

Box 1

# local environment agency plan

SOUTH YORKSHIRE & NORTH EAST DERBYSHIRE  
FIRST ANNUAL REVIEW  
May 1999



ENVIRONMENT  
AGENCY



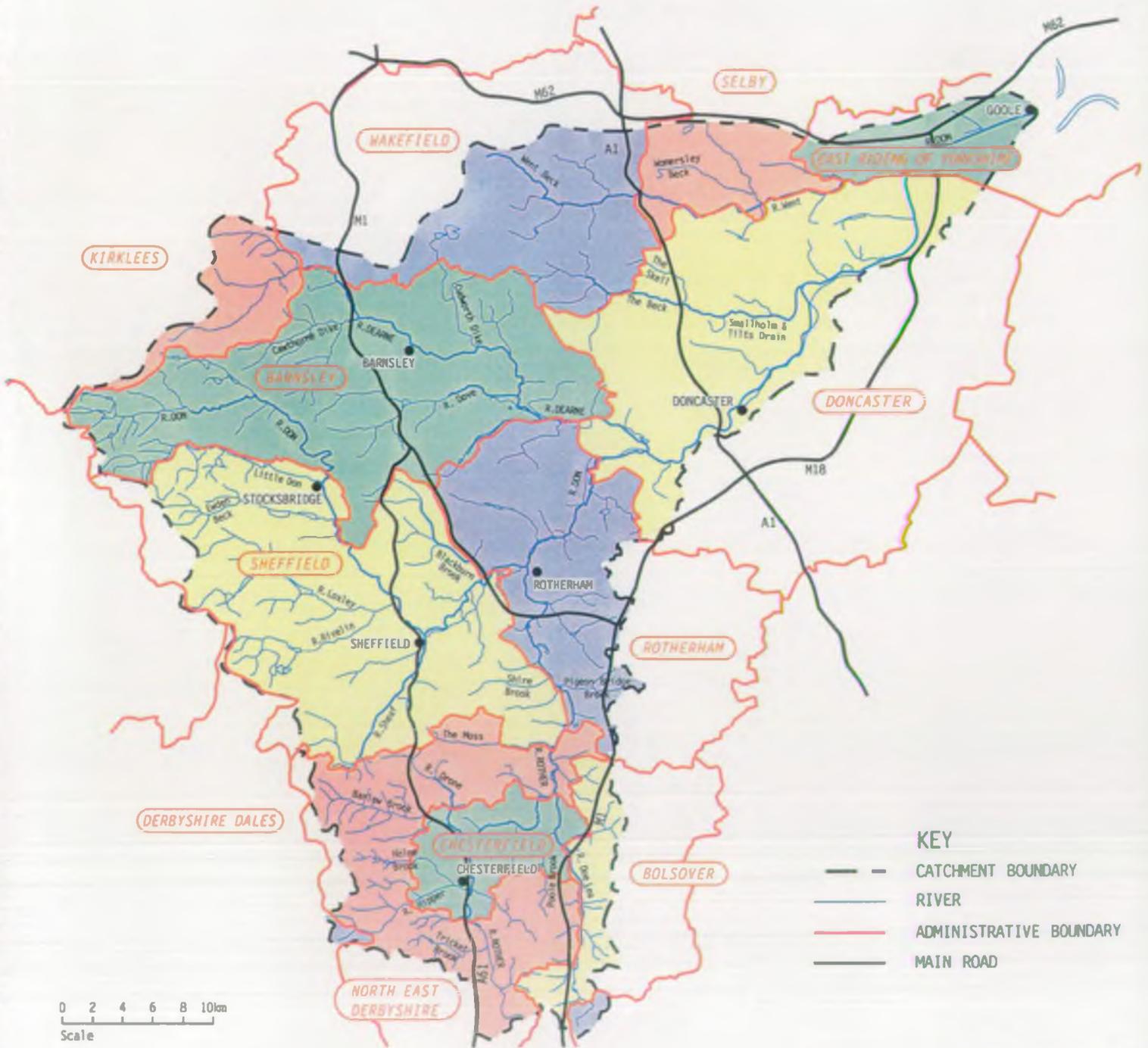
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# SOUTH YORKSHIRE AND NORTH EAST DERBYSHIRE AREA ADMINISTRATIVE BOUNDARIES





**EXECUTIVE SUMMARY**

The South Yorkshire & North East Derbyshire LEAP First Annual Review reports on the progress made during the last year against LEAP actions. The actions published in the LEAP are supplemental to our everyday work on monitoring, surveying and regulating to protect the environment. Some of the key achievements on our everyday work include:

- i) In September 1998 Michael Clapham MP officially opened the Bullhouse Minewater Treatment Plant. The scheme is a pioneering £1.2m partnership project funded by European Commission, Coal Authority, Environment Agency, Hepworths Building Products, Barnsley MBC and Yorkshire Water. Within one week a visible reduction could be seen in ochre levels in the River Don, after more than 100 years of pollution.
- ii) Monckton Coke and Chemical Company have successfully commissioned a combined heat and power plant, costing approximately £7 million. The plant supplies power to the works and the National Grid, and the amount of coke oven gas to be flared has thereby greatly reduced and energy efficiency of the operation improved.
- iii) The Region's first successful prosecution under Section 30 of Salmon & Freshwater Fisheries Act was taken against Framlingham Fisheries for the illegal introduction of fish to waters in the Barnsley area. Also a Sheffield pig farmer was jailed for 21 months by Sheffield Crown Court for operating an illegal landfill site.
- iv) The Area has made significant progress towards establishing a Customer Service Centre that will provide an integrated response to customers needs with regard to issuing consents and permits.

