

Box
2

local environment agency plan

SUSSEX AREA

ANNUAL REVIEW

APRIL 2001



ENVIRONMENT
AGENCY

DDC



ENVIRONMENT AGENCY

Information Services Unit

Please return or renew this item by the due date

Due Date

20/02/07



ENVIRONMENT AGENCY

NATIONAL LIBRARY &
INFORMATION SERVICE

SOUTHERN REGION

Guildenbury House, Chatsworth Road,
Worthing, West Sussex BN11 1LD

ENVIRONMENT AGENCY



058972

AREA MANAGER'S OVERVIEW

The past year has seen many initiatives at both national and local level to forward the protection and enhancement of the environment. In particular at the national level the Agency has developed and adopted a new Environmental Vision. Using the thematic approach of the Vision will enable us to identify how our environment is improving over time from different points of view. In particular we will look at changes to the use of land and natural resources, to wildlife populations and to the aesthetic quality of the environment, whilst also reporting on pollution incidents and illegal practices. The vision identifies the Agency's aims for the New Millennium to be:

- Improve the quality of life*
- And enhance wildlife*
- By "greening" the business world*
- And using natural resources wisely*
- To ensure that the air is clean*
- To protect and improve inland and coastal waters*
- To restore and protect the land*
- Whilst reducing flood risks*
- And limiting and adapting to climate change*

Over the coming year the Agency will review its operations to ensure we make the most effective use of our resources to achieve these aims.

However, it has to be accepted that no single individual, community or organisation is in a position to meet this challenge. If we are therefore to maximise environmental benefits it is essential that we all work together, forging partnerships to make the most effective use of the limited resources available to achieve common goals. Over the past year therefore the Sussex Area has promoted and developed opportunities for partnerships and external funding. By working with others we have been successful in bringing in over £1 million of external funding towards environmental initiatives in Sussex. Partnerships have also been further developed in emergency planning, flood defence and land drainage operations and waste management.

The past year has highlighted some of the principal areas of concern to the Agency and threats to the environment, including:

Flooding: the recent flooding across Sussex demonstrated the vulnerability of areas located within the floodplain of rivers. Although river flooding took the headlines, the risk of flooding from the sea also continues to be a great pressure and concern in Sussex. To further protect people and property from flooding we will continue to develop our flood warning systems, ensure an effective input into the development planning system and maintain and improve the defences against flooding. Schemes for protection include the implementation of the Chichester Flood Alleviation Scheme. Sussex Area has also been successful in implementing the first public private partnership for maintenance of sea defences at Pevensey. The company Pentium have taken over responsibility for such works. Investigations into flood alleviation schemes for Lewes and Uckfield in particular will be forwarded. However, further funding is needed if we are to provide an adequate level of defence against flooding; the need for this will be progressed through local and national government.

Climate Change: the recent flooding also highlighted concern about the impacts of climate change in Sussex. The onset of climate change is likely to increase the risk of flooding from rivers, but will particularly increase the risk of flooding of the low-lying Sussex coastline from the sea. Although we already allow for climate change in flood defence schemes, as Sussex is particularly vulnerable to flooding we will further contribute to ongoing and future research to assess more effectively the impacts of climate change not only on flood risk but also on our environment. Such research must also include impact on water resources, water quality, waste management and biodiversity.

Development: the proposed level of housing growth has the potential to result in unacceptable damage to the environment. We will continue to work closely with local planning authorities to ensure the concerns of the Agency are adequately addressed, by ensuring that:

- relevant policies are included in development plans
- inappropriate sites are not allocated
- opportunities for environmental enhancements are included in such plans
- we are consulted on relevant planning applications.

Such liaison has been demonstrated through the inclusion of a background paper on the Environment Agency in the East Sussex Local Waste Plan. Agency staff have also been included on panels set up by West Sussex County Council for their Structure Plan, to respond to questions from the public at public meetings in towns across West Sussex and provided expert evidence at Local Plans and Public Inquiries and planning application appeals.

Water Resources: despite the rising flood risk, Sussex can, during the summer months, be one of the driest parts of the country. The south-east in general also consumes more water per person than any other region in England. Water resources must therefore be carefully managed. Initiatives such as demand management, including the promotion of water meters and the more effective use of water across the south-east through transfer schemes will continue to be promoted. With available supply and demand now almost balanced, future housing will place additional pressures on available resources if growth continues unabated.

Water Quality in Rivers: further development particularly in the upper reaches of our rivers in Sussex where flows are normally low will impact on water quality. It must be ensured therefore that the infrastructure is improved or provided to treat effluent from new development to acceptable standards to maintain water quality, prior to new development being occupied.

Waste Planning: we have continued to work closely with West Sussex and East Sussex County Councils and Brighton and Hove City Authority in planning for waste management. We have actively promoted the Government's strategy for waste management. Clearly however, there will still remain a shortfall of landfill capacity in the area which means that alternative means of waste disposal, such as incineration, will remain critical issues.

Conservation: Sussex has a high-quality landscape with a wide diversity of lowland habitats including chalk rivers, ancient woodlands, downlands and coasts. Such areas are under particular pressure from development and recreation and the effective management of such activities is therefore critical. Opportunities are available to forward the actions of the Sussex Biodiversity Plan and environmental initiatives and enhancements in general particularly through development.

These however, must be identified and forwarded in conjunction with our environmental partners at the earliest stages of the planning system.

I have highlighted above some of the principal pressures on the work of the Agency in Sussex. Others include air pollution, particularly as a result of ever-increasing traffic in the area and ground-level ozone pollution from continental Europe; mineral extraction; the need to develop sustainable recreation opportunities; remediation of contaminated land and the development of brownfield sites - particularly where these are located in flood plains.

Through our work on the ground and in partnership with others, I can assure everyone that the protection and enhancement of the environment in Sussex will continue to be the primary aim of all staff in the Sussex Area.

Peter Midgley
Sussex Area Manager

CONTENTS	PAGE
1.0 THE SUSSEX AREA LEAPS ANNUAL REVIEW	1
2.0 REVIEW OF 2000/2001	2
2.1 Promotion and Influencing.....	2
2.2 Environment Planning.....	2
2.3 Business Services.....	3
2.4 Customer Services.....	4
2.5 Environment Protection	4
2.6 Fisheries, Ecology and Recreation.....	5
2.7 Flood Defence	6
2.8 Water Resources	6
3.0 PLANNING FOR THE FUTURE	7
4.0 LOOKING FORWARD TO 2001/2002	8
4.1 Using Natural Resources Wisely	8
4.2 Greening the Business World	10
4.3 Enhancing Wildlife	10
4.4 Quality of Life.....	11
4.5 Improving and protecting Inland and Coastal Waters	11
4.6 Ensuring that the air is clean	12
4.7 Protecting and restoring the land	12
4.8 Reducing Flood risks	13
4.9 Limiting and Adapting to Climate Change	13
5.0 WORKING TOGETHER FOR A BETTER ENVIRONMENT.....	14
5.1 Partnerships	14
5.2 External Funding.....	14
5.3 Priorities for 2001/2002	15
5.4 Influencing Major Fundholders	16
5.5 Increasing Awareness	17
6.0 UPDATE ON LEGISLATION AND GUIDANCE.....	17
6.1 EU Legislation	17
6.1.1 The Habitats Directive	17
6.1.2 The Water Framework Directive	17
6.1.3 The Landfill Directive.....	17
6.2 Regionalism	18
6.3 Association with Local Government.....	18
6.4 Local Strategic Partnerships and Community Strategies	18
6.5 Amendments to the Producer Responsibility Obligations	18
(Packaging Waste) Regulations 1997	18

6.6	The Draft Water Bill	18
6.7	Integrated Pollution Prevention and Control Regulations	19
6.8	Anti-pollution Works Regulations 1999	19
6.9	Groundwater Regulations 1998	19
6.10	The Contaminated Land (England) Regulations 2000	19
6.11	The Town and Country Planning	20
	(Assessment of Environmental) Effects Regulations 1999	20
6.12	Better Regulation Improving the Environment (BRITE)	20
6.13	Development Flood Risk PPG25	20
6.14	Fisheries Action Plans (FAPS)	20
6.15	Strategic Waste Management Assessments	20
7.0	DEVELOPMENT PRESSURES - WORKING WITH LOCAL AUTHORITIES.....	20
8.0	INDICATORS	22
9.0	NEW PUBLICATIONS.....	22
10.0	SUSSEX AREA ACTIONS UPDATE.....	23
10.1	Introduction to tables	23
10.2	Key to tables.....	23
10.3	Issues relevant to all Sussex catchments	24
10.4	Issues specific to Cuckmere/Pevensey Levels	25
10.5	Issues specific to Adur/Ouse	25
10.6	Issues specific to Arun/Western Streams	25
10.7	Review of issues table	26
Appendix 1:	Abbreviations	60
Appendix 2:	Indicators	62

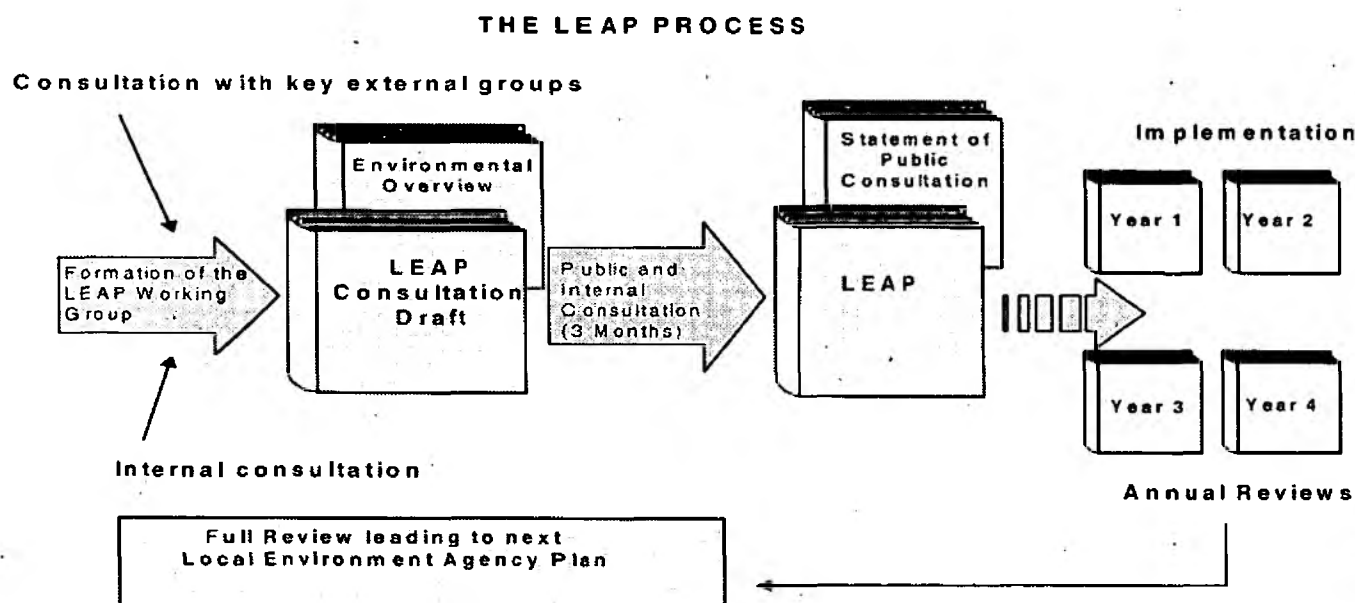
1.0 THE SUSSEX AREA LEAPS ANNUAL REVIEW

1.1 This is the first, combined annual review of the three Local Environment Agency Plans (LEAPs) in the Sussex Area of the Agency. These LEAPs cover the catchments of the:

- Cuckmere and Pevensey Levels
- Rivers Adur and Ouse
- River Arun and Western Streams

1.2 The Annual Review process enables the Agency to assess progress of the actions identified in the original plans. It provides the opportunity to reconsider the issues and actions originally identified and to highlight new issues and actions resulting from new or increased pressures.

1.3 The Annual Review is part of the overall LEAP process shown below:



1.4 The actions highlighted in the original LEAPs and in this review will evidently require resources (staff and/or funding) for implementation. These resources are identified where known in the tables of section 10 of this plan. These actions will be assessed alongside regional and national objectives and, having regard to the overall resources, priority actions and allocated resources will be identified in the Sussex area's Business Plan.

2. REVIEW OF 2000/2001

The following identifies some of the key achievements in Sussex Area for the year.

2.1 PROMOTION AND INFLUENCING

- Environment Planning launched their Eco-schools project in a bid to raise awareness of sustainable development within the school environment.
- The "Green Kitchen" at Cafe 2000 was a great success at the Brighton Centre, promoting environmental issues in the catering and fast food industries.
- The Agency promoted its Emergency Hotline No.: **0800 80 70 60**.
- Sustainable Drainage Systems (SuDS) were further promoted to developers and their agents. Success achieved as identified by systems now being incorporated onto sites.
- Agency staff undertook a study tour at Pevensey for students from the Children's International Conference, Eastbourne. Children from many countries visited the Pevensey area and the Sewage Treatment Works at Eastbourne to learn about the environmental pressures in the area, including the threat of flooding.
- The Agency organised an In Service Training (INSET) Day for teachers with East Sussex County Council at the Seven Sisters Country Park, Seaford to raise awareness of local environmental pressures.
- As part of Millennium Outreach week 5 schools from East Sussex attended workshops at the Seven Sisters Country Park, Seaford, to promote awareness of the environment. The schools were drawn from areas considered "disadvantaged" or from the Government designated "Education Action Zones". Also assisting were East Sussex County Council, the Sussex Downs Conservation Board, the Sussex Wildlife Trust and "Red Zebra", a "funk junk" music group.
- The Agency secured £27K from the Heritage Lottery Fund for the production of an environmental educational CD Rom working with 3 Local Authorities and 7 schools.
- Fisheries staff supported over a dozen collaborative young angler days across the catchments, introducing over 200 potential new anglers to the sport.
- FER staff have provided a number of technical and advisory presentations to a wide range of audiences including both local and international fora. One such presentation of note was given on river habitat surveying to a European Union Conference in Greece.

2.2 ENVIRONMENT PLANNING

- Implementation of the new IPPC (Integrated Pollution Prevention and Control) regulations for major industries began

- New regulations intended to improve the protection of groundwater quality were introduced. New authorisations controlling discharges to groundwater were issued.
- The AMP3 investment by water companies in improved treatment of wastewaters was finalised and implementation begun. This includes the requirement for secondary treatment at all coastal sewage treatment works by 2005.
- Improvements under the AMP2 programme are now nearly complete.
- A study into the production of clinical waste at Worthing Hospital was undertaken in conjunction with the University of Brighton. This made recommendations for reducing the amount of waste being produced.
- All EC designated bathing beaches in Sussex met the EC mandatory standards for bathing water quality, resulting from 10 years of work with SWS to improve the quality of effluent from Sewage Treatment Works which impact on bathing waters. Particularly noteworthy are the major improvements in bathing water quality recorded at Newhaven following completion of improvement schemes by SWS. However there will be continued vulnerability within Sussex Area until the AMP 2 programme has been fully delivered.
- West Sussex Waste Reduction programme received £87K from Viridor's Landfill Tax Credit Scheme. The local authority partnership contributed the third-party funding. The Agency facilitated the bid through meetings with Viridor and the partners and assistance with the compilation of the bid.
- Information on waste was provided for the East Sussex and Brighton and Hove Waste Local Plan First Deposit.
- A landfill gas report was issued summarising the most compliant and non-compliant landfill sites.
- Chemical General Quality Assessment results for water quality reported that the percentage of stretch in Class A (Very Good), B (Good) and C (Fairly Good) increased by 6% to 71% compared to 1990.
- The Abstraction Protection Plan for the Western Rother was completed.
- Detailed information on Contaminated Land Regulations was supplied to local authorities.

2.3 BUSINESS SERVICES

- After implementing a programme of education, monitoring and maintenance into Saxon House, (the Sussex Area Office) and into our Pevensey Office to reduce energy/water consumption we achieved the following results: an overall 50% reduction per FTE (Full Time Equivalent) (water) and 50% reduction per FTE (energy).

2.4 CUSTOMER SERVICES

- See Section 2.1 for Education initiatives
- See Section 5 regarding partnerships and opportunities for external funding.
- See Section 7 regarding development pressures and liaison with Local Authorities.
- As a result of a more proactive approach on development issues the number of land drainage consents dealt with doubled.
- Support was provided to West Sussex County Council in the promotion of their Structure Plan and responding to questions at public meetings. Evidence was also provided at a public inquiry on the Arun District Local Plan in support of the council.
- Partnerships and liaison on drainage and flood defence issues were forwarded through the Land Drainage Working Group comprising Local Authorities, Southern Water Services and chaired by the Agency.
- Over 2000 planning applications consultations were responded to.
- In conjunction with a local environmental watch group, the Agency helped obtain funds to create a pocket park on a derelict site in Hastings - an area which qualifies for Single Regeneration Budget grant status. The land, owned by Hastings Borough Council, was formerly used as workshops and was subject to fly tipping, vandalism etc. Residents have spent a week planting trees, shrubs, painting walls and landscaping.
- Involvement continued in various Local Agenda 21 groups and community strategies.
- Local environmental groups joined together to agree an agenda for achieving environmental enhancements in Sussex.
- R & D project on the use of planning obligations was completed.

2.5 ENVIRONMENT PROTECTION

- 70,000 litres of used engine oil, diesel and heating oil were boomed and removed by tanker from Malling Brooks, Lewes during the floods of October 2000. Officers visited all the affected units offering clean up and disposal advice and also gathering intelligence on flood levels and rate of flooding.
- The undercover enforcement exercises, "Operation Spider" and "Operation Cowboy", were very successful in apprehending and prosecuting unregistered waste carriers. The success of the operation achieved local and national press and TV coverage.
- The Lewes to Newhaven Sewage Transfer Scheme was completed.

- Compliance was successfully achieved with the first Works Notice issued by Southern Region. Three further Works Notices were issued and the threat of notices has significantly hastened improvement works at various other sites.

2.6 FISHERIES, ECOLOGY AND RECREATION

- The Pevensey Levels was accepted as the National Pilot Scheme for Wetlands to trial the Agency's new eutrophication strategy. (See New Issue 34). A study was initiated to assess the environmental benefit to the Pevensey Levels of reduced nutrient discharge from the Hailsham sewage treatment works. Other river stretches were also assessed across the LEAP areas to identify eutrophication sewage effluent discharges that might, subject to DETR consideration, be targeted for nutrient reduction measures under the NEP.
- The Water Level Management Plan for Amberley Wild Brooks was produced in consultation with local partners. The plan reviewed and updated the water management practices necessary to balance and integrate the nature conservation, agricultural and flood defence needs across the internationally important conservation site.
- Water level pilot areas were produced for the Cuckmere and Pevensey Levels.
- Phase 1 of the restoration project for the Pevensey Levels was completed in partnership with English Nature. Eleven water retention structures have been designed and constructed at key locations on the Levels to raise ditch water levels across the WES Tier 2 areas. This work has provided significant benefits for both biodiversity and agricultural use across this internationally important wetland. The restoration is necessary to restore the areas special conservation interest that has declined over the past 30 years. A presentation based upon this restoration work was made at a conference held by the International Society for Ecological Restoration.
- Through the external funding officer, FER secured £579K from external sources to fund a wide range of LEAP actions to directly benefit the environment and quality of life of the area. Significant areas of reedbed were collaboratively restored at the Wildfowl and Wetlands Trust, Arundel and at Filsham. Sympathetic land management practices and wildlife corridors were promoted through such projects as the Ouse Valley and Rother Valley project. At risk species such as water vole, otter and native crayfish were protected and work was undertaken to promote their natural recovery. A spillway at Vann Lake was restored to protect the dam of this historic and designated SSSI site from collapse. Each of these actions could only be undertaken thanks to the collaborative support provided by our partners and funders.
- A biological investigation was completed of the Sussex headwaters. The work identified the conservation status and quality of headwater streams and placed their importance in the wider context of the river catchments as a whole. SNCI status will be sought for identified key areas.
- An assessment of the crayfish populations of the Rother revealed that, although much of the upper reaches were suitable for native crayfish, the apparent population was restricted to a single short stretch.

2.7 FLOOD DEFENCE

- In May 2000 the Environment Agency and Pentium Coastal Defence Limited signed a £30 million Public Private Partnership (PPP) contract for the Pevensey Bay Sea Defences. The contract is for 25 years and Pentium (a consortium of Westminster Dredging Company, Dean and Dyball Construction, Mackley Construction and Mouchel Consulting) will carry out improvement works and maintain the sea defences in return for a monthly fee. This is the first PPP contract in the country to be awarded in the environmental and flood defence sectors.
- In conjunction with the emergency services, a successful emergency response was made to the unprecedented weather conditions across West and East Sussex in the last months of 2000.
- Significant emergency repairs were undertaken, particularly in the Lewes area, to maintain the level of defence against flooding following the flood event in October.
- Production of river strategies has been accelerated. Further guidance is still awaited from MAFF.
- The Pagham to East Head Strategy and the Adur to Arun Strategy were completed and approved by the Sussex Local Flood Defence Committee and Chichester and Arun District Councils.
- Owing to the ongoing flood concerns in Chichester, an emergency relief channel was completed.
- Discussions took place regarding the future maintenance of the sea defence of Sovereign Harbour, Eastbourne.
- The new flood warning codes, Flood Watch, Flood Warning and Severe Flood Warning were introduced on 12th September 2000. In line with the recommendations of the Changing Needs in Flood Defence Project, the delivery of flood warnings was transferred from Regional HQ to the Sussex Area office. This provides a more focused and timely flood warning service. For general advice and information the public can call **Floodline 0845 988 1188**.
- Sussex staff attended many public meetings and training exercises to promote the new Flood Warning codes. The number of homes and businesses connected to the Voice Messaging system (AVM) steadily increased through the year.
- Flood Risk maps went on-line on the Internet on 7th December 2000.

2.8 WATER RESOURCES

- Water companies produced their first annual updates of Water Resources Plans as required by the Agency. (These give an indication of progress by the companies against the initial plans submitted in 1999 and allow for any new factors to be incorporated, e.g.

changes in metering progress as a result of the AMP3 determination.) These plans have now been reviewed by the Agency and feedback given to DETR. Where relevant the updates will also be taken into account in the Agency's own national and regional water resource strategies to be published in March 2001.

- Water efficiency equipment was installed at Chesswood School, West Sussex, funded jointly by Southern Water, West Sussex County Council and the Environment Agency. The project delivered very significant savings of around 73% of the pre-trial consumption with the estimated annual use dropping from 2760 m³ to 730 m³ per year. The success of the project has been promoted to forward the initiative at other schools.
- Model development for the Brighton/Worthing Chalk Block continues with sites for observation boreholes and flow measurement being identified.
- Stages 1 and 2 of the Habitats Review were completed in October 2000.
- Detailed computer modelling of options for the Ardingly/Ouse scheme were undertaken with South East Water.
- Consultation with local interest groups took place about Swanbourne Lake with further detailed investigations by Southern Water Services planned.

