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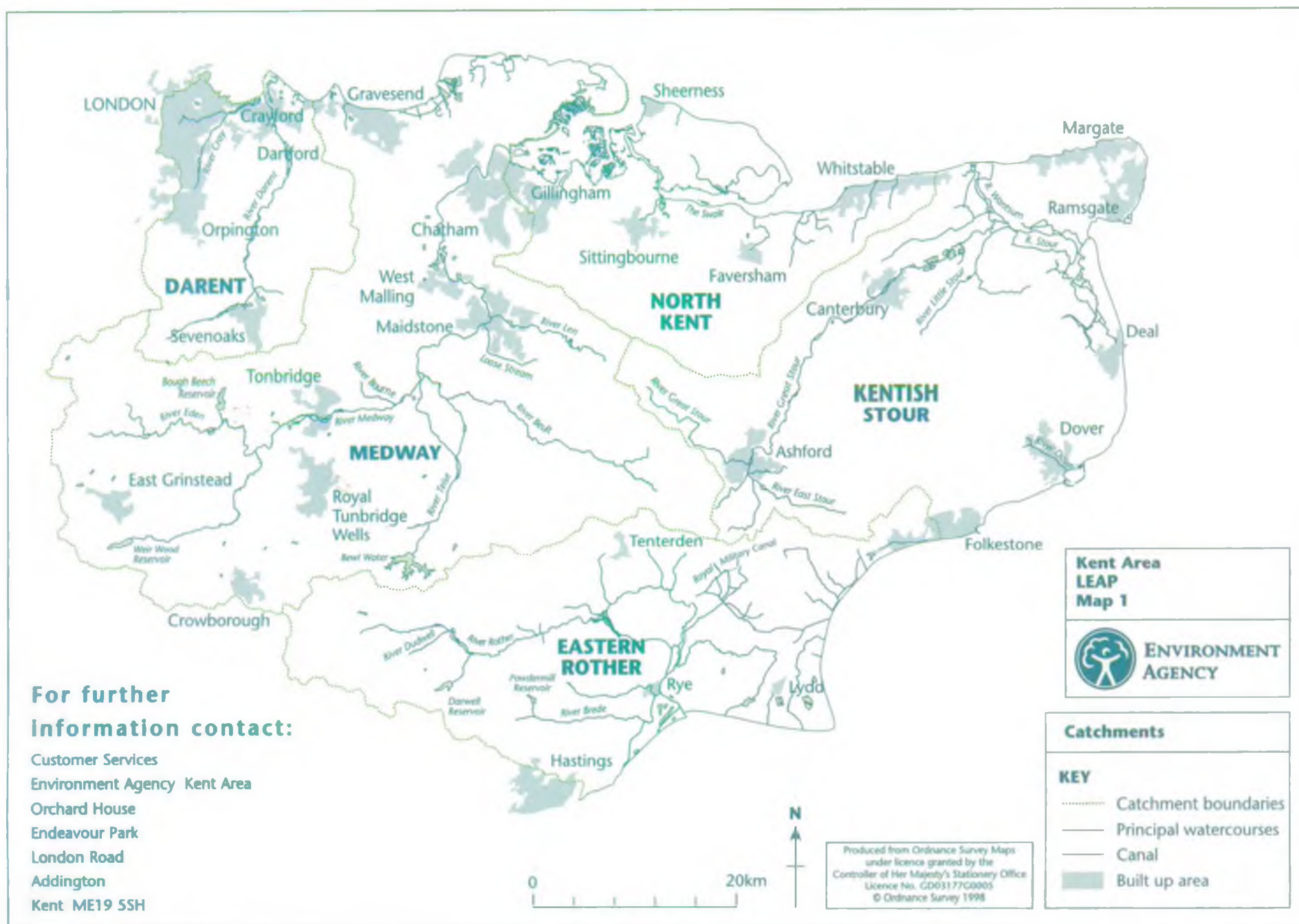
# local environment agency plan

## KENT AREA SEPTEMBER 1999



ENVIRONMENT  
AGENCY

# Catchment Overview





## FOREWORD


Welcome to the Local Environment Agency Plan (LEAP) for the Kent Area. The Environment Agency is one of the most powerful environmental regulators in the world and this plan sets out the work that the Agency intends to carry out in partnership with others over the next 5 years.

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 and to ensure 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 extensive public consultation following the launch of the Consultation Draft in September 1998. 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 the action plan framework. Actions identified in the plan will be monitored and progress reviewed annually.

This is the first LEAP based around the geographic boundary of an area as a means of identifying and addressing more strategic and significant issues. Local issues specific to individual parts of the Kent Area will be examined in separate catchment based LEAPs. 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 (detailed in Appendix 1). 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 Kent Area 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.



Binny Buckley  
Kent Area Manager  
August 1999

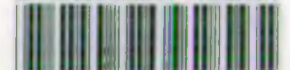


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ENVIRONMENT AGENCY



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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 1995 Environment Act. The Agency was created by merging the expertise of Her Majesty's Inspectorate of Pollution (HMIP), the Waste Regulation Authorities, the National Rivers Authority (NRA) 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 FOR THE KENT AREA**

**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 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 Kent Area requires long term planning, careful balancing of priorities and the commitment of everyone that uses or manages the environment. The Kent Area 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 are non-statutory action plans based on river catchments that help to fulfil the Environment Agency's principal aim of contributing to sustainable development through integrated environmental management and improvement. LEAPs take a long-term view of local environments and set out a five-year plan of action for solving local issues.

The purpose of a LEAP as a planning tool means that the plan is not designed to reflect fully 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. It is also important to remember that the Agency is not responsible for regulating every aspect of the environment and for certain other issues other organisations are primarily responsible.

The Agency is committed to a programme of LEAPs in order to produce a local agenda of integrated action for environmental improvement. LEAPs help the Agency to identify and assess, prioritise and solve local environmental issues with actions grouped around the nine environmental concerns, 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 National Rivers Authority and build on their success by covering all the Agency's functions.

LEAPs also have a role in:

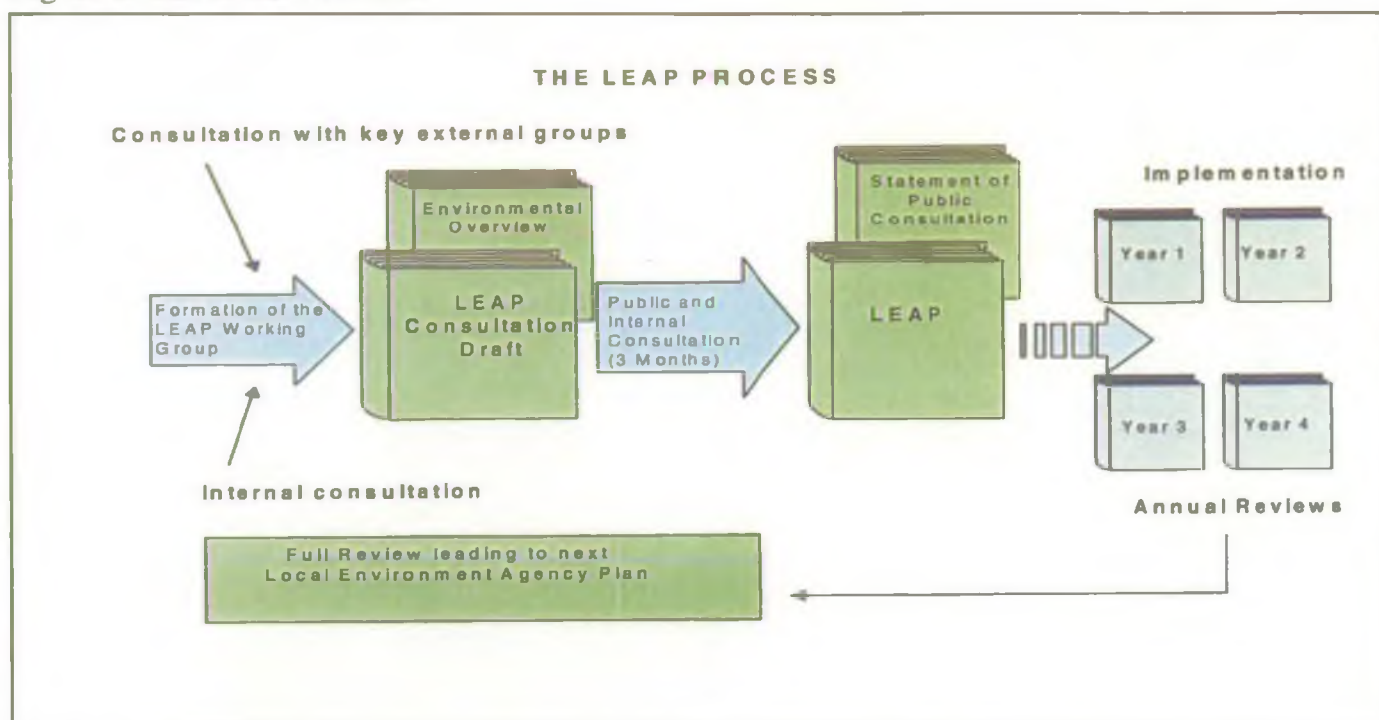
- Promoting openness and accountability
- Developing closer links with public/community and other organisations
- Educating and informing the public on local environmental issues
- Realising the environmental potential of the area

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

### 2.2 The Kent Area LEAP Documents

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

Figure 1: The LEAPs Process



The LEAP follows on from the Kent Area Consultation Draft produced in September 1998 and is part of an ongoing process of review and consultation. This action plan 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 Consultation Draft.

**The Consultation Draft** concentrates on the prioritisation of environmental issues relevant to the Environment Agency and the identification of possible options for action necessary to restore/improve the local environment. This document is the main focus for public consultation. The issues and options for action put forward to address those issues are structured around the Agency's nine environmental concerns, which aim to protect and enhance the environment in an integrated way and contribute towards the goal of sustainable development.

**The Environmental Overview** is produced as a separate document and is a factual description and analysis of the local environment, looking at the impact of stresses on its state, and generating a list of issues for consideration by the Agency and others. The Environmental Overview supports the Consultation Draft and provides the background to the identification of the environmental issues of importance in the Kent Area.

**The Statement of Public Consultation** details the results of the consultation process and contains a summary of the issues that arose from the consultation process.

**The Annual Review:** Regular monitoring and updating of the plan are an integral part of the LEAP process. The Agency will monitor implementation of the LEAP and report on progress in a published Annual Review. The Annual Review will also identify any additional actions needed to maintain progress in light of any changes in the LEAP Area and also whether any actions need removing or amending where they are no longer appropriate.

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

### **2.3 Kent Area Approach**

In the Kent Area of the Agency this Area-wide LEAP has been prepared addressing strategic and significant issues. Local issues relevant to particular river basins will be addressed in separate catchment based LEAPs for:

The Darent	Eastern Rother	Kentish Stour	Medway	North Kent
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If you would like a copy of any of these LEAPs, as they come available, please send a request to the Kent Area Office at the address on the back cover.

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### **3.0 REVIEW OF THE CONSULTATION PROCESS**

#### **3.1 LEAPS and Public Consultation**

One of the fundamental objectives 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.

The main objectives of the public consultation are to obtain views on the issues facing the environment identified by the Agency and others and to ensure decisions on the future management of the LEAP area are based on a range of views from interested parties.

This section provides a brief overview of the subsequent three-month consultation period. A separate "Statement of Public Consultation" report, details more specifically the responses received. The aim of the Statement is to provide feedback to the consultees while avoiding giving a detailed response to each individual point raised, concentrating instead on highlighting specific issues and the importance and consequent 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 29<sup>th</sup> September 1998 in County Hall, Maidstone. Over 350 invitations were sent out to key stakeholders and approximately 100 people attended. Press releases sent out to local media organisations generated interest from a number of local newspapers and several reports on television and radio. Subsequently over 700 Consultation Drafts were sent out to a broad range of organisations.

Leaflets explaining the public consultation process, and copies of the LEAP Consultation Draft were sent to the main libraries in the LEAP Area including all the libraries in the relevant parts of East and West Sussex, Surrey, and the London Boroughs.

As the consultation period was drawing to a close a "last chance to comment" press release to encourage any last minute consultees was sent to local media organisations and this again generated coverage in local newspapers and radio.

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

The Kent Area Environment Group (AEG) consists of a group of people representing 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 every stage.

### 3.2 The Responses

In total 64 consultees responded in writing to the LEAP documents..

#### Summary of Key Points

In addition to the issue-specific responses, there were a number of important general points raised by the consultation process.

The key message that came across is that the response to the process and aims of the LEAPs is very positive. LEAPs are seen as a move in the right direction for both the environment and the Agency.

The LEAP is seen as a stepping stone towards environmental progress as the effect of many of the issues goes beyond 5 years. In addition:

- ◆ There is support for the Agency working in partnership to achieve environmental improvements in the Area. The consultation process has generated ideas for new partnerships and suggestions to enhance existing working relationships.
- ◆ There is considerable scope for the Agency to work more efficiently across its boundaries, both internally between regions and with external organisations.
- ◆ There is a perceived need for flexibility in regulation to promote sustainability.
- ◆ Agency activities are still seen to be NRA/water related bias to the exclusion of waste and air quality issues.
- ◆ The importance of Agency activities working towards prevention rather than damage limitation must be stressed.

In addition, a number of other comments can be categorised as follows:

- ◆ Local issues raised  
A number of responses related to specific catchments whereas the Kent Area LEAP was intended to be a more generic strategic planning document. Where appropriate, comments specifically relevant to a catchment LEAP will be carried forward but it is still recommended that all interested parties reply to the individual LEAPs as well.
- ◆ Issues omitted  
Some concerns expressed over issues missing identified responsibilities that are part of the Agency's routine and statutory functions and therefore not covered by the LEAP process.
- ◆ Cross referencing  
The nature of environmental issues means that LEAP Issues are inter-related and there need to cross reference issues was raised by a number of consultees. Actions have been cross-referenced in the final document where possible in an attempt to make distinctions and relationships between issues in the LEAP clearer.
- ◆ The "Do Nothing" option was seen as not acceptable for any of the issues identified.



## **The Results**

It is important that the time, effort and expertise put into responding to the Agency's request for views on the Consultation Draft is acknowledged and consequently acted upon. Due to the wide range of organisations who responded and the amount of detail in which they responded, the public consultation process has had an influential role in shaping the final LEAP and a number of changes have been made as a consequence including a number of new actions and the addition of a new Issue. These changes are covered in more detail in the "Statement of Public Consultation".