In addition the review also seeks to look forward and identify future priorities, which it must be noted will be influenced by the following:

- i) Implementing action resulting from lessons learned from flooding outside the area during 1998 (action plan published November 1998).
- ii) Implementing over the next two to three years, new regulatory duties resulting from European Directives, Government policies and Agency developments.
- iii) Contributions to the comprehensive reviews of abstraction licensing and fisheries legislation.

The forthcoming year will be challenging, and we will have to achieve a balance between maintaining our regulatory work, undertaking our new duties and moving forward with LEAP actions.

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## 1.0 INTRODUCTION

The South Yorkshire & North East Derbyshire LEAP is a working document covering the five-year period 1998-2003, and publicises actions that are or could be ongoing in the local area to address local environmental issues, and seeks to encourage support for and involvement in these projects from prospective partners.

### 1.1 The Process

The LEAP was developed through an intensive process of consultation to ensure that the views of local customers were taken into account.

The process involves three stages:

- I The Consultation Report (Sept 1997).**
  - Identifying the key local issues and proposing actions to address the issues. Extensive consultation was undertaken to obtain the views of consultees.
- II The Final Plan: published (Aug 1998).**
  - Published actions to address the issues, which the Agency will be jointly responsible, together with other identified organisations and individuals, for implementing during the lifetime of the LEAP.
- III The Annual Review: this document.**
  - This presents the opportunity to review the progress of the last year against the actions identified with the LEAP published in Aug 1998, as well as the opportunity to highlight those actions to be progressed in the coming year.

This first review document contains the following information:

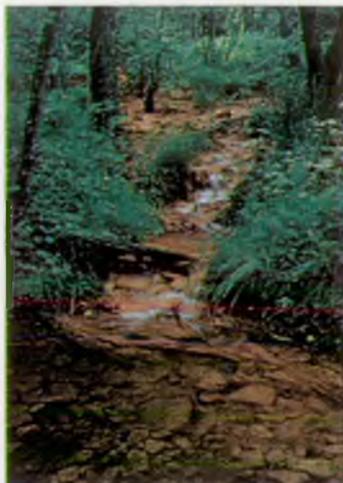
- i details of key achievements for 1998/99;
- ii update on activities against LEAP actions, and 'we will' statements;
- iii identified priorities/actions for 1999/2000;
- iv highlights of a successful partnership initiative.

Reviews of the LEAP will normally take place for the period April to March and will be published April/May of each subsequent year, until a full re-assessment is undertaken after 5 years.

### 1.2 Catchment Overview

The South Yorkshire & North East Derbyshire area includes the major urban areas of Doncaster, Barnsley, Rotherham, Sheffield and Chesterfield, with many smaller communities that developed around the mining industry.





The area is densely populated and industrialised with a long history of pollution. In particular steel, coal mining and fuel production left a legacy of contaminated land, poor air and water quality. The decline of traditional heavy industries in the area has left a legacy of dereliction. Regeneration and redevelopment of these sites however, provides a unique opportunity for their nature conservation and recreational potential as well, and also enables contamination on the sites to be removed or stabilised to lessen the risk of pollution.

The area has a diverse and distinctive landscape, ranging from the characteristic moorlands of the Pennines dissected by deep river valleys, to the low-lying floodplain between Doncaster and Goole. This varied landscape has been shaped by centuries of agricultural and other human activities such as mining, quarrying and development.



The upper reaches of the rivers flow through some very scenic areas, where there are designations of local or national importance for conservation and a variety of leisure and recreational facilities. The headwaters are extensively impounded for public water supply. Recent improvements in water quality have facilitated the improvement of fisheries in the area, although further work on rehabilitation of physical habitats will be necessary to achieve the desired ecological diversity.

The steep-sided headwater valleys of the rivers respond rapidly to rainfall. Combined with the tidal influence of the Humber Estuary on the River Don and the low-lying nature of parts of the area, there are major implications for flood defences. The urbanised nature of much of the catchment also make defence against flooding vital and there is an extensive network of defences including flood banks, washlands and control structures to safeguard people and property.

These pressures and land use changes impact on our natural resources, transport routes, flood defences and on the local residents and wildlife.

## 2.0 REPORT ON PROGRESS & FORWARD LOOK.

This review provides an opportunity to highlight the work that has been undertaken and the progress that has been made against the published LEAP actions. Each of the following sections gives a brief comment on the stated commitments made in the LEAP, while the tables summarise the published LEAP actions.

Each section also provides a brief forward look, identifying the main areas for activity in the coming year. The following initiatives and pressures have influenced priorities for the forthcoming financial year and have directly influenced the resources that the will be available to address LEAP actions:

- Implementing over the next two to three years, new regulatory duties resulting from European Directives, Government policies and Agency developments (see Appendix 1);
- Implementing action resulting from lessons learned from flooding outside the area during 1998 (see Appendix 3);
- Continuing to contribute to comprehensive reviews of abstraction licensing and fisheries legislation.

