, they will need to make full use of any remaining potential for the conjunctive use of surface (river-fed) and groundwater resource components. Priorities for the Medway will be defined primarily by the hierarchy of management initiatives now being put together by the "Water Resources in the South East Group" which comprises representatives of the Agency, OFWAT and the water companies operating in the South East. It will also embody many of the actions identified in the July 1997 update of the Southern Region Water Resource Strategy "Sustaining our Resources".

#### ISSUE 4: EFFECT ON WATER RESOURCES OF BLUE CIRCLE INDUSTRIES MOVING CEMENT WORKS FROM NORTHFLEET



Chalk excavation by Blue Circle Cement (BCI) at Northfleet has, for some years, been accompanied by increasing rates of de-watering to prevent interference with quarrying operations and to protect works. Over the past 20 years there has also been a general decrease in abstraction from boreholes serving the paper mills and other local industries and BCI have had to pump progressively harder to compensate for this. Current de-watering rates for the three principal discharge points are estimated to be comparable with the yield of many strategic public water supply sources.

De-watering is not currently subject to licensing control, being exempt under the Water Resources Act 1991, but there is likely to be increasing pressure on the re-use of this resource. The need for a coherent strategy has been given added impetus by BCI's decision to cease quarrying in the Northfleet/Swanscombe area at some point within the next 3 years and, subject to planning consent, establish a new operation at Holborough. This site is estimated to have approximately 30 years of reserves at current levels of demand. If this goes ahead there will be no need for BCI to continue de-watering operations at Northfleet. The Company are aware, that if they cease pumping, they may have to deal with the consequences of rising groundwater levels.

At the proposed new site particular attention will need to be given to the effects of quarrying on local groundwater sources, efficient water management within the plant and the water requirements of Holborough marshes in order to promote sustainable water resource management. Water resources are addressed as the main theme of this proposed move since other issues are regulated by the Agency's Integrated Pollution Control regime.

The Agency is in the process of evaluating a number of alternatives for development of the water resources of the Swanscombe Chalk block. Selection will be on the basis of the most environmentally cost-effective profile and the preferred option will need to satisfy certain key objectives, notably:




- establishment and maintenance of a stable regime of water table levels
- enhancement of low flows in the River Darent
- maximisation of public-supply potential
- protection of local water - dependent conservation sites including Ebbsfleet Stream and Swanscombe Marshes






Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Devise and implement an action plan for the development of Swanscombe Chalk groundwater resources for public supply and environmental enhancement. • (Agency Lead: Water Resources Manager)	Achieving Darent low flow alleviation (ALF) Phase II Target flows. Target flows/levels for designated wetlands. Grant of appropriate abstraction licences (incl PWS). Action plan will be programmed for completion during the period of AMP 3 implementation ie 99/00-03/04.	Effective development of groundwater currently discharged to waste, achievement of Darent ALF objectives, secure protection of scheduled conservation areas.	2000-2004	Water companies, BCI, DETR	£10k	 






## ISSUE 5: HOW TO ENHANCE BIODIVERSITY IN THE MEDWAY CATCHMENT

Many issue and actions in the Kent Area LEAP and in issues 6, 7, 10, 11, 12, 13, 15, 16 of this LEAP, will help enhance Biodiversity. In addition, there are various actions which need to be undertaken in order to achieve the commitments and targets in the UK Biodiversity Action Plan (BAP) and/or those which are detailed for Kent, Surrey and Sussex in their respective BAPs. The Agency's national policy is to prioritise the implementation of the UK BAP commitments. Implementation of additional actions within the counties of Kent, Surrey and Sussex will be considered in this context. The Agency will collate and assess existing information, initiate surveys to fill any gaps in knowledge and prepare a Medway catchment BAP for water related species such as the otter, water vole and white-clawed crayfish. This LEAP concentrates on those actions where there is most need and where the Agency has established an approach or identified the need to devote significant resources in the Medway catchment. One example is crayfish since the Medway catchment supports the most significant population of crayfish in the Kent Area.

The Agency will foster closer working partnerships with land owners, countryside projects and other organisations, such as FWAG and FRCA to achieve biodiversity aims, including through a new Kent Area initiative to achieve strategic habitat enhancements where flood defences are carried out, with the Agency contribution funded by the Local Flood Defence Committee.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Work with English Nature to complete and implement a strategy for the River Beult SSSI. • (Agency Lead: Team Leader Conservation & Recreation)	Strategy produced 99/00. Strategy implemented 00/04. Strategy reviewed 03/04.	Improved working relationship with EN. Clearer understanding of responsibility by all those with an interest along the River Beult. Greater protection and potential enhancement of a designated site.	1999/2004	EN, landowners	£10k	
2. With funding from the Local Flood Defence Committee, identify and work with landowners in implementing a series of targeted river habitat enhancements. • (Agency Lead: Conservation & Recreation Officer)	At least 5 enhancements per year as follows: River Eden 1999/01; River Teise 2000/02; Medway headwaters 2001/03.	Habitat and biodiversity improvements. Increased liaison with landowners and other organisations. Supports three key BAP species of relevance to the Agency and is not covered by a Countryside Project.	1999-2002	Landowners, FRCA, FWAG, UMIDB	£40k	 