## **Environmental Overview**

The Environmental Overview was not intended as a consultation document and there are no plans at this stage to reprint it. However, the consultation process generated a number of suggested amendments, corrections and additional points which were welcomed. These responses have been reviewed and analysed and if the comments were also applicable to the Consultation Draft then where appropriate they have been carried through. The information will be kept on file and taken into account when the Environmental Overview is next reviewed.

#### 4.0 THE KENT AREA

The status of the environment, and consequently the Agency's operations, in the Kent Area is largely governed by its physical characteristics: geology, resultant landform, coastline and proximity to London and mainland Europe.

Full details of the state of the environment in Kent are contained in the Kent Area Environmental Overview which is available from the Kent Area office. The following provides a summary of key points.

The Area is characterised by the clays and sandstones of the Weald and by the chalk block of the North Downs. The High Weald faces the prevailing south-westerly winds which results in precipitation on to the steep clay dome. Consequently in wet weather there is rapid run-off into deeply incised tributaries and this combined with the urban development, has led to the requirement for major flood retention schemes within the Kent Area. By contrast, the chalk of the North Downs presents a permeable geology; approximately three-quarters of the public water supplies are derived from the groundwater of the Chalk and Greensand. This is more than almost any other Area of the Agency and consequently the importance of protecting these resources from pollution and development is recognised in the nationally established groundwater protection policy. Remaining drinking water supplies are drawn from the lower reaches of the Stour and the Medway with a number of storage reservoirs such as Bewl Water.

With rainfall averaging 700mm per year, the Area is considerably drier than most of the country. Precipitation decreases across the Area from west to east such that north-eastern Kent and Thanet receives only 500 - 600mm rainfall per year. Effective rainfall in much of the Area is less than 200mm which, combined with a population of around 2 million and other development pressures, places water resources under stress. This may be exacerbated by the effects of climate change which are likely to be more pronounced in the South-East compared to the rest of the UK. Given that water supply is administered by 6 different water companies, water resource management is an important Agency activity in the Area. In particular the chalk streams of the Darent and Little Stour are prone to low flows.

The Kent Area has a north, east and southern coastline totalling some 220 kms of which 85 kms are the sea defence responsibility of the Agency and 214 kms are a tidal defence responsibility. Key factors affecting the management of these defences are the storm surge environment of the North Kent coast and the southerly Channel coast buffeted by prevailing south-westerly winds. Sea defences range from concrete sea walls to shingle beaches; in vulnerable areas the shingle has to be regularly replenished. The Channel coast is characterised by soft and hard defences facing the prevailing winds and the run of tide up the channel from the Western Atlantic: Romney Marsh alone presents 260 square kilometres of reclaimed land below sea level protected by Agency defences.

There are extensive tidal defences on the Thames and Medway estuaries and along the Swale. Two tidal flood barriers are operated in conjunction with the Thames Barrier and the flood warning system operates to protect the population of areas at risk. Inland, flooding has been alleviated by the construction of the Leigh flood regulatory reservoir on the Medway and by similar schemes on the Stour upstream of Ashford. The Medway is navigable below Tonbridge and the Agency combines its Navigation Authority and flood defence responsibilities on this stretch. The Harbour of Rye at the mouth of the Rother also has a flood defence role and is owned and managed by the Agency. The Agency plays a key role in safeguarding flood defence standards for the protection of people and property in defended areas and to the preservation of flood storage capacity in river channels and flood plains.

The extensive coastal area includes intertidal mudflats, saltmarsh and shingle much of which is designated as national and international areas of conservation interest: Sites of Special Scientific Interest (SSSIs), Special Protection Areas or Ramsar sites. The White Cliffs at Dover and Folkestone Downs have been identified as Heritage Coast. Inland there are extensive areas of ditches and dykes along the Thames and Medway Estuaries, the Swale, the River Wantsum, the flood plain of the Great Stour and on Romney Marsh again attracting national and international designations. Much of the traditional grazing pattern of the North Kent marshes is within an Environmentally Sensitive Area. The Area's ancient woodland is also of national importance as is its chalk grassland; many species not found elsewhere in Britain are present in the Area due to the proximity to the mainland of Europe.

The waters of the Kent Area support the whole range of freshwater fish species with the Rother having a notable run of sea trout and there are signs of a return of these fish to the River Medway as the water quality in the estuary improves. There are also important shellfisheries in the estuaries and around the coast, especially at Whitstable. Inland, the rivers draining the Weald are well stocked with a wide variety of coarse fish species and many reservoirs and reclaimed gravel workings have been developed into popular fisheries. The chalk streams feeding the Darent and the Stour provide suitable water quality for brown trout fisheries.

The traditional seaside resorts in the Area are used extensively by tourists and the local population and are particularly reliant on good bathing water quality for continued success in the face of competition developing from improved access to Europe. The coastline also includes 27 EC designated Bathing Beaches requiring regular monitoring by the Agency from May to September. Responsibilities for water quality protection extend to controlled tidal waters such as those of the Medway Estuary and Swale and to the open sea up to 3 miles from the coast. The extensive coastline and navigable waters are very attractive for water recreation and the area is very attractive and rich in history and is thus a popular location for tourists and recreational activities.

Population increases in urban areas in the headwaters of small rivers have increased the need for stringent effluent standards. Rivers depending on surface run-off, such as those on the Wealden clay are particularly difficult to protect in periods of warm weather and low rainfall. Water quality is also difficult to maintain in such circumstances since the flows are often dependent on treated sewage effluent. When pressures are applied to improve such discharges it may be more economic for the water company to provide treatment to a higher standard downstream thus further reducing flows in the rivers. The risk of pollution from agriculture is also a significant factor in the Area and discharges and run-off have affected the headwaters of the Eden, Medway, Beult, Loose Stream and the Stour. The authorisation and monitoring of discharges and surface and groundwater quality is therefore an important component of the Agency's activities.

The Kent Area has over 50 major industrial processes controlled under the Integrated Pollution Control regime mainly concentrated in North Kent including power stations, incinerators, petroleum, paper, chemical and pharmaceutical plants. The Process Industry Regulation duties of the Agency cover these plants. Air quality in Kent is impacted by emissions from such sources and from the extensive road network. The Radioactive Substances Regulation responsibilities include the two Nuclear Power Stations at Dungeness as well as universities and hospitals where safe and responsible handling of radioactive material is required.

There are approximately 236 sites (as at 1 August 1999) in the Kent Area licensed for the deposit, treatment or keeping of controlled waste. There are a wide range of waste management facilities for the disposal, recovery and recycling of waste including landfill, composting, liquid waste treatment, civic amenity sites, metal recycling sites and waste transfer stations. All sites have specific operating conditions that are to prevent pollution to the environment, harm to human health and serious detriment to the amenities of the locality. The Agency monitors compliance with these conditions and has powers to take enforcement action where required.

Trans-frontier shipments of waste are received in the Area at the Port of Dover prior to recovery and reprocessing in this country. Movements of special waste through the Area are monitored following pre-notification of movement from the Area's waste producers.

Against this background and with much of the Area designated as Areas of Outstanding Natural Beauty - the Kent Downs and the High Weald - there are considerable pressures for development. The Area is one of the most populated in England. Development pressures have been stimulated by expansion of the Metropolitan Area and by development of the Channel Tunnel and consequential expansion of Maidstone, Ashford and Folkestone; the Rail Link will bring further opportunities for economic development. The Agency's planning liaison role is essential to ensure that the Agency's concerns are represented through the planning process and take account of the potential effects of new development. The challenge for the Agency is to ensure that it fulfils its regulatory duties at the same time as promoting environmental enhancement and sustainable development. The LEAP promotes the furtherance of the Agency aims and interests in the forward planning and development control process and offers an additional opportunity to input into other authorities' plans and policies.

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

An important aspect of partnership working is the involvement of local communities in decisions affecting their local environment. Greater environmental awareness should also bring with it more responsible citizenship as people become aware of their choices and the consequences of their actions. The LEAP process is one way of increasing local involvement.

The inter-related elements of environmental management require a partnership approach to achieving improvement and appropriate solutions. Financial advantages are gained by pooling resources and increasingly partnerships are being used to secure additional funding from Central Government, the European Union, and sources such as Lottery Fund and Millennium Commission.

### **5.1 Introduction**

The Agency is well placed to influence many of the activities affecting the environment through the Environment Act 1995 and other associated legislation. In carrying out both its statutory and non-statutory functions, the Environment Agency has a diverse network of relationships with many national, regional and local organisations as well as landowners and the general public. This section examines the major opportunities for the Agency to address environmental issues through partnerships with others.

It is through partnerships that we are able to fully contribute towards the goal of sustainable development. The Agency must work in partnership with others to ensure that the LEAP actions are implemented so that the environmental issues are addressed. Partnerships are an area with scope for significant future development, for example, in the process of delivering environmental education.

The Agency is already involved in many projects and activities that rely on partnership. Close links are already established with local authorities, water companies, fire brigades, industry, angling clubs, Local Agenda 21 Groups, conservation, recreation and landscape bodies. New partnerships have been identified as developing the LEAP actions in this document and it is hoped that joint funding initiatives and joint ownership of projects will provide a more secure basis for environmental protection and enhancement. New partnerships will be sought, both with these organisations and others. It is hoped that this LEAP will help the Agency to achieve even more by working closely with others to address issues in the Kent Area and secure a stronger basis for environmental protection and enhancement.

Some of the major opportunities for the Environment Agency to work in partnership are highlighted below.

### **5.2 Development Control**

Land use is the single most important influence on the environment. It follows therefore that land use change has important implications for the environment which can be both positive and negative. Land use planning is administered by county, district and unitary planning authorities. Control of land use change is achieved through implementation of the Town and Country Planning Acts and a range of Government planning guidance. This



guidance highlights the importance of communication between local planning authorities and the Agency and the relationship between land use and the environment.

The Agency is committed to developing close working relationships with local planning authorities (LPAs) to promote effective links between planning and environmental protection. Planning liaison is the link between the Agency's functions and local authority planners. Land use issues of particular concern in Kent Area include development in the flood plain, protection of water resources and remediation of contamination in association with development of brownfield land.

### **5.3 Development and Water Supply**

Water resources in the Kent Area are under pressure particularly in the north of the Area with heavy commitment of the existing water resources. It is this part of the Area that is also subject to the greatest development pressures.

The Environment Agency works closely with the water companies in the Kent Area and through the Water Resources in the South East Group to manage water resources in the Area to achieve the proper balance between water development objectives and the needs of the environment. The Agency operates its abstraction licensing system to regulate the water companies and other abstractors to ensure sustainable use of water resources and to protect the environment. Where water resources are fully committed locally, demand must be met either by improved management of existing resources or by transfer from other areas. However, it is vital that development takes account of the full social and environmental costs. The Agency will work with the relevant water supply companies and planners to ensure this is achieved. The Agency will want to be assured that the management of a resource is sustainable.

The Agency is also placing greater emphasis on demand management (e.g. leakage control and metering) where this will reduce pressures on the environment or prevent the need for the development of new resources. The Agency encourages measures such as leakage control and for metering programmes and initiatives to build water conservation into new developments - for example through low water use appliances.

### **5.4 Local Agenda 21**

Agenda 21 was one of four main agreements signed at the Earth Summit at Rio by representatives of 150 countries including the UK government. It is intended to be:-

*"A comprehensive programme action needed throughout the world to achieve a sustainable pattern of development for the next century".*

Agenda 21 includes initiatives to further the concept of sustainability and includes waste management issues and promotion of environmental awareness. In 1994 the Government produced a national sustainable development strategy and action plan for the UK. At the local level, most local authorities are working with local communities to produce their own Local Agenda 21 programmes, to promote sustainable development and to improve quality of life.

Kent County Council has responded to Local Agenda 21 through their document Greening the Garden - Environmental Action for Kent. Many other local authorities have also produced reports and strategies for the Area.

The Agency recognises the potential of Local Agenda 21 and will continue to work with local authorities to ensure protection and enhancement to improve the local environment. LEAPs provide proposals for action which can feed directly into Local Agenda 21 Action Plans.

### **5.5 Biodiversity Action Plans**

As part of the Environment Agency's input to the Government's commitment to the International Convention on Biodiversity the Agency is part of a Biodiversity Steering Group for Kent and a biodiversity partnership for Sussex. The plans aim to identify targets and actions for specific habitats and species. The Agency plays a key role in each of these organisations and is the lead organisation for a number of species and habitats. The conservation of biodiversity will be a key environmental indicator of the successful implementation of sustainable development in the Kent Area.

### **5.6 Air Quality**

Local authorities environmental health departments regulate air pollution from thousands of industrial premises under Part I of the Environmental Protection Act 1990. These are premises with generally a lesser potential to pollute than those the Agency regulates. The processes concerned are known as Part B processes and only the releases to air are controlled. Local authorities will be required to review present and future air quality against air quality standards and objectives prescribed in regulations made by the Government. Reviews are in the form of Local Air Quality Plans for which the Agency will be a consultee.

The Kent Air Quality Management Partnership includes Kent County Council and the 14 district councils in Kent with co-opted members including the Environment Agency. This partnership is intended to develop the air quality management partnership with an emissions inventory, air quality monitoring and modelling.

### **5.7 Education**

Good awareness of educational issues is of paramount importance for all successful environmental management. The Agency will seek to educate and influence individuals, groups and industries to promote best environmental practice. It will work in partnership with statutory and voluntary groups to carry out improvement projects and develop a wider public awareness of environmental issues.

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

It is also part of the Agency's routine business to promote environmental education in other sectors of society, including business and industry, local authorities and other key players. The LEAP process positively contributes towards education in a fundamental way. The Agency also undertakes pollution prevention visits, attends shows and science fairs such as the Kent County Show and the Kent Science Festival, provides speakers, distributes educational documents and generally works in a pro-active way to protect the environment.

## **5.8 Waste Minimisation**

In order to assist the Government in achieving its waste strategy, the Agency is taking a key role in providing waste minimisation advice within industry and in the Kent Area, the Agency is involved in a number of initiatives.

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

The Agency will also be a partner in the Sustainable Business Partnership project led by Kent County Council which is seeking to target small and medium businesses in the Area.

These sort of initiatives are of particular significance in the Kent Area where void space for waste is valuable and there is a need to curb the increase in waste production by encouraging waste minimisation, recovery and reuse.

## **5.9 Flood Defence**

The Ministry of Agriculture Fisheries and Food (MAFF) is the Government Department with overall policy responsibility for flood defence and coastal protection in England. The Agency works closely with MAFF and DETR on capital schemes in particular.

The Agency has specific powers relating to 'main rivers' which enable it to carry out maintenance and improvement works, to construct flood defences and to control the work of others. The Agency has a general supervisory duty over all flood defence matters which requires working in close partnership with other drainage authorities. In addition to works on 'main rivers' the Agency also has regulatory powers to control weirs and culverts which would affect flows on ordinary watercourses.