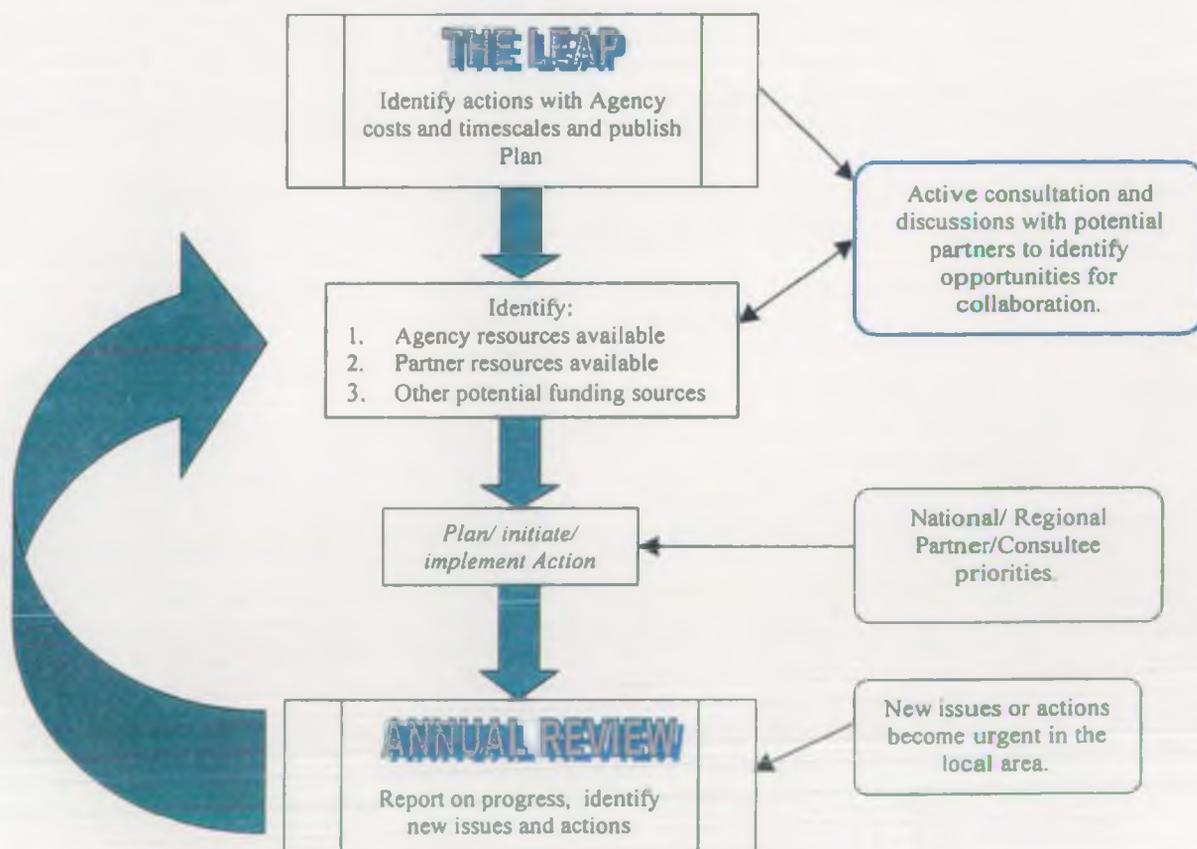
The following points should also be noted:

- **Agency Statutory Role:** The LEAP does not include all of our statutory or regulatory work. Environmental protection and improvement is the aim underpinning all of our work, and the LEAP actions provide added value to this fundamental aim.
- **Resourcing the Actions:** Actions will be progressed only when resources become available (via Agency and/or partner sources), and may also be subject to national and regional priorities. Some actions will require feasibility studies and cost-benefit appraisal of options prior to work being approved. Figure 1 shows the key stages in developing the Plan into local action on the ground.
- **Linking Actions to Themes:** In order to ensure that actions and issues are discussed under the most appropriate 'theme' we continually assess and monitor reports and responses. This may result in some information changing location when compared to the final Plan (Aug 1998). We will ensure this is kept to a minimum, with full references being provided.

The following changes have been made in this document:

- 1) Flood Defence has moved from River Basin Management to Conserving the Land;
- 2) Minewater Discharges have moved from Freshwater Fisheries to River Basin management.
- 3) Trade Discharges moved from River Basin Management to Regulating Major Industry.

Figure 1 Process for Developing the Final Plan into Action.



The highlighted blue box represents the current focus for progressing the LEAP. We will be seeking to determine the scale of current activities in the area, and identifying opportunities to work with others to achieve the objectives and progress actions of the LEAP (Aug 1998).

We would like you to view this Review as an invitation to get involved in integrated environmental problem solving. Local interest and collaborative potential can influence priorities, and since LEAPs are local plans we encourage support for local issues.



## Addressing Climate Change and Improving Air Quality

Human activities such as energy generation, transport and agriculture are believed to contribute to climate change. Air quality is affected by economic development. Transport, energy generation and industry are the major sources of air pollution.

### *Key Achievements In 1998/9:-*

- Significant progress has been made in developing and implementing of gas management system at landfill sites, including a temporary flaring system at Scabba Wood Quarry, Doncaster, where a permanent gas flare will be installed later.

### **Final Plan Commitments:**

*We Will: Contribute to the development of a National Air Quality Strategy to reduce emissions of sulphur dioxide and oxides of nitrogen from power station and other prescribed processes.*

In March 1999 we published the consultation document "Controlling Pollution from Coal and Oil Fired Power Stations" which addressed some of the outstanding issues from coal fired power stations. The proposals include encouraging investment in technology to reduce emissions of sulphur dioxide.

The Government's conclusions from a Review of Energy Services for Power Generation (Oct 1998) were published and the role of Flue Gas Desulphurisation (FGD) in meeting environmental requirements in relation to sulphur dioxide emissions is emphasised. The West Burton Power Station in the Trent catchment is expected to install FGD equipment within 2-3 years, and will further reduce sulphur dioxide emissions that can affect this area.

*We Will: Liaise with local authorities on the investigation and follow up of pollution episodes to determine causes and remedial actions.*

Information, including weather centre data, has been assessed although tracing the source of short term air quality problems remains difficult. Development work will continue.

*We Will: Collaborate with local authorities to assess future trends in combustion gas emissions and the implications for Regional Air Quality and industrial and public/domestic developments.*

We recognise that traffic pollution is a major contributor to local air quality problems, and we are continuing to work with Local Authorities to tackle air quality issues. This helps to ensure the effects of development are assessed on air quality grounds based on the whole picture.