3. PLANNING FOR THE FUTURE

Many factors have to be considered when planning for the future and assessing the potential impacts on our environment. The following are predictions that have already been made nationally:

- Average temperatures are likely to rise about 0.1 to 0.3 deg.C per decade. Sea levels could be some 12 to 67 cm higher in 50 years' time. Winter storms will be more severe, rainfall patterns will change and domestic, agricultural and environmental demands for water may rise.
- The population of England and Wales - one of the densest in Europe - is projected to grow by 10% over the next 40 years. New housing will grow even more quickly, four out of five being one person households. Demand for housing will increase in the south-east, placing even greater pressure on the Sussex area.
- Road transport will continue to grow - by anything from 30 to 60% over the next 20 years. Air transport is also projected to increase, putting pressure on both the atmosphere and land use near urban areas.
- Wastes are continuing to rise and insufficient percentages are being re-used or recycled. Quantities of municipal solid wastes are at a record level, equivalent to about 1 tonne per household per year. Loads from sewage treatment works in the south-east are some of the highest in the country.

- Many more chemicals will be in use however potentially damaging chemicals and products will be controlled at source, with a major shift away from disposing of wastes to landfill and increased emphasis on other forms of waste management.
- Land use patterns will continue to change, farming may become more intensive, rural land use more diverse and derelict land will have been put to good use.
- Biodiversity will be affected by climate change and thus habitats and their wildlife will need more positive management to sustain them. Although existing environmental quality standards will be met, new ones will arise and the focus will be on attaining biologically based targets.
- Possible links between environmental quality and human health will be of even greater concern and aesthetic quality issues may well predominate with increasing concern about landscapes, light pollution, noise and smell.
- The public will be better informed, with access to electronic information, globally linked and ready to act directly on the information they receive.
- The environment will come under increasing pressure from many diverse and conflicting uses, particularly with regard to leisure activities, access, natural beauty and tranquillity. We have a legacy of historic environmental damage that, in itself, is a growing economic burden. The south-east has a high-quality landscape with a wide diversity of lowland habitats including chalk rivers, ancient woodlands, downlands and coasts. These are under particular pressure from recreation and development.

4. LOOKING FORWARD TO 2001/2002

The following points highlight some priority actions which the Sussex area aims to achieve over the year. These are identified under the themes from the new Environmental Vision.

4.1 USING NATURAL RESOURCES WISELY :

- The Agency will forward water demand efficiencies including leakage control, metering, water saving devices and using greywater. Initiatives such as the Chesswood School water saving project and other similar projects with industry will be progressed.
- The Agency will seek to secure a variation in the River Ouse abstraction licence held by South East Water to improve operation of the Ardingly – Ouse scheme for the benefit of the river and public water supplies
- Catchment Abstraction Management Strategies (CAMS) will begin, covering each of the LEAP areas in Sussex, starting with the Arun and Western Streams . The strategies will set out the resource – demand situation in each catchment and propose future abstraction licensing policies for consultation, including how time limits will be applied to existing licences.

- The Agency will play a part in the implementation of the national and local waste strategies as well as the Landfill Directive, which seeks to reduce the amount of waste going to landfill. One of the main issues arising from these initiatives is the need for alternatives to landfill, which could include incineration. The Agency will ensure that where incinerators are proposed they are developed and operated in a manner which minimises their impact on the environment.
- The Agency has produced a policy position statement on waste/resource efficiency. These principles will be forwarded at a local level.
- Opportunities to further promote waste minimisation and recycling will be identified and implemented.
- Stage 3 of investigations will commence into the impact of licensed abstractions and consented liquid effluent discharges on designated Special Protection Areas and Special Areas of Conservation required by the Habitats Directive. Priority will be given to sites at Chichester and Pagham Harbours and the Arun Valley, and to South East Water's Wallers Haven scheme at Pevensey Levels Ramsar site, which is funded under AMP3.
- Abstraction Protection Plans for abstractions at Hardham, Barcombe and Hazards Green will be forwarded.
- Improvements to the hydrometric and telemetry networks for the measurement of rainfall, river flow and groundwater levels will be undertaken. These are needed for the management of scarce water resources at times of low flow and for flood warning. Long term trends could indicate the impact of climate change or changes in abstraction policy and licensing.
- The ultrasonic flow gauge at Boreham Bridge on the Wallers Haven will be resited in order to measure flows more reliably for managing South East Water's public water supply abstraction at Hazards Green.
- Groundwater is a particularly important source of potable water in Sussex. Recent new legislation has provided additional opportunities to ensure that its quality is properly protected. This legislation includes the Groundwater Regulations and Contaminated Land Regulations. There is a need to carry out further pollution prevention work at sites which, because of their nature and location, pose a particular risk. Under the Nitrates Directive it will be possible to designate certain areas of groundwater as vulnerable to pollution from Nitrates (Nitrate Vulnerable Zones (NVZs)); this will provide additional protection from Nitrates such as those contained in fertilisers.
- Development will continue of a groundwater model for the Brighton and Worthing chalk aquifer in collaboration with Southern Water, as part of a programme of modelling for all major aquifers started with the Chichester chalk block.

Key Indicators Sussex: Waste arisings and management; Water demand and availability; Abstraction from freshwaters; Groundwater Levels: See Appendix 2

4.2 GREENING THE BUSINESS WORLD

- We will implement the new IPPC regulations which will improve the environmental performance of major industries.
- The Agency has produced a Policy position statement on "greener businesses". These principles will be forwarded at a local level.
- We will work with businesses, developers, local government and other environmental bodies to raise environmental awareness.
- Initiatives for the most effective use of resources in carrying out the work we do will continue to be promoted and implemented through Environmental Management Systems (EMS) and the Area's Green Action Group.

Key Indicator Sussex: Emissions to air from Agency-regulated industrial processes - See Appendix 2

4.3 ENHANCING WILDLIFE:

- Reviews of discharge consents under the Habitats Directive will be carried out.
- Sustainable solutions for the reinstatement of meanders and pool/riffles and restoration of floodplains will be input to the Flood Defence Strategy for the Arun.
- The Agency will continue its targeted work to promote the protection and recovery of water vole and otter populations across the Area. This work will be formalised through the development and implementation of management strategies for each species. Research and Development investigating the benefit of controlling mink in areas of restored water vole habitat will be further supported.
- The Agency will promote Research and Development to investigate control of alien aquatic plant species. The findings of this work will contribute to the definition of a management strategy to prevent the further spread of these species. Wherever possible landowners will be encouraged to recognise the presence of these species on their land.
- The impacts of soil erosion, inappropriate land care and diffuse pollution can demonstrably damage both the aquatic and terrestrial environments. The impacts of these processes upon the environment will be considered, with special emphasis being focussed upon the protection of Habitat Directive sites. The Western Rother is particularly vulnerable to run-off from farmland and a soil vulnerability study will be initiated if appropriate funds can be secured.
- Opportunities for environmental enhancements and initiatives will be identified and forwarded both through the Agency's own works and through the planning system in conjunction with other environmental bodies.

Key Indicator Sussex: Achievement of Biodiversity Action Plan targets - See Appendix 2

4.4 QUALITY OF LIFE:

- The proposed designation of the South Downs as a National Park will potentially result in the creation of the largest National Park in England and Wales which could cover over 50% of the Sussex Area. The statutory objectives of National Parks are to conserve and enhance natural beauty, wildlife and cultural heritage, whilst promoting the sustainable use of the Downs for recreation within its area. The Agency will work with the Countryside Agency and our local partners to maximise the sustainable benefits of the National Park, so as to improve both the local and regional quality of life.
- Swanbourne Lake near Arundel is a beauty spot where thousands of visitors every year enjoy boating and the unique wetland vegetation and wildlife. Water levels in the lake have in recent summers been very low, with the lake going dry on several occasions over the past few years. To remedy this situation the Agency has progressed the Swanbourne Lake scheme with Southern Water and the Arundel Estate under Asset Management Plan (AMP) 3, with a view to start dredging the lake bed in spring 2001.
- The Agency will produce Access to Water Strategies to include nature conservation, water based recreation, needs of disabled, safety, integrity of defences and access routes for future maintenance and defence.
- The Agency will provide information for the Councils' new Community Strategies to promote the economic, social and environmental wellbeing of their areas.
- Collaborative projects with schools, local communities and industry will be progressed to minimise water use and waste produced. Further collaborative projects will be progressed to conserve wildlife, develop fisheries resources and to promote opportunities for recreation.
- Production of Fisheries Action Plans (FAPS) will continue. These will be produced for each LEAP area over the next few years and are designed to set out the overall objectives for the conservation and management of the freshwater fisheries within the given area. Fisheries Action Plans are being developed across the country in response to one of the recommendations of the Government's Salmon and Freshwater Fisheries Review.
- Sussex Customer Services and the Sussex Local Education Authorities will produce a CD Rom for schools on "Natural Sussex".

Key Indicator Sussex: Number of designated beaches that meet the standards set by the European Bathing Water Directive - see Appendix 2

4.5 IMPROVING AND PROTECTING INLAND AND COASTAL WATERS:

- Under the AMP3 investment programme work involving improvements to the treatment of wastewaters will commence at Southern Water's sewage treatment works across Sussex. The programme runs until 2005 and includes completing the provision of secondary treatment at Worthing East STW by the end of 2001 and improvements at

Shoreham, Eastbourne, Lidey and Tangmere by the end of 2002. In addition improvements to combined sewer overflows are expected to be completed by 2002. The installation of effluent flow monitoring equipment will also take place.

- Work on the Pevensey Levels Eutrophication Control Action Plan (ECAP) will commence.
- Investigations to ascertain the extent of eutrophication in rivers across Sussex will be carried out.
- Reviews of discharge consents required under the Habitats Directive will be carried out.

Key Indicators Sussex: Rivers of good or fair quality (chemical and biological) - See Appendix 2

4.6 ENSURING THAT THE AIR IS CLEAN:

- We will continue to contribute to the Sussex Air Quality Group.
- We will control the emissions to air from major industries using the new IPPC regulations.
- We will maintain and improve the quality of air, land and water through regulation.
- The quantities of waste produced in Sussex is large and increasing. Although promoting waste minimisation a recycling, the shortfall of landfill capacity means that incineration will remain an option for waste management. We will need to respond to public concerns on incineration.

Key Indicators Sussex: Poor air quality days by pollutant - See Appendix 2

4.7 PROTECTING AND RESTORING THE LAND:

- Opportunities to protect and improve landscape character, visual amenity and heritage will be progressed.
- Provide advice to ensure new development is located and phased to make effective use of existing or planned.
- Liaison with Local Planning Authorities will be developed to ensure effective liaison and consultation on Development Plans and planning applications.
- Opportunities for redevelopment of brownfield sites will be supported in principle.
- The identification and remediation of contaminated land now has a statutory basis under new legislation. The Sussex Office works closely with the Local Authorities to agree a strategy for investigation and subsequent remediation of land identified as contaminated within the newly defined criteria.

- Soil erosion is seen as an important issue locally, where the consequences of severe soil erosion on land degradation, water quality and fisheries can be a problem. Quantification of soil erosion nationally is still needed and how it is changing through time.

Key Indicator Sussex: Nutrients in Rivers - see Appendix 2

4.8 REDUCING FLOOD RISKS:

- It is anticipated that work on the Chichester Flood Alleviation scheme will commence (emergency works initiated winter 2000/2001).
- Work on the River Ouse Strategy will commence.
- The recommendation of the Pagham to East Head Strategy and Adur to Arun Strategy will begin to be implemented.
- The Agency will promote the concepts of floodplain protection in the Government's Planning Policy Guidance (PPG25) "Development and Flood Risk" to Local Planning Authorities, consultants and developers.
- Maintenance works on sea defences and rivers will be undertaken, having regard to coastal and river strategies and available resources.
- Liaison with emergency services and other land drainage bodies will be reviewed in the light of the autumn 2000 floods.
- Development of the maps identifying flood risk areas will continue.
- Investigations into flood alleviation schemes for Lewes and Uckfield will continue.
- Flood warning and operations procedures will be reviewed in the light of the autumn 2000 floods.

Key Indicator Sussex: Flood warnings issued - See Appendix 2

4.9 LIMITING AND ADAPTING TO CLIMATE CHANGE

- We will forward policy position opportunities on energy and climate change
- Agency sea defence schemes and assessments on development proposals will have regard to rising sea levels.
- Water resources strategies will have regard to potential climate change scenarios.
- In assessing flood risk to development proposals regard will be given to climate change and consequent increased river flows.

- Landfill gas emissions which include the greenhouse gas, methane, will be added to our pollution inventory.

Key Indicators Sussex: summer and winter rainfall - See Appendix 2

5. WORKING TOGETHER FOR A BETTER ENVIRONMENT

5.1 PARTNERSHIPS

Working through partnerships will enable us to achieve together what may not be feasible in isolation. To forward partnerships we have to be aware of each other's objectives, so that common goals may be identified.

Partnerships can have their basis in many formats including:

- working together towards achieving a shared goal
- providing services in kind, such as equipment or resources to a scheme
- the donation of contributions towards another's schemes
- working together to create bids for one of the many external funding opportunities e.g. Heritage Lottery, European Funds or private sector funding.

The Agency's "Viewpoints to Vision - Progressing the Agency's Strategy for a Better Environment in England and Wales" states that:

"The Agency must look to external funding to achieve its aim" and "the Agency needs to take a more proactive and co-ordinated approach to external funding to deliver its key objectives".

To facilitate this an External Funding Project Manager has been appointed in the Sussex Area over the past year. High priority discretionary activities have been identified through the LEAPs and Business Plans and those pursued will be the ones which present the best opportunities for external funding and partnerships.

Advantage will also be taken of opportunities to influence public money spent within the Sussex Area by the South East England Development Agency (SEEDA), to regenerate areas which have not benefited from the more general level of prosperity.

5.2 EXTERNAL FUNDING

In the 2000/2001 financial year an additional £1m has been raised in the area towards Agency business objectives. The following are some project examples that are to be delivered across a broad range of partnerships within the Sussex LEAP areas.

Project	Key Driver	Total Project Cost	Leverage on Agency input	Major benefits
Pevensey Levels Wetlands Restoration Fund: English Nature	Business Plan, LEAP, BAP, WLMP	£200k	100%	-3,500 hectare wetland site part restored. Funding towards water level management structure repair and replacement plus meeting biodiversity targets.
Green Angels Fund: European Social Fund	LEAP	£137k	95%	- 25 graduates recruited and trained in waste minimisation - 25 company waste minimisation audits - Savings to business & care of the environment
Filsham Reedbed Restoration Fund: Landfill Tax	LEAP	£150k	96%	-19 hectares of reedbed restored -Public and disabled access created educational & tourism benefits
Millennium Hastings Pocket Park Fund: Landfill Tax, Heritage Lottery (HLF), Commercial sponsorship	Business Plan	£120k	96% HLF used as match funding	- Area of derelict land remediated in town, which is amongst top 10% most deprived. -Community & educational benefits
West Sussex Waste Reduction Programme Fund: Landfill Tax	LEAP, Business Plan	£95k	100%	-3 waste min clubs -30 environmental audits -ad hoc training to business on regulation
Natural Sussex CD-Rom Fund: HLF	LEAP	£40k		-promoting key environmental messages - Projected audience 20,000 14-19 year olds; linked to national curriculum
Waste Minimisation Post Fund: European Obj II	Business Plan, LEAP	£24k	50%	- 1 Full Time Equivalent (FTE) post within Agency Environment Protection to deliver waste reduction initiatives & raise environmental awareness
"E-generation" website regional information hub for businesses Fund: Landfill Tax	LEAP	£375k	100%	Website providing environmental information for businesses including waste directory and waste exchange
Avis Way Green Business Project Fund: ESCC	Business Plan LEAP	£5k	100%	Reduction in up to 5% of solid waste to landfill from one company on Avis Way

5.3 PRIORITIES FOR 2001/2002

The Sussex Area will continue to build on its achievements and will continue its proactive role of highlighting potential opportunities for partnership projects and forwarding these in order to achieve

the greatest benefit to Sussex. There will however be a shift in emphasis towards the delivery of projects that will assist Agency processes and systems. These will be more complex and take longer to develop but we consider are worth pursuing for the longer term benefits.

5.4 INFLUENCING MAJOR FUNDHOLDERS

In addition to achieving environmental improvements on the ground in our role as a partner undertaking specific projects, there are also opportunities to forward environmental initiatives by influencing where and what type of project major fundholders allocate funds to.

The following are some of the major fundholders we in Southern Region are working with to influence decision-making to forward initiatives in the environmental funding programmes:

Funding Stream	Fund Size	Why Influencing	Evidence of Success
European Interreg II and III (East Sussex/Kent)	£35m	Programme priorities mean potential to fund LEAP actions through influencing and bidding process	Consultee on Interreg II. Currently assisting GOSE with writing the programming document (setting out bidding criteria) for Interreg III. Agency has applied to be on Project Approvals Committee for new Interreg III.
Single Regeneration Budget	£70m	Objective to "green" regeneration and ensure sustainability indicators are considered	Commented on relevant proposals in last bidding round. Too early to judge impact on the ground
European Objective II (Thanet and Hastings)	£16m	Objective to "green" regeneration and ensure sustainability indicators are considered	Consulted on programming document. Offered joint set with English Nature on Steering Committee
Landfill Tax Credit Scheme	£100m pa approx	Regulations mean potential to fund LEAP actions and fund significant element of Agency Waste R & D	First Regional Landfill Tax Credit Scheme Forum established by Agency & ENTRUST. Proposals to make this a National Forum are being considered.

5.5 INCREASING AWARENESS

As well as income generation and influencing we continue to increase awareness of partnership and external funding opportunities through presentations to Agency staff and in meetings with potential external partners. We are also working with the Agency's National External Funding Group to develop national policy and guidance on external funding.

6. UPDATE ON LEGISLATION AND GUIDANCE

The following identify some of the principal changes in legislation, guidance and external initiatives which will have implications on the operations of the Agency.

6.1 EU LEGISLATION

6.1.1 The Habitats Directive

A European Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, commonly known as the Habitats Directive, aims to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild plants and animals. The Directive will establish and protect a network across Europe of the most important areas for wildlife, called *Natura 2000* sites, which will include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The regulations impact on a wide range of people and organisations whose activities may affect these sites. The Agency will assess the possible effects of plans, permissions, operations and consents on these sites or in areas which may impact on them, working closely with English Nature who have also produced Natural Area Profiles for Sussex. There are 16 such sites in Sussex covering 25% of the area of the county, including woodlands, vegetated cliffs, grasslands and wetlands.

6.1.2 The Water Framework Directive

This will replace a number of existing Directives, integrate management of water flows with the ecological quality of the aquatic environment and introduce the requirement for river basin planning.

6.1.3 The Landfill Directive

The Landfill Directive will place restrictions on the types of waste which may be landfilled. In addition it will set minimum standards for landfills. The Directive will apply to all landfills accepting waste on or after 16 July 2001. Larger landfills also fall under the Integrated Pollution Prevention and Control Directive (IPPC). Meeting the requirements of the Landfill Directive will satisfy the technical requirements of IPPC and the aim is to implement the two together under the Pollution Prevention and Control Regulations. The Agency will be responsible for implementing and enforcing the new regulatory requirements for landfills in England and Wales. In the south east there is currently a lack of facilities to meet the obligations of the EU Landfill Directive.

6.2 REGIONALISM

Regional Development Agencies (RDA's) are the first economic development agencies to have a specific duty to sustainable development. The South East of England Development Agency (SEEDA) is the RDA for the South East Region, which includes Sussex. The Agency works closely with RDA's to develop the environmental aspects of regional economic strategies.

6.3 LOCAL GOVERNMENT ASSOCIATION PROTOCOLS

The Local Government Association and the Environment Agency have produced a joint plan to provide the framework and direction for local environmental action.

6.4 LOCAL STRATEGIC PARTNERSHIPS AND COMMUNITY STRATEGIES

Local Authorities are producing Plans of Action for the economic, social and environmental well-being of their areas. These strategies have similar aims to the Agency in their desire to promote sustainable development. The Sussex area will therefore assist the Local Authorities, where feasible, by providing information for these strategies and/or by becoming a member of the Local Strategic Partnership.

6.5 AMENDMENTS TO THE PRODUCER RESPONSIBILITY OBLIGATIONS (PACKAGING WASTE) REGULATIONS 1997

Two amendments were made to the Packaging Regulations in 1999, the second of which came into force in 2000. These included a change to the threshold targets that bring companies under the Regulations. Companies which have a turnover in excess of £2 million and handle 50 tonnes of packaging in a year are now subject to the Regulations. Other minor changes have been included. The Agency is responsible for the enforcement of this legislation and is talking to businesses in the area to raise awareness of the amendments.

6.6 THE DRAFT WATER BILL

The Draft Water Bill was published on 7th November 2000 with a consultation period until 31st January 2001. A number of proposals have been proposed including:

- Flood Defence - alterations to Regional and Local Committees
- Reservoirs Act - functions to be passed to the Agency from Local Authorities and to lift Crown exemption
- Penalties - to raise the fine for providing unfit water from £5k to £20k
- Contaminated land - alteration of definition for controlled waters
- First time sewerage - remove the cut-off date for eligible properties

Key drivers are:

- To give the Agency additional powers to manage water resources while encouraging abstractors to make changes voluntarily
- To increase the public availability of information on water resources so that abstractors can review their operations in an environmentally responsible way

- To increase flexibility, accountability and administrative efficiency for existing and potential water abstractors
- To incorporate transitional arrangements, both for existing abstractors and new abstractors.

One initiative resulting from the document is the development of Catchment Abstraction Management (CAMS) Strategies, which will allow the Agency to prioritise abstraction requirements for local catchments and will guide licensing decisions. The development of the first CAMS in Sussex for the Arun and Western Streams Area will commence in April 2001. Preparatory work for this has commenced trialling data collection and presentation for the Arun catchment.

6.7 INTEGRATED POLLUTION PREVENTION AND CONTROL REGULATIONS

The new IPPC Regulations came into force on August 1st 2000. The Pollution Prevention and Control Act 1999 set out the legislative framework for a new environmentally holistic regulatory regime, Integrated Pollution Prevention and Control (IPPC). IPPC covers the process industries currently regulated under Part 1 of the Environmental Protection Act 1990 as well as biodegradable waste landfills, hazardous waste sites, some sewage works, intensive pig and poultry farming and some types of food processing. New measures may be introduced to control energy and raw material usage, the prevention of accidents, noise, odour, restoration of sites and emissions released to all environmental media (air, land and water). All Southern Regional Implementation Project outputs have been delivered on time and full technical and policy support has been made available to all Areas.

6.8 ANTI-POLLUTION WORKS REGULATIONS 1999

The Environment Act 1995 provided the Agency with new powers to issue Works Notices to prevent or remedy the effects of pollution to controlled waters. Works notices will normally be served where voluntary action to remedy or prevent pollution of controlled waters is not achieved and may also be served during or in the clean-up phase of a pollution incident. Failure to comply with a Works Notice will normally result in prosecution and the Agency may carry out the necessary works and recover its costs.