Local authorities and, in this Area, Internal Drainage Boards (IDBs) are responsible for flood defence on 'ordinary watercourses'. The appropriate legislation relating to ordinary watercourses is to be found in the Land Drainage Act 1991, for the purpose of this Act IDBs and local authorities are statutorily defined as 'drainage bodies'.

Within the Kent Area there are 8 IDBs. These were set up following the Land Drainage Act (LDA) 1930, to deal with specific drainage problems in relatively low-lying agricultural areas and still carry out this work today.

The powers of the 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. Agency staff work particularly closely with a number of IDBs in the Kent Area (Romney Marsh Levels, Denge & Southbrooks, Pett, Rother, Walland and Stour IDBs) for which they act as Engineers for the IDBs. Local authorities have similar responsibilities for non-main river watercourses in their area.

Within the framework of the Shoreline Management Plan, we are continuing to develop liaison processes with the relevant district councils who have responsibilities for cliff erosion under the Coast Protection Act 1945. This will ensure that our respective coastal and sea defence activities are complementary and do not have any adverse effect on adjacent frontages.

### **5.10 Pollution Prevention**

The Agency has a duty to monitor, protect, manage and where possible enhance the quality of all controlled waters through the prevention and control of pollution. In undertaking this duty, the Kent Area Environment Protection Team works in partnership with a number of different organisations.

An ongoing awareness campaign is in place between the Agency and Kent Fire Brigade. The aim of this is to increase knowledge of pollution prevention in the Fire Brigade and to increase Agency officers' knowledge of how to work most effectively with the Fire Brigade at potentially polluting incidents.

A series of farm based campaigns are also underway working with farmers to identify best practise for wastes management and pollution prevention from farming activities.

The Agency has recently started working on a contingency coastal booming project in conjunction with the port authorities and Marine Coastguard Agency.

The Agency also relies on the general public to help protect the environment by reporting environmental incidents and emergencies on the Emergency Pollution Hotline - 0800 807060.

### **5.11 Summary**

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

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## 6.0 ACTIONS FOR THE KENT AREA

This plan sets out the work that the Agency intends to carry out in partnership with others over the next 5 years. Implementation of the plan is based on the actions identified to address the 31 key environmental issues which are of particular significance to the Kent Area as a whole.

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. As stated in the introduction, the implementation of the Actions will be subject to, amongst other things, availability of resources (financial and personnel). 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 which are taking place in Year One of this plan are those which 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 and the Consultation Draft for more background information.

LEAPs translate the Agency's long term "Environmental Strategy for the Millenium and Beyond" into action on the ground. The actions are grouped into nine environmental 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

## ISSUE 1: STANDARD OF FLOOD AND COASTAL DEFENCES WILL NOT BE ADEQUATE FOR PREDICTED EFFECTS OF CLIMATE CHANGE

The most recent predictions from the Climate Change Impacts Review Group 'The 1996 CCIRG Scenario' indicate a number of possible effects in the UK resulting from climate change. These effects may be particularly exacerbated in the Kent Area due to land sinking and this will have implications for flood defence provision and budgeting. The flood risk implications of the predicted effects of climate change will require careful consideration through liaison between the Agency, local authorities, developers and the public to ensure that existing development is secure. Proposed new developments must not be allowed to exacerbate the existing situation through their inappropriate location. The Agency liaises closely with the other coastal authorities through the South East Coastal Group to ensure a consistent approach to coastal management.

*In addition to actions listed below, several actions relating to flood defence can be found under Issues: 6, 11, 15, 19 and 20. Additional actions relating to planning and flood plain policies can be found under Issues 19, 20 and 21.*



Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Produce Coastal and Fluvial Strategy Plans, and implement identified actions through the capital works programme, to ensure effective flood defence systems are provided to an appropriate standard for current and future areas at risk from flooding. • (Agency Lead: Flood Defence Manager)	Continued maintenance of flood defence standards of service with full consideration of all options for sustainable defences such as managed realignment and soft defences in addition to conventional hard flood defences.	Identify significant risk areas and focus limited resources. Justify capital expenditure to MAFF.	Ongoing 1999-2004	Various incl. IDBs, EH, LAs, landowners	£5million pa (costs are approximate only and subject to annual approval by the LFDC)	 
2. Work to secure strong floodplain protection policies in all development plans and work with local planning authorities to generally guide development away from areas at risk to flooding. • (Agency Lead: Team Leader Development Control)	Agency's policy re: floodplains incorporated into local and structure plans. Presumption against floodplain development.	Reduce future risk and increase understanding of flood plain issues.	Ongoing 1999-2004	LPAs	£25k	 

## Issue 2: SUSTAINABLE WATER RESOURCES MANAGEMENT AND THE EFFECTS OF CLIMATE CHANGE

The Kent Area has a legacy of over abstraction of water resources which, combined with the reduction in the rate of natural replenishment, has created an adverse balance of water resources. Predicted effects of climate change could further exacerbate the situation. The particular vulnerability of water resources in the Kent Area has been highlighted by the recent droughts in 1995/96 and 1996/7. There is a clear need to address the effects of climate change strategically in order to promote sustainable management of water resources.

The Agency is working in partnership with the water companies and Office of Water Services (OFWAT) through the Water Resources in the South East Group to develop a water resources strategy for the South East for the next 30 years. There is however, a growing need for a water resource management strategy in the Kent Area which recognises the particular stresses and strains for the Area from both climate change and proposed development. Any Kent Area Strategy would require close partnerships between the Agency, water companies, Local authorities, industry, agriculture and conservation groups. It should promote implementation of a South East strategy; review and update Kent water resources policy; promote implementation of protection and enhancement of the water environment; and periodically review the balance of water resources.

*In addition to actions listed below, several actions relating to water resources can be found under Issues 4,5,8,9 &10.*

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Address predicted climate change impact with a coherent long-term Area Water Resources Management Strategy (derived from Regional Strategy) and incorporating an effective Drought Contingency Plan. • (Agency Lead: Area Water Resources Manager)	Production of Strategy. Alleviation of low flow levels in the designated National Environment Programme list of vulnerable rivers and wetland areas under all but the most extreme drought conditions.	Strategic approach. Remediate low flow problems. Protect water dependent habitats and species.	Ongoing 1999-2004	Water companies, OFWAT, LPAs, English Nature, RSPB and local conservation groups.	All capital and revenue costs are covered by action under Issue 5.	 

### Issue 3: NEED FOR INCREASED KNOWLEDGE OF IMPACTS OF AGENCY REGULATED INDUSTRIAL RELEASES ON AIR QUALITY





The Environment Act 1995 (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 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 the objectives.



The Agency's role in this is one of liaison, support, technical consultation and provision of data relating to Part A IPC processes. The Agency's contribution to the achievement of air quality objectives is limited to its regulation of Part A IPC processes. Part B processes (those with lower potential to pollute) are already regulated by local authorities under the Local Authority Air Pollution Control (LAAPC) provisions of the Environmental Protection Act 1990 (EPA90) Part I.

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 Authorities' Air Quality Reviews. The Agency is a full member of the Partnership and KCC provides secretariat facilities. The air quality model is also used by KCC to assist with planning decisions by evaluating the impact of proposed developments. The Agency is involved with a similar partnership, the Sussex Air Quality Steering Group, for the parts of Sussex which fall in to the Kent Area. The parts of Surrey and the London Boroughs which are in the Kent Area are covered by the Thames Region of the Agency.

Kent Area is expecting a significant number of applicants for IPC authorisations in the near future. Air dispersion modelling will allow an improved understanding of the impacts of Agency regulated industrial releases to the air and the surrounding environment. Modelling gives better understanding of combined effects of trans-boundary pollution from multiple sources and allows better planning of the impacts of new processes.

*In addition to the actions listed below, actions relating to air quality issues can be found under Issue 30.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Develop a set of practical computer modelling options which the Agency can use to identify, evaluate and regulate the impact of Part A processes in relation to the attainment of National Air Quality objectives in the South East (SEAMP) • (Agency Lead : Team Leader PIR/RSR)	Develop effective modelling tools. Undertake realistic appraisal of cumulative impacts.	Better understanding of total impacts of releases.	1999-2001	Kent Air Quality Management Partnership, Process Industries	£50k Multi-regional project – shared funding contribution	 
2. Take account of National Air Quality Objectives and Local Authority Review and Assessment conclusions in particular designation of Air Quality Management Areas, when setting emission limits for Part A IPC authorised processes. • (Agency Lead : Team Leader PIR/RSR)	Establish robust emission limits. BATNEEC compliance.	Strategic management of air quality issues.	Ongoing 1999-2004	Kent Air Quality Management Partnership, Process Industries LAs	Difficult to quantify. Incorporated in routine work.	 



Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
3. Enhance the application of air dispersion modelling to determination procedure for selected IPC authorisations. • (Agency Lead : Team Leader PIR/RSR)	Consistent application of dispersion modelling to the authorisations determination process. A more robust determination process/audit trail.	Strategic management of air quality issues.	1999-2000	Kent Air Quality Management Partnership, Process Industries	£25k	 

#### Issue 4: DETERIORATION IN THE BALANCE OF WATER RESOURCES

The deterioration in the balance of water resources is a legacy of historic water resource development in response to the increase in public water supply demand. This has led in turn to progressive depletion of river flows and lowered water table levels and has proved detrimental to the water environment and to lawful water-use interests.

For six resource areas; Eden, Darent and Cray, Medway Estuary, West Swale, East Swale and Thanet Chalk, abstraction now represents at least 75% of the annual renewable resource. This licensed supply commitment leaves an environmental balance equivalent to less than 10% of the total that would have been available prior to any large scale development of the resource. This level is not sustainable and requires measures to restore a more equitable balance.

*In addition to actions listed below, several actions relating to water resources can be found under Issues 2,5,8,9 &10.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. To redress the existing adverse balance of resources by negotiated licence variations or revocations coupled with actions under the Agency's National Environment Programme incorporating UK and European legislation. • (Agency Lead: Area Water Resources Manager)	Achievement of a sustainable balance of resources for all major river catchments and aquifer units.	More effective regulatory position and use of legislative resources.	Ongoing 1999-2004	Licence holders, OFWAT, EN	High - to be determined	 





## Issue 5: FORECAST DEMAND – GROWTH; IMPACT ON THE OVERALL BALANCE OF PUBLIC SUPPLIES

Forecasts for the majority of Kent Area based water companies indicate growth in average/day demand (disregarding climate change factors) of approximately 1% per annum up to year 2021. Allowing for operational headroom this is likely to require provision of additional supply capacity of more than 100 Ml/d over the next 20 years, assuming achievement of agreed leakage control and selective metering targets.

This additional supply capacity cannot be met by further development of groundwater or by increases on current rates of river abstraction. There are, in practice, likely to be very few options for the development of indigenous resources that would not impose further unacceptable stress on the water environment. The Agency's role therefore includes the promotion of the most environmentally cost-effective options for meeting demand growth and these will, in the first instance, be drawn from the list of schemes identified by the South East Regional Strategy Group.

*In addition to actions listed below, several actions relating to water resources can be found under Issues 2,4,8,9 &10.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Contribute to the formulation of a Southern Region Water Resource Management Strategy and develop a derived Strategy for the Kent Area which takes into account local pressures and priorities. • (Agency Lead: Area Water Resources Manager)	Delivery of a comprehensive Water Resource Management Strategy. Address demand-growth and satisfy the Agency's National Environment Programme objectives.	Essential for effective water resource management. Clear guidance for licensing control.	Ongoing 1999-2004	Water Companies, LAs, DETR	Revenue £25k	 









## Issue 6: PROTECTION AND ENHANCEMENT OF BIODIVERSITY









In order to meet the overall objectives of Biodiversity, whilst recognising its obligations to consider costs and benefits, the Agency has adopted the following policies nationally:



- Priority will be given to achievement of actions required under the UK Biodiversity Action Plan (BAP) before resources are dedicated to implementing additional actions in Regional or County BAPs;
- Unless there is clearly evidence to the contrary, the Agency will assume that maintenance of existing environmental standards is sufficient to provide the levels of protection required by individual species and habitat plans;
- In prioritising new and existing activities to meet actions required under the UK BAP the Agency will, as well as considering relative costs, give priority firstly to these plans where Agency action is required to prevent a decline in status (rather than maintain the status quo or effect an improvement) and secondly, to those that are most dependent on the powers and expertise unique to the Agency.

These policies need to be viewed in a more local context and will be examined in the catchment LEAPs. Some actions apply to the whole of Kent Area or several catchments and these are identified below. Perhaps most significantly, the Kent Area is committed to full participation in the production and review of Biodiversity Plans for Kent, Sussex and Surrey and is the contact nationally for a number of key water-related habitats and species (See Environmental Overview for details). Whilst the Agency has a general commitment to the conservation of all water-related flora and fauna, priority will be given to the following habitats: Rivers and (chalk\*) streams, grazing marsh, reedbeds, saltmarsh\*, vegetated shingle and the following species Shining rams-horn snail\*, water vole\*, otter\*, Allis and Twaite Shad\*, White Clawed Crayfish\*, Marsh Warbler, Barn Owl. (\*habitats or species for which the Agency is the national contact).

*In addition to actions listed below, several actions relating to Biodiversity can be found under Issue 8.*



Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Contribute to the achievement of the Agency's UK BAP commitments including as national contact within the Agency for Shining Rams-Horn Snail and Marsh Warbler. • (Agency Lead: Team Leader Conservation and Recreation & Team Leader Biology)	Co-ordinate partnership surveys for key species across Kent Area. Disseminate information on best practise. Provide an annual submission on progress to the national BAP. (Specific actions will be addressed in the catchment LEAPs.)	National priority. Protection and action where most needed.	1999-2004	EN, KWT, RSPB, CMPs, FWAG, Landowners, farmers, IDBs, water companies, LAs, Universities, volunteers	£150k	
2. Contribute to the review of the County of Kent BAP and support preparation and review of the Sussex and Surrey BAPs as relevant to Kent Area. • (Agency Lead: Team Leader Conservation and Recreation)	Agency actions contributing towards biodiversity identified within local BAPs and progress included in subsequent reviews.	Complies with UK BAP and legislative requirements. Ongoing refinement of BAP process.	1999-2004	County Wildlife Trusts, EN, RSPB, NFU, CLA, MAFF, IDBs	£10k	
3. Continue to monitor the biodiversity of rivers in Kent Area through a rolling programme of River Corridor Surveys and River Habitat Surveys and report on the findings. • (Agency Lead: Conservation and Recreation Officer)	Survey one catchment a year.	Baseline data obtained. Protection of habitats.	1999-2004	CMPs, landowners, IDBs	£56.5k	 
4. With the involvement and support of all interest individuals and parties, prepare and implement catchment BAPs to promote a co-ordinated and prioritised approach to the management of wetland habitats and species throughout Kent Area. • (Agency Lead: Team Leader Conservation and Recreation)	At least one catchment BAP produced each year.	National priority and integrated approach. Protection and action where most needed.	1999-2004	Landowners, LAs, FRCA, MAFF, EN, KWT, RSPB, Angling societies, SEORP, SWS, IDBs, CA	£50k	 
5. Survey headwater streams and investigate opportunities for protecting and enhancing their faunal richness. • (Agency Lead: Team Leader Conservation and Recreation)	Complete 50 sample sites per year.	Habitat and biodiversity improvements.	2000-2003	Landowners, farmers, CMPs, KWT, SWS	£20k.	 