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
3. Support the creation of otter refuges throughout the catchment and creation of a significant safe haven between Tonbridge and Maidstone. • (Agency Lead: Conservation & Recreation Officer)	At least 2 refuges per year. A major safe haven established by 03/04. Continued presence of otters in the catchment.	Meeting UK and County BAP actions. Successful partnership approach.	1999-2004	Landowners, farmers, UMIDB, MRP, FRCA	£12k	
4. Work with the UMIDB and local authorities to complete a habitat and water vole survey on the non-main river in the catchment. • (Agency Lead: Area Team Leader Conservation & Recreation)	At least one tributary catchment survey each year. Complete coverage achieved by 02/03.	Improved knowledge on water vole distribution. Opportunity to adopt more sensitive management techniques.	2000-2003	UMIDB, LAs	£15k	
5. Work with other partners to improve protection to the regionally important water vole colonies on the Leybourne stream, Larkfield lakes, Holborough marshes and Cliffe Marshes. • (Agency Lead: Team Leader Conservation & Recreation)	Increase protection of water vole colonies. Seek inclusion of water vole conservation measures in the Local Plans as they are prepared.	Meeting UK and County BAP actions. Protection of habitats.	1999-2004	LAs, EN, Parish Councils	£5k	
6. Support sensitive management of Leybourne, Larkfield and Snodland Lakes and associated Medway riverside for birds such as marsh warbler and other species such as water voles including through an educationally focused country park. Resist inappropriate development. • (Agency Lead: Team Leader Conservation & Recreation)	Support the creation of a sustainable country park through limited and non-intrusive enabling development. Continued presence of water voles and other BAP species. (cf Issue 17 Action 6)	Meeting UK and County BAP actions. Successful partnership approach.	1999-2004	LAs, MRP, RSPB, EN, KWT, Parish Councils, KCC, industry	To be determined	 




Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
<p>7. Continue to monitor the native crayfish population on the upper River Eden and its tributaries. Encourage protection of the River through designation as a Site of Nature Conservation Interest (Wildlife Site).</p> <p>• (Agency Lead: Conservation &amp; Recreation Officer)</p>	Designation of a crayfish SNCI. Continued evidence of a healthy population.	Protection of habitats. Partnership approach.	1999-2004	Surrey Wildlife Trust, Tandridge District Council, parish councils, landowners	£12k	
<p>8. Identify the features inhibiting the distribution of native crayfish on the upper Eden catchment. Identify options and mechanisms by which the inhibiting factors can be addressed.</p> <p>• (Agency Lead: Conservation &amp; Recreation Officer)</p>	Investigation commenced 00/01. Options and mechanisms identified 02/03.	Targeting of resources. Expansion of native crayfish distribution.	2000-2003	Tandridge District Council, water companies, landowners	To be determined	
<p>9. Support partnership opportunities for sensitive adaptation of pill-boxes to enable them to be retained as both historic structures and as habitats for bats and other wildlife.</p> <p>• (Agency Lead: Team Leader Conservation &amp; Recreation)</p>	Sensitive adaptation of at least 3 boxes.	Habitat provision and retention of an historic feature through sensitive use.	2001/2003	Landowners, LAs, interest groups, parish councils, MRP, KWT	£15k	
<p>10. Assess the biodiversity interest associated with the tidal and inter-tidal areas of the upper Medway estuary and ensure that this is taken fully into account in the production of local plans and strategies.</p> <p>• (Agency Lead: Team Leader Conservation &amp; Recreation and Team Leader Biology)</p>	Wintering bird count each year. At least one comprehensive invertebrate survey. Biodiversity concerns included in local plan and strategy development. (cf Issue 12 Action 1 and Issue 8 Action 1)	Improved understanding of the biodiversity interest. Improved ability to protect the area.	1999-2004	University of Greenwich, LAs, MRP, KOS	£25k	
<p>11. Support retention and sensitive management of the saline lagoons both at Cliffe and adjacent to the Medway Estuary.</p> <p>• (Agency Lead: Conservation &amp; Recreation Officer)</p>	No reduction in number and size of saline lagoons in the LEAP area.	Meeting UK and County BAP actions.	2001-2003	Landowners, RSPB, EN, LAs, Greenwich University, Industry, Highway Agency	To be determined	






## ISSUE 6: SPREAD OF INVASIVE SPECIES

The Medway catchment supports a range of non-native and invasive plants and animals. Some plants like ragwort, various species of thistle and broad-leaved dock are scheduled as injurious under the Weeds Act 1959, in recognition that they can damage agricultural land and production if left unchecked. These are not specifically water-related and largely outside the statutory remit of the Agency.

There are however a number of exotic or invasive plants which occur in water or are associated with its margins and banks. Planting or causing to grow in the wild, plants such as Japanese knotweed and giant hogweed is prohibited under the Wildlife and Countryside Act 1981 (as amended). Despite this, Japanese knotweed is extensive throughout the Medway catchment, while there are heavy infestations of giant hogweed downstream of Yalding and upstream of Tonbridge. In addition, the Wildlife and Countryside Act does not clearly define either the enforcement body nor the term 'wild' which does not help the situation. There are also a number of exotic animals in the catchment. Those associated with the water environment include terrapin, bullfrog, mink, mitten crab, American crayfish and beaver.


The Agency is not the body responsible for the control of any of these plants or animals or the enforcement of their control by others. In most instances responsibility for control falls to the landowner or occupier. Our principal role is to help raise awareness over the problems, including through publication of leaflets, to help reach a consensus over the way forward and to support appropriate initiatives aimed at achieving control. In addition, the use of herbicides in or near water is controlled by the Agency.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Monitor common carp, Koi carp, rainbow trout and other exotic fish species in watercourses. Develop and distribute a questionnaire to angling clubs/landowners/Agency field officers to establish distribution of these species. * • (Agency Lead: Fisheries Scientist)	Quality information obtained to influence Agency policy for the removal of these species from inappropriate linear watercourses. Partly achieved through existing monitoring programmes, local intelligence and ILFA work.	Protects native biodiversity, invertebrates, flora and fauna as well as fish from the potential impacts of invasion. Constrains potential worsening of the situation ie additional introductions.	2000/2001	Angling clubs, landowners		 
2. Maintain a database on the distribution of exotic and invasive water-related species in the catchment. * • (Agency Lead: FER Technical Officer)	Database established 00/01. Reporting form prepared and distributed 00/01. Distribution map produced every three years.	Baseline data obtained. Better targeting of resources.	1999-2004	EN, NFU, FWAG, KWT, Landowners, interest groups	£5k	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
3. Help initiate and then support a collaborative eradication programme of giant hogweed along the River Medway. • (Agency Lead: Team Leader Conservation & Recreation)	Forum held in Maidstone 99/00. Strategy developed and agreed 00/01. Action implemented 00/01-03/04.	Reduce incidence of phytotoxic blistering. Improved wildlife value of the river corridor. Working in partnership.	1999-2004	MRP, LAs, NFU, landowners, farmers, MRUA, canocists, anglers	£4k pa	
4. Support both containment measures and control initiatives for other water related species in the catchment where deemed appropriate and consistent with Agency national policy. * • (Agency Lead: Team Leader Conservation & Recreation)	Containment of first contact locations as and when identified. Successful control initiatives.	Prevention and minimisation of future problems.	1999-2004	Landowners, EN, RSPCA, NFU, FA, MRP	To be determined	 
5. Distribute relevant literature to landowners through other partners and produce further literature to assist in identification, raise awareness and improve knowledge about the distribution of exotics and generate support for their control. * • (Agency Lead: Team Leader Conservation & Recreation)	Distribution of the guidance booklet on the control of invasive plants near watercourses to landowners and groups along the River Medway by 00/01.	Improved understanding of the issues and Agency role.	2000-2002	MRUA, anglers, interest groups, MRP	£5k	 