6.9 GROUNDWATER REGULATIONS 1998

The new Groundwater Regulations complete the implementation of the Groundwater Directive (Protection of Groundwater Against Pollution Caused by Certain Dangerous Substances - 80/68/EEC). Implementation of the Regulations helps prevent pollution of groundwater by controlling discharges of disposals of certain dangerous substances where they are not already covered by existing legislation. In Sussex the majority of these discharges are from agricultural units.

6.10 THE CONTAMINATED LAND (ENGLAND) REGULATIONS 2000

Effective from April 2000 the contaminated land regime gives the Environment Agency a greater role in regulating the remediation of contaminated land. The Agency will work more closely with local authorities during this process and will also take on specific responsibility for the regulation of Special Sites, where it will have powers to serve Remediation Notices requiring work to deal with the contamination. Special Sites will be those identified by local authorities as presenting a

particular risk to the environment where the Agency is the regulator that has the technical expertise to oversee their restoration. The new legislation is consistent with the Polluter Pays Principle by placing the cost of dealing with contamination on the polluter where they can be found, or the landowner / occupier where the polluter no longer exists. Contaminated land sites identified in Sussex include Thorney Island and Shoreham Harbour.

6.11 THE TOWN & COUNTRY PLANNING (ASSESSMENT OF ENVIRONMENTAL) EFFECTS REGULATIONS 1999

New Regulations relating to the environmental assessment of development proposals requiring planning permission came into force in 1999. The Regulations substantially extend the range of applications for which an Environmental Impact Assessment (EIA) is required and place a duty on the Agency to provide information and scoping advice to relevant applications for planning permission. The Agency is a statutory consultee for all planning applications requiring an EIA.

6.12 BETTER REGULATION IMPROVING THE ENVIRONMENT (BRITE)

The Agency along with other regulatory bodies is being asked to detail the measures it is taking to lighten the regulatory burden placed on business, by simplifying our regulatory regime and promoting environmental improvements. The "BRITE" project is an internal project which has been set up to do this.

6.13 DEVELOPMENT AND FLOOD RISK (PPG25)

The recent second consultation draft from the DETR.

6.14 FISHERIES ACTION PLANS (FAPS)

Pilot FAPs are now in the consultation phase with local groups to identify issues, targets and actions that will then be set out in draft FAPs.

6.15 STRATEGIC WASTE MANAGEMENT ASSESSMENTS

In November 2000 the Agency published nine "Strategic Waste Management Assessments" for England and Wales. Sussex Area is covered by the Strategic Waste Management Assessment for the South East. This document presents data collected by the Environment Agency which details how much waste is being produced. The document also includes predictions on future waste growth and how this might be managed.

7. DEVELOPMENT PRESSURES - WORKING WITH LOCAL AUTHORITIES

7.1 The location, extent and design of development can influence the degree to which new development is sustainable. Whilst the Agency has powers to regulate some processes and substances which can impact on the environment, its powers to control development are limited. In considering impacts of new development, the Agency is therefore largely dependent on the planning system for the protection of the environment:

- 7.2** The Local Authority Development Plan processes provides an important opportunity to progress towards sustainable development and growth. As a consultee in the Development Plan preparation process, the Agency recognises the importance of working with Local Planning Authorities (LPAs) to contribute to and further the objective of sustainable development.
- 7.3** The basic objectives of the Agency in advising on a Development Plan are to:
- promote policies which contribute towards sustainable development
 - balance the demands of development with the need to protect and enhance the environment
 - forward initiatives to encourage the development of brownfield sites
 - locate and phase development to make the most effective use of existing and planned infrastructure
 - control the risks of pollution of air, land and water
 - encourage the more efficient use of water, making the best use of current resources
 - protect river and vulnerable tidal floodplains from development
 - ensure no increased risk to people and the developed and natural environment from flooding as a result of new development
 - promote the use of sustainable drainage systems, where appropriate
 - conserve and enhance biodiversity
 - promote the use of water and associated land for recreational purposes
 - achieve reductions in waste through minimisation, reuse and recycling and improved standards of disposal
- 7.4** The Environment Agency is also a statutory or advisory consultee on planning applications received by the LPA's. Guidance on the applications the Agency would wish to see has been sent to the LPA's, together with relevant constraint maps. In responding to a planning application, the Agency would have regard to the policies in the relevant Local Plan, planning policy guidance notes, its own policies and the overall objectives identified above.
- 7.5** To facilitate liaison with the LPA's, regular meetings have been held to address any concerns and review procedures. Liaison has also been promoted through the Agency's national publication "Liaison with Local Planning Authorities" and a Sussex Area publication "Development Plans - the Role of the Environment Agency in Forwarding Sustainable Development".
- 7.6** The recent extensive flooding of properties and land across Sussex, has reinforced the Agency's precautionary approach against development in floodplains and the need to manage the potential impact of increased rates of surface water run-off from new development - which may exacerbate flooding elsewhere. Policies for the protection of floodplains and the use of sustainable drainage systems (SuDs) are already included in development plans, to ensure flood concerns are addressed at the planning stage and inappropriate development does not proceed. New Planning Policy Guidance (PPG25) "Development and Flood Risk" is expected in summer 2001, (the second consultation draft was published in February 2001) which will forward the precautionary approach against development in floodplains and promote the more extensive use of SuDs.
-

- 7.7 Over the past year the Agency has continued to support local authorities in the development of their Local Plans and Structure Plans at planning inquiries and at public meetings. The East Sussex and Brighton and Hove Waste Local Plan was supported through the provision of data and technical expertise, the production of a background paper on the Environment Agency and attendance at public exhibitions. Of particular public concern in this respect was the issue of potential incinerators in the area. If an incinerator is proposed then, as well as requiring planning permission any person wishing to operate an incinerator must also obtain an authorisation from the Environment Agency under the Integrated Pollution Prevention Control (IPPC) regulations. The Environment Agency is required to determine a correctly made application for an authorisation for an incinerator regardless of whether the incinerator has received planning permission. It is worth noting that the Agency has narrow grounds for refusing an authorisation if the emission controls can be met. Advice was also provided to the Select Committee for the West Sussex Minerals Local Plan and representatives of the Agency supported West Sussex County Council on various panels to answer questions from the public on the West Sussex Structure Plan.
- 7.8 Generally the Agency has been pleased to note that LPA's have included relevant policies and planning guidance for the protection of the environment in their development plans, and opportunities for environmental enhancements through planning obligations are being forwarded. The Agency will continue to work in close liaison with the LPA's over the next year to ensure such initiatives are forwarded through the planning application stage. In particular, close liaison will be required to help address public concerns associated with development, especially waste management proposals and to forward any revised requirements in the adopted PPG25; including concerns associated with climate change.

8. INDICATORS

Indicators are tools that measure, simplify and communicate important issues and trends. They can provide a benchmark against which progress can be measured and can be viewed in the Agency's document "Environmental Indicators: A Set of Environmental Indicators for Environment Agency Use", published July 2000.

Selected Key Indicators identified by the Agency to monitor the environment and review our own progress in Sussex are highlighted in Section 4.

Details on these indicators are contained in Appendix 2.

9. NEW PUBLICATIONS

These are just some examples of the many publications available from the Agency. Many of these can be located on the Agency website: <http://www.environment-agency.co.uk>.

Indicative flood plain maps are now available on-line.

- Strategic Waste Management Assessment (SWMA) - information on wastes and their management within Southern Region. Price £50 from Environment Agency R&D Dissemination Centre, WRc, Blagrove, Swindon, SN5 8YF.

- Sussex Amphibian and Reptile Group (SARG) Millennium Report (available from Sussex Area Office)
- Aquatic Eutrophication in England and Wales: A Management Strategy - August 2000
- Working Better Together - Environment Agency and Local Government Association: Plan for enhanced performance from better co-operation between local authorities and the Agency.
- State of the Environment Report: The Environment Agency's contribution to a better environment in the South East
- State of the Environment series : The Land, The Atmosphere, Coasts (£50 each)
 Fresh water (£35)
(available from: The Stationery Office : Tel 0870 600 5522)
- Environment 2000 and Beyond
- An Environmental Vision: the Environment Agency's contribution to Sustainable Development.
- Not available at time of publication of Annual Review: an online version of the West Sussex Waste Minimisation and Recycling Directory should be available shortly online on www.greenbusiness.org.uk.

10. SUSSEX AREA ACTIONS UPDATE

10.1 INTRODUCTION TO TABLES

The following tables set out actions required to address environmental issues in the Sussex Area. These issues were identified either in the original three LEAP Final Plans or were included as a result of recent consultations both internally and externally with our major stakeholders.

The tables do not include everything within the Agency's remit, such as many of our regulatory duties and day-to-day activities. We have also incorporated "nice to do" actions which we would like to progress, but given our limited resources these may not be possible in the foreseeable future unless partnerships and/or external funding can be found. We have highlighted with an asterisk those "nice to do" actions which we believe would be most suitable for partnerships and/or external funding.

In the tables total costs for projects are given where known. Many actions incorporate Agency manpower costs only and these are identified by a ●

10.2 KEY TO TABLES

Agency Departments/teams

WR - Water Resources
EPL - Environment Planning
EPR - Environment Protection
FD - Flood Defence
FER - Fisheries, Ecology and Recreation
CS - Customer Services
BS - Business Services
PL - Planning Liaison

SS - Scientific Support
 WQC - Water Quality Consenting
 DC - Development Control
 SP - Strategic Planning
 CC - Customer Contact
 TP - Tactical Planning
 TL - Team Leader
 Con - Conservation
 Rec - Recreation

CP - Cuckmere Pevensey Levels LEAP
 AW - Arun and Western Streams LEAP
 AO - Adur and Ouse LEAP

(Other abbreviations are identified in Appendix 1)

Bold text in the Action columns represents: Actions to be deleted from original LEAP Action Plans

Italic text represents: New Issues/Actions, identified since the original LEAP Action Plans

★ Selected actions for partnerships/external funding

● Agency Manpower Costs only

Shaded activities represent completed actions

10.3 ISSUES RELEVANT TO ALL SUSSEX CATCHMENTS

Issue 1	Limiting and adapting to climate change
Issue 2	There is a need to ensure that the air is clean
<i>New Issue 3</i>	<i>Review basis of mean river flow (MRF) and develop ecologically acceptable flow</i>
Issue 4	Managing Water Resources to balance the needs of abstractors with the protection and enhancement of the environment
Issue 5	Sustainable water resources management must be forwarded
<i>New Issue 6</i>	<i>Review impact of all water abstractions to comply with the Habitats Directive</i>
Issue 7	Opportunities to further the protection and enhancement of biodiversity need to be identified and forwarded
Issue 8	Loss and degradation of wetland and riverine habitats and opportunities for enhancement
Issue 9	Free passage of sea trout and coarse fish is restricted by obstructions in the river
Issue 10	Sustainable fisheries management must be forwarded
Issue 11	There is a lack of sustainable access to the water environment for recreation
Issue 12	Compliance with EU Standards and Agency objectives for water quality
Issue 13	There is a lack of knowledge of headwater streams and their associated biodiversity
Issue 14	Poorly maintained private sewage treatment facilities and septic tanks lead to water quality problems
Issue 15	Need to protect archaeological heritage in wetland, riverine and coastal areas
Issue 16	Intermittent pollution of watercourses

- Issue 17 The impact of marine pollution on the coastal environment
 Issue 18 Ensuring adequate standards and maintenance of flood defences
 Issue 19 Sustainable Drainage Systems (SuDs) should be utilised in new development
 Issue 20 The need to protect floodplains
 Issue 21 Opportunities for managed realignment of tidal embankments to provide wetland habitat should be investigated
 Issue 22 The impact of the new contaminated land regulations
 Issue 23 New development will pose increased pressures on the environment
 Issue 24 The sustainable management of waste must be forwarded to reduce impacts on the environment
 Issue 25 The capacity of landfill sites for the disposal of waste is extremely limited
 Issue 26 Potential increase in land application of wastes
 Issue 27 Illegal waste disposal (flytipping) must be controlled in liaison with Local Authorities.
 Issue 28 Rubbish in watercourses and the storage of materials on channel bank tops can lead to increased flooding
 Issue 29 Potential risk of water pollution from closed landfills
 Issue 30 Methane from landfill sites is contributing to greenhouse effect.
 Issue 31 Providing an effective flood warning system
 Issue 32 The effect of oestrogenic hormones (endocrine disrupters) on the aquatic environment
 Issue 33 Erosion of banks, disturbance of wildlife and danger to river users caused by speeding and large water craft
 New Issue 34 *Eutrophication of Sussex Rivers*
 New Issue 35 *Protection of Groundwater Quality*

10.4 ISSUES SPECIFIC TO CUCKMERE/PEVENSEY LEVELS

- Issue 36 Deterioration of control gates on Wallers Haven and Pevensey Haven
 Issue 37 Decline in nature conservation value of Pevensey Levels

10.5 ISSUES SPECIFIC TO ADUR/OUSE

- Issue 38 There is concern about use of water in the River Ouse
 Issue 39 Licensed waste management sites are not meeting environmental targets
 Issue 40 Management of port wastes
 New Issue 41 *Concern over Cockhaise Brook Abstraction*

10.6 ISSUES SPECIFIC TO ARUN AND WESTERN STREAMS

- Issue 42 Alleviating the problems at Swanbourne Lake
 Issue 43 There is concern at the decline in breeding wet meadow birds including wading birds and grassland passerines in the Arun Valley
 Issue 44 Protection of native crayfish in the River Rother
 Issue 45 Restoration of canals for recreation
 Issue 46 Ensuring an adequate level of protection to Chichester against flooding from the River Lavant
 Issue 47 The impact of mineral extraction

10.7 REVIEW OF ISSUES TABLE

ISSUE 1: LIMITING AND ADAPTING TO CLIMATE CHANGE

(Action Plan: Previous Issues 1 AW, AO) (CP Annual Review Issue 1)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
1.1 Take account of the impacts of climate change on the Sussex environment in undertaking our duties (CP/AO/AW)	All functions	ongoing	●	a) Principles of "Rising to the Challenge" produced by the Agency and other partners are being followed.
1.2 Review all our operations through EMS to minimise energy use	a) BS	ongoing	●	a) Achievements to date: waterless urinals, printers etc. with energy-saving modes, PPE (plastic) collection for re-use in third world, alternative transport days, waste survey, car-sharing, greener cleaning contracts

ISSUE 2: THERE IS A NEED TO ENSURE THAT THE AIR IS CLEAN

(Action Plan: Previous Issues 2 AW, AO) (CP: Annual Review Issue 2)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
2.1 Continue to work with the Sussex Air Quality Steering Group to forward AQ improvement (CP/AO/AW)	a) EPL - PIR TL b) LAs	ongoing	50	a) Agency representatives have continued to attend and advise the Sussex Air Quality Steering Group
2.2 Continue to use and extend the Pollution Inventory (CP/AO/AW)	a) EPL - PIR TL	ongoing	●	a) Now available on Agency website. IPPC Directive brought into force on 1st August 2000. Extensions being developed.
2.3 Encourage reduction in energy use through existing and future education programmes (CP/AO/AW)	a) EPL - TP TL b) LAs, energy companies, businesses c) EPR	ongoing	★	a) Education initiatives including West Sussex Business Waste Reduction Programme, Eco-schools, Avis Way Green Business Project, Cafe 2000

NEW ISSUE 3 : REVIEW BASIS OF MEAN RIVER FLOW (MRF) AND DEVELOP ECOLOGICALLY ACCEPTABLE FLOW

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
3.1 Review ecological flow requirements in lower River Rother (AW)	a) WR - Manager b) abstractors c) FER	2004	48	a) Piloted the use of Life technique with flow in the Rother and established fish monitoring

3.2 Investigate artificial recharge at Hardham (AW)	a) WR - Manager b) SWS	ongoing	-	a) No progress, dependent on SWS action.
---	---------------------------	---------	---	--

ISSUE 4: MANAGING WATER RESOURCES TO BALANCE THE NEEDS OF ABTRACTORS WITH THE PROTECTION AND ENHANCEMENT OF THE ENVIRONMENT

(Action Plan: Previous Issue 4 AW)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
4.1 Promote winter storage where applicable for summer abstraction (AW/AO/CP)	a) WR - TL b) abstractors, landowners, local business c) CS	ongoing	●	
4.2 Consult and publish CAMS (AW/AO/CP)	a) WR - Manager	ongoing	●	a) The Arun and Western Streams catchment is starting spring 2001 as part of national programme. Internal preparations taking place. Draft water bill was published 7th November 2000
4.3 Implement outcome of abstraction licence review (mandatory) (AW/AO/CP)	a) WR - Manager b) Water cos	ongoing	1000	a) Begin to implement time limiting of licence from April 1st 2001
4.4 Prepare, implement and maintain an abstraction protection plan for the Hardham abstraction on the River Rother (AW)	a) EPL - TP TL b) SWS c) EPR, WR	2001	16	a) Plan completed Field and office versions issued. b) Test of plan to be undertaken to ensure protocol would be effective in the event of an emergency
4.5 Prepare, implement and maintain an abstraction protection plan for the Hazards Green abstraction on the Wallers Haven (CP)	a) EPL - TP TL b) SEW c) WR, EPR	2002	16	a) Draft abstraction protection plan complete. Funding required to complete associated time of travel study.
4.6 Prepare, implement and maintain an abstraction protection plan for Barcombe abstraction on the River Ouse (AO)	a) EPL - TP TL b) SEW c) WR, EPR	2002	16	a) Plan completed and issued. Joint working group set up to oversee use of the Plan

ISSUE 5: SUSTAINABLE WATER RESOURCES MANAGEMENT MUST BE FORWARDED

(Action Plan: Previous Issues 3 AW, AO (CP: Annual Review Issue 3)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
5.1 Continue long term water resources planning for the SE including implications of climate change (AW/AO/CP)	a) WR - Manager b) Water cos, Ofwat, DETR, SERPLAN, GOSE, LAs	ongoing	●	a) First update plans by water companies have been reviewed. Regional Water Resources Strategy in course of preparation for expected revision March 2001.

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
5.2 Promote and encourage further demand management and water conservation (AW/AO/CP)	a) WR - Manager b) Water cos. Ofwat, LAs, developers, public, industry, agriculture c) CS, EPL	ongoing	5 ★	a) AW: Chesswood School Water Efficiency Project has been promoted by West Sussex County Council. Technical support and funding by WSCC, EA and SWS.
5.3 Promote wastewater recycling and reuse (AW/AO/CP)	a) WR - TL b) Water cos, industry	ongoing	● ★	No action locally
5.4 Develop waste minimisation initiatives for water with the public and external organisations (AW/AO/CP)	a) WR - TL b) LAs, Water cos, industry	ongoing	● ★	a) Talks to local businesses. Cafe 2000 exhibition in Brighton. West Sussex Business Waste Reduction Programme, Installation of urinal controls at Infrasoftware in Horsham b) Influence development of Regional "E-generation" website
5.5 Promote proactive role in development planning (CP/AO/AW)	a) CS - PL TL b) LAs, Water Cos c) WR	ongoing	●	a) Meetings held with LPAs. Additional formal guidance provided
5.6 Develop model of groundwater flow on the Brighton/Worthing Chalk Block (AO/AW)	a) WR - Manager b) SWS c) EPL	2003	120	a) Identifying sites for observation boreholes and flow measurement. Model development will continue.

NEW ISSUE 6: REVIEW IMPACT OF ALL WATER ABSTRACTIONS TO COMPLY WITH HABITATS DIRECTIVE

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
6.1 Investigate impact of full Fishbourne licence (AW)	a) WR - TL b) Water cos	2003	36	a) Stages 1 and 2 of the Review completed October 2000. Specification for further investigation being prepared by EN. Work to be carried out by PWC under AMP3 funding.
6.2 Investigate reliable yield and sustainable abstraction from Wallers Haven (CP)	a) WR - TL b) SEW, EN, farmers	2004	8	a) Prepared specification for SEW to do under AMP3. SEW are carrying out investigation into phase 1. Further phase to commence in 2001 fitting in with the Habitats Directive review of Agency authorisations. Whole investigation to be completed by March 2004.

ISSUE 7: OPPORTUNITIES TO FURTHER THE PROTECTION AND ENHANCEMENT OF BIODIVERSITY NEED TO BE IDENTIFIED AND FORWARDED

(Action Plan: Previous Issues 7 AW, 5 AO) (CP: Annual Review Issue 6)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
7.1 Encourage recolonisation of the otter and water vole to the catchment with provision of improved habitat (AW/AO)	a) FER - Con/Rec TL b) SWT, EN, LAs, landowners, farmers, SDCB	ongoing	25 ★	a) Contributions made through the collaborative Sussex Otters and Rivers Partnership. b) Bid for external funding for otter crossing points on the Rother to be submitted.
7.2 Encourage Barn Owl recolonisation (CP/AO/AW)	a) FER - Con/Rec TL b) EN, MAFF, landowners, farmers, LAs, SWT, cons./env. groups	ongoing	● ★	a) Boxes erected on Arun, Rother, Ouse and Cuckmere. Plans for the Adur before end March 2001.
7.3 Promote the protection and spread of rare water corridor species (CP/AO/AW)	a) FER - Con/Rec TL b) EN, MAFF, landowners, farmers, LAs, SWT, cons/env. groups, universities	ongoing	● ★	a) Work continuing to protect populations of endangered species such as water vole, otter, native crayfish, from the development and ecological pressures of the South East. Large colony of rare "depressed river mussels" found on River Arun and River Adur as a result of partnership with Cambridge University
7.4. Promote Research and Development to investigate control of alien aquatic plant species (CP/AO/AW)	a) FER - Con/Rec TL b) MAFF, EN, SWT, Universities	ongoing	●	a) contributions made to local studies on control of pennywort, giant hogweed and Japanese knotweed b) seek to influence partners to lead on further research
7.5 Carry out surveys to identify rare plant species that could be encouraged to recolonise areas by habitat creation (CP/AO/AW)	a) FER - Con/Rec TL b) EN, SWT		● ★	a) The Agency will continue to support, as opportunities arise, initiatives to recover species such as the native Black Poplar.
7.6 Work with environmental bodies to identify further opportunities for partnerships and external funding (CP/AO/AW)	a) FER - Con/Rec TL c) CS	ongoing	●	a) secured £579K of benefit against £21K of Agency investment on collaborative projects
7.7 Establish management strategies for alien species (CP/AO/AW)	a) FER - Con/Rec TL b) MAFF, landowners, EN, LAs, other Govt. agencies, Railtrack and Highways	2001	35 (AO)	a) Collaborative R&D underway to assess benefits of mink control in improved water vole habitat. Advances in existing control methods are required for control to be effective.