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
<p>6. Initiate a three year Research and Development programme to investigate the response of both native crayfish and water voles to habitat management techniques.</p> <p>• (Agency Lead: Conservation and Recreation Officer)</p>	<p>1999/00 Identify sites, agree partnerships, undertake pre-surveys. 2000-01 Design and implement management techniques. 2001-02 Post survey. 2002-03 Produce report.</p>	<p>Identify most effective and appropriate management techniques for the named species.</p>	1999-2002	Landowners, universities, CMPs	£77.5k	 
<p>7. Continue to support Countryside Management Projects and a FWAG officer, both financially and through representation on steering groups as a way of securing BAP actions on the ground.</p> <p>• (Agency Lead: Team Leader Conservation and Recreation &amp; Fisheries Scientist)</p>	<p>At least 50 habitat actions per year with creation of buffer strips, promotion of agri-environment schemes and habitat enhancement for water vole, otter and native crayfish as priorities. Achievement of ongoing annual targets.</p>	<p>Support for projects and promote effective liaison between organisations. Delivery of actions on the ground.</p>	1999-2004	CMPS, FWAG, LAs, EN, Industry, NFU, FRCA, MAFF, landowners, farmers, SEORP, CA	£320k	
<p>8. Improve the biodiversity along watercourses and defences maintained by the Agency through more sensitive flood defence management and with the support of the Local Flood Defence Committee implement habitat enhancements and restoration of degraded habitats.</p> <p>• (Agency Lead: Conservation and Recreation Officer &amp; Flood Defence Manager)</p>	<p>Publish flood defence maintenance programme and hold liaison meetings annually. Delivery of agreed enhancement targets. Regular conservation briefings for flood defence staff.</p>	<p>Development of best practise flood defence/conservation techniques.</p>	1999-2004	Landowners, FRCA, CMPs, KWT, Angling Societies, SEORP, LFDC	£540k	 
<p>9. Develop a close working relationship with LPAs to ensure that local plans and decisions on planning applications take appropriate account of the Agency's Biodiversity responsibilities.</p> <p>• (Agency Lead: Team Leader Conservation and Recreation &amp; Team Leader Planning Liaison)</p>	<p>Implement a rolling programme of liaison meetings with LAs, Review and update internal procedures. Audit effectiveness of biodiversity comments.</p>	<p>Increase awareness of Biodiversity. Better working relationships with LPAs.</p>	1999-2004	LPAs, EN, KWT	£12k	
<p>10. Seek opportunities to support local biodiversity projects related to the water environment through partnerships.</p> <p>• (Agency Lead: Team Leader Conservation and Recreation)</p>	<p>Five or more collaborative projects completed each year aimed at key water-related habitats and species..</p>	<p>Increase partnership working in biodiversity work. Delivery of actions on the ground.</p>	2000-2004	Parish Councils, landowners, RSPB, CMPs, KWT, SWS, IDBs, schools, water companies, CA	£80k	 

Action	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
11. Manage Agency land holdings to enhance their biodiversity where compatible with operational activities. • (Agency Lead: Conservation and Recreation Officer)	Completion of at least three site management plans per year. Implementation of prioritised actions.	More sensitive management. Agency seen to be practising its own guidance.	2000-2004	CMPs	£30k	
12. Support appropriate partnership initiatives to exchange, update and evaluate survey information such as the Phase 1 Habitat Survey and on water related SNCIs. • (Agency Lead: FER Manager)	No data used by the Agency to be more than 7 years old.	Maintenance of Agency database. More integrated approach. Improved quality of data.	1999-2004	Various organisations, societies and clubs.	To be determined	

### Issue 7: ILLEGAL MOVEMENT OF FRESHWATER FISH THROUGH KENT

Illegal introductions of fish into the wild particularly continental and/or exotic fish, can lead to the spread of disease, loss of genetic integrity, over stocking and degradation of ecology of water. Due to Kent's proximity to mainland Europe, there is a perceived increase in the illegal importation of large carp and exotic fish. The Centre for Environment, Fisheries, Aquaculture Studies (CEFAS) is charged with regulating importation into the country and the subsequent introduction to designated fish farms. The Agency's remit is to regulate the introduction of fish into inland waters. Due to a lack of clarity in the interpretation of legislation, neither organisation is able to be as effective as necessary in their enforcement of the legislation.

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Continue to input into the current fisheries legislative review to provide integrated, effective statutory powers and influence the results. • (Agency Lead: Team Leader Fisheries)	Timely area input made to assist the review without causing any delays in the consultation process. Effective operation with CEFAS cross warranting.	Better protection of fisheries.	1999-2003	Direction by CEFAS/MAFF	£5k	
2. Set up an intelligence database to increase proactive targeting of illegal activities. • (Agency Lead: Fisheries Scientist)	Intelligence database installed and working on area PCs.	Improved information gathering.	1999-2004	MAFF/CEFAS	£2k	







## Issue 8: PROTECTION AND ENHANCEMENT OF IMPORTANT WETLANDS







"Important wetlands" are defined in this section as those areas which support nationally or internationally significant number or assemblages of water-related flora or fauna. In some instances areas which were historically important or which have the potential to be important may be included. Many of these wetlands are protected by some form of designation including Special Protection Areas, Special Areas for Conservation, Sites of Special Scientific Interest and in some instances Site of Nature Conservation Interest.

The 1994 Conservation (Natural Habitat etc) Regulations confer a number of responsibilities on the Agency as a Competent Authority. In particular, the Agency is required to carry out all its activities in a manner which assists in maintaining the favourable conservation status of internationally designated sites. This includes both how it conducts its own works and how it considers application for new authorisations which have the potential to adversely affect the interests of such a site. In addition, the Agency is required to either affirm, modify or revoke all current relevant authorisations within five years. In the Kent Area this requirement is being addressed as one of our highest priorities and will involve a considerable commitment.

Some important wetlands are or appear to be suffering from a decrease in water levels or flows or impoverishment through poor water quality. These Issues are addressed under Issues 4, 6, 9 and 10, and specific actions also identified in catchment LEAPs.

*In addition to actions listed below, several actions relating to Wetlands can be found under Issues 4, 6, 9 & 10.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Work with English Nature to establish conservation objectives and environmental criteria for all internationally designated sites within Kent Area against which Agency operations and authorisations can be assessed. • (Agency Lead: Team Leader Conservation and Recreation)	Conservation objectives established for high priority sites by 99/00. Objectives established for all sites by 00/01. Environmental criteria agreed in a phased approach.	Partnership working. Establish robust criteria for Agency operations and authorisations.	1999-2001	EN	£2k	 
2. Develop and adopt procedures to ensure that all Agency operational works within internationally designated sites comply with the Habitat Regulations. • (Agency Lead: Conservation and Recreation Officer)	Six month secondment of 1 EN staff to Agency 99-00. Development of internal procedures 00/01. Audit of implementation and subsequent compliance.	Agency compliance with Habitat regulations.	1999-2002	EN	£12k	 
3. Implement a phased review of all relevant Agency authorisations with the potential to adversely affect the interest of internationally designated sites as required under the Habitat Regulations. • (Agency Lead: Conservation and Recreation Officer)	Complete identification of all relevant authorisations by 99/00. All relevant authorisations affirmed, modified or revoked by 03/04. International sites not suffering as a result of historical authorisations.	Identification of all Agency authorisations with potential to impact on designated sites. Agency compliance with Habitat Regulations.	1999-2004	EN, licence holders	To be determined.	 

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
<p>4. Process all new applications to the Agency for authorisations with the potential to adversely affect the interest of internationally designated sites in accordance with the Habitats Regulations.</p> <p>• (Agency Lead: Conservation and Recreation Officer)</p>	All relevant applications processed by the Agency are accompanied by appropriate assessment submitted by the applicant. (Pre-application discussions with the Agency will be encouraged to assist this process).	Conservation considerations taken into account from the start. Agency compliance with Habitat Regulations.	1999-2004	EN, applicants	£100k	 
<p>5. In partnership with landowners and conservation bodies develop and implement in a phased way WLMPS for important wetlands where the Agency is the operating authority.</p> <p>• (Agency Lead: Team Leader Planning and Projects)</p>	Priority actions agreed with the Agency are implemented.	Protect and enhance designated areas.	1999-2004	EN, landowners, RSPB, CMPs	£40k	 
<p>6. Seek opportunities to support projects which make a significant contribution towards biodiversity, through partnership with priority given to creation and management of reed beds, marshland water meadow and wet woodland.</p> <p>• (Agency Lead: Team Leader Conservation and Recreation)</p>	One or more partnership projects set up per year.	Partnership working. Wetland habitat enhancement.	1999-2004	Various potential partners	£100k	 


## Issue 9: DECLINING FLOWS IN KENT AREA RIVERS

The legacy of historical over-abstraction for public water supply from the chalk and greensand aquifers, has led to the progressive depletion of river flows and water table levels particularly in North Kent. The situation is now becoming exacerbated by the effects of climate change and is manifested in several ways. The depletion of groundwater storage has led to the loss of baseflow in the spring-fed streams in Kent Area. The rivers Darent and Little Stour are currently subject to remedial actions. The River Dour and the North Kent Streams are also now considered to be suffering significantly from loss of baseflow.

Depletion of water table levels and spring flows has resulted in the degradation of wetland habitats and a reduction in species diversity. The most vulnerable areas in this category include the North Kent Marshes. The reduction in river baseflow has also meant a loss of dilution capacity of receiving waters in the vicinity of effluent outfalls. Significant areas of concern include the Upper Great Stour at Bybrook and the River Beult at Headcorn.

Deterioration in baseflows of chalk streams and other rivers such as the Darent throughout the Area originate from continued development of groundwater resources, primarily for public supply. The Agency's aim is to enhance baseflows to a sufficient degree to restore and sustain the natural characteristics of these watercourses and the species diversity of the constituent fauna and flora. There is a need to restore and improve river flow, particularly in rivers in the North Kent area but also throughout the Area with rivers of environmental sensitivity.

*In addition to actions listed below, several actions relating to water resources can be found under Issues 2,4,5,8 &10.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Complete the Kent Area Low Flow Alleviation schemes identified in the National Environment Programme. • (Agency Lead: Water Resources Manager)	All Kent ALF schemes to be completed by 2005.	Restoration of flow enhances biodiversity, ensures suitable weed growth encouraging ranunculus and maintains oxygen levels for fish and invertebrates.	Ongoing 1999-2004	Water Companies, EN, LAs, conservation groups	Capital spend 00/01 to 03/04 dependent on outcome of investigation programme. Revenue commitment calculated on basis of drought year augmentation costs (£1000/month per augmentation site, by year 2004/5 a maximum of 12 sites operating for 6 months each year at times of severe drought.)	







## Issue 10: REDUCTION IN RIVER BASEFLOW PRODUCING A DETERIORATION IN WATER QUALITY

For many spring fed streams, groundwater abstraction has resulted in a substantial reduction in the volume of water available for the dilution of wastewater treatment works (WTW) effluent. In some cases this has been exacerbated by drought conditions and with the prospect of future climate change, there is a likelihood of further deterioration in the dilution capacity of receiving waters.

Rivers with relatively impermeable catchments such as the Beult are particularly vulnerable in this respect in that the summer flows in their headwaters are supported almost entirely by small rural treatment works. This has the associated problem of nutrient enrichment. Effort needs to be applied to ensure continuity of flow and improvement in effluent quality in particular with respect to phosphate level.

*In addition to actions listed below, several actions relating to water resources can be found under Issues 2,4,5,8 &9. Several actions relating to improving water quality can be found under Issues 12,13,14 and 29.*





Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Define the target flows necessary to achieve River Quality Objectives at key sites. Produce a report and take action to attain recommendations by a combination of various methods ie augmentation, abstraction reduction and improved local waste water treatment. Make changes via periodic review and/or Section 20 agreements and the AMP round. • (Agency Lead: Water Resources Manager and Team Leader Tactical Planning)	Effective liaison between Tactical Planning and Resources staff. Accurate definition of target flows, RQOs and problem sites. Report produced and findings fed into appropriate fora. Implementation of actions and periodic reviews.	Decisions on consent conditions and water uses will be informed by research.	2000-2004	Water companies	High – to be determined	 
2. Where appropriate to water quality and resources requirements, promote and support a policy based on retention of dispersed treatment plants. (Oppose diversion and concentration of WTW at downstream sites). • (Agency Lead: Team Leader Consents and Team Leader Tactical Planning)	Retention of dispersed treatment plants.	Improve flow rates.	Ongoing 1999-2004	Water companies	£5k	 

## Issue 11: DETERIORATION IN THE CONDITION OF LAND DRAINAGE

Many of the marshes and levels in Kent are drained by artificial drainage systems which often discharge to pumping stations. Many of these pumping stations were constructed during the 1960s and 1970s and are now approaching the end of their working lives. In certain locations it may be difficult to justify sufficient benefit to warrant rebuilding and the associated running costs.

A strategic review of pumping stations would identify the present problems, the long term objectives, provide options and assess funding arrangements. The agricultural, environmental, economic and engineering issues are considerable, the appropriate allocation of resources needs to be determined strategically before the condition of pumping stations becomes more critical.

*In addition to the actions listed below, actions relating to flood defence can be found under Issues 1,15,19.*



Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Undertake a strategic review of pumping systems in the Kent Area to assess the options for flood defence and land drainage over the next 50 years. • (Agency Lead: Team Leader Planning and Projects)	Produce Strategy Plans for relevant catchments on an ongoing basis.	Identify problems and priorities for resources.	1999-2000	Landowners	£50k	 
2. Produce Fluvial Strategy Plans and implement identified actions through the capital programme. • (Agency Lead: Area Flood Defence Manager)	Continue effective land drainage and water level management.	Identification of actions and prioritisation of resources.	1999-2000	IDBs, LAs	£60k	 

## Issue 12: WATER QUALITY IMPROVEMENTS

In recent years there has been a reduction in the compliance of Kent's rivers with the River Ecosystem classification scheme which measures the health of the river in terms of its chemical constituents. This fall is predominantly due to reduced rainfall and lower river flows (Issue 9), resulting in less dilution for effluents that are discharged into the rivers. These reduced dilution levels result in lower levels of oxygen in the river. There are also pressures from diffuse pollution in the form of urban and road run-off and land drainage containing soil particles and pesticides from agricultural land.