## ISSUE 7: THERE ARE BARRIERS TO THE MOVEMENT OF FISH ON THE MEDWAY


Weirs and sluices serve a number of purposes, including maintaining river levels for water abstraction. They can also act as barriers to the movement of fish, particularly migratory salmonids, for example preventing fish from reaching the breeding areas in the upper catchments which can thus lead to a decline in the status of certain fisheries. In high flows under flood events, fish may be displaced downstream and are unable to return upstream due to these barriers. In addition, the opening of sluice gates can lead to the permanent displacement of fish downstream. Remediation measures have been undertaken in the form of fish passes, but some of these are ineffective as flows passing through them are too great for some fish species e.g. coarse fish. There are a number of these in-river structures in the Medway catchment and these, in particular the Allington sluice, have contributed to the overall decline in the status of fisheries in the Medway catchment.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. As Agency and privately owned structures come up for repair/modification, review their status and function in the light of the Medway migratory fish strategy. Consider and encourage construction of viable fish passes and weirs where possible and modification of existing passes where appropriate. • (Agency Lead: FER Manager)	Increased passage of fish through the catchment with no detriment to flood defence or navigation rights.	Allow the unimpeded passage of salmonids and cyprinids throughout catchment. Creation of desirable pool/riffle sequences on smaller streams.	Ongoing 1999-2004	Landowners	Dependent on level of activity.	

## ISSUE 8: SUSTAINABLE FISHERIES MANAGEMENT

In the Medway LEAP area, there are a number of problems affecting the sustainable management of fisheries. These are addressed in Issues 6 and 7 and include the maintenance of riverine habitats for fish, the control of fish stocking procedures, the control of alien fish species, angling regulation for both coarse and game fish and the control of illegal fishing practices. Abstraction intakes can also potentially affect fish stocks. Such issues are important both from an ecological and commercial viewpoint.



Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Extend monitoring for allis and twaite shad in the tidal estuary. • (Agency Lead: Fisheries Scientist)	Finding evidence of juvenile allis/twaite shad in tideway surveys.(cf Issue 5 Action 10)	Potential to achieve protection through designation for shad spawning in the Medway estuary and greater control of commercial fishing operations. Protection of BAP species.	1999-2002	EN, Kent & Essex Sea Fisheries Committee, commercial anglers, CEFAS	£6kpa	
2. Investigate and report on the implications of further regulation of fishing in the tidal Medway up to Allington. • (Agency Lead: FER Manager)	Clarification of Agency involvement in estuary fisheries management.	Facilitates forward planning.	2000-2002	Medway Ports Authority, Kent & Essex Sea Fisheries Committee, commercial anglers	£5k	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
3. Maintain or improve current levels of fisheries enforcement. Set targets for a reduction in poaching and in the number of unlicensed rod and line anglers/commercial eel nets. * • (Agency Lead: Team Leader Fisheries)	Reduced evasion. Increased targeted/intelligence driven enforcement activity.	Increased revenue from licences. Increased protection of fish stocks.	2000-2004	Angling clubs, Police	£18.5k	

### ISSUE 9: INCREASED INCIDENCE OF RIVER BANK EROSION AND ASSOCIATED SILTATION

The effects of erosion, either natural or as a result of navigation or artificial river management are evident throughout the Medway catchment. Flood control structures can change the flow regime causing increased erosion (and siltation) particularly in areas not previously affected. This has occurred at Porters Lock and East Lock as well as possibly at the Leigh Barrier. Turbulence caused by boats upstream of East Farleigh Bridge is threatening the integrity of moorings and the towpath while general erosion is occurring at the Garden of Remembrance in Tonbridge and Anchor Sluice Moorings.


Apart from these causes, erosion can also be caused by ground conditions, loss of vegetation on river banks, removal of vegetation and cutting of steps by anglers or increasing heavy use by walkers and cyclists. Subsequent siltation can reduce the potential for water sports in some areas eg Haysden Lakes.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Review existing operating procedures for the River Medway Flood Relief Scheme to identify opportunities for a more holistic approach to flood alleviation. • (Agency Lead: Flood Defence Manager)	Reduction of channel velocities and bank full duration.	Reduced erosion and deposition.	2000-2001	MRP, land owners, LAs	£5k	
2. Continue liaison with MRUA and angling clubs to minimise adverse impacts of riverside activities. • (Agency Lead: FER Manager)	Minimise erosion to river bank.	Holistic and sustainable approach to river bank management.	1999-2004	MRUA, angling clubs, landowners	£5k	

## ISSUE 10: REDEVELOPMENT OF OLDER WATERSIDE AREAS TO MAXIMISE THE USE OF THE LAND



Local authorities, landowners and developers recognise the value of developing next to water either for the added value of such locations or for the regeneration that such developments can bring. This is recognised in areas such as Rochester and Chatham riverside, Strood and Chatham Maritime. However, such development needs to take into account other, often apparently conflicting, interests. River corridors are invaluable habitats for wildlife, are valued for recreation (walking, cycling, angling) and can provide opportunities for navigation for river traffic (particularly downstream of Tonbridge). Frequently, these developments include a 'hardening' of the river frontage eg Strood, Whitewall Creek, Rochester. This may be acceptable where there is a recognised need, for example to protect a heritage feature, but the opportunity may be lost to create river frontages or embankments which offer opportunities for enhancement or accommodating other interests. The Malta Inn at Allington has recently been redeveloped attracting more visitors to the river bank. This has placed more pressure on the river bank but with on corresponding actions to enhance access for walkers, protect and maintain the bank, provide moorings or create habitats. On the Isle of Grain redevelopment must take into account English Nature's requirements for protection of the SPA.