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
7.8 Develop and implement Water Vole Management Strategy (CP/AO/AW)	a) FER - Con/Rec TL	ongoing	●	a) Limited success in halting the decline of water voles in Sussex, however more information on distribution now available.
7.9 Develop and implement Otter Management Strategy (CP/AO/AW)	a) FER - Otter Project Officer b) SWT, Water Cos. Holly Hill Trust, SBP, anglers, SDCB	ongoing	●	a) Results of national survey awaited. Road signage for otters to be pursued if funds can be secured.
7.10 Deliver Species Action Plans for Sussex LEAP areas (CP/AO/AW)	a) FER - Con/Rec TL b) Sussex Biodiversity Partnership	ongoing	●	a) Active contributions through collaborative partnership to the development and implementation of local SAPs for otters, water vole, fen raft spider, etc. Actions implemented through core activities, pro-active collaborative partnerships and advice to internal and external parties.
7.11 Continue to forward our work with the Sussex Biodiversity Partnership (CP/AO/AW)	a) FER - Con/Rec TL b) SBP c) CS	ongoing	●	a) Key player and collaborative funder of the Biodiversity Officer
7.12 Undertake urgent control of giant hogweed infestation at Boldings Brook and River Lox at Loxwood and North River (AW)	Current control measures have been ineffective. EA awaiting control development before proceeding.			
7.13 Undertake project to control outbreaks of Japanese knotweed on the River Lod and the Upper Arun near Horsham (AW)	a) FER - Con/Rec TL b) LAs, landowners		● *	a) Advice given to LAs and landowners in the absence of funding
7.14 Undertake project to control floating pennywort on 1. the Pagham Rife (AW) 2. Piltdown (AO) 3. Pevensey Levels (CP)	a) FER - Con/Rec TL b) EN, WSCC, landowners c) FD		● * 4.5 (AW)	a) Lack of collaborative support from controlling landowner. a) Profile raised on Pevensey Levels through media and presentations. Treatment by Direct Work Force helped maintain stretches of main watercourses.
7.15 Assess distribution of alder root disease (<i>Phytophthora</i>) and monitor spread (AW/AO)	a) FER - Con/Rec TL b) Landowners, Forestry Authority			a) No funding to progress. Seek to influence partners to lead on assessment. Reassess 2005
7.16 Monitor implications of climate change on species (CP/AO/AW)	a) FER - Con/Rec TL b) Biodiversity partnership, EN		*	

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
7.17 Forward UK biodiversity objectives as an integral part of all Agency works (CP/AO/AW)	a) FER - Con/Rec TL c) FD, WR, EP, CS	ongoing	●	

ISSUE 8: LOSS AND DEGRADATION OF WETLAND AND RIVERINE HABITATS AND OPPORTUNITIES FOR ENHANCEMENT

(Previous Issues 8 and 14 AW 6 AO) (CP: Annual Review Issue 7)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
8.1 Produce and implement habitat focussed WLMPs for 1. Amberley, Waltham, Upper Arun, Arun Banks and Pagham Harbour (AW) 2. Lewes Brooks/Offham Marshes SSSI's (AO)	a) FER - Con/Rec TL b) MAFF, landowners, EN, SWT, conservation groups/ environmental orgs., IWA, WACT	2004	40 (AW) 30 (AO)	a) Arun & Western Streams: Amberley ongoing. Pagham Harbour water management being actively investigated as part of the river Lavant Flood Alleviation scheme. b) No plans to implement others in this catchment due to lack of resources. Adur/Ouse: Further opportunities will be considered as they arise and as resources permit
8.2 Deliver HAPs (CP/AO/AW)	a) FER - Con/Rec TL b) Biodiversity Partnership, landowners, IWA, conservation groups & env. orgs.	ongoing	● ★	a) Active contributions through collaborative partnership to the development and implementation of local HAP's for vegetated shingle, floodplain grassland, lowland heathlands, reedbeds, saline lagoons and woodland. River and Streams HAP currently being produced. Actions implemented through core activities and advice to internal and external parties.

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
8.3 Identify opportunities to reinstate meanders and pool/riffle sequences and restore floodplains (CP/AO/AW)	a) FER - Con/Rec TL b) MAFF, LAs, landowners, conservation groups & env. orgs.	2006/7	160 (AO)	a) Actively pursuing sustainable solutions for the River Ouse to input into the Flood Defence strategy during 2000/01. • Propose to commission investigation on the Adur by mid 2001. • Investigations at Cuckmere Haven ongoing. • Arun & Western Streams process to start 2001, target 2007. The potential to restore the Shopham Loop on the Rother is being investigated further in partnership with the managing estate. b) All subject to funding. Potential for Heritage Lottery/EU LIFE funding.
8.4 Develop a tree planting and management programme at Burpham Loop (AW)	a) Work at Burpham Loop on the Arun unlikely to go ahead due to conflict between partners. (AO)			
8.5 Investigate extent to which nutrient reduction in sewage discharges reverses the negative effects of eutrophication downstream of Hailsham STW (CP)	a) FER - Biology TL b) SWS c) EPL	2001	6 ★	a) Baseline investigations underway
8.6 Promote retention and creation of undisturbed buffer strips and contour ploughing to reduce surface water run-off and siltation impacts (CP/AO/AW)	a) FER - Con/Rec TL b) MAFF, landowners, SWT, River Valley Project groups, EN, conservation groups & orgs., FRCA, FWAG, NFU, angling clubs c) CS/FD/EPL/EPR	ongoing	● ★	a) Actively progressing where opportunities present themselves and through the Rother Valley Project in the Arun catchment where siltation is a major problem. b) Funding to be sought for further land care initiatives from 2001 onwards. Provide advice when carrying out pollution prevention and waste minimisation visits to farms.
8.7 Raise awareness of FER issues through PR (CP/AO/AW)	a) FER - FER Manager	ongoing	●	a) Recent blitz on PR. Ongoing as opportunities arise.
8.8 Develop strategy for sustainable habitat management including protection and restoration (CP/AO/AW)	a) FER - Con/Rec TL	2004	★	a) Start date anticipated 2002. b) Dependent on collaborative funding.

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
8.9 Forward opportunities to improve the environmental value of existing river corridors and create new corridors in urban and suburban areas (CP/AO/AW)	a) FER - Con/Rec TL	ongoing	● *	a) Value of the environment being improved through partnership works and collaborative projects such as the Ouse Valley and Rother Valley Projects.
8.10 Forward opportunities for protection and enhancement of biodiversity through land use planning (CP/AO/AW)	a) FER - Con/Rec TL b) LAs, landowners, water cos., developers	ongoing	●	a) Mitigation and enhancements sought for all impacting development consents to maximise environmental gain through these and advisory activities. Collaborative involvement in local biodiversity initiatives when resources permit.
8.11 Promote best practice for sustainable management of the environment (CP/AO/AW)	a) FER - Con/Rec TL b) landowners, businesses c) EPL, EPR	ongoing	●	a) Active promotion through internal liaison, development consents, partnerships and advice to LAs, other organisations and the public
8.12 Protect, enhance and create saltmarsh and reedbed habitats throughout the LEAP areas, including land at the Wildfowl and Wetland Trust at Arundel (AW) and at Filsham (PC)	a) FER - Con/Rec TL b) Biodiversity Partnership, landowners, conservation groups & env. orgs.		● *	a) £36K of landfill tax has gone towards restoring the second largest reedbed in West Sussex at the Wildfowl and Wetlands Trust, Arundel. 19 hectares of reedbed restored at Filsham. Total cost of project £150K. Public and disabled access created - educational and tourism benefits.
8.13 Forward opportunity for reedbed creation at the RSPB reserve at Pulborough Brooks (AW)	Now a SAC with rare species and therefore likely to prohibit reedbed creation.			
8.14 Identify target areas for habitat protection, restoration and creation (CP/AO/AW)	a) FER - Con/Rec TL b) SWT, EN, WACT, conservation groups & env. orgs, LAs		*	a) Limited actions due to resource limitations
8.15 Restore former water levels to Chingford Pond (AW)	a) FER - Con/Rec TL b) WSCC, SDCB		(250) *	a) Limited actions due to resource limitations
8.16 Carry out restoration and desilting of Storrington Pond (AW)	a) FER - Con/Rec TL b) Horsham DC, Storrington Conservation Group, Landfill money operators		*	a) Limited actions due to resource limitations
8.17 Carry out enhancement of Warnham Mill Pond (AW)	a) FER - Con/Rec TL b) Horsham DC		*	a) Limited actions due to resource limitations

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
8.18 Undertake enhancement of the River Stor channel and river corridor (AW)	a) FER - Con/Rec TL b) Arun & Rother Valley Project	*	(50) *	a) Limited actions due to resource limitations
8.19 Undertake survey of flora on the Arun floodbanks (AW)	a) FER - Con/Rec TL		(3) *	a) Issue over financial year and timing of mowing of banks limits opportunities.
8.20 Monitor and manage Cut Grass (<i>Leersia oryzoides</i>) (AW)	a) FER - Con/Rec TL b) EN, landowners	*	(5) *	a) Limited actions due to resource limitations
8.21 Undertake biological survey of Amberley Wild Brooks (AW)	a) FER - Biology TL		(4) *	a) Limited actions due to resource limitations
8.22 Forward opportunities for enhancement of the Teville Stream, Worthing (AW)	a) FER - Con/Rec TL b) Worthing BC, BTCV, local communities c) EPL	*	(5) *	b) Tie into Sussex Enterprise industrial estates initiative
8.23 Promote enhancement and conservation of Ferring Rife and other Agency owned sites throughout the LEAP area (AW)	a) FER - Con/Rec TL		(13)	a) Limited actions due to resource limitations
8.24 Assess implications of climate change on habitats and plan for their protection (CP/AO/AW)	a) FER - FER Manager		*	a) Limited actions due to resource limitations
8.25 Land care/ management of soil to prevent erosion (CP/AO/AW)	a) FER - Con/Rec TL	2007 (AW) 2011 (CP) 2012 (AO)	●	a) Start anticipated 2001 with Arun, followed by Cuckmere/Pevensey 2002 and Adur/Ouse 2003.

ISSUE 9: FREE PASSAGE OF SEA TROUT AND COARSE FISH IS RESTRICTED BY OBSTRUCTIONS IN THE RIVER

(Action Plan: Previous Issue 12 AW, 8 AO), (CP: Annual Review Issue 9)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
9.1 Review the status and function of all in-river structures and potential for removal (CP/AO/AW)	a) FD/FER - TL, Pevensey Levels Project Officer b) LAs, landowners, EN, SWT, angling clubs, c) WR/EPL	ongoing	●	a) Obstacles preventing the free passage of sea trout have been assessed for the Arun catchment and are being reviewed in the Pevensey Levels.

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
9.2 Review the operation of sluices and evaluate option for replacement of bottom-opening gates with top-opening gates (CP/AO/AW)	a) FD/FER, Pevensey Levels Project Officer	ongoing		a) Limited actions due to resource limitations
9.3 Construct viable fish passes for both salmonids and cyprinids and modify existing passes where necessary (CP/AO/AW)	a) FER - Fisheries Scientist b) angling clubs c) CS/FD/WR	2004	★	a) National fisheries bid made to fund work.
9.4 Identify areas for fish refuges and reduction in steepness of bank profile (CP)	a) FER - Fisheries TL b) angling clubs	ongoing	★	a) Limited actions due to resource limitations

ISSUE 10: SUSTAINABLE FISHERIES MANAGEMENT MUST BE FORWARDED

(Action Plan: Previous Issues: 11 AW, 7 AO), (CP: Annual Review Issue 10)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
10.1 Determine reasons for the decline of the fishery in the Western Adur and seek a long term solution (AO)	a) FER - Fisheries Scientist b) angling clubs c) EPL		(20)	a) Some ongoing
10.2 Deliver a Fisheries Action Plan for the Western Rother (AW)	a) FER - Fisheries Scientist	2001	●	a) Group set up. Work proceeding.
10.3 Deliver FAPs for each LEAP area (CP/AO/AW)	a) FER - Fisheries Scientist	2005	●	a) Pilot FAPs are now in the consultation phase with local groups to identify issues, targets and actions that will then be set out in draft FAPs, expected to be ready for wider review and discussion by April 2001
10.4 Utilise FAPs to identify and implement fishery improvement strategy for each LEAP area (CP/AO/AW)	a) FER - Fisheries Scientist	2006	●	
10.5 Regulation and management of introduced fish species (CP/AO/AW)	a) FER - Fisheries TL b) MAFF, angling clubs, EN	ongoing	●	
10.6 Implement Coarse Fisheries Strategy (CP/AO/AW)	a) FER - Fisheries TL	ongoing		
10.7 Determine status of sea trout (CP/AO/AW)	a) FER - Fisheries TL b) angling clubs, CEFAS, Water Cos. c) WR	ongoing	(48) (AW) (23) (AO) ★	a) Subject to collaborative funding

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
10.8 Ensure abstraction intakes are appropriately screened (CP/AO/AW)	a) FER - Fisheries TL b) Water Cos., abstractors	ongoing	●	
10.9 Assess the scale of netting (licensed and illegal) in the estuaries of the Arun, Adur, Ouse, Western Streams, Chichester and Pagham Harbours (AO/AW)	a) FER - Fisheries TL b) MAFF, Sea Fisheries Committee		(35)	a) Limited actions due to resource limitations
10.10 Assess the scale of netting and its impact on stocks of eels in the River Cuckmere and Pevensey Levels (CP)	a) FER - Fisheries TL b) eel fishermen, angling orgs.		●	a) Limited actions due to resource limitations
10.11 Maintain and improve, where possible, levels of Fisheries Enforcement (CP/AO/AW)	a) FER - Fisheries TL b) Police, MAFF, eel fishermen, angling orgs.	ongoing	●	
10.12 Identify specific enhancements to improve fish habitats and spawning sites, particularly in the main havens and channel (CP)	a) FER - Fisheries TL b) angling orgs, landowners	ongoing	●	a) Limited actions due to resource limitations
10.13 Investigate the spread of <i>Ergasilus</i> within the Adur and Ouse catchments (AO)	a) FER - Fisheries TL b) angling clubs		(10)	a) Limited actions due to resource limitations

ISSUE 11: THERE IS A LACK OF SUSTAINABLE ACCESS TO THE WATER ENVIRONMENT FOR RECREATION

(Action Plan Previous Issues 20 AW, 13 AO), (CP: Annual Review Issue 12)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
11.1 Prepare management strategy for Shoreham Harbour in conjunction with Shoreham Maritime Proposals (AO)	a) FER - Con/Rec TL b) Port Authority c) FD/CS	ongoing	●	a) Limited actions due to resource limitations

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
11.2 Promote access to water in planning conditions for waterside development (where compatible with other users) (CP/AO/AW)	a) FER - Con/Rec TL b) LAs, SDCB, River Valley Project Groups, EN, SWT, BCU, RYA, Chichester Harbour Conservancy, angling clubs c) CS/FD	ongoing	●	a) Access to water being promoted as opportunities arise.. b) Currently no resource for any pro-active promotion
11.3 Access to water strategies to include nature conservation, water based recreation, needs of disabled, safety, integrity of defences and access routes for future maintenance and defence (CP/AO/AW)	a) FER - Con/Rec TL b) RYA/BCU, LAs, EN, SWT, River Valley Project Groups	2002	★	a) Due to start 2001/2. b) Subject to collaborative funding.
11.4 Promote recreation enhancement through core duties (CP/AO/AW)	a) FER - Con/Rec TL	ongoing	●	a) Limited activity in response to opportunities due to lack of resources, (financial and manpower). Some implementation of Recreation Action Plan.
11.5 Promote implementation of Agency site management plans (CP/AO/AW)	a) FER - Con/Rec TL b) SDCB, River Valley Project Groups, c) FD/WR	2001	(25)	a) Limited actions due to resource limitations. Internal collaboration.
11.6 Investigate rights of navigation on non-tidal parts of the Rivers Arun and Rother and consider impact of any changes (AW)	a) FER - Manager b) BCU, WACT, IWA, EN, angling clubs			a) No action at present. The BCU has received legal counsel on canoeists' navigation rights on the Rother. Counsel's guidance is that the navigation right applies only to vessels of greater than 10 tonnes, thus excluding canoes at this time.

ISSUE 12: COMPLIANCE WITH EU STANDARDS AND AGENCY OBJECTIVES FOR WATER QUALITY
(Action Plan: Previous Issues 16 AW, 10 AO), (CP: Annual Review 13)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
12.1 Contribute to AMP3 programme (CP/AO/AW)	a) EPL - WQC TL	2004	●	

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
12.2 Identify biological and chemical water quality problems and prioritise appropriate remedial actions through the development of improvement plans (CP/AO/AW)	a) EPL - WQC TL	2001	●	a) Investigation drivers include AMP3, RQO and GQA. Sussex Area WQ Improvement Plan completed, but limited implementation due to insufficient resources.
12.3 Reduce by half the number of river stretches failing their River Quality Objective by 2005 (CP/AO/AW)	a) EPL - WQC TL	2005	●	
12.4 Process consents for AMP2 commitments. Sign off installation and monitor (CP, AO, AW)	a) EPR - TL, WQC/TP - TL	ongoing	●	a) Bognor/Littlehampton, Chichester completed. Worthing due end 2001. (AW) Eastbourne due end 2002, Bexhill/Hastings due mid 2003 (CP)
12.5 Introduction of Secondary Treatment at Shoreham, Portobello and Newhaven STWs (AO)	a) EPL - TP TL b) SWS	ongoing		a) Shoreham completion due end 2001, Portobello completion due end 2003. Cost: £60m (SWS)
12.6 Achieve guideline standards under the Freshwater Fisheries Directive (CP/AO/AW)	a) EPL - TP TL b) SWS	ongoing	●	
12.7 Monitor implications of climate change on river flows and water quality (CP/AO/AW)	All functions	ongoing	● *	

ISSUE 13: THERE IS A LACK OF KNOWLEDGE OF HEADWATER STREAMS AND THEIR ASSOCIATED BIODIVERSITY

(Action Plan: Previous Issues 18 AW, 12 AO)

ACTION	a) Lead Function b) Potential Partners c) Other functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
13.1 Continue investigations into headwater streams including undertaking additional sampling programmes (CP/AO/AW)	a) FER - Biology TL b) Coventry University	2002	(25) *	b) Limited actions due to resource limitations
13.2 Develop policy for issuing consents for discharges into headwaters (CP/AO/AW)	a) EPL WQC b) Universities c) FER	2002	●	b) Research project

ISSUE 14: POORLY MAINTAINED PRIVATE SEWAGE TREATMENT FACILITIES AND SEPTIC TANKS LEAD TO WATER QUALITY PROBLEMS

(Action Plan: Previous Issue: 19 AW)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
14.1 Undertake a scoping study to identify scale of problem and prioritise areas for action (CP/AO/AW)	a) EPR - EPR TL b) LAs c) EPL	ongoing	●	a) Little progress, but currently targeting for improvement/enforcement action
14.2 Investigate deterioration of the Sutton Stream and Boldings Brook (AW)	a) EPR - EPR TL c) EPL	ongoing	●	a) Little progress made. Consented discharges are not causing problems.

ISSUE 15: NEED TO PROTECT ARCHAEOLOGICAL HERITAGE IN WETLAND, RIVERINE AND COASTAL AREAS

(Action Plan: Previous Issues: 24 AW, 16 AO), (CP: Annual Review Issue 14)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
15.1 Seek assessment of heritage value of Sussex sites through partners to enable prioritisation of conservation importance (CP/AO/AW)	a) FER - Con/Rec TL b) EH, LAs, River Valley Projects, WACT	2003		a) Due to commence 2002.
15.2 Promote protection of landscape, archaeology and heritage (CP/AO/AW)	a) FER - Con/Rec TL	ongoing	●	a) Progressed through planning application responses and in undertaking Agency Regulatory role.
15.3 Increase awareness of heritage sites through education and interpretation (CP/AO/AW)	a) FER - Con/Rec TL b) EH, LAs, WACT, public, River Valley Projects c) CS			a) No action due to resource limitations
15.4 Identify archaeological implications of coastal defence works at Pevensey (CP)	COMPLETE			

ISSUE 16: INTERMITTENT POLLUTION OF WATERCOURSES

(Action Plan: Previous Issues: 17 AW, 11 AO) , (CP: Annual Review 15)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
16.1 Promote environmental awareness throughout business and the community, in particular forward the "Oil Care" campaign, best operational practice and waste minimisation (CP/AO/AW)	a) EPR - EPR TL b) industry, LAs c) EPL	ongoing	● *	a) Awareness raising as part of partnership waste minimisation programmes
16.2 Raise awareness of high pollution risks associated with domestic heating oil tanks (CP)	a) EPR - Manager b) LA, industry c) EPL	ongoing	● *	a) Continues to be of concern. Unable to complete owing to lack of resources
16.3 Ensure industrial estates are controlled with regard to oil storage to the same standards as agriculture (CP/AO/AW)	a) EPR TL b) LAs, Businesses, Sussex Enterprise c) EPL	ongoing	●	a) Unable to complete owing to lack of resources. Some awareness raising has taken place as part of partnership waste minimisation programmes
16.4 Carry out scoping exercise to prioritise risk of pollution in all industrial estates (CP/AO/AW)	a) EPR TL b) industry, LA, Sussex Enterprise c) EPL	ongoing		a) Unable to complete owing to lack of resources
16.5 Further liaise with Railtrack to prevent oil pollution from electric power lines (CP/AO/AW)	a) EPR TL	ongoing	●	a) Regular reports have not shown any leaks of concern to sensitive groundwaters.
16.6 Forward improvements to CSOs through AMP3 process (CP/AO/AW)	a) EPL - TP TL b) SWS c) EPR	2001-2005	●	a) Final programme for upgrading CSOs agreed with SWS.
16.7 Ensure works are carried out following investigation of surface and foul sewage systems in the Aldingbourne Rife (AW)	a) EPR - EPR TL b) SWS	ongoing	●	a) EA have re-surveyed the surface water system in the College Ditch catchment to confirm recent repairs and further investigate sources of contamination. SWS to carry out repairs during 2000/2001.
16.8 Continue a farm inspection programme to detect poor waste management practices and advise on best practice (CP/AO/AW)	a) EPR - EPR TL b) MAFF/ADAS, agricultural industry		●	a) Unable to achieve desired visits to farms owing to lack of resources. In the light of recent precipitation it is important to re-establish links with the agricultural community to determine the effectiveness of farm waste management plans.
16.9 Promote pollution prevention measures in land use planning (CP/AO/AW)	a) CS - PL TL b) LAs	ongoing	●	
16.10 Explore potential to control discharges from houseboats in the Adur Estuary and boats in Chichester Harbour (AO/AW)	a) EPR - EPR TL b) industry	ongoing		

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
6.11 Implement improvements for Lewes CSO (AO)	Completion of Lewes to Newhaven Sewage Transfer Scheme has improved river quality at Lewes.			
16.12 The Agency will continue to give guidance on the safe use of antifouling products used on boats. (CP/AO/AW)	a) EPL - TP TL b) Chichester Harbour Conservancy	ongoing		Leaflet produced - limited resources to promote activity

ISSUE 17: THE IMPACT OF MARINE POLLUTION ON THE COASTAL ENVIRONMENT
(Previous Issue 16: CP Annual Review)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
17.1 Contribute to external organisations' emergency plans (CP/AO/AW)	a) EPR - EPR TL b) Emergency Services	ongoing	●	a) Comments made on Littlehampton Harbour Authority oil spill contingency plan

ISSUE 18: ENSURING ADEQUATE STANDARDS AND MAINTENANCE OF FLOOD DEFENCES
(Previous Issues: (1, 25, 26 AW), (1, 17, 18 AO), (17: CP Annual Review))

ACTION	a) Lead Function b) Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
18.1 Complete coastal strategies for sustainable sea defence management (CP/AO/AW)	a) FD - SP TL b) MAFF, LAs c) FER	ongoing	44	a) Adur to Arun stretch complete. Pagham to East Head complete with MAFF for approval.
18.2 Identify long term maintenance arrangements and access requirements to undertake maintenance and improvement works (CP/AO/AW)	a) FD - OPs TL b) LAs, MAFF c) FER	ongoing	●	
18.3 Improve liaison and awareness of maintenance with other beach users, property owners and local authorities (CP/AO/AW)	a) CS - DC TL b) property owners, fishermen, boat users & jet skiers, LAs c) CS			a) No resources to forward on wide scale.
18.4 Monitor climate change impacts (CP/AO/AW)	a) FD - SP TL b) LAs, MAFF	ongoing		a) Regional and national research taking place

ACTION	a) Lead Function b) Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
18.5 Forward schemes to improve standards of defences (CP/AO/AW)	a) FD - SP TL b) LAs, MAFF c) FER		● *	a) Meetings have taken place with WSCC with a view to identifying how the EA and partners can forward a more sustainable approach to coastal management. b) Possible Interreg IIId funding.
18.6 Undertake strategic review of tidal defences in accordance with the Flood Defence Management Manual (CP/AO/AW)	a) FD - SP TL b) LAs, MAFF c) FER	ongoing	25	a) River Catchment Strategies to be issued. Awaiting guidance from MAFF. Pagham to Arun Strategy approved by MAFF
18.7 Forward strategy to improve tidal defences where applicable / relevant (CP/AO/AW)	a) FD - SP TL b) MAFF, landowners c) FER	ongoing	468	a) River Catchment Strategies to be issued. Awaiting guidance from MAFF River Ouse and Arun, Sussex Rifes Awaiting MAFF approval
18.8 Forward Scheme for improved sea defences at Pevensey Bay (CP)	Pentium have taken over responsibility for the defences working from offices in Pevensey. All specified service requirements have been met.			