Improving the quality of the water in the rivers and streams in Kent is a high priority. Data from the various sampling programmes must be managed so that it provides information on the action the Environment Agency can take to bring about improvements to water quality. These improvements need to take account of the physical condition of the water; for example: the amount of suspended solids; the water chemistry including the biochemical oxygen demand and the biological quality relating to living organisms within the water. There are various standards that the Agency can use to measure the quality of water, some of which are statutory and some discretionary.

*In addition to actions listed below, several actions relating to water quality can be found under Issues 10, 13, 14, 17 & 29.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Advise on and encourage liquid effluent reduction through minimisation and recovery techniques and reduced water usage. • (Agency Lead: Environment Protection Manager & Environment Planning Manager)	Reduction in water consumption and reduction in amount of effluent produced reducing pollution potential.	Improved water quality and reduced water consumption.	2000-2004	Industry, householders, farms and landowners	£200k	
2. Advise and encourage farmers and others to minimise pollution from fertilisers and pesticides and encourage Buffer Zones. Promote publication of successful prosecutions • (Agency Lead: Environment Protection Manager and Environment Planning Manager)	Improved application techniques in pesticide use and therefore reduction in pesticide pollution. Improved water quality and increase in bio-diversity	Improved water quality	2000-2004	Farmers, landowners, NFU	£200k	



### Issue 13: IMPROVING BATHING BEACHES

It is important that beaches are clean and free from harmful levels of bacteria and other contamination, especially those that are frequently used by bathers. A European Community Directive requires the designation of bathing beaches and monitored to be undertaken and the quality of water improved over time. The Department of Environment, Transport and Regions (DETR) and Welsh Office have nominated 419 coastal or estuarine sites within the UK, 27 of these are within the Kent Area. In addition to the designated beaches in Kent Area, the Agency sample another 11 under discretionary powers.

During the bathing season, designated and discretionary bathing beaches are sampled for bacteria and certain viruses arising principally from sewage. The levels of bacteria have to meet statutory targets for water quality. Any individual failure of a sample to meet these targets is investigated and if a certain percentage of results fail to meet the target, the beach is classified as failing to meet the required standard for water quality. The one beach within the Area that has recently failed is Folkestone and this will be remedied by the construction of a new sewage treatment scheme at a cost of £126 million. The Folkestone/Dover Scheme is due to come on line in time for the year 2000 bathing season.

The Environment Agency's Ten Point Action Plan Targets for 1998/99 has as a short term target: "Deliver a substantial improvement in bathing water compliance from current levels".


*In addition to actions listed below, several actions relating to water quality can be found under Issues 10,12,14,17 & 29.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Act in response to all bathing water individual sample failures by investigating the cause within 48 hours, in the same tidal conditions where possible. • (Agency Lead: Team Leader: Environment Protection)	80% compliance target.	Prompt investigation of individual failures leading to a minimum number of overall beach failures.	Ongoing 1999-2004	LAs, water companies	£50k	
2. Improve the aesthetic quality of bathing beaches by undertaking visual monitoring on a monthly basis and liaising with the Local Authority and water company to clear up any sewage debris. • (Agency Lead: Team Leader Environment Protection)	Completion of assessment within time scales allowed. All identified problems cleared in accordance with established standards of service.	Clean beaches. Good public image.	Ongoing 1999-2004	LAs, water companies	£15k	

## Issue 14: COASTAL OIL POLLUTION

The English Channel is one of the busiest shipping lanes in the UK and much of the shipping carries potentially polluting cargo such as oil and chemicals. Historically the Kent Area has played a leading role in developing expertise in dealing with oil spills and this has led to Kent staff assisting the Agency's Welsh Region in the clear up operation that followed the Sea Empress oil tanker disaster. In the event of a disaster it is essential to respond quickly and competently to minimise the environmental effect. It is essential that the Agency works effectively with other interested parties such as local authorities and the emergency services. This will only happen if suitable plans are in place identifying responsibilities and working relationships.

*In addition to actions listed below, several actions relating to water quality can be found under Issues 10,12,13,17 & 29.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Develop oil pollution plans in conjunction with key partners concentrating on harbours, estuaries and ports. • (Agency Lead: Environment Protection Manager)	Plans developed and validated in accordance with national contingency plans and OPRC guidance. Staff with suitable expertise to implement plans.	Quick and prepared reaction to emergency situations. Reduction in oil pollution.	1999-2004 Plans submitted to MCA 99/00. Valid and improve 01/02.	Local authorities, port and harbour authorities, EN, MCA, Industry.	£150k	

## Issue 15: INCREASING MANAGED ACCESS TO THE WATER ENVIRONMENT FOR RECREATION

The Agency takes an integrated approach to environmental management and is required to promote, where desirable, the recreational use of inland and coastal waters and associated lands. In 1998, the Agency and the English Sports Council, launched a 'Water Related Recreation Strategy for the Southern Region' which provides an overview of water-related recreation in the region. The strategy sets out a number of principles and recommendations for increasing provision of both formal and informal recreation and for improving the way the Agency and other bodies can work together.

An action plan has been developed following a workshop at Bewl Water and consultation with many external organisations involved in recreation. It is clear that one of the main challenges is to agree and promote a level of recreation that can be sustained by the natural environment. It is therefore important to balance recreation and conservation interests and support has been shown for the recommendation to promote research into environmental impacts of recreation and to develop best practice management techniques as a means of protecting the environment. This will be taken forward at a regional level.




Water quality is often an issue that concerns people enjoying water related recreation. Through our regulatory and advisory roles, the Agency is continually working with water and sewerage undertakers, farmers and industry to achieve higher standards of water quality. Some of this work is outlined elsewhere in this LEAP (Issues 12 and 13), with more detailed actions highlighted in catchment LEAPs.





There is an additional issue for the Agency in that some recreation activities have the potential to interfere with flood defence operations, cause damage to flood banks or present a risk to public safety. There is therefore a need to investigate the impacts of recreation on flood banks and to establish guidelines that will promote the provision of recreational facilities that are not detrimental to the structures. This is currently being addressed through the Agency's own Research and Development 'Sustainable Recreational Use of Riverine, Tidal and Coastal Flood Banks, Phase I'.

Improving access to water (in particular to coastal waters) for all members of society, has been identified as a key action by many organisations, as has improving access on land adjacent to water through provision and maintenance of cycling, riding and walking routes. Although the Agency will give careful consideration to proposals, the priority will be to ensure our operational and environmental requirements are not compromised. Where resources allow, the Agency will support well-founded initiatives, including those which raise awareness. Where local projects are being promoted these will be detailed in the catchment LEAPs. The Agency will also look at its own land holdings and improve access where safe and practical to do so through the production and implementation of site management plans.

Recreation is the smallest of all Agency functions with no solely dedicated officer in Kent. Delivery may therefore be constrained by the shortage of resources. The majority of actions will therefore depend on successful partnerships. One of the main roles the Agency may be able to fulfil is to act as an impartial mediator where requested by those concerned and staff resources allow.

The Agency's Navigation responsibilities are restricted to the catchments covered by the Medway and Rother LEAPs where any issues will be addressed.

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Continue to raise awareness about issues and opportunities to enjoy water related recreation through interpretative and promotional material including through collaboration Catchment Recreation Guides. • (Agency Lead: Team Leader Conservation and Recreation)	Complete one or more Catchment Guides per year. Support three or more interpretative or promotional initiative per year.	Promotion of recreation	Ongoing 1999-2004	LAs, CMPs, governing bodies, user groups, landowners, groundwork	£65k	
2. Promote findings of the Research and Development undertaken by the Agency on the sustainable recreational use of riverine, tidal and coastal flood banks. • (Agency Lead: Conservation and Recreation Officer)	Hold a workshop in 2000/2001 with all interested parties. Produce best practise guidance by 2001/2002.	Working towards sustainable recreation	2000/2002	LAs, landowners, IDBs, EN, ESC, EH	£4k	
3. Assess all consent applications for the construction of recreation routes on flood defences in line with the Agency's R&D report on "Recreational Use of Flood Banks" in order to resolve issues and reach an agreement for the works to proceed. • (Agency Lead: Development Control Team Leader)	Positive liaison with LAs/Sustrans. Effective assessment of applications.	Practical advice and information. Allow recreational activities to be promoted in appropriate area using best practise designs.	1999-2004	LAs, Sustrans, landowners, governing bodies	£10k	





Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
<p>4. Through improved mutual understanding, work with Sustrans and LAs to promote the long-distance cycle network through Kent where relevant to Agency interests and compatible with our environmental and operational requirements.</p> <ul style="list-style-type: none"> <li>(Agency Lead: FER Manager and Team Leader Development Control)</li> </ul>	Agree named officers within each organisation as single points of contact and principles to be followed. Attend site visits and hold round table meetings with all interested parties for each stretch of the route relevant to Agency interests.	Partnership working. Promotion of recreation.	1999-2004	Sustrans, LAs, Landowners, CMPs	£24k	
<p>5. Develop and implement Site Management Plans for Agency landholdings with the potential for water related recreation and where compatible with our environmental and operational requirements.</p> <ul style="list-style-type: none"> <li>(Agency Lead: Team Leader Conservation and Recreation)</li> </ul>	Two or more plans completed each year on average.	Identification of water-related recreation opportunities on Agency property.	Ongoing 1999-004	CMPs, User Groups	£30k	
<p>6. Support provision of new facilities throughout Kent including the development of urban angling opportunities.</p> <ul style="list-style-type: none"> <li>(Agency Lead: Team Leader Conservation and Recreation &amp; Fisheries Scientist)</li> </ul>	Support one or more initiatives per year.	Promotion of recreation.	Ongoing 1999-2004	LAs, users groups, ESC, angling clubs, Groundwork	£85k	
<p>7. Act as a mediator on issues concerning water-related recreation where requested to do so by the parties concerned and availability of staff permits.</p> <ul style="list-style-type: none"> <li>(Agency Lead: FER Manager)</li> </ul>	Reach satisfactory consensus when acting as a mediator.	Enhancement of partnership working. Promotion of recreation.	Ongoing 1999-2000	Landowners, recreation and conservation interests, LAs, governing bodies, CMPs	£2.5k	



## Issue 16: PROTECTION OF ARCHAEOLOGICAL HERITAGE

The Kent Area, in particular the coastal areas, is noted for a wealth of sites, features and finds. However, estuarine and marine archaeology have been poorly recorded in comparison to land based sites.

The Agency has a duty when formulating or considering proposals relating to any of its activities to give consideration to protecting and conserving buildings, sites and objects of archaeological, architectural, engineering or historic interest. The Agency is also required where it considers desirable to help maintain the availability of any facility for the public to visit or inspect such interest. At present the Kent Area of the Agency has no dedicated archaeologists and limited access to archaeological records.

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Through improved liaison and information exchange with the County Archaeologist, ensure Kent Area has better access to information on known sites and finds. • (Agency Lead: FER Manager)	Computerised database in place by 2002	Access to information. More effective use of information. Partnership working.	2000-2002	KCC, EH, Local Societies, RCHME	£2k	
2. Encourage and (subject to a successful bid for resources) contribute to the evaluation of the archaeological resource of the Kent Area, particularly areas under threat from coastal processes or changing water levels. • (Agency Lead: Team Leader Conservation and Recreation)	Development of an agreed strategy by 2002-03. Implementation of a major study in at least one coastal area.	Baseline information gathered. Ensure resources are focussed.	2001-2003	EH, KCC, landowners, local societies	£20k	
3. Ensure capital schemes promoted by the Agency give full regard to any archaeological interest that may be affected. • (Agency Lead: Team Leader Conservation and Recreation)	Full record of archaeology developed where schemes require. Minimum disturbance caused by development.	Protection of archaeological heritage.	1999-2004	EH, KCC, landowners	£100k	
4. Raise awareness both within the Agency and externally about the archaeological interest associated with Agency land holdings and Kent Area in general. • (Agency Lead: Team Leader Conservation and Recreation)	At least one forum held on archaeology within the five year period. One or more interpretative leaflets or panels produced every other year.	Promotion of archaeological heritage.	2000-2003	Local societies	£6k	


## Issue 17: POLLUTION PREVENTION

In 1997 there were 53 major pollution incidents in the Kent Area, ranging from overfilled and leaking oil tanks to major leaks of harmful chemicals into rivers and streams. Some releases can have a very serious effect on the environment, killing fish, affecting public water supplies and destroying the ecological balance of water habitats.

It is essential that the Environment Agency addresses the causes of pollution and takes whatever preventative action is appropriate in the circumstances. Pollution prevention is generally far less damaging to the environment (and cheaper) than addressing the effects of pollution. For this reason pollution prevention must form a priority in the Kent Area. One of the short term targets in the Agency's Ten Point Action Plan for 1998/99 is to "Achieve a 5% reduction in substantiated water pollution incidents from oil and construction sectors". It is therefore recognised nationally as an issue that requires action.

Reducing the number of substantiated pollution incidents is, to some extent, dependent on awareness of the Agency's role to the public and publicising the Pollution Hotline telephone number (0800 80 70 60). Greater awareness may lead to improved reporting of pollution incidents and more substantiated pollution events. However, we will seek to obtain information that takes this into account.



*In addition to actions listed below, several actions relating to water quality can be found under Issues 10, 12, 13, 14 & 29.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Analyse existing information on pollution incidents to identify key industries for a campaign of visit. Undertake a campaign of visits to identified industries. • (Agency Lead: Tactical Planning Officer and Environment Protection Manager)	Comprehensive analysis of data to formulation of inspection programme. Inspections carried out and information gathered stored electronically. Reduction in pollution incidents.	Intelligent application of resources to apply education, information and best practise at key industries to reduce the number and seriousness of pollution incidents.	1999-2004	Water companies, LAs,	£100k	

## Issue 18: RAISING PUBLIC AWARENESS OF ENVIRONMENTAL ISSUES IN THE KENT AREA

Raising 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 Agency works in partnership with statutory and voluntary groups to undertake improvement projects and to develop a wider public awareness of environmental issues. The Agency also works with schools and other education establishments to develop in students an ethos of caring for the whole environment.







The Agency is committed to the promotion and support of Local Agenda 21 groups in the Kent Area. Local Agenda 21 recognises that all groups, civic, community, business and industrial have to be involved in the process of educating and bringing economic, environmental and social concerns together if a more sustainable way of life is to be achieved. The Agency supports this approach by providing information expertise and support where possible. Local Agenda 21 strategies are evolving across the county with the support of local authority Local Agenda 21 officers. Most of these groups have prepared reports and strategies.