### *Forward Look 1999/2000*

- Provide effective input to all local authority zones of Industrial Pollution and Air Quality Management Plans.
- Emission reductions to be made from Agency regulated processes established by the Agency to meet prescribed air quality standards.
- British Steel Engineering Steels will be spending £2.6 million on enhancement of fume capture from their Stocksbridge Melting Shop, expected completion August 2000.

Ref	Action	Timescale	Costs	Progress
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**CLIMATE CHANGE**

*ISSUE: Environmentally detrimental substances and fuels, radioactive technologies, and less efficient technologies are sometimes used in industrial and domestic processes when more benign technologies are available.*

4.3.1	Improve the extent and quality of data submissions for landfill gas generation at licensed landfill sites.	1998-2001	£8 k	
4.3.2	Encourage collection and utilisation of methane gas from new and current landfills for energy production.	1998 -2001	£10 k	<p>Significant progress has been made on the development and implementation of gas management systems at existing landfill sites within the catchment:</p> <ul style="list-style-type: none"> <li>i) Global Environmental has installed a temporary flare system at Scabba Wood to reduce lateral methane migration and plans are in place to install a permanent landfill gas flare.</li> <li>ii) Global Environmental has also resolved severe problems at the Levitt Hag site and is working towards resolving problems at the Staveley site, where active gas extraction is bringing landfill gas levels within acceptable limits. Marshalls are in negotiation with Global to utilise the gas from the adjacent quarry at Levitt Hag. A similar system has commenced gas extraction at Glapwell.</li> <li>iii) Global Environmental has implemented an active gas extraction scheme at their Stairfoot site, and Marshalls has agreed to utilise the gas to pre-heat brick kilns.</li> <li>iv) The feasibility is being assessed of current proposals for the utilisation of landfill gas from Darrington's site at Skelbrooke for the generation of electricity.</li> </ul>
4.3.3	Identify and utilise sources of funding for the installation of collection & flaring/utilisation plant for gas from landfill and other sources.	1998 -2003	£4 k	No action.

**AIR QUALITY**

*ISSUE Air quality improvements are dependent upon the close co-ordination of air quality measurements to support local air quality management plans and to distinguish between local and transboundary effects.*

4.4.1	In partnership with Local Authorities, identify the major sources of emissions in the area and the trans-boundary effects of pollution.	1998-2003	£10 k	We have supplied Air Quality (AQ) information to the relevant local authorities for use in formulating the first round of local AQ strategy proposals. This exercise is ongoing.
4.4.2	Develop in partnership with Local Authorities, an overall Air Quality Strategy for releases from Agency regulated processes in the area.	1998-2003	£5 k	<p>Local Authorities attended a meeting in March 1999 to discuss the project run by the main electricity generators with the Agency, examining power station production and actions when meteorological conditions make it likely that AQ standard short term limit values will be breached. Current changes in ownership of power stations and the introduction of IPPC regulation from November means that dialogues on AQ on with local authorities will need to continued and develop.</p> <p>The Agency is continuing to improve the capability to model air dispersion and air quality variations. Data from a number of sources including DETR, local authorities and industry measurements will continue to be useful in verifying whether air quality scenarios and predictions can be relied upon.</p>

**NEW ACTIONS:**

4.4.3	British Steel Engineering Steels will be enhancing the fume capture from their Stocksbridge Melting Shop.	Expected completion Aug 2000	£2.6 million	To be reported in Second Annual Review (1999/2000)
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## Regulating Major Industries

Industry is essential for the economy and well-being of society. We work to achieve a balance so that industrial activity does not harm the environment. Our aim is to ensure that the existing management and future regulation of industry is carried out in a sustainable manner.

### *Key Achievements In 1998/9:-*

The focus for 1998/99 has necessarily been on the regulatory and statutory role of the Agency. While some progress has been made on commitments in the LEAP, we have been unable to carry forward any LEAP actions this year.

### **Final Plan Commitments:**

*We Will: Develop environmental monitoring of IPC processes to improve information about the origin and dispersion of pollutants.*

This field continues to develop but long term measurements and data need to be collected. Where more specific or acute effects have been measured the regulators can ensure remedial action but most importantly this data provides base data for future guidance on necessary emission control standards.

*We Will: Assess the impact of IPPC in the LEAP area to ensure improved environmental control and consistency within European Union.*

The final regulations are expected in September 1999, and there will be work to be done by both the Agency and local authorities to ensure that the regulations are used to produce useful information for air and energy monitoring.

*We Will: Improve the Water Quality currently affected by Trade Effluent Discharges at: (formerly River Basin Management)*

**Berrymans:** Polluting Trade Effluents (illegally discharging to watercourse) have now been transferred to foul sewer. The tributary that received the polluting discharges is awaiting a clean up operation and minor problems associated with the storage of waste glass on site are being addressed by modification to the Waste Management Licence.

**British Steel Rotherham:** Authorisation is to be reviewed as part of the 4 year review programme, and will include tighter limits of the overflow from the Roundwood Water treatment plant, in order to improve the quality of the effluent discharged to the Roundwood Brook.

**Fort James:** Review of the Authorisation has been completed resulting in reduced organic loads which may be discharged to the River Don in order to ensure compliance with the water quality RE3 Objective. Fort James has made progress in reducing the volume of treated effluent discharged to the river through process improvements and recycling of final effluent.

**BSC Brinsworth:** Revised consent proposals have been sent to the Company.

*We Will: Regulate implementation of the Urban Waste Water Treatment Directive (UWWTD) and monitor associated improvement programmes.*

Yorkshire Water is undertaking improvement works to Sewage Treatment Works to comply with UWWTD directive, details are provided in Appendix 2.

### *Forward Look 1999/2000*

- Introduce Integrated Pollution Prevention & Control (IPPC).
- Implement Control Of Major Accident Hazards Directive.
- British Steel Engineering Steels are working towards implementation of ISO 14001\* on 50% of their sites by the end of 2000.