ISSUE 19: SUSTAINABLE DRAINAGE SYSTEMS (SuDS) SHOULD BE UTILISED IN NEW DEVELOPMENT

(Action Plan: Previous Issues: 27 AW, 19 AO),(CP: Annual Review Issue 18)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
19.1 Identify and forward opportunities for environmental protection and enhancement through use of SuDS in planning application responses (CP/AO/AW)	a) CS - DC TL b) LAs c) FER	ongoing	●	a) Objections have been made to environmentally unsustainable proposals on flooding, biological, conservation and landscape grounds. Where feasible mitigation measures have been secured to reduce environmental impacts and promote gains. b) Functional support needed
19.2 Review management of existing flood attenuation ponds (CP/AO/AW)	a) CS - DC TL b) LAs c) FD, FER			a) Insufficient resources to undertake action
19.3 Ensure effective management for future maintenance of flood ponds (CP/AO/AW)	a) CS - DC TL b) LAs, public, developers c) FD/FER	ongoing	●	a) Recommend future management confirmed prior to planning permission being given
19.4 Forward Strategy for SuDS in new development with local authorities (CP/AO/AW)	a) CS - DC TL b) LAs, developers, public, water companies	ongoing	●	a) SuDS promoted in Development Plans and utilised in new development

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
19.5 Promote wet ponds for surface water attenuation and environmental enhancement (CP/AO/AW)	a) CS - DC TL b) LAs, developers, public water companies	ongoing	●	a) Promoted in Development Plans and in proposals for new development
19.6 Forward the use of rainwater harvesting techniques in new development (CP/AO/AW)	a) CS - PL TL	ongoing	● ★	a) Principles forwarded for inclusion in future development plans b) Funding and staff resource problems.
19.7 Forward innovative design and encourage best practice through publicity, seminars and workshops (CP/AO/AW)	a) CS - PL TL	ongoing	● ★	a) Insufficient resources for seminars/workshops

ISSUE 20: THE NEED TO PROTECT FLOODPLAINS

(Action Plan: Previous Issues: 28 AW, 20 AO), (CP Annual Review Issue 19)

ACTION	a) Lead Function b) Potential Partners c) Functional support.	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
20.1 Further promote floodplain protection to local authorities including zoning of tidal risk areas (CP/AO/AW)	a) CS - DC TL b) LAs	ongoing	●	a) Meetings with / presentations made to LAs. Further presentations planned.
20.2 Complete and provide more detailed flood risk information (CP/AO/AW)	a) CS - DC TL b) LAs c) FD	ongoing	●	a) Undertaken but continues to be updated
20.3 Ensure floodplain protection is identified in development plans and forwarded through planning application responses (CP/AO/AW)	a) CS - DC TL/PL TL b) LAs, EN, SWT	ongoing	●	a) Policies included in Development Plans. Planning applications refused on floodplain grounds
20.4 Provide "expert" evidence to back planning objections and development plan policies at public inquiries (CP/AO/AW)	a) CS - DC TL/PL TL b) LAs	ongoing	●	a) Statement of case produced. Expert evidence provided at enquiries.
20.5 Promote natural functioning of floodplains (CP/AO/AW)	a) CS - DC TL/PL TL b) LAs c) FD	ongoing	●	a) Undertaken.
20.6 Educate and encourage best practice through publicity, seminars and workshops (CP/AO/AW)	a) CS - DC TL b) LAs, developers c) FD	ongoing	●	a) Undertaken b) Staff and funding problems.
20.7 Assess increased risk from impact of predicted climate change (CP/AO/AW)	a) FD - Manager c) CS	ongoing	●	a) Impact of climate change included in assessing floodrisk to new development.

ISSUE 21: OPPORTUNITIES FOR MANAGED REALIGNMENT OF TIDAL EMBANKMENTS TO PROVIDE WETLAND HABITAT SHOULD BE INVESTIGATED

(Action Plan: Previous Issue: 15 AW)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
21.1 Forward opportunities for habitat enhancement through phased sequence of realignment of tidal defences (CP/AO/AW)	a) FER - Con/Rec TL b) SDCB, MAFF, DC, EN, LAs, NT, Chichester Harbour Conservancy, RSPB, angling clubs, landowners, conservation groups, SWT c) FD	2006/7	★	a) Limited action due to resource limitations. Realignment options currently being scoped for Cuckmere, but require additional ground survey and further liaison with NT. Action on the Arun due to start subject to funding in 2001. Target 2007.

ISSUE 22: THE IMPACT OF THE NEW CONTAMINATED LAND REGULATIONS

(Action Plan: Previous Issues: 31 AW, 22 AO), (CP: Annual Review Issue 20)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
22.1 Further monitor extent of contaminated land and associated risk. Seek remediation of high risk and brownfield sites. (CP/AO/AW)	a) EPL - Scientific TL b) LAs, landowners	ongoing	● ★	a) A programme of land investigation at the MOD site at Thorney Island has been undertaken to identify the source of DDT found in Chichester Harbour sediments (AW) As a follow up to earlier investigations into the identification of trace levels of fire retardant contamination in groundwater adjacent to a landfill site near Slindon, a study of such contaminants in tip leachates generally was carried out, which confirmed that such contamination appears to be associated with tip leachates generally. b) Further investigation and confirmatory work is proposed.
22.2 Promote use of landfill tax for remediation of sites (CP/AO/AW)	a) EPL - TP TL b) LAs c) CS	ongoing	●	a) Remediation of derelict land in Hastings to form pocket park using Heritage Lottery/Landfill Tax / commercial sponsorship

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
22.3 Ensure any redevelopment of former gas works in Shoreham Harbour fully addresses any contaminated land issues (AO)	a) EPL - Scientific TL b) LAs, developers c) CS	ongoing	●	

ISSUE 23: NEW DEVELOPMENT WILL POSE INCREASED PRESSURES ON THE ENVIRONMENT
(Action Plan: Previous Issues: 29 AW, 21 AO), (CP: Annual Review Issue 21)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
23.1 Provide evidence to support LAs at Development Plan or Planning Appeal inquiries to back Agency objections/recommendations (CP/AO/CW)	a) CS - Manager b) LAs c) All functions	ongoing	●	a) Support provided to LAs where requested including West Sussex CC, East Sussex CC, Brighton and Hove City Council and Arun District Council
23.2 Promote and forward effective liaison with LAs (CP/AO/AW)	a) CS - PL TL b) LAs	ongoing	●	a) Additional formal guidance produced
23.3 Provide relevant advice to LAs to ensure environmental policies are forwarded in Development Plans (CP/AO/AW)	a) CS - PL TL b) LAs	ongoing	●	a) Forwarded through formal guidance and meetings
23.4 Identify and forward opportunities for environmental enhancement through external funding and planning obligations (CP/AO/AW)	a) CS Manager/ PL TL b) LAs, EN, SWT, other env. bodies c) FER	ongoing	● *	a) R&D Project completed regarding planning obligations
23.5 Forward environmental capacity and capital initiatives with County councils (CP/AO/AW)	a) CS Manager/ PL TL b) LAs		*	a) Initiatives not proceeded due to insufficient resources

ISSUE 24: THE SUSTAINABLE MANAGEMENT OF WASTES MUST BE FORWARDED TO REDUCE IMPACTS ON THE ENVIRONMENT

(Action Plan: Previous Issues: 32-AW, 23 AO), (CP: Annual Review Issue 22)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
24.1 Undertake education campaigns for public, business and public sector (CP/AO/AW)	a) EPL - TP TL b) LAs, industry, public sector c) CS	ongoing	● ★	a) Forwarded through formal guidance, presentations and on the ground in partnership with other environmental bodies
24.2 Promote recycling and composting initiatives and facilities (CP/AO/AW)	a) EPL - TP TL b) LAs, public, private contractors	ongoing	● ★	a) Forwarded through formal guidance, presentations and on the ground in partnership with other environmental bodies
24.3 Require adequate provision of recycling facilities in new proposals for housing and commercial/industrial development (CP/AO/AW)	a) EPL - TP TL b) LPAs, developers c) CS	ongoing	●	a) Promoted through advice on Development Plan Policies/guidance.
24.4 Evaluate impacts of existing waste minimisation and recycling campaigns (CP/AO/AW)	a) EPL - TP TL b) LAs, public, industry	April 2001	1	a) Review of Cafe 2000, West Sussex Business Waste Reduction Programme and Green Angels scheme underway
24.5 Develop collaborative waste minimisation initiatives with business (CP/AO/AW)	a) EPL - TP TL b) LAs, business, industry	ongoing	165 ★ 95 ★	a) Under "Green Angels Scheme" 25 graduates recruited and trained in waste minimisation in Brighton and Hove (AO) 25 company waste minimisation audits carried out in Brighton and Hove (AO) Funding: European Social Fund Under West Sussex Business Waste Reduction Programme: 3 waste minimisation clubs, 30 environmental audits, ad-hoc training on regulation Funding: Landfill Tax
24.6 Share experience of and encourage EMS development in local businesses (CP/AO/AW)	a) EPL - TP TL b) LAs, business, industry	ongoing	●	a) Phase 2 of West Sussex Business Waste Reduction Programme to include formation of EMS Users Group b) Work with ESCC

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
24.7 Work with schools on waste minimisation and education (CP/AO/AW)	a) EPL - TP TL/CS - CC TL b) LAs, schools, Tidy Britain Group, BTCV, Community Groups	ongoing	40 *	"Natural Sussex" CD Rom being produced. Promotes key environmental messages. Projected audience: 20,000 14-19 year olds, linked to national curriculum Funding: Heritage Lottery Fund. Meetings with Worthing Community Project have taken place. Project involves green spaces and community waste recycling with competition to be run with schools to name project. Greenlink and Ecoschools Awards, and Millennium Outreach week involve students in waste minimisation projects.

ISSUE 25: THE CAPACITY OF LANDFILL SITES FOR THE DISPOSAL OF WASTE IS EXTREMELY LIMITED

(Action Plan: Previous Issues: 33 AW, 24 AO) (CP Annual Review Issue 23)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
25.1 Forward sustainable waste management in advising planning authorities on sites, methods of disposal and policies in Waste Local Plans (CP/AO/AW)	a) CS - PL TL b) LAs c) EPL	ongoing	●	a) Undertaken through input to the East Sussex and Brighton and Hove Waste Local Plan, including the background paper by the Agency. Contribution and chairmanship of West Sussex Waste Management Liaison Forum (2001). b) Input to West Sussex Waste Local Plan (this has commenced)
25.2 Promote waste tyre recovery and disposal facilities (CP/AO/AW)	a) EPL - TP TL b) LAs, private sector c) CS			a) National Tyres Campaign to be initiated
25.3 Promote facilities for commercial / industrial waste treatment / recovery / disposal (CP/AO/AW)	a) EPL - TP TL b) LAs, private sector c) CS	ongoing	● *	a) Application being compiled for Landfill Tax funding for Avis Way Industrial Estate, Newhaven (CP)
25.4 Provide relevant waste data to local authorities for planning and waste strategies (CP/AO/AW)	a) CS - TP TL b) LAs, private sector	ongoing	●	a) Information provided to relevant LAs
25.5 Ensure any new proposals for management of waste follow the principles of BPEO (CP/AO/AW)	a) EPL - TP TL b) LAs, private sector	ongoing	●	a) Advice given to LAs on use of life-cycle analysis software "Wisard"

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
25.6 Forward opportunities for clinical waste minimisation (CP/AO/AW)	a) EPL - TP TL b) LAs, private sector, industry c) CS	ongoing	● *	a) Report completed in conjunction with Brighton University on opportunities for clinical waste minimisation at Worthing Hospital

ISSUE 26: POTENTIAL INCREASE IN LAND APPLICATION OF WASTES
(Action Plan: Previous Issues 36 AW, 26 AO) (CP: Annual Review Issue 24)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
26.1 Develop and implement a coherent strategy for regulation of land applications of wastes (CP/AO/AW)	a) EPL - TP TL/ EPR TL b) landowners, farmers, water cos.	ongoing	●	a) Sludge from Wastewater Treatment Works being spread on land is being monitored.

ISSUE 27: ILLEGAL WASTE DISPOSAL (FLYTIPPING) MUST BE CONTROLLED IN LIAISON WITH LOCAL AUTHORITIES

(Action Plan: Previous Issues 34 AW, 25 AO), (CP Annual Review Issue 25)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
27.1 Encourage public to report concerns and offenders (CP/AO/AW)	a) EPR - TL b) LAs, public c) FD	ongoing	●	a) Assistance provided to WSCC on leaflet advising traders not to use Civil Amenity sites
27.2 Take action against offenders (CP/AO/AW)	a) EPR - TL b) LAs, public, community, residents' groups, schools	ongoing	●	a) Investigations continue, but difficult to obtain evidence. Covert surveillance at well-known fly-tipping spots is ongoing.

ISSUE 28: RUBBISH IN WATERCOURSES AND THE STORAGE OF MATERIALS ON CHANNEL BANK TOPS CAN LEAD TO INCREASED FLOODING

(Action Plan: Previous Issues 35 AW) (CP: Annual Review Issue 26)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
28.1 Encourage public and landowners to report offenders (CP/AO/AW)	a) EPR - TL b) landowners, public, LAs	ongoing	●	
28.2 Take action against offenders (CP/AO/AW)	a) EPR - TL b) LAs	ongoing	●	

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
28.3 Educate and increase awareness of flood risk, legal implications and riparian duties to undertake maintenance work (CP/AO/AW)	a) FD - OPs TL b) LAs	ongoing	●	Various publications, presentations and seminars
28.4 Undertake inspection and maintenance works particularly in sensitive areas (CP/AO/AW)	a) FD - OPs TL b) LAs, riparian owners	ongoing	●	Maintenance works programmed in accordance with Flood Defence Management System.

ISSUE 29: POTENTIAL RISK OF WATER POLLUTION FROM CLOSED LANDFILLS

(Action Plan: Issues 37 AW, 28 AO) (CP: Annual Review Issue 27)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
29.1 Identify priority sites of concern and investigate pollution risk (CP/AO/AW)	a) EPR - TL b) LAs c) EPL	ongoing	●	a) Potential groundwater issue at Washington old landfill is under investigation and review.
29.2 Ensure remedial action where necessary (CP/AO/AW)	a) EPR - TL b) LAs, landowners c) EPL	ongoing as necessary	●	

ISSUE 30: METHANE FROM LANDFILL SITES IS CONTRIBUTING TO GREENHOUSE EFFECT

(Action Plan: Issues 38 AW, 29 AO) (CP: Annual Review Issue 28)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
30.1 Seek to improve management of methane gas generation from landfill sites through flaring or utilisation schemes for energy (CP/AO/AW)	a) EPL - Scientific Support TL b) LAs, operators of landfills	ongoing	● ★	a) Improved landfill gas management adopted at several landfill sites. Washington Landfill (AO) have installed 5 electricity engines of 1 Megawatt each. Four produce power and one is a standby. Brookhurstwood (AW) have 3 engines of 1 Megawatt each. All produce power.
30.2 Promote use of Landfill Tax to encourage recycling of methane generating waste that would otherwise go to landfill (CP/AO/AW)	a) EPL - Scientific Support TL b) LAs, operators of landfills	ongoing	●	a) Work with West Sussex Recycling forum on education initiatives aimed at improving rates of household waste recycling

ISSUE 31: PROVIDING AN EFFECTIVE FLOOD WARNING SYSTEM
 (CP: Annual Review 29)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
31.1 Promote the flood warning service to the public so as to raise awareness of the hazards and risks from flooding (CP/AO/AW)	a) FD - Flood Warning Officer			a) Many public meetings have taken place to promote the changes to the new flood warning codes and to sign the public up to the Automatic Voice Messaging system (AVM).
31.2 Provide detailed flood risk information to local authorities and emergency services (CP/AO/AW)	a) FD - Flood Warning Officer b) LAs			a) Training sessions have taken place to promote the new flood warning system. Flood information disseminated.
31.3 Develop flood warning procedures in the light of lessons learnt from autumn 2000 floods (CP/AO/AW)	a) FD - Flood Warning Officer b) LAs, Emergency services	ongoing		
31.4 Provide systems that will disseminate flood warnings from area offices (CP/AO/AW)	a) FD - Flood Warning Officer			a) Changing needs in flood defence project - delivery of flood warnings now from Sussex area office
31.5 Run emergency exercise to test systems and procedures (CP/AO/AW)	a) FD - Flood Warning Officer b) LAs, emergency services	ongoing		a) Autumn 2000 flood tested procedures "for real"
31.6 Improve flood forecasting systems such as telemetry for improved early detection of flooding problems (CP/AO/AW)	a) FD - Flood Warning Officer	ongoing	● *	a) Discussions being held with National Flood Warning Centre with regard to research into Extreme Event Coastal Flood Forecasting Capability. Possibility of European funding from "The User Friendly Information Society Technologies" (IST) Programme.

ISSUE 32: THE EFFECT OF OESTROGENIC HORMONES (ENDOCRINE DISRUPTERS) ON THE AQUATIC ENVIRONMENT

(Action Plan: Previous Issues 23 AW, 15) (CP: Annual Review Issue 30)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
32.1 Continue with environmental and effluent monitoring and further research to determine the concentrations, fate and behaviour of hormones in the aquatic environment (CP/AO/AW)	a) FER - Biologist b) Water cos, universities c) EPL TP TL	2001		a) The Agency is considering development of indicators of endocrine disruption in a range of fish and invertebrate species to identify effects on growth, reproduction and mortality.