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Ensure adoption of the Agency's LEAPs and ensure that Action Plans are made available to all interested parties, and the implementation of all actions identified is monitored and reported upon. • (Agency Lead: LEAPs Officer)	LEAP plans produced. All actions reported on and 80% implemented during the life of the plan.	Increased environmental awareness, LEAP documents actioned.	1999-2004	All organisations identified as partners under other issues in the LEAP.	£70k	
2. Actively participate in Local Authority Local Agenda 21 Action Plans. • (Agency Lead: Customer Contact Team Leader)	Involvement with three-quarters of the LA 21 groups included in the plan area.	Increased communication and joint projects.	1999-2004	LAs, LA 21 groups	£10k	

## Issue 19: DEVELOPMENT PRESSURES AND SUSTAINABLE SURFACE WATER MANAGEMENT

Surface water run-off from existing and new development needs careful management to ensure that there are no increased risks of flooding, pollution or adverse effects on nature conservation. Surface water run-off from developments can be addressed in a number of ways for example flood attenuation ponds, sustainable urban drainage systems and the use of porous surfaces. These reduce the risk of flooding by reducing peak high flows in rivers. There is however, concern at the possible proliferation of such ponds and lack of maintenance and management. New developments can offer opportunities for creative design, appropriate to urban, suburban or rural environments, which will enhance conservation and recreation. Thus there is a need to promote the strategic planning of surface water management.

*In addition to the action below, several actions relating to flood plain planning can be found under Issues 1 & 20.*






Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Provide Interim Flood Plain maps with best current information to local authorities prior to production of new flood plain map. • (Agency Lead: Team Leader Development Control)	Maps produced and supplied to local planning authorities and in use.	Planning authorities basing decisions on best available flood plain information.	1999-2000	LPAs	£20k	
2. Review management of existing flood attenuation ponds and develop maintenance strategy. • (Agency Lead: Team Leader Development Control)	Database of all attenuation ponds set up and kept updated.	Baseline information identified. Responsible operator easily identifiable should problems arise.	2001-2004	LAs, Water Companies, IDBs, developers, landowners	£20kpa	
3. Liaison with farmers to encourage erosion reduction. • (Agency Lead: Team Leader Conservation and Recreation)	At least 5km of buffer strips in place per year.	Less deposition of silt.	1999-2002	Farmers, FRCA, FWAG, CMP	£10k	
4. Undertake Section 105 surveys of flood vulnerable sites with modelling. • (Agency Lead: Team Leader Projects and Planning)	Surveys completed and information disseminated to LPAs. Surveys in use for planning and flood modelling.	Improved information on flood vulnerable sites.	1999-2001	MAFF	£1.8 million	
5. Implement any recommendations from the Agency review into the Easter 1998 flood events in the Midlands that are relevant to Kent Area. • (Agency Lead: Flood Defence Manager)	All recommendations implemented.	More effective flood defence activities.	Ongoing 1999-2004	LPAs	To be determined.	
6. Investigate opportunities to utilise valley floodplains for flood storage, wetland habitat creation and aquifer recharge through a multi-functional project team. • (Agency Lead: Team Leader Development Control)	Set up team. Opportunities investigated. Recommendations produced.	Effective water management. Flood defence, water resources and conservation benefits.	2001-2004	LPAs	£60k	

## Issue 20: MAINTENANCE OF EXISTING FLOOD DEFENCES

Maintenance of sea defences by the Agency is currently being reviewed under the Flood Defence Management System. The economics of maintaining these defences are being assessed in relation to the importance of the land protected from flooding in the context of sea level rise. (Issue 1). Areas protected by these defences, particularly along the North Kent coast, are often important conservation sites, including SPAs, SACs or SSSIs and are used extensively for farming. The nature conservation special interest and farming interests would be significantly affected by any decision to abandon or reduce the level of sea defences. On a financial basis it may however be difficult to justify continued maintenance of sea defences which only protect low value agriculture.

A strategic review of priority nature conservation areas requiring protection from sea defences would assist the Agency in the review of defences. This will need to balance both the protected habitats on the seaward and landward sides of defences, ie coastal squeeze of habitats versus loss of landward habitats.

*In addition to the actions below, several actions relating to flood defence can be found under Issues 1, 6, 15 & 20.*



Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Complete the programme of Assets Management Surveys in the Kent Area to provide information for decision of future investment in flood defences to be assessed, justified in benefit/cost terms and prioritised across the whole area. Consider the impact of proposed changes to the Agency's routine maintenance programmes particularly in terms of the potential affect on land at risk from flooding and nature conservation issues. • (Agency Lead: Flood Defence Manager)	Ensure the Agency's maintenance programme for flood defences is justified in terms of benefits and costs, and prioritised across the Kent Area within the constraints of European and National conservation legislation.	Sustainable approach to maintaining flood defences.	1999-2004		£1.5 million	  
2. Coastal Habitat Management Plans (CHaMPs) to be developed in collaboration with English Nature to help assess the impact of flood defence strategies on conservation sites. • (Agency Lead: Flood Defence Manager)	CHaMPs produced for sensitive coastlines.	A sustainable approach to managing coastal habitats.	1999-2004	EN	£2 million	 

## Issue 21: DEVELOPMENT PRESSURES ON ENVIRONMENTAL RESOURCES

Development proposed in Kent arises principally from the DETR housing allocations but also including major industrial and transport pressures such as waste to energy plants and the Channel Tunnel Rail Link (see Issue No. 23). These developments place particular pressure in Kent on environmental resources which are already under stress.

There is a need for the Agency to work closely with local authorities and developers to ensure that development is not located in sensitive areas. The Agency is concerned that the natural functioning of floodplains should be restored and, together with the predicted effects of climate change, development should be discouraged from areas at risk from riverine and coastal flooding (Issue 1)

*In addition to the actions below, several actions relating to development planning can be found under Issues 1 & 19.*


Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Assess the effectiveness of planning comments made by the Agency through monitoring of planning application decision notices. • (Agency Lead: Team Leader Planning Liaison)	Adoption of Agency comments and suggestions in Planning Decision notices.	Improving the effectiveness of comments and environmental protection.	Ongoing 1999-2004	LPAs	£10k	
2. Monitor effectiveness of comments and recommendations made by the Agency to Local Authority Development Plans and Structure Plans. • (Agency Lead: Team Leader Planning Liaison)	Report produced examining effectiveness with recommendations for improving Agency role. Recommendations implemented.	Improving the effectiveness of comments and environmental protection.	1999-2001	LPAs	£20k	

## Issue 22: CONTAMINATED LAND TO BE MADE SUITABLE FOR DEVELOPMENT USE

Land contamination can present a pollution risk to human health, ground and surface water, ecology and the built environment. The Government is committed to the "suitable for appropriate use" approach and a risk assessment framework. Existing contaminated land sites offer, once suitably remediated, an opportunity for redevelopment. This helps conserve land as a resource and reduces pressures on greenfield sites, thus conserving agricultural land and natural habitats. The aim is to ensure that sites presenting the biggest risks are dealt with first, and that risks are assessed in relation to the intended use of the land.

There are however, difficulties associated with the redevelopment of contaminated land as it may pose some risks to the environment and there is need for proper control during redevelopment.

The Kent Area has a significant industrial legacy especially in the north. The increasing demands from development, especially housing development and anticipated Government guidance on contaminated land are focusing additional attention on contaminated land.



Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
<p>1. Leading into and following implementation of the contaminated land regulations, strategies to be prepared in conjunction with partners to identify and remediate contaminated land.</p> <p>• (Agency Lead: Contaminated Land Officer)</p>	<p>Comprehensive Agency guidance for identification of sites and for remediation strategies. Successful partnerships established. Clearly defined roles and responsibilities. Funding partners identified. Funds released. Contaminated land remediation programmes instigated and completed.</p>	<p>Allows full consideration of environmental issues of development of such sites.</p>	<p>Ongoing 1999-2004</p>	<p>English Partnerships, DETR, LA, Industry, Groundwork</p>	<p>£1million Cost reflects potential central Government funding for significant proportion of actual remediation projects.</p>	



### Issue 23: ENVIRONMENTAL IMPACT OF THE CHANNEL TUNNEL RAIL LINK (CTRL)

The CTRL is one of the UK's largest civil engineering projects and will be the largest railway development since Victorian times. At 108 km long, it will cross the Stour, Medway and North Kent catchments. The alignment of the railway is now decided and approved. The Agency will continue to be consulted by both the developer and contractors with respect to detailed design on environmental, conservation and recreation issues and will approve matters affecting groundwater, land drainage, flood defence, water resources and fisheries.

A large number of permits such as waste management licences and discharge consents are required from the Agency prior to construction of the CTRL in order to control the activities. During construction of the CTRL an Agency representative will ensure compliance with design details and approvals/consents granted by the Environment Agency. It is essential that the Agency continues to liaise with the developer from preparation of the design and through to completion of the project to maximise enhancement potential and minimise risk to the environment.

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Continue liaison with RLE and contractors in order to secure best environmental practise in the initial stages and to inform RLE of the Agency's requirements. • (Agency Lead: CTRL Project Control Officer)	Continued effective liaison with the partners, resulting in continued compliance with Agency requirements. Comments within given time scales to Schedule 6 and Schedule 15 applications via the CTRL Project Control Officer.	Partnership working. Protection of environmental resources.	1999-2003	Union Railways, RLE, contractors, LAs, water companies	£35k	
2. Continue liaison with RLE and contractors during construction operations to ensure ongoing implementation of previously agreed protocols to protect environmental resources. Environment Protection Teams to carry out regular inspections to ensure compliance with Agency's requirements. • (Agency Lead: CTRL Project Control Officer)	Protocols implemented and complied with. Reduce pollution potential.	Partnership working. Protection of environmental resources.	1999-2003	Union Railways, RLE, contractors, LAs	£50k	




## Issue 24: SUSTAINABLE WASTE MANAGEMENT

The consultation paper "Less Waste More Value" outlines the Government's key commitments to sustainable waste management. It concentrates on reducing the amount of waste that society produces, making the best use of what is produced and choosing waste management practices that minimise the risk of environmental pollution and harm to human health.

The Agency's principal aim is to make a contribution towards attaining the objective of achieving sustainable development and the Kent Area therefore has a role to play in helping the Government achieve its commitment to sustainable waste management. The Agency is obviously only one of a number of key players including local authorities, industry and society in general. In order to improve our understanding of waste management and to enable the Government to develop a statutory waste strategy under the 1995 Act, the Agency undertook a National Waste Production Survey of waste arisings at selected waste producers in early 1999.

In its regulatory role, the Agency considers the management of waste once it has been produced. The Agency wishes to encourage waste prevention - ie reducing the amount of waste produced in the first place. We will do this by giving advice to waste producers on waste reduction and minimisation and encouraging process efficiency. In addition we will encourage better waste management (eg waste segregation and re-use) in order to move waste up the waste hierarchy. Similar actions are also applied to waste brought through the Kent Area under the transfrontier shipment regulations.


*In addition to the actions below, several actions relating to waste can be found under Issues 25,26,27, 29, 30 & 31.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Implement lessons learnt from existing campaigns such as Medway and Swale Waste Minimisation Project. • (Agency Lead: Tactical Planning Officer)	Production of a report detailing findings and implementation of recommended actions. 99/00 -The Medway Swale Project will be reviewed to see if ongoing improvement is being achieved. 00/01 Waste Minimisation Demonstration Project will end and the 3Es project will progress	value for money, environmental gain, understand changes leading to best practice and examples to enable better promotion of projects in the future.	1999-2001	Industry	£1k	
2. Undertake collaborative projects for waste minimisation, industrial - commercial sector. • (Agency Lead: Tactical Planning Officer)	Increase awareness of waste issues within the commercial sector.	Encourages voluntary environmental improvement. Builds on work already undertaken by others in this field.	1999-2004	KCC, KSBP	£15k	
3. Assess quantity of green list wastes transported through the Kent Area and ensure they are properly classified to avoid illegal activities. Instigate inspection programme. • (Agency Lead: Scientific Support Officer)	Obtain relevant information. Inspections become part of routine monitoring by Environment Protection. Compliance with regulations.	Ensure that only appropriate waste is imported under the trans-frontier shipment regime.	2001-2004	HM Customs & Excise, LAs, Emergency Services	£15k	

## Issue 25: WASTE MANAGEMENT FACILITIES

The deposit, keeping and treating of controlled waste (ie household, industrial and commercial waste) is regulated through the waste management licensing system under the Environmental Protection Act 1990. This licensing system seeks to prevent pollution to the environment, harm to human health and serious detriment to the amenities of the locality and to ensure that licences are issued to "fit and proper" persons. The need for new facilities is decided through the land use planning system by planning authorities. It is often stated that there are not enough facilities for the disposal and recovery of waste in the area and that more are required.

*In addition to the actions below, actions relating to waste can be found under Issues 24,26,27,28,30 & 31.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Analyse licensed capacities and facilities available for deposit, treatment and keeping of waste. • (Agency Lead: Tactical Planning Officer)	Database developed and populated and a summary report produced suitable for internal and external use.	Effective use of information.	2000-2001	LAs	£1k	

## Issue 26: SITES CLAIMING EXEMPTION FROM WASTE MANAGEMENT LICENSING




In May 1994, the Waste Management Licensing Regulations 1994 brought in tight licensing controls to a wide range of sites that deal with waste. Licences contain many strict environmental controls to ensure that the activity does not lead to pollution of the environment, harm to human health or serious detriment to the local amenity. These controls are regularly enforced through site inspections. The holders of a waste management licence must be fit and proper; ie without relevant convictions, technically competent and with adequate finances to meet their obligations under the licence. The Agency receives fees for the licensing of sites and for the inspections undertaken.

The 1994 regulations also specify activities that are exempt from the need for a licence because they are generally re-using waste or putting it to beneficial use, or because they are intended to be small scale activities that have a low pollution potential. The control of a waste management licence would be onerous for businesses in such circumstances. Examples of exempt activities are the application of certain wastes such as paper sludge to agricultural land to beneficially condition the soil, and the storage and treatment of recyclable materials such as paper, card and plastics by organisations such as supermarkets.

Other than metal recycling sites (see Issue No. 27), exempt activities do not pay fees to the Agency and this lack of funding means that resources are not available to regularly inspect these activities; they are also not subject to the Landfill Tax. It is not surprising therefore that these activities are now common and that in some cases the rules are being broken.