\*ISO 14001 is the international environmental management system standard (1996), designed to help organisations put in place the necessary structures to ensure that their operations comply with environmental laws, and that major environmental risks and liabilities are properly identified, minimised and managed.

Ref	Action	Timescale	Costs	Progress
<b>ISSUE</b> <i>Industry and the environment would benefit from expansion of the current Don waste minimisation project and pursuance of the aims and practice of the 3Es programme within the area (3Es:- Emissions, Efficiency and Economics).</i>				
4.11.1	Assess the potential for extending the existing 3 E's methodology and other waste minimisation techniques to appropriate companies in the area.	1998-2003	£3 k	No proactive action due to resource issues.
4.11.2	Undertake consultation on the IPPC directive, with those who will be affected by the changes.	1998-2000	£5 k	Awaiting the production of IPPC Regulations to enable identification of the potential impact in the area.  The Agency and local authorities will have to work together to ensure satisfactory implementation and share expertise in the field of water discharges (mainly Agency expertise) and noise (mainly Local Authority expertise), both of which are subject to wider controls under the IPPC regime to be introduced from November 1999.
<b>NEW ACTIONS:</b>				
4.11.3	British Steel Engineering Steels are working towards implementation of ISO 14001 on 50% of their sites.	1999-2000	tbd	To be reported in second Annual Review 1999/2000.

tbd = to be determined.



## Managing Waste

All wastes must be carefully managed, so we need to know what is produced and where it goes. We also need to ensure that it is handled and recovered or disposed of without harm to the environment or human health.

### *Key Achievements In 1998/9:-*

- Collaboration with Sheffield City Council and the use of Closed Circuit Television surveillance in Sheffield City Centre has stopped the dumping of small amounts of clinical waste.
- The National Waste Arising Survey provided the opportunity for the Agency to promote waste minimisation with local businesses.

### **Final Plan Commitments:**

*We Will:* In collaboration with others, assess the scale, nature & impact of paper pulp spreading activities in the Sheffield area, to ensure activities follow best practice while maximising economic disposal and public satisfaction.

In response to local concerns, a quarterly liaison forum was established with Fort James taking the lead. A successful first meeting, involving the local community, the Agency, Sheffield City Council, and the waste contractor has taken place. Spreading is now being pursued according to the Agency's recently published guidance.

*We Will:* Develop collaborative partnerships with local authorities to implement the Flytipping Protocol and ensure that enforcement action is taken against flytipping.

Strong co-operation has developed with local authorities, with a commitment to working together to tackle flytipping issues (see 4.10.7).

*We Will:* Work with Doncaster MBC to evaluate all available options to resolve the Hampole tyre dump in order to minimise the environmental risks.

A Duty of Care initiative was launched in partnership with Doncaster MBC, to raise awareness of the need for carefully controlled tyre disposal by tyre retailers.

We also contributed to the national waste tyre issue with an interview on BBC 'Countryfile' emphasising the need to plan for environmentally safe tyre disposal options before the implementation of the ban on their disposal to landfill.

### *Forward Look 1999/2000*

- Complete the Waste Arisings Survey to allow the development of local and national waste strategies.
- Progress the Metal Recycling Sites Project (4.10.6) to ensure all sites are within the regulatory framework by October 1999.
- Continue to develop opportunities for collaborative action against flytipping.

Ref	Action	Timescale	Costs	Progress
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**WASTE**

*ISSUE Sustainable waste management practices as identified in the National Waste Management Strategy should be implemented.*

4.10.1	Improve the accuracy of waste input/output figures at licensed/ exempt sites.	1998/9	£1 k	Exempt sites have been identified and an inspection programme developed which will commence in July 99. Operators at licensed sites are submitting quarterly returns to the Agency on waste disposed.
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*ISSUE The environment is threatened by pollution incidents from industry and agriculture. Poorly controlled land spreading of waste poses a particular risk which has increased as a result of legislative changes.*

4.10.2	Expand existing initiatives to increase awareness of: <ol style="list-style-type: none"> <li>1. the Duty of Care and carrier registration regulations</li> <li>2. waste management licensing requirements</li> </ol>	1999-2000	£10 k	Campaigns to increase the general awareness of waste disposal and management issues have been successful: <ol style="list-style-type: none"> <li>i) A Duty of Care audit was carried out at all the Boulder Bridge/Shaws Lane scrap processing and waste transfer facilities. The audit identified the current state of compliance with such legislation and identified the need for provision of further advice and assistance.</li> <li>ii) 'Operation Mermaid' was undertaken to check compliance with waste carrier regulations.</li> <li>iii) Presentations on enforcement activities were given to police and local magistrates to maximise the impact of Agency activities and increase awareness of the serious impact of the offences.</li> <li>iv) The Area was also involved in liaison with Yellow Pages in a campaign to raise awareness of Registration of Carriers. Yellow Pages are considering putting a restriction on those wishing to advertise under headings 'Skip Hire' and 'Waste Disposal Services', which would mean that all potential advertisers would be asked to confirm that they are registered waste carriers.</li> </ol>
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4.10.3	Pursue joint initiative with licence holder to achieve the long term improvement of the Beighton landfill site.	1998-2000	£2 k	Sheffield City Council have prepared an action plan to achieve the long term improvement of Beighton Landfill. The feasibility of recovering the landfill gas to utilise as energy for heating is being considered. This will provide environmental as well as economic benefits.
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Ref	Action	Timescale	Costs	Progress
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*ISSUE Overall energy and water use could be reduced by waste minimisation.*