**ISSUE 33: EROSION OF BANKS, DISTURBANCE OF WILDLIFE AND DANGER TO RIVER USERS
CAUSED BY SPEEDING AND LARGE WATER CRAFT**

(Action Plan: Previous Issues 22 AW, 14 AO)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
33.1 Enforce speed limits for boats on Adur/Ouse, Arun catchments (AO/AW)	a) FD - Enforcement Officer b) LAs	ongoing	●	a) Speed controls undertaken. Offenders apprehended and prosecuted. Further patrols planned.
33.2 Promote education and awareness to river users (CP/AO/AW)	a) FD - Enforcement Officer b) boat users, anglers, c) CS	ongoing	●	a) Concerns promoted through local press release and radio

NEW ISSUE 34: EUTROPHICATION OF SUSSEX RIVERS

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
34.1 Identify the exact extent of Eutrophication in the LEAP areas (CP/AO/AW)	a) EPL - TP TL b) EN, SWS, LAs, landowners, cons. groups, industries, MAFF, FRCA, River Project Officers c) EPR, FER, WR, FD	ongoing	●	a) National Eutrophication Strategy launched August 2000. Some general work complete, specific areas being investigated as follows: (i) Investigation of Pevensey Levels carried out in association with designation as a 'Sensitive Area' (ii) Investigations completed associated with work to designate Sensitive Areas (Eutrophic) downstream of Horsham, Steyning and Lidsay STWs as well as Sussex Estuaries. DETR decision expected by end 2001. (iii) Further investigations to commence in 2001 to gather evidence for possible future Sensitive Area designations (iv) Investigations ongoing into causes of the eutrophic nature of Ferry Pool adjacent to Pagham Harbour. This is a scheduled AMP3 project. Investigation of nutrient sources and sinks to be undertaken in order to determine a nutrient budget for Ferry Pool is required(AW) (v) Investigations into extent of eutrophication in Sussex Estuaries to be completed in 2001 (vi) Specific report completed as part of the Ouse Valley Project

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
34.2 Identify the sources of nutrients contributing to the problem of eutrophication (CP/AO/AW)	a) EPL - TP TL b) EN, SWS, LAs, landowners, cons. groups, industries, MAFF, River Valley Projects c) EPR, FER, WR, FD	ongoing	●	a) Nutrient sources are largely diffuse. Additional monitoring and consultancy needed. • Work commencing at Pevensey Levels - April 2001 • Establishment of Partnerships to help tackle this problem • Work on the River Ouse suggests smaller treatment works discharging into the headwaters may be having most significant impact
34.3 Prepare Eutrophication Control Action Plans in areas where eutrophication is found to be a particular problem in line with the National Eutrophication Strategy and implement (CP/AO/AW)	a) EPL - TP TL b) EN, SWS, LAs, landowners, cons. groups, industries c) EPR, FER, WR, FD	ongoing	●	a) Preparation is at an early stage. Approach is being piloted at 11 sites across the country, including Pevensey Levels in Sussex.
34.4 Actions to control nutrient inputs including installation of nutrient stripping at Sewage Treatment Works and farm visits. (CP/AO/AW)	a) EPL - TP TL b) EN, SWS, LAs, landowners, cons. groups, industries c) EPR, FER, WR, FD	2004/5	● *	a) Under AMP3 nutrient stripping to be installed at Hailsham North and South STWs b) Implementation of first Eutrophication Control Action Plan at Pevensey Levels expected 2002/2003. Chichester Coastal Plain is a key area suffering from agricultural runoff which affects both Chichester and Pagham Harbours (SPA/SAC sites) which needs to be addressed through buffer strips etc. Our report on the Ouse advocates the treatment of the smaller STWs in the headwaters as it is these which will (collectively) have the most significant water quality improvement in terms of length of watercourse affected. Small STWs could be tackled quite simply by creating natural reedbed treatment systems etc. with benefits to wildlife etc. Could be done as a joint "partnership" with water companies with funding from external sources.
34.5 Monitor implementation of strategy (CP/AO/AW)	a) EPL - TP TL b) EN, SWS, LAs, landowners, cons. groups, industries c) EPR, FER, WR, FD	ongoing	●	

NEW ISSUE 35: PROTECTION OF GROUNDWATER QUALITY

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
35.1 Identify areas of groundwater that are particularly vulnerable to pollution. (CP/AO/AW)	a) EPL SS b) Water Companies, Private Abstractors c) WR	Complete		a) Saturated zone maps completed and in use. Source Protection Zone maps have been published
35.2 Monitor quality of groundwater and establish a groundwater quality monitoring network which routinely supplies groundwater quality data covering all areas of Sussex (CP/AO/AW)	a) EPL SS b) Water Companies, Private abstractors c) WR	March 2002	10	a) Groundwater quality data is available for water company abstraction boreholes b) Research project for student or temporary secondment
35.3 Carry out compliance visits to sites which have received an authorisation to discharge to groundwater under the Groundwater Regulations. (CP/AO/AW)	a) EPR b) Water Companies, Business c) EPL	ongoing	●	a) Visits taking place during 2000/2001 to high risk sites including nurseries and farms. • High risk sites once every 2 years • Other sites once every 4 years
35.4 Identify sites which because of their location and the nature of their activities pose a particularly high risk to Groundwater (CP/AO/AW)	a) EPL SS b) Water Companies, Private Abstractors c) WR, EPR	Ongoing	●	a) Petrol storage facilities identified b) Implementation of Contaminated Land Regs will identify contaminated land sites of particular concern.
35.5 Carry out pollution prevention visits to sites which pose a high risk to groundwater. Undertake campaigns targeted at activities which pose high risk to groundwater eg. Oilcare (CP/AO/AW)	a) EPR b) Water Companies, Business c) WR, EPL	Ongoing	● ★	a) Visits taking place during 2000/2001 to petrol storage facilities and users of solvents in vulnerable groundwater areas (Source Protection Zones 1 and 2)
35.6 Ensure that all permissions and authorisations associated with new and existing development include requirements to protect groundwater. Especially landfill sites, oilfields and contaminated land remediation activity. (CP/AO/AW)	a) EPL SS b) Local Authorities, Developers, Consultants c) EPL, CS, WR	Ongoing	●	a) All authorisations issued by the Agency are issued taking the need to protect groundwater into account. Planning consultations are considered taking groundwater protection into account Comments made on content of local plans

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
35.7 Ensure that groundwater monitoring and abstraction boreholes are constructed in a manner which reduces the risk of groundwater contamination (CP/AO/AW)	a) EPL SS b) Private abstractors c) WR, EPR	ongoing	●	a) Work ongoing to ensure Agency boreholes are constructed and maintained properly under as objective in EMS. Agency guidance published b) send out guidance to relevant companies and bodies.

CUCKMERE/PEVENSEY LEVELS ISSUES**ISSUE 36: DETERIORATION OF CONTROL GATES ON WALLERS HAVEN AND PEVENSEY HAVEN**
(Annual Review: Previous Issue 4)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	Progress
36.1 Identify funding options to repair or replace gates (CP)	a) FD - OPs TL /Pevensey Levels Project Officer b) MAFF, LAs	ongoing	★	a) Being investigated by the Pevensey Levels Project Officer
36.2 Repair/ replace gates (CP)	a) FD - OPs TL / Pevensey Levels Project Officer b) MAFF, LAs	2006	★	a) Dependent on obtaining necessary funding

ISSUE 37: DECLINE IN NATURE CONSERVATION VALUE OF PEVENSEY LEVELS
(Annual Review: Previous Issue 5)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
37.1 Expand upon Pevensey water level pilot areas (CP)	a) FER / Pevensey Levels Project Officer b) Landowners, key orgs, EN, RSPB, SWT, NFU	2005	200 ★	a) Ongoing through Pevensey Levels Project Officer using EN funding of £100K for 2001/02. On target to restore 70% of available wetland habitat by 2002. b) Possible Heritage Lottery funding.
37.2 Identify spring flooding appropriate for key species to increase bird numbers (CP)	a) FER / Pevensey Levels Project Officer b) landowners & key orgs.	ongoing	●	As above

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
37.3 Promote extension of the Wildlife Enhancement Scheme (CP)	a) FER / Pevensey Levels Project Officer b) EN	ongoing	●	a) The task of bringing areas into management agreement is a challenging one due to fragmented land ownership and the complexity of the drainage network. It is envisaged that eventually over 70% of the Pevensey Levels will be signed up to achieving raised water levels under the Wildlife Enhancement Scheme.
37.4 Carry out asset surveys and correlate with WLMPs into overall strategy for Pevensey Levels area (CP)	a) FD/Pevensey Levels Project Officer b) Landowners, farmers, EN, MAFF, angling clubs, RSPB, SWT	ongoing	●	a) Asset surveys completed. Data being input into FDMS. The Pevensey Levels Project Officer is responsible for the implementation of the WLMP and ensuring that those wishing to join the Wildlife Enhancement Scheme have the necessary control structures to do so. This initiative is in its second year and so far 11 structures have been built or modified to facilitate water level management, influencing over 20% of the Levels.
37.5 Repair of sluices on the Pevensey Levels (CP)	a) FD/Pevensey Levels Project Officer b) landowners, farmers, MAFF, SWT, RSPB, EN	ongoing	●	

ADUR/OUSE ISSUES**ISSUE 38: THERE IS CONCERN ABOUT USE OF WATER IN THE RIVER OUSE
(Action Plan Previous Issue 4)**

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
38.1 Continue review of Ardingly/Ouse operating system (AO)	a) WR - Manager b) SEW c) FER	2003	45	a) Detailed computer modelling of options undertaken with SEW with a view to application from the water company for revision of licence during 2001

ISSUE 39: LICENSED WASTE MANAGEMENT SITES ARE NOT MEETING ENVIRONMENTAL TARGETS

(Action Plan Previous Issue 27)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
39.1 Investigation into extent and nature of problems at specific sites (AO)	a) EPR - TL b) industry	ongoing	●	
39.2 Ensure remedial action where necessary (AO)	a) EPR - TL b) industry	ongoing	●	

ISSUE 40: MANAGEMENT OF PORT WASTES AT SHOREHAM

(Action Plan Previous Issue 30)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
40.1 Establish formal partnerships for port waste management planning (AO)	a) EPR - TL b) Port Authority	ongoing	●	
40.2 Establish Memorandum of Understanding between Agency and port authority (AO)	a) EPR - TL b) Port Authority	ongoing	●	
40.3 Continue joint approach between Agency and LAs into investigation and remediation of the contaminated area of Shoreham port (AO)	a) EPL - TL b) LAs	ongoing	●	a) Investigation work continues on quantifying the pollution of the adjacent beach area and bathing waters

NEW ISSUE 41: CONCERN OVER COCKHAISE BROOK ABSTRACTION

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
41.1 Improvements to abstraction licence (AO)	a) WR - Manager	2001	●	a) Discussed with water company with a view to licence revision in 2001

ARUN & WESTERN STREAMS ISSUES**ISSUE 42: ALLEVIATING THE PROBLEMS AT SWANBOURNE LAKE**
(Action Plan Previous Issue 6)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
42.1 Implement approved scheme at Swanbourne Lake under AMP3 (AW)	a) WR - Manager b) SWS, Arundel Estate	2003	1000	a) Consultation with local interests completed winter/spring 2000/01. Further detailed investigations by SWS planning permission being sought for a spring 2001 start of dredging. Madehurst abstraction licence to be reduced.

ISSUE 43: THERE IS CONCERN AT THE DECLINE IN BREEDING WET MEADOW BIRDS INCLUDING WADING BIRDS AND GRASSLAND PASSERINES IN THE ARUN VALLEY
(Action Plan: Previous Issue 9)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
43.1 Identify and forward opportunities for environmental enhancement to address concerns in the Arun Valley (AW)	a) FER - Con/Rec TL b) RSPB, EN		★	a) Limited action due to resource limitations

ISSUE 44: PROTECTION OF NATIVE CRAYFISH IN THE RIVER ROTHER
(Action Plan: Previous Issue 10)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
44.1 Identify and action measures to protect remaining native crayfish population from contamination by non-native crayfish (AW)	a) FER - Biology TL b) angling clubs, landowners	ongoing	● ★	a) A report on survey work was produced during summer 2000 of both native and signal (non-native) crayfish populations. Much of the upper reaches have suitable habitat and water quality for native crayfish, but they appear to be restricted to a short stretch near Petersfield.

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
44.2 Undertake further detailed survey work of crayfish populations on the Upper Rother catchment (AW)	a) FER - Biology TL b) Sparsholt College		● *	a) (As Above). A meeting of interested parties to take place to progress the conservation of this key species b) Monitoring will continue periodically of the surviving population of native crayfish, funds permitting. Significant R&D continues to be undertaken by the Agency in partnership with Sparsholt College, Hampshire.

ISSUE 45: RESTORATION OF CANALS FOR RECREATION
(Action Plan: Previous Issue 21)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
45.1 Continue to be an observer on the Wey and Arun Canal Trust Working Group (AW)	a) FER - Con/Rec TL	Ongoing	●	a) Maintaining a watching brief. b) Limited active involvement due to resource limitations.
45.2 Support sustainable canal restoration (AW)	a) FER - Con/Rec TL	Ongoing	●	a) Wey and Arun Restoration is ongoing, but is a very long term project. Watching brief maintained with limited historic collaborative contribution towards small projects on the canal.

ISSUE 46: ENSURING AN ADEQUATE LEVEL OF PROTECTION TO CHICHESTER AGAINST FLOODING FROM THE RIVER LAVANT
(Action Plan: Previous Issue 30)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
46.1 Complete detailed design for and undertake flood alleviation scheme (AW)	a) FD - Project Manager b) FER	ongoing	4.5m	a) The detailed design for the scheme is currently being reviewed in light of the emergency works of Nov/Dec 2000. The 4.5M estimate for the total scheme cost does not include the emergency works which cost between £0.5m and £1.0m.

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
46.2 Carry out presentations to local community and LAs to raise awareness of scheme (AW)	a) FD - Project Manager c) CS/FER	ongoing	●	a) During 2000 the Agency undertook a series of public exhibitions at four locations along the route. These were well attended and generated a lot of positive interest in the scheme. Further meetings were held with Pagham Parish Council to address their concerns.
46.3 Apply for / obtain MAFF Grant Aid (AW)	a) FD - Project Manager	ongoing	●	a) A formal application to MAFF for Grant Aid will be made in March 2001. Subject to appropriate funding and approvals construction could start late summer 2001 with the scheme completed by autumn 2002.

ISSUE 47: THE IMPACT OF MINERAL EXTRACTION
(Action Plan Previous Issue 39)

ACTION	a) Lead Function b) Potential Partners c) Functional support	TARGET	TOTAL COSTS (£K) (where known)	a) Progress b) Opportunities
48.1 Promote early consultation with LAs and Mineral companies on proposals (CP/AO/AW)	a) CS - Manager b) LAs, mineral companies	ongoing	●	a) Meetings held with LA planners
48.2 Ensure the Agency's interests are addressed/identified through effective responses to proposals (CP/AO/AW)	a) CS - Manager b) LAs	ongoing	●	a) Completed with respect to policies in the West Sussex Minerals Local Plan
48.3 Back Agency requirements/objections at public inquiries in the event of any planning appeal (CP/AO/AW)	a) CS - Manager b) LAs	ongoing	●	a) Completed with respect to inquiry on the West Sussex Minerals Plan
48.4 Promote aggregate re-use and reclamation of production process base materials (CP/AO/AW)	a) EPL - TP TL b) LAs, private sector c) CS		●	a) Limited action due to resource limitations

APPENDIX 1**ABBREVIATIONS**

AMP	Asset Management Plan
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
BATNEEC	Best Available Technology Not Entailing Excessive Costs
BOD	Biochemical Oxygen Demand
BPEO	Best Practicable Environmental Option
CPRE	Council for the Protection for Rural England
CSO	Combined Sewer Overflow
DETR	Department of the Environment, Transport and Regions
DOE	Department of the Environment (now DETR)
DWI	Drinking Water Inspectorate
EA95	Environment Act (1995)
EN	English Nature
EPA90	Environmental Protection Act (1990)
EQS	Environmental Quality Standard
ESA	Environmentally Sensitive Area
ESCC	East Sussex County Council
FDMM	Flood Defence Management Manual
FDMS	Flood Defence Management System
FRCA	Farming and Rural Conservation Agency
FWAG	Farming and Wildlife Advisory Group
GPZ	Groundwater Protection Zone
GQA	General Quality Assessment
HAP	Habitat Action Plan
HNDA	High Natural Dispersion Area
IDB	Internal Drainage Board
IPC	Integrated Pollution Control (now PIR)
IPCC	Intergovernmental Panel on Climate
IPPC	Integrated Pollution Prevention and Control
LA	Local Authority
LEAP	Local Environment Agency Plan
LPA	Local Planning Authority
LNR	Local Nature Reserve
MAFF	Ministry of Agriculture, Fisheries and Food
MRF	Minimum Residual Flow
NVZ	Nitrate Vulnerable Zones
OFWAT	Office of Water Services
PIR	Process Industry Regulation (formerly IPC)
PWC	Portsmouth Water Company
RE	River Ecosystem
RQO	River Quality Objective
RSPB	Royal Society for the Protection of Birds
RSR	Radioactive Substances Regulation
SAC	Special Area of Conservation

(ABBREVIATIONS CONTINUED)

SAM	Scheduled Ancient Monument
SAP	Species Action Plan
SDCB	Sussex Downs Conservation Board
SEW	South East Water
SMP	Shoreline Management Plan
SNCI	Site of Nature Conservation Importance
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
SWQO	Statutory Water Quality Objective
SWS	Southern Water Services Ltd
SWT	Sussex Wildlife Trust
UWWTD	EU Urban Waste Water Treatment Directive
VOC	Volatile Organic Compound
WCA	Wildlife and Countryside Act 1981
WIA91	Water Industries Act 1991
WLMP	Water Level Management Plan
WRA91	Water Resources Act 1991
WSCC	West Sussex County Council
WWTW	Waste Water Treatment Works

APPENDIX 2

KEY INDICATORS FOR SUSSEX 2000/2001

The Agency needs a set of measures against which it can judge its performance in protecting and improving the environment. We are therefore developing a national set of indicators to include relevant ones from the DETR's sustainability indicators in *Quality of Life Counts*. Those indicators will help provide a means of focusing our resources with respect to internal objectives and external influencing. The indicators will also provide consistent information about the environment to external bodies.

The attached are a preliminary set of indicators for Sussex. In producing these we had regard to those key indicators contained within the Agency's Vision and those within the Southern Region's State of the Environment Report.

USING NATURAL RESOURCES WISELY

• WASTE ARISING AND MANAGEMENT

The sustainable treatment and disposal of wastes is a particularly critical issue for Sussex and the South East in general, where there is an increasing population and number of households. Waste is imported and exported between counties although most sub-regions of the South East manage the majority of the waste they produce within their own borders. About 50% of the South East's industrial and commercial waste is sent to landfill, although East Sussex sends less than 50% and both East and West Sussex recycle an above average portion of their waste. Eastbourne, Wealden, Rother and Hastings district send 75,000t of household refuse to be converted into fuel pellets at the Refuse Derived Fuel facility at Pebsham. Within the South East there are substantial movements of special waste, with East and West Sussex being the least self-contained counties, disposing of or recovering only 3% and 7% of their special waste respectively.

Waste Managed in Licensed Facilities - 1999/2000

County	East Sussex Waste				
Waste Type	Disposals to landfills (tonnes)	Exports (tonnes)	Recycled (tonnes)	Waste managed (tonnes)	Imports (tonnes)
Inert	241,503	94,419	58,109	391,785	2,246
Non-inert	481,759	96,269	168,972	744,800	2,200
Special	1,702		30,400	43,024	
Total	724,964	190,688	257,481	1,179,609	4,446

County	West Sussex Waste				
Waste Type	Disposals to landfills (tonnes)	Exports (tonnes)	Recycled (tonnes)	Waste managed (tonnes)	Imports (tonnes)
Inert	415,012	50,003	125,110	384,732	205,393
Non-inert	804,508	167,187	122,226	816,633	277,288
Special	2,361			21,250	
Total	1,221,881	217,190	247,336	1,222,615	482,681

East Sussex Void Space (at 31/3/2000)	=	3,337,723 cubic metres
West Sussex Void Space (at 31/3/2000)	=	7,542,954 cubic metres

Household Waste - 1999/2000

East Sussex	Disposals	264,582
	Recycling	60,697
West Sussex	Disposals	430,985 (total including imports)
		385,250 (total produced in West Sussex)
	Recycling	69,585

Waste Management methods used in Sussex (000s tonnes) 1999/2000

The table below indicates that in Sussex commercial waste makes up the majority of the industrial and commercial waste generated. This is a reflection of the dominance of commercial activities in the South East and is a measure of their importance to the region's economy.

INDUSTRY GROUP	West Sussex	East Sussex
Industrial		
Land disposal	159	104
Land recovery	0	4
Re-used	13	3
Recycled	142	105
Thermal	1	3
Transfer	0	2
Treatment	32	12
Unrecorded	6	8
INDUSTRY TOTAL	354	241
Commercial		
Land disposal	203	104
Land recovery	0	2
Re-used	6	2
Recycled	84	98
Thermal	4	2
Transfer	0	1
Treatment	4	3
Unrecorded	70	115
COMMERCE TOTAL	371	325
TOTAL	725	566

Targets for Waste Minimisation:

By 2005 - compost 25% of household waste

By 2010 - recover 45% of which at least 30% must be recycled or composted

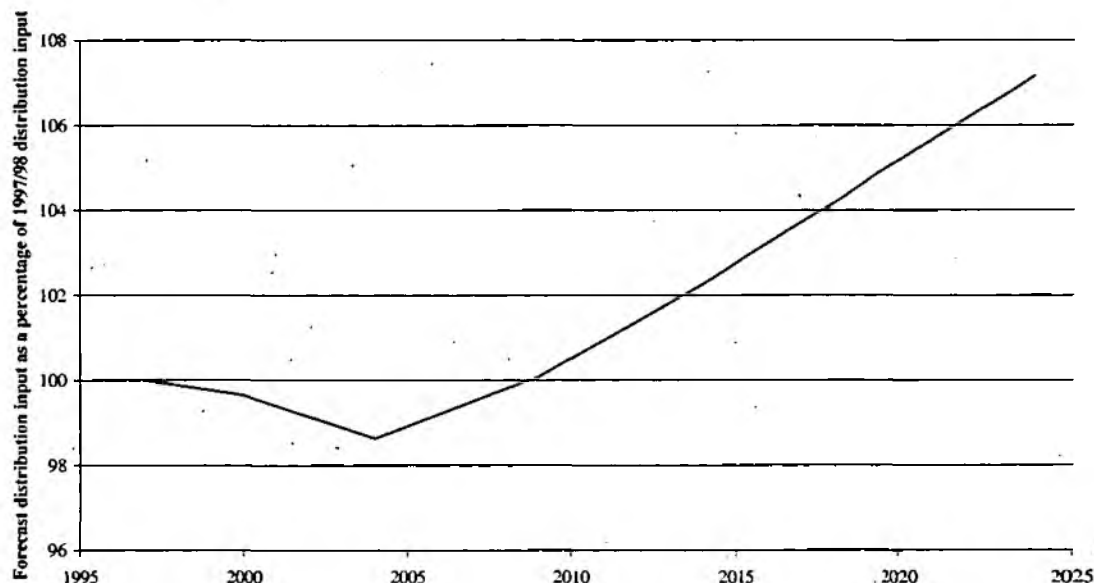
By 2015 (under New Landfill Directive) recover 66% of waste of which 50% must be recycled or composted

• WATER DEMAND AND AVAILABILITY

Pressures on water supplies in Sussex are likely to increase with new housing development, changes in water resource availability due to global warming and restoration of sustainable abstraction. It is also likely that there is a relationship between water use and affluence.

The table shows Predicted Demand as a percentage of public water supply.

East and West Sussex demand forecast 1997/98 to 2024/25 based on water company 1999 water resources plans (dry year annual average demand)



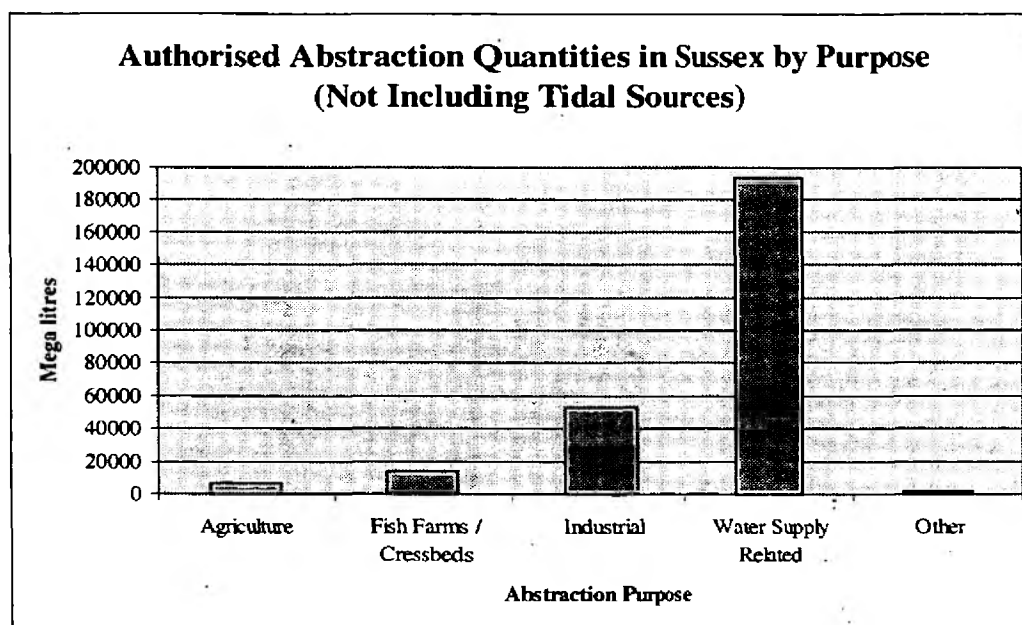
Leakage in 1997/98 and forecast leakage for 2000/01 for East and West Sussex

Water lost through leakage is not permanently lost from the environment because it will eventually flow back to rivers or groundwaters, but the time delay generally means that it is lost as a water resource and cannot be used.