Certain key exemptions that are being claimed but are not necessarily being complied with may have a high potential pollution risk. These include those that involve the deposit of waste on land, of which there are three such relevant exemptions: the spreading of controlled waste on land for agricultural or ecological benefit (exemption 7), land reclamation (exemption 9) and the use of waste for construction work (exemption 19). In order to minimise pollution risks through appropriate site selection, a system of internal consultation has been developed by the Agency and implemented to deal with the registration of activities under exemption 7. This system works effectively but is resource intensive and does not always fully establish whether the exemption is being applied for to be of agricultural or ecological benefit, and whether the relevant objectives will be met in practice.

*In addition to the actions below, several actions relating to waste can be found under Issues 24,25,27,28, 30 &31.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Prioritise exempt activities at the point of registration, inspect higher priority sites and assess compliance with the "relevant objectives" as set out in the 1994 regulations. • (Agency Lead: Team Leader Waste Licensing and Environment Protection Manager)	Early detection of non-compliant activities and effective regulation of system in order to reduce pollution risk.	Sites will be subject to inspection and control. Fairness to licensed operators. Landfill tax being properly paid.	2000-2004	LAs	£100k per annum	
2. Develop and implement a programme of sampling at sites where agricultural or ecological benefit is alleged. • (Agency Lead: Environment Protection Manager)	Identification of individual activities that do not meet the exemption and appropriate action and indication of the scale of any non-compliance problem.	Reduction in pollution.	2000-2004		£30k-£50k pa	
3. Develop and implement a system of registration for exemption 9 and 19 that follows the system set up for exemption 7. • (Agency Lead: Waste Licensing Team Leader)	Activities added to the register under these exemptions are limited to those where the pollution risk has been assessed. Those activities with a high pollution risk not to be added to the register.	Reduction in pollution.	Ongoing 1999-2004		£7k pa	

## Issue 27: POLLUTION FROM THE METAL RECYCLING (SCRAP) INDUSTRY


It is estimated that there are approximately 250 metal recycling sites (MRS) in the Kent Area. Metal recycling plays an important role in sustainable waste management but it also has the potential to cause pollution particularly as many scrap metal sites are situated on inadequate surfaces without proper drainage. Oil, battery acid and heavy metals such as lead and cadmium are the more obvious potential pollutants at such sites. There are less obvious dangers from asbestos (usually in the form of pipe lagging and vehicle brakes) solvents, radioactive sources (such as from military items) and polychlorinated biphenyls (from electrical industrial appliances), all of which are potentially very harmful and need to be managed correctly.

Legislation requires metal recycling sites to be controlled by a waste management licence or to comply with an exemption from licensing. Licensed sites are subject to tight environmental controls set by the Agency and are regularly inspected for compliance with licence conditions for which income is received to finance inspections. Exempt sites should comply with general requirements regarding drainage and activities to be undertaken and such sites should be visited annually.

Confirmed planning permission is required before a waste management licence can be issued and many unlicensed sites do not have planning permission which can create problems when attempting to bring these sites under the regulatory control of the Agency.

Prior to the formation of the Agency, resources were not available to deal effectively with the large workload of bringing all the unregulated sites under regulatory control and the result is that most of these sites are not being properly controlled. This also gives rise to inequalities or unfair competition for example where there are two adjacent MRSs; one licensed and required to spend money improving the site infrastructure and the other operating without a licence and its associated requirements. This makes the metal recycling industry a serious issue for the Kent Area.

*In addition to the actions below, actions relating to waste can be found under Issues 24,25 26,28,30 & 31.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Survey the Kent Area to establish names and addresses of all MRSs in the Area. Inspect all the facilities to establish basic information with which the Agency can prioritise and quantify workload. Develop, implement and review an Action Plan to obtain adequate applications for licences or exemptions for all sites. • (Agency lead: Project Co-ordinator for Environment Protection)	All known sites brought under the control of the Waste Management Licensing Regulations 1994 either by the issue of a licence or compliance with an exemption from the requirement to have a licence.	Improved environment protection. Reduce occurrence of inequalities or unfair competition in the industry.	1999-2000	Local police forces, LAs	£185k	



## Issue 28: LAND APPLICATION OF SEWAGE SLUDGE

Sewage sludge that is deposited on land for agricultural benefit in accordance with the relevant legislation is not classed as a controlled waste and therefore not subject to waste management controls. It does however, have the potential to cause serious pollution if not properly managed and controlled.

Land application of treated sewage is likely to increase over the next few years due to increasing landfill costs and the cessation of sea disposal for untreated sewage brought about by the Urban Waste Water Treatment Directive (UWWTD). Consequently, effective regulation through the Sludge (Use in Agriculture) Regulations 1989 is necessary to ensure that any spreading is for the purpose of benefit to agriculture and not merely a disposal operation, and that it is carried out without harming the environment.

The Agency's role in enforcing these regulations is limited to ensuring that there is no build up of heavy metals in agricultural soil through control of the sludge producers. This has been seen as a relatively low priority in the past but there may be opportunities to work more closely with other regulators and statutory water utilities to develop a system that will minimise the pollution potential of this waste management activity.

*In addition to the actions below, actions relating to waste can be found under Issues 24,25,26,27,30 & 31.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Develop partnership with sewage undertakers to encourage exchange of information. Encourage voluntary notification procedures ahead of revised legislation. Identify sensitive surface and groundwater locations where disposal should be restricted. • (Agency Lead: Scientific Support Officer)	Internal consultation systems established to identify sensitive operations. Recording system in place for voluntary and any future statutory notification process. Field inspections, sampling and analysis in line with risk based assessment of operations.	Pollution prevention.	Ongoing 1999-2004 Expecting more statutory roles via revisions to legislation.	MAFF, LAs, Water Companies	£300k	 





## Issue 29: THE DANGER OF CONTAMINATION OF WATER SUPPLY INTENDED FOR DRINKING

The Environment Agency monitors water quality prior to its abstraction from surface water for drinking water supply and is responsible for ensuring compliance with the EC Surface Water Directive. Where standards are not met the Agency is responsible for identifying sources of pollution and making sure that improvements are made.

Many of the most environmentally damaging incidents of pollution result from a set of circumstances which were foreseeable ie a quantifiable risk. Once identified, most risks can be managed with the effect of greatly reducing the likelihood or severity of environmental harm occurring (pollution prevention). Examples of these risks include oil tankers running aground, leaks in a major liquid storage depot, or the failure of a major sewage treatment plant. The Agency will often only be one of a number of interested organisations in such incidents, but nonetheless proactive work by the Agency can have a positive effect on our partners.

The effects of one such pollution were documented in a 1994 report produced for Severn Trent Water by Dr Ives after a major chemical spill on the River Seven which effectively killed 170 km of the river, damaged a sewage works and subsequently contaminated drinking water. The report makes various recommendations to reduce the pollution potential on surface water abstractions.

*In addition to actions listed under this issue there are additional actions relating to water quality under Issues 10, 12, 13 & 14.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Encourage the completion of a water supply source zones and major aquifer protection plan. Apply the lessons learnt as above to wider areas of Kent. • (Agency Lead: Groundwater Protection Officer)	Identify very vulnerable potable supply boreholes. Gather data on potential pollution threats in the catchment. Plan inspection campaign and store information gathered electronically.	All major pollution risks within a catchment will be identified and managed reducing the likelihood of a serious event.	2000-2004	Water companies, LAs	To be determined	 
2. Implement recommendations from the Ives Report by undertaking a series of catchment-specific campaigns of pollution prevention visits to all farms and industry in a catchment. • (Agency Lead: Environment Protection Manager)	Achieve a 20% reduction in the number of times drinking water abstraction points have to be closed due to pollution incidents per year.	Pollution prevention.	2000-2003	Water companies, Industry, Farmers, LAs	£60k	 





### Issue 30: SUSTAINABLE MANAGEMENT OF LANDFILL GAS

Landfill gas is the product of the decomposition of organic waste within landfill sites. It contains many trace elements which give it odour, however the most significant component is methane. Methane is flammable, an asphyxiant and a powerful greenhouse gas. There are numerous sites in the Kent Area that are producing landfill gas at rates that either detrimentally affect the locality or could contribute to the build up of greenhouse gases in the atmosphere.

Historically, in most cases, landfill gas has been vented to atmosphere in most cases, but the effect of this on the global environment is causing considerable concern. As a result of this the Environment Agency has the following short term national target within its Ten Point Action Plan for 1998/99:- "Encourage 30 organisations to install methane control and energy recovery systems" and "Encourage the installation of gas recovery systems with enclosed flaring at 30 landfill sites in order to reduce odours".

*In addition to the actions below, actions relating to air quality can be found under Issue 3.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Set up projects with the operators of key sites to project manage the enclosed flaring or energy recovery from landfill gas at sites. Review five key waste management licences with the view to requiring improved gas control. Implement review findings. • (Agency Lead: Scientific Support Officer)	Report on current status of gas flaring and utilisation in Kent Area. Implement Agency Guidance on flaring. Target operators via risk based prioritisation and practical analysis for installation of control and utilisation schemes. Add to number of current schemes for utilisation on an annual basis.	Partnership approach to solving an environmental problem. Will apply statutory power to the issue of gas control.	1999-2001	Waste management companies, LAs	£60k	 

### Issue 31: RISK OF ILLEGAL WASTE DISPOSAL (FLY-TIPPING)

The tight regulation of the waste industry in the UK enables the Agency to protect the environment but also makes the cost of legally disposing of waste relatively high in comparison to illegal operators who undercut industry and flout the regulations.


The forms of illegal waste activity of most concern in the Kent Area are:

- fly-tipping, ie the deposit of waste at unlicensed locations
- unlicensed sites such as waste transfer stations where waste is bulked up and moved elsewhere for disposal
- illegal landfill sites (some include burning of waste)
- "sham" recovery of waste from abroad ie waste coming into the UK allegedly for recovery but in fact for cheap disposal, often fly-tipping.

Under the Duty of Care, it is the responsibility of any person who produces, keeps, treats, recycles or disposes of waste to ensure that the waste is transported by a registered carrier and disposed of or deposited at, a licensed waste management facility. The cost for clearing up fly-tipped material is the responsibility of the landowner in the first instance. If the deposit has occurred on public land then the appropriate Local Authority has a duty to remove the waste.

The Agency becomes involved in respect of illegal waste disposal when it has occurred on a large scale or is likely to cause serious harm to the environment or to human health. Any illegal activity associated with hazardous waste will be investigated rigorously as a priority and this is included within the core work of the Agency. Small-scale fly-tipping of household and commercial waste is not something that can be dealt with effectively by the Agency in most cases and is an area of work where the Local Authority will usually take the lead role. There is however, a clear need to work closely together in defining roles and responsibilities and in acting supportively to combat this problem.

*In addition to the actions below, actions relating to waste can be found under Issues 24,25,26,27,28 and 30.*

Actions	Targets	Benefits	Timescale	Partners	Cost	Agency Theme
1. Develop agreement with local authorities on roles and responsibilities for flytipping by using the national draft Flytipping Protocol as a source document. Act in accordance with agreed roles. Publicise result of actions. • (Agency Lead: Environment Protection Manager).	Reduction in the incidence of flytipping. Report produced detailing flytipping situation in Kent.	Increased effective liaison with LAs. Reduction in pollution potential. More companies aware of Duty of Care for their wastes management.	Ongoing 1999-2004	LAs Landowners	£100k	

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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.

## **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 information therefore summarises the Agency's duties, powers and interests and their relationship to land use planning in Southern Region.

### **WATER RESOURCES**

#### **Agency Duty**

- The Agency has a duty to conserve, redistribute, augment and secure the proper use of water resources.

#### **The Agency has powers to:**

- Grant or vary water abstraction and impoundment licences on application.
- Revoke or vary existing licences to reinstate flows or levels to surface-waters or groundwaters which have become depleted as a result of abstraction, and are subject to a liability for compensation.
- Secure the proper use of water resources through its role in water-resources planning, the assessment of reasonable need for abstractions and promotion of more efficient use of water resources.
- Monitor and enforce abstraction and impoundment licence conditions.

#### **The Agency has an interest (but no powers) in:**

- The more efficient use of water by water companies, developers, industry, agriculture and the public and the introduction of water-efficiency measures and suitable design and layout of the infrastructure.

#### **Partnership**

- The Agency is committed to water-demand management and will work closely with water companies and developers, local authorities and relevant organisations to promote the efficient use of water.
- The Agency acknowledges that new resources may be needed in the future and supports a twin track approach of planning for water resource development alongside the promotion of demand-management measures. The Agency seeks to influence planning decisions for new development by encouraging the inclusion of water-conservation measures in new properties, particularly in areas where water resources are under stress, and by ensuring that planning authorities allow for the lead time for resource development.

### **FLOOD DEFENCE**

#### **Agency Duty**

- The Agency has a duty to exercise general supervision over all matters relating to land drainage and flood defence throughout each catchment. The principal aim is to provide effective defence and warning systems to protect people and property against flooding from rivers and the sea.

#### **The Agency has powers to:**

- Control, through land drainage consents, development within 8m of main river (15 m on a tidal main river) (Water Resources Act, 1991 Section 109) or construction of a structure that would affect the flow of an ordinary watercourse (Land Drainage Act, 1991 Section 23).
- Produce flood risk maps for all main rivers under s105 of Water Resources Act 1991.
- Undertake works to main rivers using permissive powers.
- Issue flood warning relating to main river to the public, local authorities and the police.
- Control through Land Drainage Byelaws erections, excavations, etc which may affect sea defences.
- Supervise the maintenance of tidal flood defences within the Agency's jurisdiction. (Note: Many of the sea defences within the Southern Region are controlled by local authorities).
- Maintain and operate flood control structures.

#### **The Agency has an interest (but no powers) in:**

- Granting of planning permission throughout a catchment but especially floodplains where development can significantly increase flood risk. This permission is granted by local planning authorities.
- Installation of surface water source control measures eg flood attenuation structures.
- Supervising the maintenance of ordinary watercourses which is a Local Authority remit, but may impact on main rivers.
- Installation of buffer zones which reduce flood risk and have significant environmental benefits.
- Urban and rural land use and measures that can reduce flood risk or the need for watercourse maintenance.

**Partnership**

- As a statutory consultee on planning applications the Agency offers advice based on knowledge of flood risk. It also advises on the environmental impacts of proposed flood plain development.
- The Agency advises solicitors on potential flood risk during property searches for prospective purchasers.
- The Agency will encourage best practice, including source control measures and common standards, among local authorities and riparian owners to protect and enhance the environment.
- The Agency works with the civil authorities to prepare flood-warning dissemination plans and supports their endeavours to protect communities at risk.

**WATER QUALITY****Agency Duty**

- The Agency has a duty to monitor, protect, manage and, where possible, enhance the quality of all controlled waters including rivers, groundwaters, lakes, canals, estuaries and coastal waters through the prevention and control of pollution.