4.10.4	Identify where waste prevention recycling or minimisation could be encouraged and develop initiatives to promote this.	1999-2003	£5 k	National Waste Survey visits are expected to identify follow up work on pollution prevention and waste minimisation.
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*ISSUE Illegal tipping of waste is widespread throughout the area and is unsightly and may cause environmental pollution.*

4.10.5	Assess the scale, nature & impact of cable burning activities in the Doncaster area with a view to targeting sources of cable.	1998-2000		A cable burning campaign in Doncaster involving collaboration with Midlands Region and Doncaster MBC was re-launched. The strategy will involve controlling the availability of cable, new and old, within the market place for burning.
	1. re-establish external contact group.	1998	£1 k	
	2 draft Action Plan in place.	1999		

WASTE (cont'd)

Ref	Action	Timescale	Costs	Progress
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WASTE (cont'd)				
	Develop collaborative partnerships with local authorities to:	1998-2003		
4.10.6	1. improve standards at Licensed scrapyards	1999-2000	£1 k	The National Metal Recycling Sites (MRS) Project is now underway to bring all relevant sites into the regulatory system. The project will co-ordinate Area work on identifying unregulated sites, advising operators about the options available to them and targeting persistent offenders for enforcement action.
4.10.7	2. discourage fly tipping at major fly tipping locations: 3 sites to be agreed with local authorities and surveillance undertaken.	1999	£7 k	<p>Strong relationships continue to be forged with local authorities in relation to flytipping, good co-operation has already achieved successes.</p> <ul style="list-style-type: none"> <li>i) The first CCTV surveillance of the year has resulted in stopping the dumping of small amounts of clinical waste at Backfields in Sheffield City Centre. Joint discussions with statutory authorities are continuing to develop improved systems for collection and disposal.</li> <li>ii) Surveillance undertaken at Boulder Bridge in Barnsley, on the activities of a suspected illegal waste transfer station have resulted in significant evidence being collected.</li> <li>iii) Alleged illegal activity at Armytage Industrial Estate in Chesterfield is being prosecuted at present and further legal action is in progress.</li> </ul>



## Managing Water Resources

Increasing pressures on water resources, including uncertainties such as climate change, require us to take a sustainable approach to water management and use, balancing the needs of abstractors and the environment.

### *Key Achievements In 1998/9:-*

- A desk study on compensation flow releases from the water supply reservoirs in the Don catchment was completed.
- A trial compensation release system for Worsborough Reservoir was agreed and implemented.

### **Final Plan Commitments:**

*We Will: Update and refine the computer model of the Sherwood Sandstone aquifer in Yorkshire to aid water resources management.*

The computer model has been implemented and staff are currently undertaking familiarisation, and assessing the effectiveness of the model's performance. The system will be refined and updated to suit the needs of the Agency in water resource management.

*We Will: Undertake a review with Yorkshire Water Services (YWS) of the compensation release regime from their reservoirs to ensure protection of the aquatic environment and the effective use of water resources.*

Current action has focussed on the collection of flow and ecological data to identify the real impact of current compensation regimes.

*We Will: Implement Surface Water Abstraction Licensing Policy (SWALP) on all new licences in the area to ensure a balance is achieved between the needs of the environment and needs of abstractors.*

Action on implementing SWALP is on hold, pending the recommendations from the review of the existing Abstraction Licensing Legislation being undertaken by the DETR (see below).

*We Will: Actively participate in the current DETR national review of existing abstraction licensing legislation to ensure the effective management and protection of water resources.*

The Agency has actively participated in the review and provided DETR with a considered response to the consultation review document. Further consideration is being given to the impact of anticipated recommendations resulting from the review, and preparation developed for implementation.

### *Forward Look 1999/2000*

- Implement Groundwater Regulations.
- Continue to develop and assess simulation models on the compensation flow releases in the area.
- Continue to develop activities to prepare for the implementation of recommendations from the DETR national review of abstraction licensing legislation.

Ref	Action	Timescale	Costs	Progress
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<b>WATER RESOURCES</b>	<i>ISSUE Groundwater resources require careful management to ensure long term sustainability.</i>				
	4.5.1	Use the Sherwood Sandstone Groundwater model: 1 In the appraisal of groundwater abstraction licensing policy.	1998-2000	£30 k	The Sherwood Sandstone Groundwater computer model has been implemented and Agency staff are currently undertaking familiarisation, and assessing the effectiveness of the model's performance. The system will be refined and updated to suit the needs of the Agency in water resource management.
	4.5.2	2 To review the Sherwood Sandstone Groundwater Protection zones around public supply boreholes.			
	4.5.3	Improve hydrological data collected in the Don Catchment.	1998/99	£10 k	We are working closely with British Waterways Board to monitor the existing river flows supplying navigations, to establish trends and resource needs. The data will be utilised to agree and implement a water resources monitoring network for the canal systems. Further river gauging stations are currently being considered, as a result of recommendations from the report on the Easter floods.
	4.5.4	Identify suitable boreholes and initiate regular sampling to assess long term changes in groundwater quality.	1998-2000	£40 k	A comprehensive survey of the existing boreholes has been undertaken within Ridings Area, with the co-operation of borehole owners. Existing data available will be combined with these survey results to produce a database, and GIS map containing baseline data on groundwater quality. This will lead to the identification of boreholes suitable for regular sampling to establish the long term changes and trends in groundwater quality, which will assist in the management of the water resource.
<i>ISSUE The health and diversity of wetland and river ecology is influenced by the management of abstractions, releases from reservoirs, and water levels.</i>					
4.5.5	Formal compensation arrangements to be agreed at Worsborough Reservoir.	1998/99	£5 k	Liaison has been established with Barnsley MBC to assess the Worsborough Reservoir compensation release. After consultation with Barnsley Angling Club, and Barnsley MBC a trial release system was implemented and the impact will be assessed to establish the environmental impact and benefits gained, particularly in terms of water quality and habitat improvement for the River Dove.	