In future the Agency will wish to work closely with local authorities, developers and others with an interest in the waterside or wetlands e.g. EN, KWT, MRP, to ensure that such opportunities for maintenance and enhancement are not missed and can be implemented via planning obligations if necessary. In addition, some sites are contaminated from previous uses and careful investigation and remediation are needed before they can be adapted to new uses (see Issue 18).

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Liaise with and assist LAs and developers by producing recommended planning guidance for developing waterfront areas in the Medway catchment (both fluvial and tidal) including recommendations for habitat creation. • (Agency Lead: Team Leader Planning Liaison)	Guidance followed leading to more sympathetic development taking account of environmental considerations.	Local guidance will not limit development but will promote more sustainable development.	2001-2003	LAs	£20k	



## ISSUE 11: PROTECTION OF RIVER FLOWS IN RIVER BEULT

Under low flow conditions, the flow in the River Beult is heavily dependent on the input from a number of local waste water treatment works (WWTWs). Problems are then experienced with nutrient enrichment of the river, which can lead to eutrophication. Discussions are ongoing with Southern Water Services (SWS) to improve the effluent quality from these works by nutrient removal. The closure of existing works could adversely affect river flow during the summer and the Agency will therefore oppose developments that involve closure of such works or changes in the sewerage infrastructure and number of discharge points. The Agency has a Memorandum of Understanding with EN and is currently producing a strategy and protocol for the River Beult which, when implemented, will serve to protect the river from deterioration.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Develop and implement a strategy for the River Beult to ensure that existing WWTW discharges are retained and where necessary, improved in quality. • (Agency Lead: Water Resources Manager & Environment Planning Manager)	Achievement of RQOs, target flows at key sections.	Continued protection of headwater flows, reduced levels of nutrient enrichment and progressive enhancement of river habitats.	1999-2000	SWS, LAs, EN	£2k	
1. Negotiate and secure funding under the AMP process for nutrient stripping (phosphate) at the 13 Southern Water Services Ltd WWTW that discharge to the River Beult. (Cost of £13 million to SWS). • (Agency Lead: Environment Planning Manager)	Phosphate removal leading to a reduction in algal blooms in the river.	Improved water quality biologically as well as chemically.	2000-2004	SWS	£2k	


## ISSUE 12: NEED TO IMPROVE OUR UNDERSTANDING OF FLOW AND WATER QUALITY IN THE UPPER MEDWAY ESTUARY

Water quality in the upper Medway Estuary is at times very poor as it receives a large volume of industrial and sewage discharges. The upper estuary has a very long natural residence time and during drought periods when very little flushing flow is released to the estuary, the dissolved oxygen reduces to zero with loss of fish life. The continuing enforcement of minimum residual flows is therefore necessary to protect water quality in the estuary. However, the recent instances of rapid deterioration in quality at times of low summer flow, point to the need for a better understanding of how variations in river flow affect the quality of water in the upper estuary. This may in turn lead to a review of the minimum residual flows and other conditions currently governing abstraction, effluent discharge and the temporary emergency measures authorised under drought orders and permits.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Implement the Medway Estuary Project incorporating a review and enhancement of hydrological and environmental quality data and identification of management options. • (Agency Lead: Customer Services Manager)	RQOs, minimum residual flows.(cf Issue 5 Action 10)	An understanding of the relationships between the principal factors influencing water quality and flows in the estuary as a basis on which the Agency can effectively discharge its regulatory duties.	1999-2001	Water companies, Medway Ports, Medway Estuary and Swale Partnership, industry, LAs	£250k	 

### ISSUE 13: ADVERSE IMPACTS OF FLOOD DEFENCE OPERATIONS ON HABITATS AND FISHERIES

Actions for addressing this Issue are dealt with on an Area-wide basis in Issues 6 and 20 of the Kent Area LEAP but it has particular relevance in this catchment to an area known as the Haysden Shallows, down stream of the Leigh Flood Defence Barrier, Tonbridge, which have been adversely affected by flood defence works.



Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Review options for mitigation measures at the Haysden shallows, Tonbridge. • (Agency Lead: Team Leader Planning and Projects)	Review previous studies and consult with partners to identify a strategy for delivery of a sustainable scheme.	Mitigation of effects of channel works undertaken as part of the River Medway Flood relief scheme.	2000-2001	Landowners, angling clubs, LAs	£2k	

### ISSUE 14: PROTECTION AND ENHANCEMENT OF WETLAND AND RIVERINE HABITATS

Actions for addressing this Issue have been dealt with on an Area-wide basis in Issue 8 of the Kent Area LEAP. Within the Medway catchment there are three areas which have been designated as internationally important areas for nature conservation under the Habitats Directive. The Agency is obliged to review its consents and authorisations for such sites (see Kent Area LEAP) and is awaiting advice on the selection of environmental constraint criteria to bridge the gap between consent conditions and stated conservation objectives for European and internationally designated sites. There are also several national and numerous local designations in the catchment.