Distribution losses	MI/d	54.26	53.26
USPL	MI/d	23.04	21.28
Total leakage	MI/d	77.31	74.54

• ABSTRACTION FROM FRESHWATERS

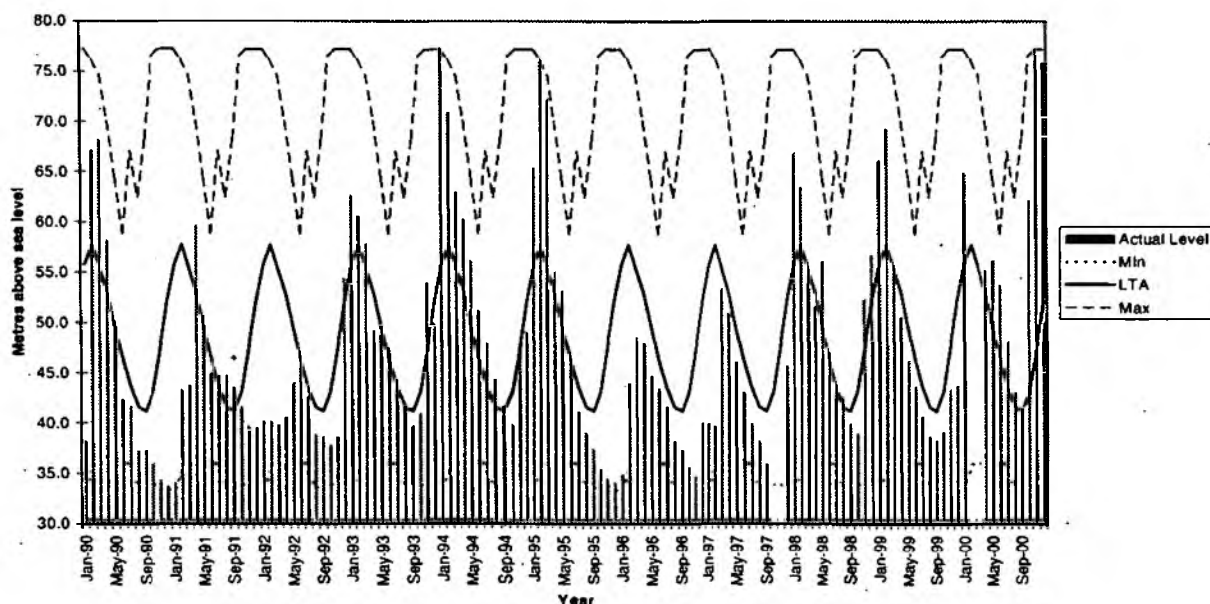
Water for public supply accounts for about half of water abstracted, with groundwaters providing about 70% of abstractions in Southern Region. Over-abstraction has been linked to low flows in some rivers with resulting damage to SSSI's. Uses by agriculture are predicted to increase with climate change and careful management is required.



• GROUNDWATER LEVELS

Much of the supply for Sussex comes from groundwater, the levels of which vary according to the amount of effective rainfall (greatly reduced in summer) and abstraction. Abstraction from groundwater causes the water table to be drawn down in the vicinity of the borehole and therefore cannot be increased beyond a maximum rate to meet rising demand. The chart shows groundwater levels at Chilgrove on the Chichester Chalk, from 1990 to 2000.

Groundwater Levels at Chilgrove, Chichester Chalk (1990-2000)



GREENING THE BUSINESS WORLD

• EMISSIONS TO AIR FROM AGENCY REGULATED INDUSTRIAL PROCESSES

The Agency regulates nine potentially polluting industrial processes in Sussex under the 1990 Environmental Protection Act. Industry in the South East region generally makes a relatively small contribution towards air pollution compared with other sources, such as road transport and emissions from Europe.

Details of authorisations can be seen on the Pollution Inventory on the Agency's website: www.environment-agency.gov.uk.

ENHANCING WILDLIFE

• ACHIEVEMENT OF BIODIVERSITY ACTION PLAN TARGETS

In order to achieve the targets set by the National Biodiversity Action Plan, the Agency joined in partnership with other environmental interested bodies to form the Sussex Biodiversity Partnership in 1996. Two indicators to monitor the achievement of these targets in Sussex have been selected, namely:

- a) **Length of river restored to naturally functioning system**
- b) **Area of floodplain with water levels restored**

One of the primary aims of the conservation function in Sussex is to maintain and re-establish, where practicable, the natural geomorphological processes of rivers, streams and their flood plains and the connection between them as a functional whole. This is being actively investigated with the assistance of the National River Restoration Centre. Figures for the lengths of river and areas of floodplain restored will be reported as they become available.

Targets for Sussex include:

- Create 5 ha of saline lagoon habitat by 2010.
- Each river valley to contain at least 20 ha of contiguous reedbed by 2010.
- Widewater Lagoon, Shoreham, to meet the criteria for designation as a SSSI by 2003.

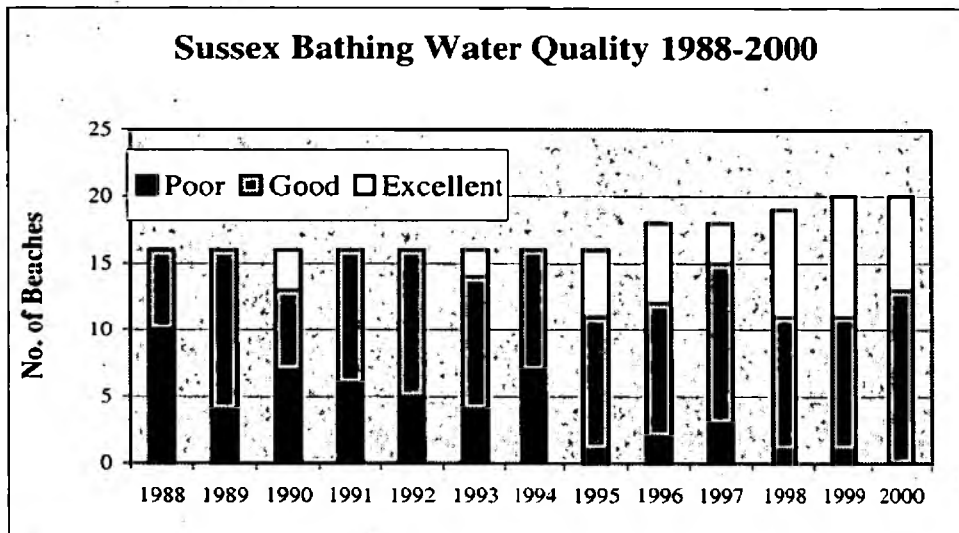
QUALITY OF LIFE

• NUMBER OF DESIGNATED BEACHES THAT MEET THE STANDARDS SET BY THE EUROPEAN BATHING WATER DIRECTIVE

Figure 1 below shows the results for all EC designated Bathing Waters in Sussex Area from 1988 to 2000. In 1988 there were 16 EC Bathing Waters, this number has now risen to 20. In 2000 all beaches either met the mandatory standard or the guideline standard, and there were no failures.

Figure 1

The classifications are as follows:



Classifications

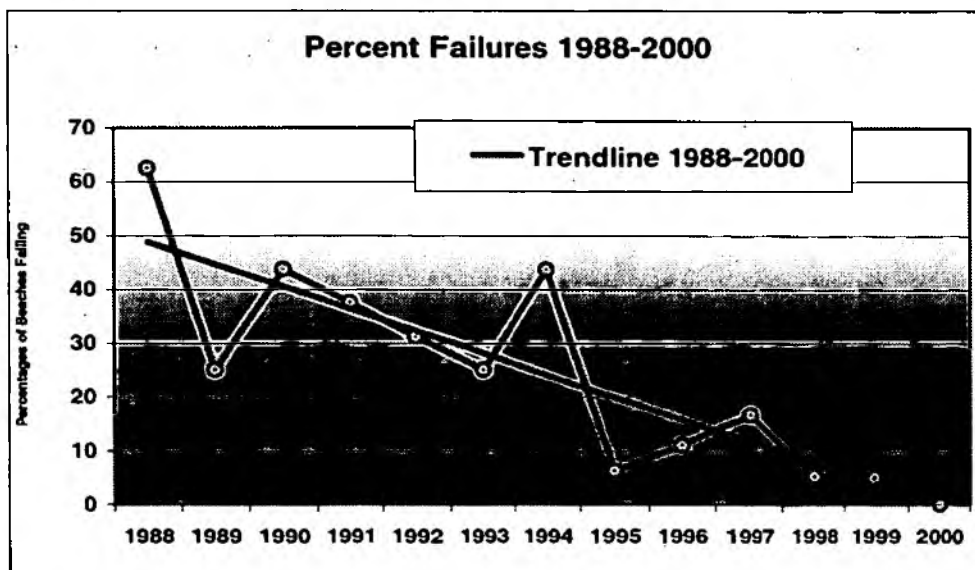
Excellent
Good
Poor

Explanation

Bathing waters that met the more stringent EC Guideline coliform standards.
Bathing waters which did comply with the EC mandatory coliform standards.
Bathing waters which did not comply with the EC mandatory coliform standards.

The quality level allocated to each beach is indicative of that year's actual results. However, individual beaches tend to be classified according to their performance over a three year period. This explains why some beaches are classified differently to their actual results for 2000.

Figure 1 above clearly shows that the number of beaches meeting either the mandatory or guideline standards is increasing. This trend can be seen more clearly in figure 2 below, which shows the percentage of failures during the 12 year period. The trend line indicates this more precisely. The improved quality of Sussex beaches can partly be contributed to the increased investment made by Southern Water Services.

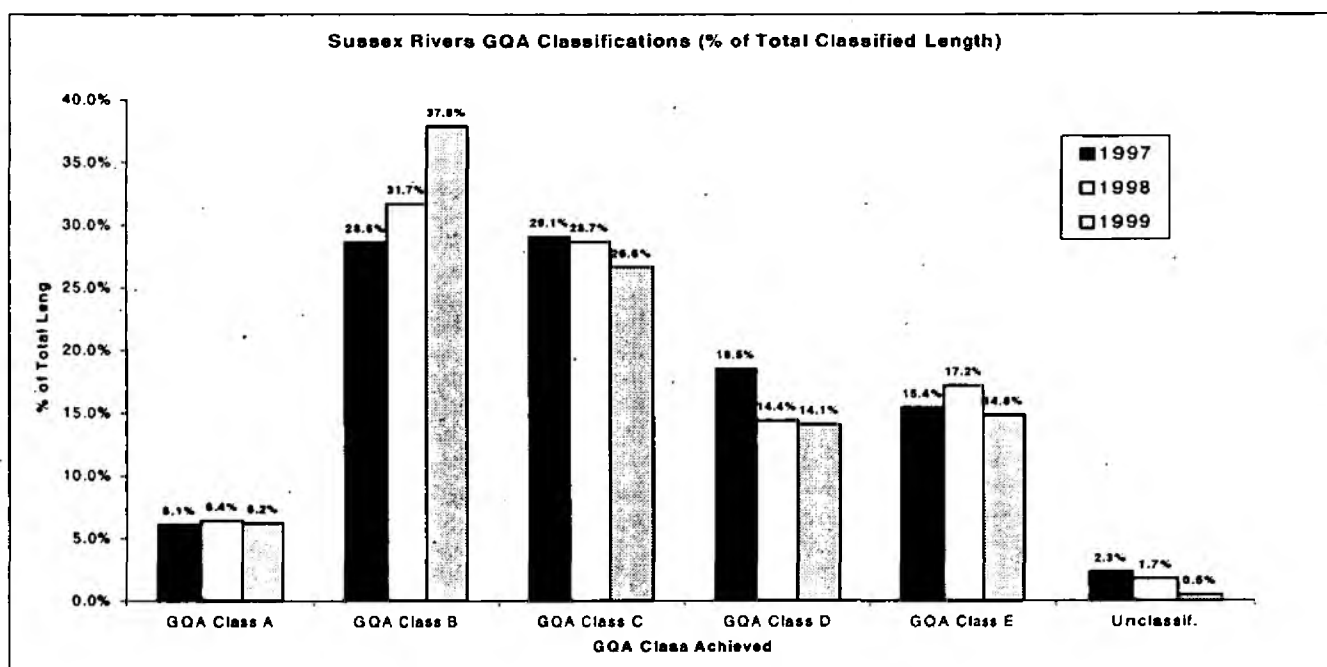


IMPROVING AND PROTECTING INLAND AND COASTAL WATERS

• RIVERS OF GOOD OR FAIR QUALITY (CHEMICAL AND BIOLOGICAL)

Chemical

The Agency uses a General Quality Assessment (GQA) scheme to classify river quality into six grades from Grade A (very good) to Grade F (bad). Results are based on a rolling three-year of sample results. These results are compared with the baseline 1990 value. The general quality chemical assessment of rivers is based on three determinands: dissolved oxygen, biochemical oxygen demand and ammonia. These are used because they are good, simple indicators of the extent to which rivers are affected by waste water discharges and runoff and drainage from farms. Assessments are made annually.



Biological

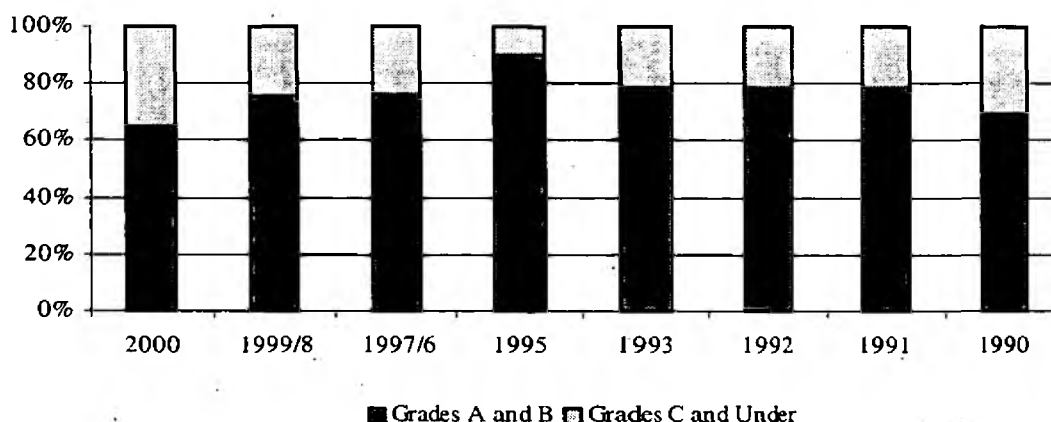
The biological component is based on macro-invertebrate communities (insect larvae, water beetles, freshwater shrimps etc) and measures the effects of environmental stresses such as pollution, low flows and habitat degradation. Biological assessment also provides a time-integrated assessment of environmental quality, in the case of water quality reflecting conditions over a period of three months prior to sampling.

Within Sussex Area, biological quality is assessed at 129 sites sampled in both spring and autumn. Results are compared with what would be expected in a river of "good" biological quality using a statistical approach specifically designed for this purpose - the River Invertebrate Prediction And Classification System (RIVPACS). Biological quality is then summarised using a banding system consisting of five grades, ranging from a (very good) to f (bad).

Recent trends in river quality

Figure 1 shows the percentage of sampling points which were of good or very good biological quality (grades a and b) and those which were fairly good to bad (grades c to f), over the period 1990 to 2000.

Figure 1 Biology GQA Grades 1990-2000



The over-riding trend in the biological quality of Sussex rivers relates to climatic conditions, and in particular periods of unusually low and high flow. Low flows affect biological communities through physico-chemical changes, such as the concentration of pollutants present in the river, and through habitat changes, such as deposition of silt over gravel river beds. In contrast, high flow events can cause direct wash-out of biological communities as well as indirect effects through habitat change.

An overall improvement in the biological quality of Sussex rivers was evident throughout the early part of the 1990s, peaking in 1995. This is generally accepted to be a result of significant investment in the sewerage infra-structure over this period. The exceptionally good quality evident in 1995 also reflects the strong river flows through the early part of this year, following the wet winter of 1994/5.

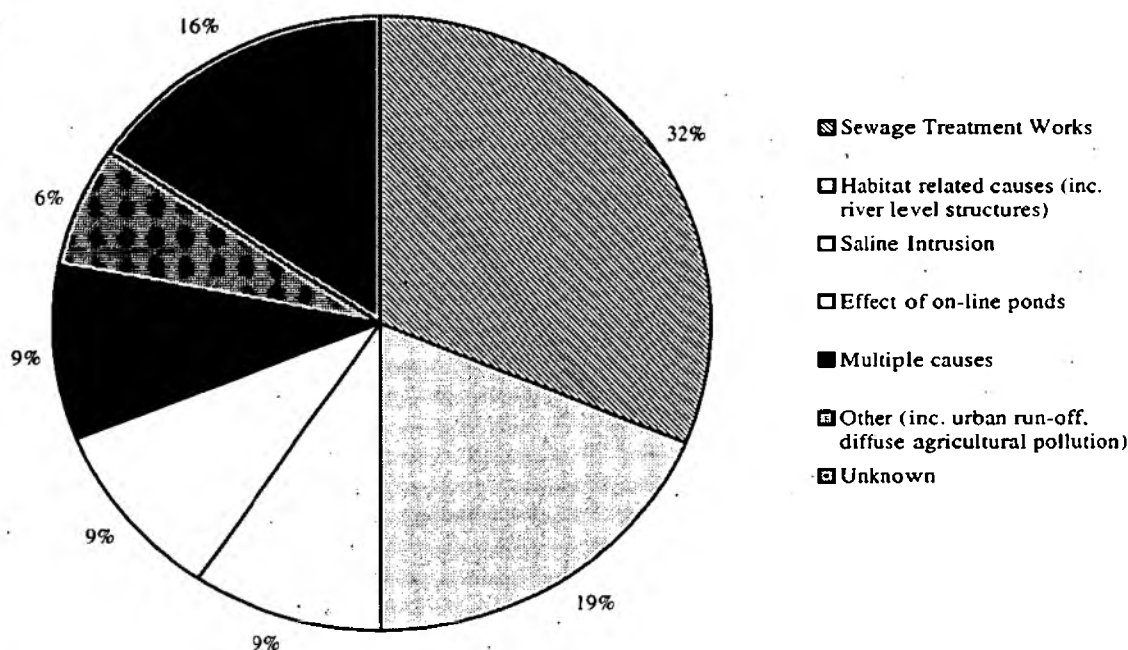
Since 1995, biological quality has shown an overall decline across Sussex Area and this reflects the impact of the 1995 to 1998 drought. It is apparent, however, that the effects of this drought period did not over-ride the improvements of the early part of the decade, with quality remaining higher than in 1990.

The results of the 2000 survey indicate a further significant decline in biological quality which corresponds with the significant flood events of this year. The apparent decline reflects both the impacts of the floods on biological communities and the fact that GQA grades were generally lower where it was not possible to collect autumn samples from particular rivers (as a result of the flooding). This latter effect is an artefact of the classification system and does not reflect a real decline in environmental quality. As a result of this, it is difficult to define the true effect of the 2000 floods, but it is apparent that the extent of any impact is dependent on both geographical location and river type (e.g. small stream or large river).

Pressures and influences

Figure 2 provides a breakdown of the causes of fairly good to bad quality at the 25% of sites falling into this classification, on the basis of the 1998/9 survey results. Results from 1998/9 have been used in preference to those from 2000, because of the impact of flooding in the latter year.

**Figure 2 Breakdown of causes of shortfalls in Biological Quality
1998/1999.**



The major causes of shortfalls in biological quality are discharges from sewage treatment works. Although the vast majority of sewage treatment works operate within discharge quality standards set by the Agency, the growing population of Southern England means that the volume of treated sewage entering river systems is increasing. During drought periods in particular, treated sewage can therefore make up a significant contribution of the flow in many of the Area's rivers. The Agency plays key roles in terms of targeting necessary improvements to sewage treatment works and ensuring that future development is sustainable.

Habitat related causes account for a significant number of shortfalls in biological quality. In many of the Area's clay rivers habitat is naturally poor, whilst in other cases river-level structures and maintenance practices are the primary cause. One area where the Agency is currently progressing improved water level management is the Pevensey Levels, a key conservation site within Sussex.

Saline intrusion has a localised effect on the Rifes around Chichester, whilst on-line ponds and lakes cause declines in downstream river quality at Midhurst, Horsham and Balcombe. In some instances a number of smaller impacts compound each other to cause declines in biological quality. In the case of the Parsons Brook tributary of the River Adur, for example, a sewage treatment works, disused landfill site and agricultural pollution may all contribute to the observed shortfall. The causes of a significant number of shortfalls are unknown, although some of these are thought to be due to pollution from agricultural sources. Targeted biological investigations are planned in order to identify the nature and sources of impacts in these instances.

Monitoring and review

The Agency will continue to monitor and report on river quality. This monitoring will allow for management decisions to be based on accurate and relevant information. Action will be targeted to address quality problems and additional investment will be targeted and progressed through the Asset Management Planning process of water/sewerage companies.

The EC Water Framework Directive and local Catchment Abstraction Management Plans will rely heavily on biological assessments to target future environmental improvements. Because biological measures of river quality provide an integrated assessment of the influences and pressures, it is possible to take a holistic approach to catchment management planning. As recent trends show, climatic factors are of critical importance to river quality and should be central to future management decisions.

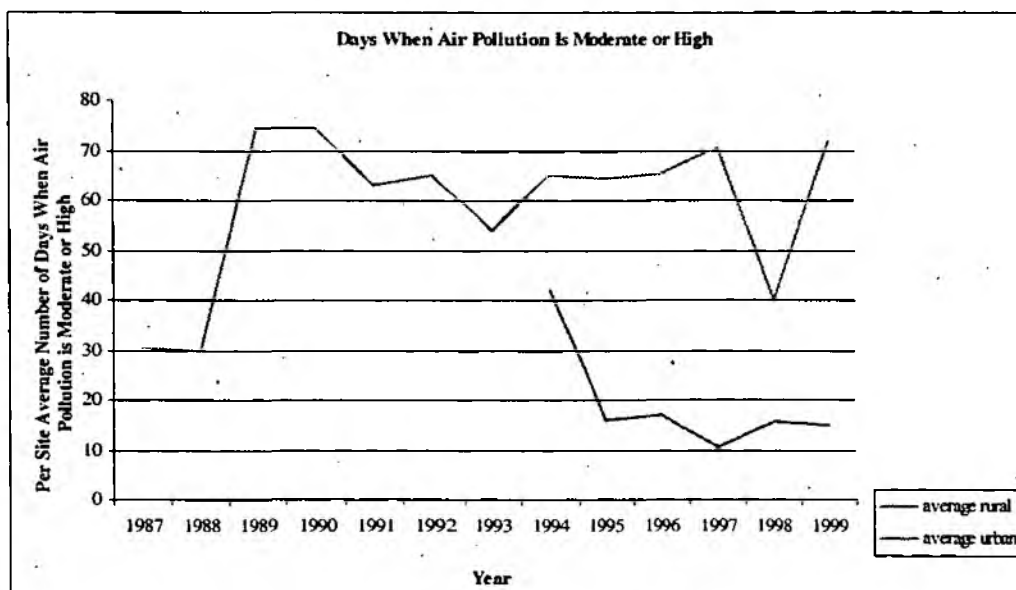
River Quality Objectives

The Agency has water quality targets for all rivers, known as River Quality Objectives (RQO's) based on a water quality classification scheme known as the River Ecosystem classification (RE). Compliance is reported annually. Where river quality does not meet the objective set an improvement plan must be established, many of which are agreed in the current round of asset management planning (AMP) with the water companies.