## Integrated River-Basin Management

Integrated River Basin management is about more than just water quality, it concerns water flow, landscape, flood control works, recreation and wildlife. We consider all these factors to get the most of the river environment with the least disruption to it.

### Key Achievements In 1998/9:-

- South Yorkshire Forest Partnership funded 13 projects from £3k to £45k, for a range of community and environmental schemes.
- Michael Clapham MP opened the Bullhouse Minewater Treatment Plant, a £1.2m project part funded by the EU, which improves the River Don and its fishery.

### Final Plan Commitments:

*We Will: Participate in the Asset Management Plans investment programme discussions between Yorkshire Water Services Plc and OFWAT.*

The Agency's recommendations for the improvements to Sewage Treatment Works and Combined Sewer Overflows to achieve River Quality Objectives have been largely accepted in the latest Periodic Review of Water Company Charges and Investment (see Appendix 2). Progress is on target for those improvements agreed under previous period review programmes (AMP2 1995 – 2000).

*We Will: Work with others to secure best practicable environmental option for dealing with contaminated sediments in the Don Navigation.*

Essential dredging of Dioxin contaminated sediments on the Don, just downstream of the confluence with the Rother has been completed. We are working with British Waterways on the means of removal and disposal of contaminated dredgings from the Sheffield & South Yorkshire Navigation.

*We Will: Work with Sheffield City Council on the development of their Countryside Strategy, and with Countryside Commission and other partners on the development of the Dearne 2020 Vision.*

The Sheffield Countryside Strategy was published in April 1999, representing a joint vision for the future of that countryside, and guiding the management and development of the area. The Don/Deerne 2020 vision has published a reference guide to focus action on social, economic and environmental regeneration and promote sustainable development in the area.

*We Will: Work with the Coal Authority to identify and prioritise abandoned minewater discharges for remediation works.*

The Agency is currently working closely with the Department of the Environment, Transport and Regions (DETR), the Coal Authority (CA) and the Department of Trade and Industry (DTI) to establish a national prioritisation programme of actions for dealing proactively with all minewater issues. This will result in a revised Memorandum of Understanding (MoU) between the Agency and the CA to tackle the issues in a consistent and cost effective manner. (For details see Appendix 5).

*We Will: In collaboration with key partners, monitor the effect of the minewater treatment plant from the abandoned Bullhouse Colliery.*

The construction phase of Bullhouse minewater project was successfully completed, and aims to improve 10 km of the River Don and its fishery by removing the majority of the iron that was responsible for ochre deposits. Significant improvement in the appearance of the River Don downstream could be seen after only one week.

### Forward Look 1999/2000

- Launch and promotion of new Agency policy on culverting.
- Undertake pollution prevention and waste producer campaigns on farms and industrial estates in the area.

RIVER BASIN MANAGEMENT

Ref	Action	Timescale	Costs	Progress
<i>ISSUE The environment is threatened by pollution incidents from industry and agriculture.</i>				
4.8.1	Undertake Pollution Prevention and Waste Producer visits on:	1998-2002		
4.8.2	Farms in the Hardwick Beck catchment.	1999	£2 k	Progress is being made with 2 farm pollution prevention visits completed. No significant problems found so far. A further 5 visits to be carried out in 1999/2000.
4.8.3	Farms in the Cawthorne Dyke catchment.	} 2001/2	£6 k	Two farms were visited and given advice, and improvements have been carried out. Further visits planned for the catchment in 1999/2000. Farm visits planned for 1999/2000.
4.8.4	Farms in the Banks Bottom Dyke catchment.			
4.8.5	Langthwaite Grange Industrial Estate.		£4 k	Due to other priorities no action taken in 1998/99. Pollution prevention visits planned for 1999/2000.
4.8.6	M62 Trading Estate, Goole.		£8 k	Due to other priorities no action taken in 1998/99. Pollution prevention visits planned for 1999/2000.
4.8.7	Barbot Hall Industrial Estate, Ravensfield.		£2 k	Visits planned for 1999/2000.
<i>ISSUE Rivers can have limited biodiversity and restricted uses as a result of discharges from sewage treatment works and unsatisfactory combined sewer overflows.</i>				
4.8.8	Carry out investigations into shortfalls in Water Quality and plan remedial action at:  1. Cubley Brook 2. Blackburn Brook 3. River Mass (to be deleted - no longer on sampling programme) 4. Brookside Beck 5. Shire Brook 6. River Doe Lea 7. Muster Brook 8. Holme Brook/Linacre Beck 9. The Moss 10. Rockley Dyke 11. House Carr Dyke	1998-2003  Ongoing Ongoing Ongoing Ongoing Ongoing Ongoing	  £2 k £4 k £2 k £2 k £4 k £4 k £2 k £4 k £2 k £2 k	Cubley Brook; water quality shortfalls attributed to CSO in Sheffield Road area and possibly a local foundry. Further investigations planned for 1999/2000.  Biological surveys carried out on Blackburn Brook, and investigations into the chemical & biological mismatches are planned.  Brookside Beck is affected by the farms in the catchment, which are being investigated. 2 farms have been visited in 1998/88, with further visits planned for 1999/2000.  Shire Brook; Unsatisfactory CSOs were improved in August 1998. A leachate treatment plant at Beighton Landfill has been completed. Water quality monitoring to continue 1999/2000 to assess impact of improvement schemes.  River Doe Lea; The river is now meeting its chemical water quality objectives along its entire length. The river sediments continue to cause a downgrading to the biology due to historical pollution. No further action proposed.  Investigations into High BOD in Muster Brook have led to the isolation of problems associated with food processing companies on the Holmewood Park Industrial Estate (see 4.8.11).  Holme Brook/Linacre Beck; Due to other priorities no action taken in 1998/99. Pollution prevention visits planned for 1999/2000.  The Moss; Following improved river flows since the 1995 drought, the Moss is now meeting its water quality objectives.  Rockley Dyke and House Carr Dyke; no action this year. Pollution prevention visits planned for 1999/2000 and descriptive Sewage Treatment Works to be re-assessed for consent compliance.
4.8.9	Assess the impact of coloured discharge from Clayton West STW.	ACTION COMPLETE		Dawsons Fur Fabrics, Skelmanthorpe installed a hypochlorite dosing system on to chemically remove colour from their trade effluent, which was a major contributor to the discolouration of the River Deame.