### ISSUE 15: NON-COMPLIANCE WITH EU STANDARDS AND AGENCY OBJECTIVES FOR WATER QUALITY


The majority of the watercourses in the area comply with EU Directives, their River Ecosystem (RE) targets and Water Quality objectives. However, some problem areas do exist which require investigation by the Agency. Examples of such problems include problems associated with discharges from sewerage systems via Combined Sewer Overflows (CSOs). In addition, some rural areas are without mains sewerage in the catchment and this causes occasional problems. First time rural sewerage schemes may be appropriate in such circumstances. Improvements to sewage treatment works operated by the water companies are subject to funding approved by OFWAT, the water industry's regulator. Some of these issues are already being addressed by SWS in their Asset Management Plan (AMP2) commitment. OFWAT has now initiated AMP3, the next periodic review of water company prices, which will run from 2000-2005. The Agency has proposed a number of schemes for investment in this period and these are currently being negotiated with the water companies and OFWAT (see Issue 11). Actions making more detailed reference to the outcome of these negotiations may be included in the Annual Review of the LEAP if appropriate.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Monitor and ensure completion of AMP 2 investment programme in the non-tidal Medway. • (Agency Lead: Team Leader Tactical Planning)	Improvements in chemical and biological quality of receiving water courses.	Improved water quality. Achieve RE class.	1999-2000	SWS	£5k. (Cost of implementing AMP2 is approx £15million to SWS)	
2. Review the status of CSOs with respect to their licensing and control. • (Agency Lead: Team Leader Tactical Planning)	Identification of problem CSOs and achieving their inclusion in the relevant/next AMP.	Pro-active role in identifying and rectifying intermittent sewage related pollution.	1999-2004	SWS	£5k	

## ISSUE 16: INTERMITTENT POLLUTION OF SURFACE AND GROUND WATERS

The Medway is a particularly sensitive catchment in terms of water quality due to the presence of water supply intakes and occasional low flows as a result of river abstraction. For this reason, the prevalence of serious pollution incidents, discrete discharges and diffuse pollution is of concern to the Agency. Pollution incidents frequently occur as a result of the intensive road and rail network in the catchment and from spillages at industrial estates. The catchment contains two nitrate vulnerable zones at Boxley and Thurnham, north east of Maidstone, where application of fertilisers has to be controlled to protect the chalk aquifer. Area-wide pollution prevention actions are detailed in Issues 12, 17 & 29 of the Kent Area LEAP.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Increase control of discharges from industrial estates. Increase environmental awareness within industry, highlighting benefits of environmentally sound operations. • (Agency Lead: Environment Protection Manager)	Reduced occurrence of pollution incidents. Increased awareness of environment issues within industry.	Improved aquatic environment.	2001-2004	Industry, LAs	To be determined.	
2. Promote increased environmental awareness amongst landowners in the catchment as to the use of agrochemicals (fertilisers, herbicides, and pesticides). Enforce tighter control of their use near watercourses and in NVZs. • (Agency Lead: Environment Protection Manager)	Protection of biodiversity within the catchment. Reduced intermittent agricultural pollution. Improvement in water quality and protection of water resources.	Improved aquatic environment.	2000-2004	MAFF, NFU	£400k	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
3. Undertake Catchment Protection Plan inspections, starting with the Eden Catchment. (The Len Catchment has been completed). • (Agency Lead: Team Leader Tactical Planning)	Identification of potential pollution threats.	Pro-active pollution prevention.	1999-2004	Industry, SWS, water companies	£5k	





## ISSUE 17: MANAGING ACCESS TO WATER FOR RECREATION IN THE MEDWAY CATCHMENT




The Agency has a general duty to promote water-related recreation where desirable which can be interpreted as meaning where compatible with our operational and environmental requirements and both finance and staff time allow. As stated in the Kent Area LEAP, one of the main challenges 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. This will principally be taken forward by a research and development programme into best practice at regional and national level.

According to English Sports, the Medway catchment has one of the highest participation levels in the country for water-related recreation and competitive sport. The Agency owns relatively little land in the catchment and is not responsible for the management or provision of facilities at reservoirs. Much of how the Agency wishes to promote water-related recreation for all who those wish to participate, including the young and not so young and disabled as well as able bodied, can therefore only be achieved through partnership. Area wide recreational actions are set out in the Kent Area LEAP and are not repeated here, instead additional actions specific to the Medway catchment have been identified.

Of particular note is the non-tidal River Medway, which was opened as a navigation some 250 years ago when water-borne transport was in its hey-day. Today the river between Maidstone and just upstream of Tonbridge is maintained by the Agency as a public right of navigation. This unique stretch of some 31 kilometres of freshwater inland river with ten locks and associated sluices and weirs, provides access and pleasure for a variety of water users as well as those who wish to enjoy the bankside facilities and riverside walks. Bank erosion can be caused by a number of factors including ground conditions, loss of vegetation on river banks, removal of vegetation, excessive use by walkers and cyclists, navigation or artificial river management and examples of these are evident throughout the Medway catchment. This issue is addressed in Issue 9.

Over the past eleven years, the Medway River Project (MRP) has achieved a great deal to promote the enjoyment of water-related recreation, not least through footpath enhancements, providing facilities for the less-able and organising litter collection along the Medway valley from Tonbridge to Rochester. The Agency's continued support for this Project is outlined in the Kent Area LEAP and they are identified as a partner in many of the actions to address this issue.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
<p>1. Continue the annual removal of shoals (in line with published navigation information) on the 31 kilometres of freshwater River Medway.</p> <p>• (Agency Lead: Team Leader Navigation)</p>	No unjustified grounding of boats on the navigation.	Complies with legislative requirements. Improves navigation. Encourages use and reduced grounding.	1999-2004	Landowners	£250k pa	
<p>2. Prepare and implement a Waterway Plan to help deliver the business case for improving the inland navigation. Based upon an asset survey and resource review, the plan will develop a capital expenditure programme through which opportunities for a partnership approach to the provision of improved and new facilities such as access points, moorings and canoe passes can be pursued.</p> <p>• (Agency Lead: Team Leader Navigation)</p>	Appointment of a fundraising officer 99/00. Production of a Waterway Plan 00/01. Completion of an agreed refurbishment programme. Increase in number of boats using the Medway.	Improved facilities on the navigation. Good working relationships with users of the navigation. Efficient targeting of resources.	1999-2004	LAs, MRP, MRUA	£2million	
<p>3. Review current Agency enforcement practises along the inland Medway Navigation and consider options for encouraging compliance with the relevant byelaws.</p> <p>• (Agency Lead: Team Leader Navigation)</p>	Reduced complaints from other users.	Good working relationship with users of the navigation.	1999-2004	LAs, Police, MRUA	£50k	
<p>4. Review the liaison procedure between the Agency and interest groups on the inland Medway Navigation over the lowering of individual lock pens for maintenance or repair and consider recommendations.</p> <p>• (Agency Lead: Team Leader Navigation)</p>	Improved communication with river users resulting in reduced complaints from other users.	Good working relationships with users of the navigation.	2000-2002	MUA, MRP	£2k	