RE Results for Sussex 1997-1999	
Number of compliant stretches	84
Number of non-compliant stretches	44
Number of no-result stretches	1
Length of compliant stretches	385.3 km
Length of non-compliant stretches	198.9 km
Length of no-result stretches	2.7 km

ENSURING THAT THE AIR IS CLEAN

• POOR AIR QUALITY DAYS BY POLLUTANT



The influence of emissions from mainland Europe on ozone and particulate levels in the South East, particularly in rural areas like Sussex, makes this an international issue. The chart shows the number of days when air pollution was moderate or high in the South East. The regional data reflects the downward trend nationally in urban areas, however in rural areas it continues to fluctuate.

PROTECTING AND RESTORING THE LAND

The process of nutrient enrichment, eutrophication, is a problem in Sussex watercourses (See New Issue 34) resulting in a range of changes as discussed below.

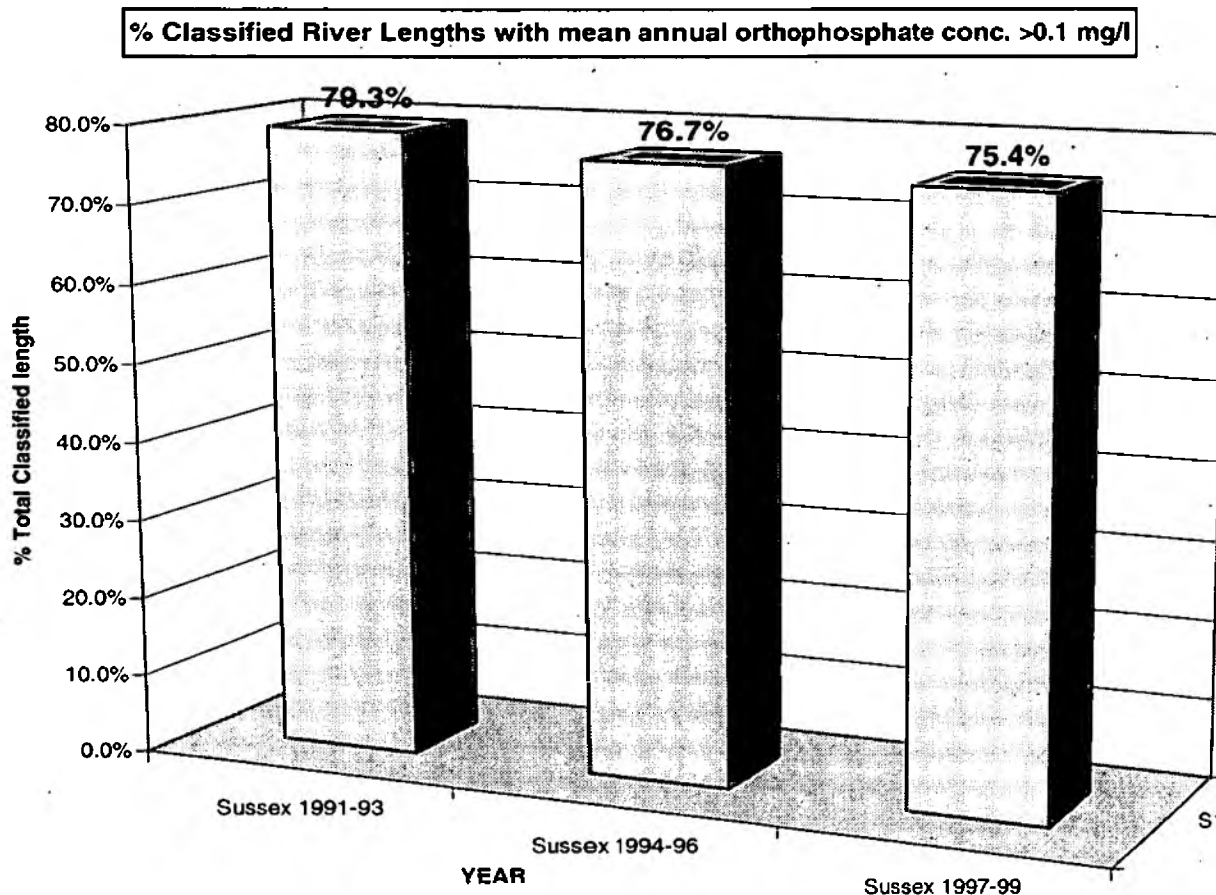
• NUTRIENTS IN RIVERS

Phosphorous and nitrogen are two macronutrients essential for plant growth. In freshwater aquatic ecosystems it is normally the availability of phosphorous that controls plant growth. Inputs of phosphorous from human activities (e.g. discharges from sewage treatment works) can, therefore, lead to prolific plant growth. This proliferation can cause a variety of nuisances such as the hampering of navigation and the deterioration of the affected waters ecological value. This response to increased levels of nutrients derived from human activity is commonly termed 'cultural eutrophication'.

Although a surfeit of phosphorous can lead to heightened plant productivity, other factors are instrumental in the degree of response and it should be borne in mind that high phosphorous concentrations do not necessarily mean that the body of water is eutrophic. However, orthophosphate levels can provide a sound platform for investigations. The Agency's definition of eutrophication is:

The enrichment of water by nutrients, stimulating an array of symptomatic changes including increased production of algae and/or higher plants, which can adversely affect the diversity of the biological system, the quality of the water and the uses to which the water may be put.

This graph shows the percentage length of classified rivers in Sussex with mean annual orthophosphate (i.e. phosphorous in a form that can be readily assimilated by plants) concentrations greater than the DETR guideline value of 0.1 mg/l. A downward trend is evident but, clearly, there is a lot of work to be done.



REDUCING FLOOD RISKS

• FLOOD WARNINGS ISSUED

The Agency's new flood warning codes, Flood Watch, Flood Warning and Severe Flood Warning were introduced on the 12th September 2000. Up until that date the flood warnings were colour coded as follows:

Yellow Warning: Flooding of low lying farmland and roads near rivers or the sea.

Amber Warning: Flooding may affect isolated properties, roads and large areas of farmland near rivers or the sea

Red Warning: Flooding will affect many properties, roads and large areas of farmland.

Year	Yellow	Amber	Red	Total
1997	65	11	0	76
1998	144	37	2	183
1999	25	7	0	32
- Sept 2000	62	40	9	111
No. of flood warnings issued				402

The new codes are:

All Clear: there are no Flood Watches or Warnings currently in force in the area

Flood Watch: flooding is possible in the area, be aware, be prepared, watch out!

Flood Warning: flooding of homes, businesses and main roads is expected in the area, act now!

Severe Flood Warning: severe flooding is expected in the area, there is imminent danger to life and property, act now!

Catchment Flood Watch: advice to the media and professional partners only.

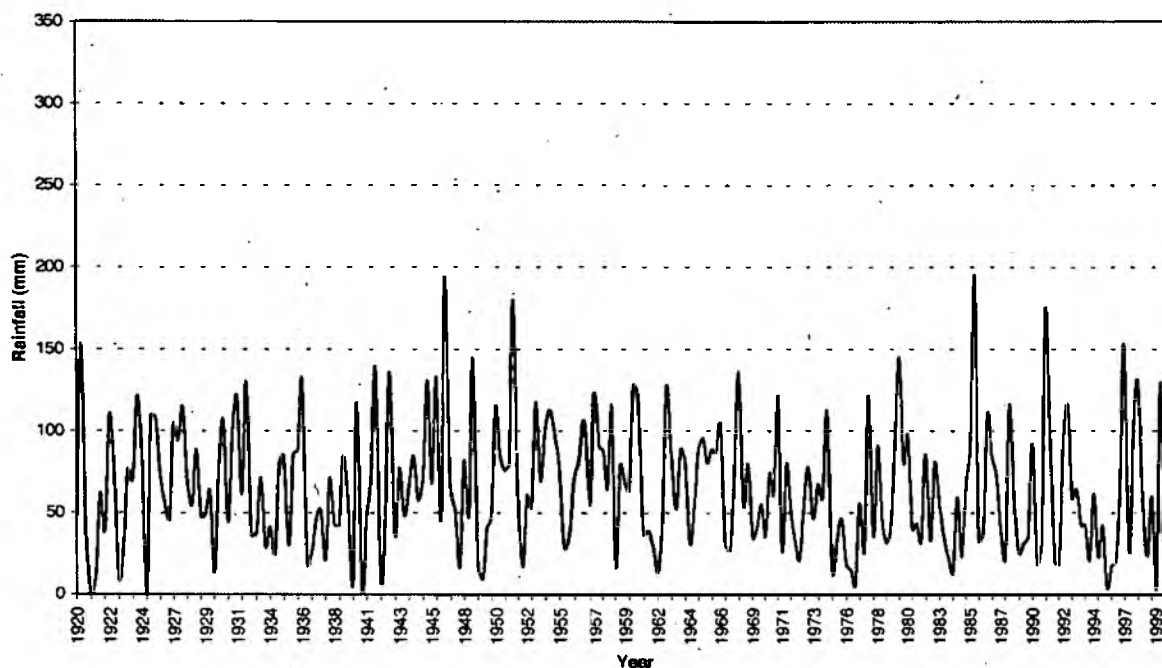
Year	Flood Watch	Flood Warning	Severe Flood Warning	All Clear	Catchment Flood Watch	Total
12/09/00 to 12/02/01	299	170	26	195	60	750

LIMITING AND ADAPTING TO CLIMATE CHANGE

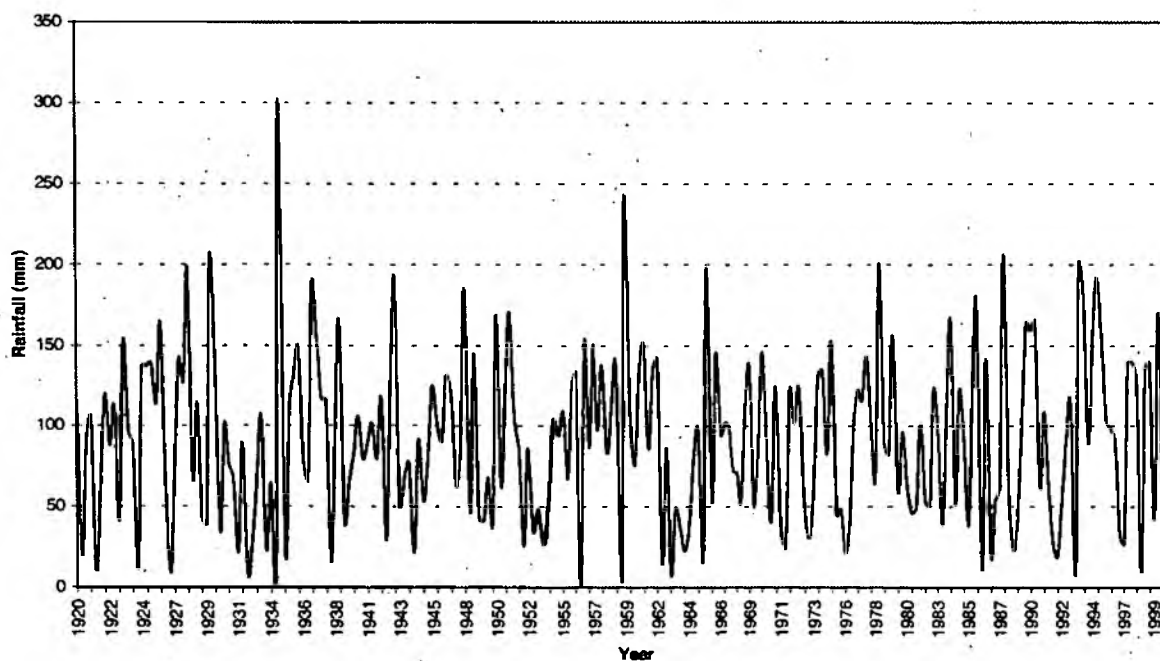
• SUMMER AND WINTER RAINFALL

Rainfall is generally lowest in the south and east of the country with the highest evapotranspiration rate. However, there is great variability in the average rainfall values. The key impacts of climate change are thought to be wetter winters and drier summers and small overall increases in average rainfall. Our knowledge of the quantities of fresh water in the environment depends on measurements at different points of the hydrological cycle. The following charts show summer and winter rainfall measured at Chilgrove Rainfall Station near Chichester from 1920 and summer and winter rainfall measured at Horse Eye Rainfall Station on the Pevensey Levels from 1966.

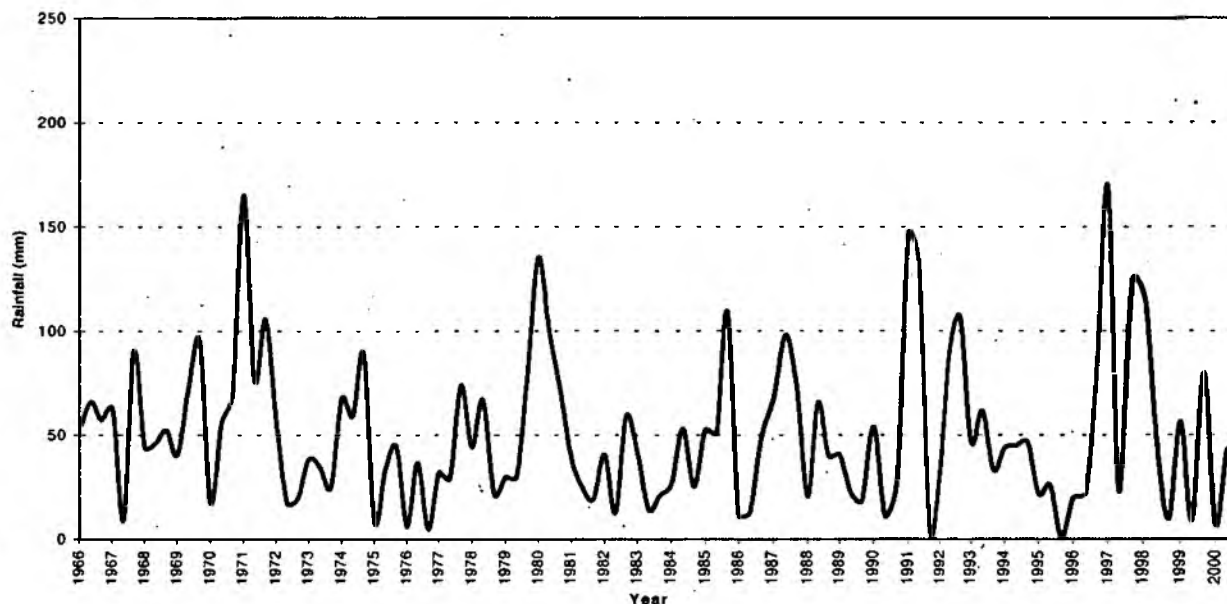
Summer Rainfall at Chilgrove Rainfall Station (June to August)



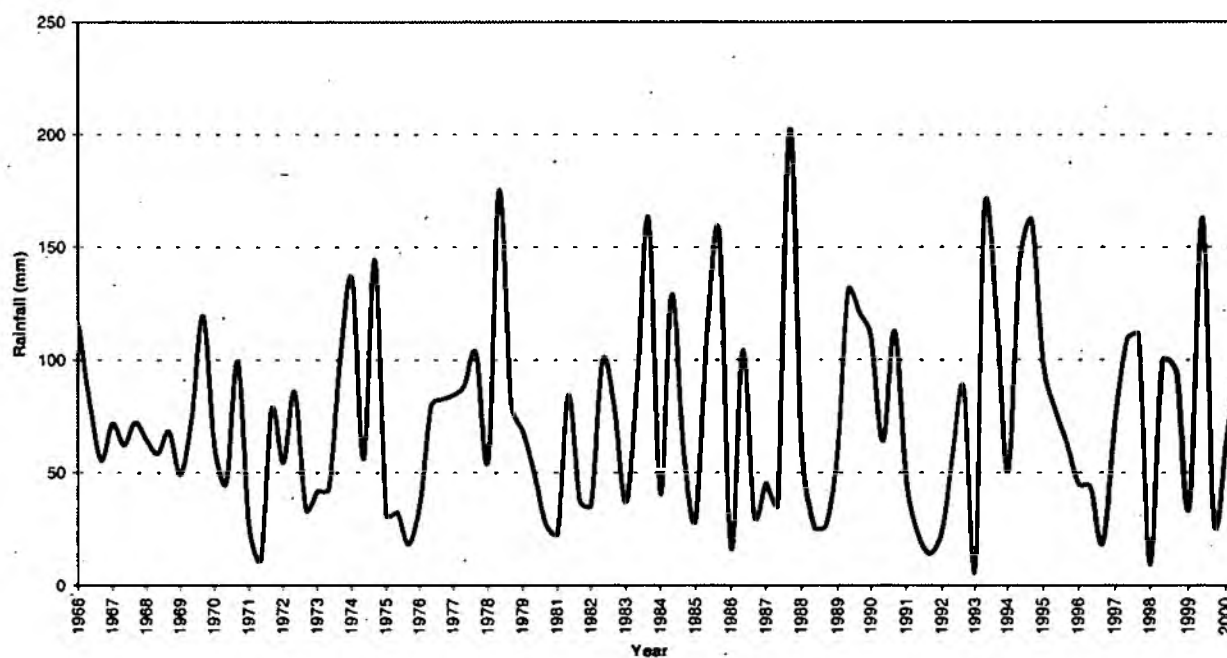
Winter Rainfall at Chilgrove Rainfall Station (December to January)



Summer Rainfall at Horse Eye Rainfall Station (June to August)



Winter Rainfall at Horse Eye Rainfall Station (December to February)



SOUTHERN REGION LEAPS

MANAGEMENT AND CONTACTS:

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

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

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

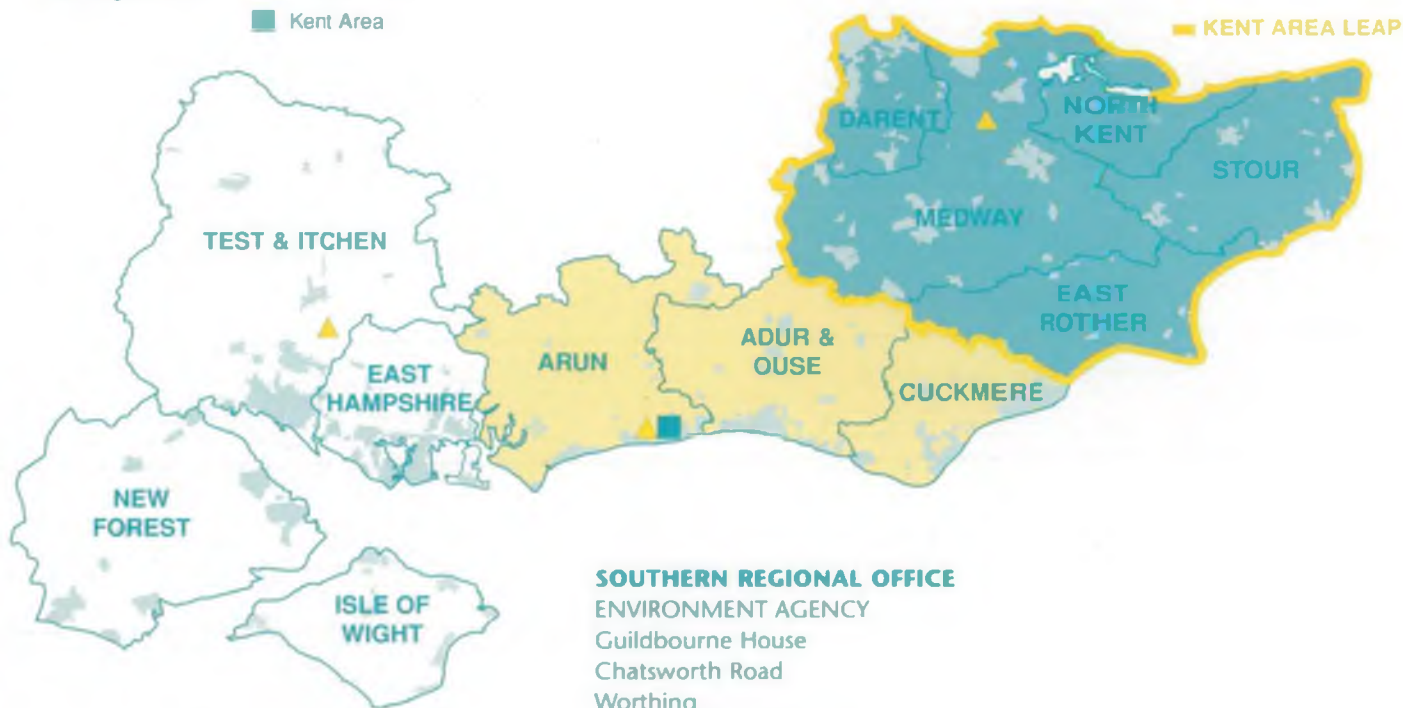
Tel: 01454 624 400 Fax: 01454 624 409

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

ENVIRONMENT AGENCY REGIONAL OFFICES

Key:

- ▲ Area Office
- Regional HO
- Hampshire & Isle of Wight Area
- Sussex Area
- Kent Area



HAMPSHIRE & ISLE OF WIGHT AREA

ENVIRONMENT AGENCY

Wessex Business Park
Colvedene Court
Colden Common
Hampshire SO21 1WP
Tel: 01962 713267
Fax: 01932 841573
Isle of Wight
Tel: 01932 822986
Fax: 01932 822985

SOUTHERN REGIONAL OFFICE

ENVIRONMENT AGENCY
Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tel: 01903 832000
Fax: 01903 821832

SUSSEX AREA

ENVIRONMENT AGENCY
Saxon House
Little High Street
Worthing
West Sussex BN11 1DH
Tel: 01903 703800
Fax: 01903 703817

KENT AREA

ENVIRONMENT AGENCY
Orchard House
Endeavour Park
London Road
Addington
West Malling
Kent MG19 5SH
Tel: 01732 875587
Fax: 01732 875057

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

ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

0645 333 111

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

ENVIRONMENT AGENCY EMERGENCY HOTLINE

0800 80 70 60



**ENVIRONMENT
AGENCY**