**The Agency has powers to:**

- Issue discharge consents to control pollution loads in controlled waters.
- Regulate discharges to controlled waters in respect of water quality through the issue and enforcement of discharge consents.
- Issue 'works notices' where action is required to reduce the risk of pollution.
- Prosecute polluters and recover the costs of clean-up operations.

**The Agency has an interest (but no powers) in:**

- The control of run off from roads and highways. This is a Highways Agency duty.
- The greater use of source-control measures to reduce pollution by surface-water run off.
- Prevention and education campaigns to reduce pollution incidents.

**Partnership**

- The Agency will liaise with local authorities, developers, the Highways Agency, industry and agriculture to promote pollution prevention and the adoption of source-control measures.
- As a statutory consultee on planning applications, the Agency will advise local planning authorities on the water-quality impact of proposed developments.

**AIR QUALITY****Agency Duty**

- The Agency has a duty to implement Part 1 of the Environmental Protection Act 1990.

**The Agency has powers to:**

- Regulate the largest technically-complex and potentially most polluting prescribed industrial processes such as refineries, chemical works and power stations including enforcement of, and guidance on, BATNEEC and BPEO.
- Have regard to the government's National Air Quality Strategy when setting standards for the releases to air from industrial processes.

**The Agency has an interest (but no powers) in:**

- The vast number of smaller industrial processes which are controlled by local authorities.
- Control over vehicular emissions and transport planning.

**Partnership**

- The Agency provides data on IPC processes and advice on planning applications to local authorities.
- The Agency is willing to offer its technical experience to local authorities on the control of air pollution.
- The Agency wishes to liaise with local authorities in the production of their Air Quality Management Plans.
- The Agency will advise and contribute to the government's National Air Quality Strategy.

**RADIOACTIVE SUBSTANCES****Agency Duty**

- The Agency has a duty under the Radioactive Substances Act 1993 to regulate the use of radioactive materials and the disposal of radioactive waste.

**The Agency has powers to:**

- To issue certificates to users of radioactive materials and disposers of radioactive waste, with an overall objective of protecting members of the public.

**The Agency has an interest (but no powers) in:**

- The health effects of radiation.

**Partnership**

- The Agency will work with users of the radioactive materials to ensure that radioactive wastes are not unnecessarily created, and that they are safely and appropriately disposed of.
- The Agency will work with the Nuclear Installations Inspectorate to ensure adequate protection of workers and the public at nuclear sites.
- The Agency will work with the Health and Safety Executive on worker protection issues at non-nuclear sites.

**WASTE MANAGEMENT**

**Agency Duty**

- The Agency has a duty to regulate the management of waste, including the treatment, storage, transport and disposal of controlled waste, to prevent pollution of the environment, harm to public health or detriment to local amenities.

**The Agency has powers to:**

- Vary waste management licence conditions.
- Suspend and revoke licences.
- Investigate and prosecute illegal waste management operations.

**The Agency has an interest (but no powers) in:**

- The siting and granting of planning permission for waste management facilities. This is conducted by the waste industry and local planning authorities.
- The Agency, as a statutory consultee on planning applications, can advise on such matters.

**Partnership**

- The Agency will work with waste producers, the waste-management industry and local authorities to reduce the amount of waste produced, increase re-use and recycling and improve standards of disposal.

**CONTAMINATED LAND**

**Agency Duty**

- The Agency has a duty to develop an integrated approach to the prevention and control of land contamination ensuring that remediation is proportionate to risks and cost-effective in terms of the economy and environment.

**The Agency has powers to:**

- Regulate the remediation of contaminated land designated as special sites.
- Prevent future land contamination by means of its IPC, Water Quality and other statutory powers.
- Report on the state of contaminated land.

**The Agency has an interest (but no powers) in:**

- Securing with others, including local authorities, landowners and developers, the safe remediation of contaminated land.

**Partnership**

- The Agency supports land remediation and will promote this with developers and local authorities and other stakeholders.

**CONSERVATION**

**Agency Duty**

- The Agency will further conserve the environment, wherever possible, when carrying out water-management functions; have regard to conservation when carrying out pollution-control functions; and promote the conservation of flora and fauna which are dependent on an aquatic environment.

**The Agency has powers to:**

- Exploit opportunities for furthering and promoting conservation with regard to water management and pollution control. The Agency has no direct conservation powers.

**The Agency has an interest (but no powers) in:**

- The conservation impacts of new development. These are controlled by local planning authorities.
- Protection of specific sites or species, which is a function of English Nature. The Agency does, however, provide advice to local authorities and developers to protect the integrity of such sites or species.
- Implementation of the UK Biodiversity Plan for which it is the contact point for 12 species and one habitat.

**Partnership**

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

**LANDSCAPE****Agency Duty**

- The Agency will further landscape conservation and enhancement when carrying out water-management functions; have regard to the landscape when carrying out pollution control functions; and promote the conservation and enhancement of the natural beauty of rivers and associated land.

**The Agency has powers to:**

- Further the conservation and enhancement of natural beauty when exercising its water-management powers and have regard to the landscape in exercising its pollution control powers.

**The Agency has an interest (but no powers) in:**

- The landscape impact of new development, particularly within river corridors. This is controlled by local planning authorities.

**Partnership**

- The Agency produces River Landscape Assessments and Design Guidelines which it uses when working with local authorities and developers to conserve and enhance diverse river landscapes.

**ARCHAEOLOGY****Agency Duty**

- The Agency has a duty to consider the impact of all of its regulatory, operational and advising activities upon archaeology and heritage, and implement mitigation and enhancement measures where appropriate.

**The Agency has powers to:**

- Promote its archaeological objectives through the exercise of its water-management and pollution-control powers and duties.

**The Agency has an interest (but no powers) in:**

- Direct protection or management of sites of archaeological or heritage interest. This is carried out by LPAs, County Archaeologists and English Heritage.

**Partnership**

- The Agency will liaise with those organisations which have direct control over archaeological and heritage issues to assist in the conservation and enhancement of these interests.

**FISHERIES****Agency Duty**

- The Agency has a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries.

**The Agency has powers to:**

- Regulate fisheries by a system of licensing.
- Make and enforce fisheries bye-laws to prevent illegal fishing.
- Promote the free passage of fish and consent fish passes.
- Monitor fisheries and enforce measures to prevent fish entrainment in abstractions.
- Promote its fisheries duty by means of land-drainage consents, water abstraction applications and discharge applications.

**The Agency has an interest (but no powers) in:**

- The determination of planning applications which could affect fisheries.

**Partnership**

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

**RECREATION**

**Agency Duty**

- The Agency has a duty to promote rivers and water space for recreational use to such an extent as it considers desirable.

**The Agency has powers to:**

- Contribute towards its recreation duty through the exercise of its statutory powers and duties in water management.

**The Agency has an interest (but no powers) in:**

- Promotion of water sports. This is carried out by the Sports Council and other sports bodies.

**Partnership**

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

**NAVIGATION**

**Agency Duty**

- The Agency has a duty to maintain the non-tidal Medway navigation and to manage and operate the Port of Rye.

**The Agency has powers to:**

- Improve, conserve and operate the non-tidal Medway navigation.
- Regulate navigation by a system of licensing.
- Enforce navigation legislation.

**The Agency has an interest (but no powers) in:**

- The management and operation of other navigations within the region.

**Partnership**

- The Agency will work with British Waterways, other navigation authorities and navigation users to improve navigations generally as valuable environmental, recreational, commercial and heritage resources.



**Appendix 2****Organisations which responded to the Consultation Draft.****Company Name**

Arjo Wiggins Ltd	Shepway District Council
Ashford Borough Council	Southern Water
Bewl Water Canoe Club	Swale Borough Council
Bexley Civic Society	Tandridge District Council
Bexley Council, Planning Department	Tandridge Local Agenda 21 Group
Bexley LA 21	Thanet District Council
Boxley Parish Council	The London Borough of Bromley
Brett Waste Management	The Shellfish Association of Great Britain
British Canoe Union	Tonbridge & Malling Borough Council
British Hydropower Association	Tunbridge Wells Borough Council
Canterbury City Council	Union Railways Ltd
Clean Rivers Trust	Upper & Lower Medway Internal Drainage Boards
Council for the Protection of Rural England	Wantsum Angling Association
Cranfield University	West Sussex County Council
Dartford LA21 Biodiversity Group	Wouldham Parish Council
Duncan Phillips	
East Sussex County Council	
English Heritage	
English Nature	
English Nature	
English Sports Council (SE Region)	
Farming & Wildlife Advisory Group	
Government Office for the South East	
Gravesham Borough Council	
Gravesham Borough Council	
Greenways	
Greenwich Planning	
Groundwork Medway Swale	
Hanson Waste Management	
Inland Waterways Association	
Kent County Council	
Kent County Council	
Kent Fire Brigade	
Kent Wildlife Trust	
London Borough of Bromley	
MAFF	
Maidstone Borough Council	
Maidstone Borough Council	
Medway Council	
Medway Ports	
Mersey Docks and Harbour Company	
Mid Kent Water plc	
National Farmers Union	
Rother District Council	
RSPB	
Rye Harbour Nature Reserve	
Rye Town Council	
Saur Water Limited	
Saur Water Services plc	

### APPENDIX 3 GLOSSARY

**Abstraction**

Removal of water from surface water or groundwater, usually by pumping.

**Abstraction Licence**

Licence issued by the Environment Agency under Section 38 of the Water Resources Act 1991 to permit water to be abstracted.

**Aquifer**

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

**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 Environment Agency under the Environmental Protection Act 1990 for industrial processes which use or produced 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 which allows discharge from the sewerage system to a watercourse during wet weather conditions.

**Consent to discharge**

A licence granted by the Agency to discharge effluent of specified quality and volume. Statutory: Schedule 10 Water Resources Act 1991.

**Controlled waters**

Defined by the Water Resources Act 1991 Section 104. They included groundwaters, inland waters and estuaries.

**Effective rainfall**

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

**Environmentally Sensitive Area**

An area defined by MAFF for which grant aid is available for appropriate agricultural and water/land management.

**Floodplain**

This includes all 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 which is contained in underground rocks (aquifers).

**Heritage Coast**

Stretches of the most undeveloped coastline, designated by the Countryside Commission, in order to protect and conserve the coast's vulnerable beauty, and enhance people's enjoyment of the coast without risking its conservation.

**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 Environment Agency.

**Part B Processes**

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

**Potable water**

Water of suitable quality for drinking.

**Ramsar sites**

Internationally important wetland sites adopted from the Ramsar Convention on Wetlands of International Importance especially as waterfowl habitats (1971) and ratified by the UK government in 1976.

**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 English Nature because it is particularly important, on account of its nature conservation value under the Wildlife and Countryside Act 1981 as amended.

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**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' (definition from World Commission on Environment and Development, 1987. Our Common Future - The Brundtland Report).

**The 3Es Project**

The emissions, economics and efficiency project which promotes new cleaner techniques within industry.

#### APPENDIX 4 ABBREVIATIONS

<b>AMP</b>	Asset Management Plan	<b>KCC</b>	Kent County Council
<b>AOD</b>	Above Ordnance Datum	<b>KSBP</b>	Kent Sustainable Business Partnership
<b>AONB</b>	Area of Outstanding Natural Beauty	<b>KWT</b>	Kent Wildlife Trust
<b>BAP</b>	Biodiversity Action Plan	<b>LA</b>	Local Authority
<b>BATNEEC</b>	Best Available Technique Not Entailing Excessive Costs	<b>LAAPC</b>	Local Authority Air Pollution Control
<b>BPEO</b>	Best Practicable Environmental Option	<b>LEAP</b>	Local Environment Agency Plan
<b>CA</b>	Countryside Agency	<b>LFDC</b>	Local Flood Defence Committee
<b>CCIRG</b>	Climate Change Impacts Review Group	<b>LPA</b>	Local Planning Authority
<b>CEFAS</b>	Centre for Environment, Fisheries, Aquaculture Studies	<b>MAFF</b>	Ministry of Agriculture, Fisheries and Food
<b>CHaMPs</b>	Coastal Habitat Management Plans	<b>MCA</b>	Maritime and Coastguard Agency
<b>CLA</b>	County Landowners Association	<b>MRF</b>	Minimum Residual Flows
<b>CMPs</b>	Countryside Management Projects	<b>MRS</b>	Metal Recycling Site
<b>CTRL</b>	Channel Tunnel Rail Link	<b>NFU</b>	National Farmers Union
<b>DETR</b>	Department of the Environment, Transport and the Regions	<b>NRA</b>	National Rivers Authority - a predecessor body to the Environment Agency
<b>ESC</b>	English Sports	<b>OFWAT</b>	Office of Water Services
<b>EH</b>	English Heritage	<b>OPRC</b>	Oil Pollution Preparedness, Response and Co-operation Convention
<b>EN</b>	English Nature	<b>PIR</b>	Process Industry Regulation (the Agency department formerly known as IPC)
<b>EPA'90</b>	Environmental Protection Act 1990	<b>RCHME</b>	Royal Commission on the Historical Monuments of England
<b>FER</b>	The Agency's Fisheries, Ecology and Recreation function	<b>RLE</b>	Rail Link Engineering
<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>HMIP</b>	Her Majesty's Inspectorate of Pollution	<b>SAC</b>	Special Area of Conservation
<b>IDB</b>	Internal Drainage Boards	<b>SEORP</b>	South East Otters and Rivers Project
<b>IPC</b>	Integrated Pollution Control		

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<b>SNCI</b>	Site of Nature Conservation Interest
<b>SPA</b>	Special Protection Area
<b>SSSI</b>	Site of Special Scientific Interest
<b>SUSTRANS</b>	Charity promoting sustainable transport
<b>SWS</b>	Southern Water
<b>UWWTD</b>	EC Urban Waste Water Treatment Directive
<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><i>Corporate Publications:</i></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><i>Improving Air Quality</i></b>	<ul style="list-style-type: none"> <li>• The Environment Agency's Pollution Inventory, Bristol, 1999.</li> </ul>
<b><i>Managing Water Resources</i></b>	<ul style="list-style-type: none"> <li>• Policy and Practice for the Protection of Floodplains. Bristol. 1997</li> <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><i>Enhancing Biodiversity</i></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><i>Managing Freshwater Fisheries</i></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><i>Delivering Integrated River Basin Management</i></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> </ul>
<b><i>Conserving the Land</i></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><i>Managing Waste</i></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><i>Regulating Major Industries</i></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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For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

#### ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

**0645 333 111**

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

#### ENVIRONMENT AGENCY EMERGENCY HOTLINE

**0800 80 70 60**



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