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
5. Contribute to the Maidstone River Park Millennium scheme including refurbishment of the riverbank at Allington Lock and other sites in order to benefit recreational use. • (Agency Lead: FER Manager)	Refurbishment of the river bank at Allington 00/01. Improved recreational access as part of Maidstone Millennium River Park 00/01.	Improved public enjoyment of the river. Improved management of the river environment. Effective partnership working.	1999-2001	MAFF, River Park, Maidstone Council, MRP	£330k	
6. Encourage and support retention and development of Leybourne and Larkfield Lakes as a sustainable low-key County Park with the emphasis on its use for quiet informal recreation compatible with its high conservation value and as an educational asset. • (Agency Lead: Team Leader Conservation & Recreation)	Support the establishment of a Country Park 03/04. Sustained biodiversity interest on the site. (cf Issue 5 Action 6)	Integrating recreation, conservation and education.	1999-2004	Tonbridge and Malling Borough Council, interest groups, parish councils, MRP	To be determined	
7. Continue to assist in reaching consensus over the future of the Thames and Medway Canal. Investigate viability of proposals for the future operational viability of the Canal. • (Agency Lead: Team Leader Conservation & Recreation & Team Leader Water Resources)	Agreement reached over the future of the canal 02/03.	Integration of recreation and conservation. Working in partnership.	2000-2003	Thames and Medway Canal Association, Groundwork Kent Thameside, LAs	To be determined	


## ISSUE 18: REDEVELOPMENT OF INDUSTRIAL AREAS NEEDS TO ENSURE THAT ANY CONTAMINATED LAND IS APPROPRIATELY REMEDIATED

Actions for addressing this Issue are dealt with on an Area-wide basis in Issue 22 of the Kent Area LEAP. There is however, considerable pressure for housing development in the catchment with this issue being particularly relevant to the riverside areas in Rochester, Strood and the Isle of Grain. Due to their recent industrial history, there are frequently opportunities to allocate industrial land for such development in these areas. The use of such land conforms to Government policy and relieves pressures on the wider countryside. During implementation of the forthcoming 'Contaminated Land Regulations' in 2000, contaminated land will be identified and partnerships will be established to identify and contribute to the remediation of sites causing pollution. Confirmation of other elements of the environment at risk, e.g. aquifers, deciding on the appropriate after use of the site and implementation of a strategy for remediation will then follow with identification of suitable sites for re-development.

## ISSUE 19: EXTRACTION OF MINERALS MAY CREATE ENVIRONMENTAL IMPACTS WITHIN THE CATCHMENT


The Medway catchment is one of the principal areas of mineral extraction in Kent with cement production being the main associated industry. Chalk and clay are required for the production of cement. At present in the Medway catchment the principal cement works is at Rochester using chalk from the Halling quarry. This is likely to be worked out within the next three years and BCI are proposing to close the other cement works at Northfleet and move to Holborough (see Issue 4). Clay for cement is currently supplied from Essex via pipes under the Thames Estuary, but this may not be viable for the Holborough works. An additional use of clay is for coastal sea defences along the North Kent coast. Reserves for Halling are taken from clay pits at Wrotham, which are due to be used by 2009. Consequently, new clay reserves will be required.

The considerable amount of development that will take place in the Medway catchment including the CTRL will require an adequate supply of construction aggregate. This is recognised by the Kent Minerals Local Plan which has proposed areas within the catchment to be promoted as Areas of Search. These include areas at Hoo peninsula, Isle of Grain, Borough Green and the Medway valley to the east of Tonbridge as far as Paddock Wood. Care will be required to ensure that the riverine environment is conserved and enhanced as a result of such operations.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. As a statutory consultee on minerals planning applications, work with minerals planning authorities in producing local minerals plans and seek to minimise the impact of mineral extraction on the environment. • (Agency Lead: Team Leader Planning Liaison)	Environment impacts taken into consideration in mineral workings. Minimise impact of mineral extraction on the environment.	Partnership working. Reduce environmental impacts. Utilise environmental enhancement opportunities.	1999-2004	MPAs	Dependent on activity.	

## ISSUE 20: SPREADING OF PAPER SLUDGE WASTES ON AGRICULTURAL LAND


Papermaking is historically a major industry in the Medway catchment and remains so to this day. Sludge from the papermills both inside and outside the catchment is occasionally spread on agricultural land and the practice is of increasing concern to the Agency. The practice is of uncertain agricultural and ecological benefit and on occasions can cause odour problems.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Define site specific benefits of application of paper sludge. • (Agency Lead Contact: Scientific Support Manager)	(Regulations are due to be revised and agricultural benefit defined in the revision). Operators conforming to guidance. Beneficial recovery operation proven.	Recovery of material that has benefit when used correctly. Reduction in waste going to landfill. Reduction of fuel use removing wastes by vehicle for disposal.	1999-2004 Ongoing	MAFF, DETR, Paper Industry Federation	£50k	

## ISSUE 21: WASTE MANAGEMENT OPTIONS FOR THE MEDWAY CATCHMENT

Currently most of the catchment's domestic and industrial waste goes to relatively few major landfill sites, which are approaching capacity. Waste is also exported outside of the catchment and the county. Increasing pressure is being put on landfills and few new landfill sites are available. Alternative methods of dealing with waste are being sought including waste reduction initiatives looking at ways of reducing the amount of waste being produced in the first place. All applications for waste management facilities need planning consent from the relevant local authorities and the Agency is a statutory consultee in this process. The Agency is also the licensing authority and regulator for waste management facilities.



Waste management is a strategic issue relevant to the whole Area and the waste issues affecting the Medway catchment are the same as the issues facing the whole of Kent. Waste management issues such as flytipping, exemptions and the scrap metal industry are addressed in the Kent Area LEAP. The issue below follows on from the recent Medway and Swale Waste Minimisation Project and has relevance to the whole Kent Area.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Increase waste minimisation and recycling initiatives by continuing collaborative projects to encourage waste minimisation in business in the catchment.* • (Agency Lead: Team Leader Tactical Planning).	Less material to landfill and more value gained from resources.	Partnership working	1999-2004	LAs, GOSE, local business	£15k	

## ISSUE 22: RAISING PUBLIC AWARENESS OF ENVIRONMENTAL ISSUES

Issue 18 in the Kent Area LEAP: "Raising Public Awareness of Environmental Issues in the Kent Area" recognised that awareness of environmental issues is of paramount importance for successful environmental management. It is vital to educate and influence individuals, groups and industries to promote best environmental practice and develop a sense of ownership. The issue recognised the importance of the Local Agenda 21 groups in addressing this Issue.

The Agency has a good record of working with those in rural environment groups and wishes to improve its awareness amongst other groups, including young people and urban and ethnic communities. This issue is addressed specifically in this Medway LEAP as the catchment includes large urban communities that have not previously been very involved with the Agency and there is a perceived need to involve and be involved with these communities. In addition, as already stated, the Medway Navigation has a wide variety of uses and users and there is a need and an opportunity to raise awareness specifically among them.

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Work more closely with communities who have previously had little involvement with the Agency notably urban communities in North Kent. • (Agency Lead: Customer Services Manager)	Raise the profile of the Agency. Raise awareness of the environment in general and the issues relevant to those communities. Understand the environmental issues of concern to those communities.	Partnership working. Raised environmental awareness.	1999-2002	LAs, community organisations	£30k	
2. Implement measures to raise environmental awareness and understanding by and between all users of the inland navigation. • (Agency Lead: Team Leader Navigation and Team Leader Conservation & Recreation)	Raised environmental awareness.	Reduction in perceived conflicts.	1999-2004	MRUA, MRP	£5k	

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## 7.0 FUTURE REVIEW AND MONITORING

Regular monitoring and updating of the Plan are an integral part 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.

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**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
- Water Quality
- Radioactive Substances
- Contaminated Land
- Fisheries
- Navigation
- Flood Defence
- Air Quality
- Waste Management
- Conservation (incl. Landscape and archaeology)
- Recreation

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

Ashford Borough Council, Planning Policy	Shorne Parish Council
Aylesford Parish Council	Speldhurst Parish Council
Bewl Water Canoe Club	Sport England
Borough Green Parish Council	St. James, Isle of Grain Parish Council
Boxley Parish Council	Sussex Ornithological Society
Brinkley-Willsher, C.H	Staplehurst Parish Council
British Canoe Union	Swanscombe and Greenhithe Town Council
British Canoe Union, London SE Region	Tandridge District Council
Brunwin, D	Tingley, A
Canoe Camping Club, Thames & South East Group	Thames Water PLC
City of Rochester Society	The Scout Association
Cobham Parish Council	The Mersey Docks and Harbour Company
CPRE Kent	Tonbridge Canoe Club
Cranfield University, Soil Survey & Land Research Centre	Tunbridge Wells Borough Council
East Peckham Parish Council	Wall, J.R.D.
English Nature, Kent Team	West Malling Parish Council
Gooch, F	Wrotham Parish Council
Goudhurst Parish Council	Wouldham Parish Council
Government Office for the South East	
Gravesham Borough Council, Planning Services	
Gronow, C.	
Hartley Parish Council	
Higham Parish Council	
Houseman, K	
Hunt, G.C.	
Inland Waterways Association	
Kent and Essex Sea Fisheries Committee	
Kent Canoe Services	
Kent County Council, Strategic Planning	
Kent Fisheries Consultative Association	
Kent Wildlife Trust	
Lamberhurst Parish Council	
Len Valley Action Group	
Leybourne Parish Council	
MAFF, Rural & Marine Environment Division	
Maidstone Borough Council, Planning and Development	
Marden Parish Council	
Medway Council, Planning and Transport Directorate	
Medway River Project	
Meopham Parish Council	
Meridian Canoe Club	
National Association of Boat Owners	
National Farmers Union, South East Region	
Paddock Wood Town Council	
Payne, D	
Platt Parish Council	
Reader, T.J.	
Royal Yachting Association	
Royal Society for the Protection of Birds	
Sevenoaks District Council	
S.I.T.A (UK Holdings Ltd)	
South East Otters and Rivers Project	
Rugby Cement	
Southern Water, SWS Consents Team	

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**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.

**Augmentation**

The addition of water to a watercourse under artificial control. Usually to "top up" low flows in summer by either groundwater.

**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.

**Combined sewer overflow**

An overflow structure allowing discharge from a sewerage system to a watercourse during wet weather.

**Consent to discharge**

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

**Controlled waters**

Defined by the Water Resources Act 1991. Includes groundwater, inland waters and estuaries.

**Effective rainfall**

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

**Environmentally Sensitive Area**

Area defined by MAFF where grant aid is available for appropriate agricultural and water/land management.

**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).

**Heritage Coast**

Stretches of the most undeveloped coastline, designated by the Countryside Agency.

**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.

**Part A Processes**

Complex industrial processes with the potential to cause pollution regulated through Integrated Pollution Control by the Agency.

**Part B Processes**

Less complex processes where emission to air are regulated by local authorities.

**Potable water**

Water of suitable quality for drinking.

**Phytotoxicity**

Toxins produced by plants that may cause allergic reactions in other organisms including humans.

**Ramsar sites**

Internationally important wetland sites adopted from the Ramsar Convention on Wetlands of International Importance especially as waterfowl habitats (1971).

**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**

<b>AMP</b>	Asset Management Plan	<b>KWT</b>	Kent Wildlife Trust
<b>AOD</b>	Above Ordnance Datum	<b>LA</b>	Local Authority
<b>AONB</b>	Area of Outstanding Natural Beauty	<b>LAAPC</b>	Local Authority Air Pollution Control
<b>BAP</b>	Biodiversity Action Plan	<b>LEAP</b>	Local Environment Agency Plan
<b>CA</b>	Countryside Agency	<b>LFDC</b>	Local Flood Defence Committee
<b>CEFAS</b>	Centre for Environment, Fisheries and Aquaculture studies	<b>LPA</b>	Local Planning Authority
<b>CHaMPs</b>	Coastal Habitat Management Plans	<b>MAFF</b>	Ministry of Agriculture, Fisheries and Food
<b>CLA</b>	County Landowners Association	<b>MCA</b>	Maritime and Coastguard Agency
<b>CMPs</b>	Countryside Management Projects	<b>MRF</b>	Minimum Residual Flows
<b>CTRL</b>	Channel Tunnel Rail Link	<b>MRP</b>	Medway River Project
<b>DETR</b>	Department of the Environment, Transport and the Regions	<b>MRS</b>	Metal Recycling Site
<b>ESC</b>	English Sports	<b>MRUA</b>	Medway River Users Association
<b>EH</b>	English Heritage	<b>NFU</b>	National Farmers Union
<b>EN</b>	English Nature	<b>NRA</b>	National Rivers Authority (predecessor body to the Environment Agency)
<b>EPA '90</b>	Environmental Protection Act 1990	<b>OFWAT</b>	Office of Water Services
<b>FER</b>	The Agency's Fisheries, Ecology and Recreation function	<b>PIR</b>	Process Industry Regulation (the Agency department formerly known as IPC)
<b>FRCA</b>	Farming and Rural Conservation Agency	<b>RQO</b>	River Quality Objective
<b>FWAG</b>	Farming and Wildlife Advisory Group	<b>RSPB</b>	Royal Society for the Protection of Birds
<b>GOSE</b>	Government Office of the South East	<b>SAC</b>	Special Area of Conservation
<b>HMIP</b>	Her Majesty's Inspectorate of Pollution	<b>SEORP</b>	South East Otters and Rivers Project
<b>IDB</b>	Internal Drainage Boards	<b>SNCI</b>	Site of Nature Conservation Interest
<b>ILFA</b>	Import of Live Fish Act 1980	<b>SPA</b>	Special Protection Area
<b>IPC</b>	Integrated Pollution Control	<b>SSSI</b>	Site of Special Scientific Interest
<b>KCC</b>	Kent County Council	<b>SWS</b>	Southern Water
<b>KOS</b>	Kent Ornithological Society	<b>UWWTD</b>	EC Urban Waste Water Treatment Directive
<b>KSBP</b>	Kent Sustainable Business Partnership	<b>WLMP</b>	Water Level Management Plan
		<b>WTW</b>	Waste Water Treatment Works

**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.

<b>Corporate Publications:</b>	<ul style="list-style-type: none"> <li>• An Environmental Strategy for the Millennium and Beyond, Bristol. 1997.</li> <li>• A Better Environment For England and Wales, Bristol. 1998.</li> <li>• Environment Agency Corporate Plan 1999–2000, Bristol. 1999</li> <li>• An Introduction to the Southern Region, Worthing. 1998.</li> <li>• Regional Review and Forward Look: Southern Region. 1998.</li> </ul>
<b>Improving Air Quality</b>	<ul style="list-style-type: none"> <li>• The Environment Agency's Pollution Inventory, Bristol, 1999.</li> </ul>
<b>Managing Water Resources</b>	<ul style="list-style-type: none"> <li>• Policy and Practice for the Protection of Groundwater. Bristol. 1998</li> <li>• Saving Water: Taking Action. Bristol. 1998.</li> <li>• Abstraction Licensing and Water Resources, Bristol. 1997.</li> <li>• Sustaining Our Resources. Southern Region, Worthing. 1997.</li> </ul>
<b>Enhancing Biodiversity</b>	<ul style="list-style-type: none"> <li>• Understanding Buffer Strips, Bristol. 1996.</li> <li>• Freshwater Crayfish in Britain and Ireland, Bristol. 1999.</li> <li>• Freshwater Fisheries and Wildlife Conservation – A Good Practice Guide, Bristol. 1997.</li> </ul>
<b>Managing Freshwater Fisheries</b>	<ul style="list-style-type: none"> <li>• Fishing in the South. Southern Region, Worthing. 1999.</li> <li>• Anglers and the Environment Agency 1999–2000, Bristol. 1999.</li> <li>• Catch and Release: A Guide to Careful Salmon Handling, Bristol. 1998.</li> <li>• Coarse Fish Biology and Management, Bristol. 1999.</li> </ul>
<b>Delivering Integrated River Basin Management</b>	<ul style="list-style-type: none"> <li>• The Quality of Rivers and Canals in England and Wales, 1995, Bristol. 1997.</li> <li>• The State of the Environment of England and Wales: Fresh Waters – A Summary Report, 1998. Bristol. 1998.</li> <li>• Water Related Recreation Strategy for the Southern Region – Consultation Draft, 1997, Worthing. 1998.</li> <li>• The Medway Navigation, Worthing. 1996.</li> <li>• Policy and Practice for the Protection of Floodplains. Bristol. 1997</li> </ul>
<b>Conserving the Land</b>	<ul style="list-style-type: none"> <li>• Action Plan for Land Quality, Bristol. 1998.</li> <li>• Action Plan for Flood Defence, Bristol. 1998.</li> <li>• East Kent Sea Defences, Worthing. 1997.</li> </ul>
<b>Managing Waste</b>	<ul style="list-style-type: none"> <li>• Money for Nothing – Your Waste Tips for Free, Bristol. 1998.</li> <li>• The Medway &amp; Swale Waste Minimisation Project, Bristol. 1998.</li> <li>• Waste Minimisation and Waste Management, Bristol. 1997.</li> </ul>
<b>Regulating Major Industries</b>	<ul style="list-style-type: none"> <li>• Bringing in Integrated Pollution Prevention and Control, Bristol. 1998.</li> <li>• An Action Plan for Process Industries Regulation, Bristol. 1998</li> <li>• Radioactive Substances Regulation, Bristol. 1999.</li> </ul>

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

**[WWW.ENVIRONMENT-AGENCY.GOV.UK](http://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.

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Tel: 0118 953 5000  
Fax: 0118 950 0388

#### NORTH WEST

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

#### 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**



**ENVIRONMENT  
AGENCY**