Ref	Action	Timescale	Costs	Progress
<i>ISSUE The biodiversity of the environment can be restricted by the toxic effects of industrial effluents that are not controllable by simple chemical limits.</i>				
4.8.10	1 Investigate shortfalls in water quality due to contaminants and plan remedial action for: River Rother Danesmoor & Tupton STW	1998/99	£4 k	Danesmoor STW is currently being addressed under AMP2. The new consent will include copper & zinc limits.
4.8.11	2 Holmewood Brook Holmewood Industrial Estate		£4 k	Pollution from surface water sewers associated with industrial sites is being considered for AMP3 funding. In particular an incident at Metnors, Holmewood, causing a downgrading of Holmewood Brook is a priority candidate.
4.8.12	3 Longcourse Dyke		£2 k	The culverted section of Longcourse dyke under the Coalite site has been relined and some contaminated land has been removed.
4.8.13	4 River Dearne		£12 k	River Dearne; no longer failing EQS for Eulan.
4.8.14	5 Bamsley Canal/Cudworth Dyke		£3 k	A survey into the water quality problems of Bamsley Canal/Cudworth Dyke has been completed.
<i>ISSUE Recreational facilities and access could be improved and features of archaeological and heritage interest must be protected and conserved.</i>				
4.8.15	Continued involvement in access developments and collaboration: e.g. 1. Five Weirs Walk, Upper Don and Sheaf walks, through Sheffield.  2. Trans-Pennine Trail.  3. South Yorkshire Forest.	1999-2000  1999-2000  1998/99	£10 k  £5 k  £10 k	Proposals for the final stretch of the Five Weirs Walk at Atercliffe are being considered.  Rapid progress has been made on the Trans Pennine Trail from Pastures road through the Earth Centre to Sprotborough, including the completion of two bridges over the River Dearne. Access routes were proposed by local authorities, over Agency owned land at Canklow and Woodhouse Mill in Rotherham, and Sprotborough in Doncaster. The Woodhouse Mill section has been agreed in principle and the scheme designed, while the Sprotborough section has been completed. Feasibility studies on further extensions to the trail are currently being considered.  13 projects out of 26 applications to the South Yorkshire Forest Partnership have successfully secured funding (between £3k-£45K each) for a range of community and environmental schemes. The schemes range from tree planting and landscaping adjacent to the motorway; to providing an educational visitor centre at a site adjacent to the Trans-Pennine Trail; to whole renovation of 'neglected' parks, including providing viewing points, improving a local angling pond and developing local community ownership. In some cases involving several years of investment. The projects are funded from Landfill Tax Credits provided by Sheffield City Council.
4.8.16	Assess the distribution of Public Rights Of Way in relation to degraded waters.	1999-2000	£1 k	No proactive action due to resource issues.

Ref	Action	Timescale	Costs	Progress
4.8.17	Identify new opportunities to develop river corridor access for all, through collaborative projects: e.g. 1. Assess the viability of a conservation corridor on Agency owned land from Doncaster to Goole.  2. Developing the ecological & recreational potential of Agency owned washland and riverbank; At Kilnhurst, Sprotborough, Adwick	1998-2003	£4 k	Interpretation was erected on Kilnhurst Ings explaining the collaboration between the Agency and Groundwork (Dearne Valley) to make the washland more accessible to the local community, the type of wildlife they may see and advice on the potential hazards of washlands. Willow woven angling platforms were also installed to encourage controlled access to the riverbank and discourage anglers from digging into the floodbank to create access areas for fishing.
	Previous works with Yorkshire Wildlife Trust at Sprotborough saw the construction of a sluice gate to assist in the management of the water level in Sprotborough Flash, and the construction of a pond for educational pond dipping. The pond was secured to allow colonisation and plant development during the year, in preparation for use during the next year.			
	Riverside access proposals from Adwick to Bolton on Dearne, including the construction of willow angling platforms are currently being considered.			
4.8.18	Ensure that environmental quality and the interests of all legitimate water users are protected if canal restoration projects are undertaken, 1. Chesterfield Canal 2. New Rother Navigation  Also: Barnsley Canal, Dearne & Dove Canal.	1998-2003	tbd	The Chesterfield Canal Society hosted a seminar to discuss the future restoration of the canal that was attended by interested parties.
<b>ISSUE</b> <i>The health and diversity of wetland and river ecology including fisheries is influenced by the management of abstractions, releases from reservoirs, and water levels.</i>				
4.8.19	Investigate the potential to extend the Water Level Management Plan approach to all watercourses/bodies as a tool for restoration of nature conservation interest.	1998-2003	tbd	No proactive action due to resource issues.

tbd = to be determined.

RIVER BASIN MANAGEMENT (cont'd)



## Conserving the Land

Our aim is to protect the land from water (flooding) and protect the water from land (contamination). Flooding endangers property, crops and lives. Contaminated land gives rise to water pollution and risks to health. Less obvious damage is caused by soil erosion.

### *Key Achievements In 1998/9:-*

- Continued support for the Farming and Wildlife Advisory Group has resulted in successful partnerships with grant applications totalling £650,000 for conservation work on farms.
- We have initiated a working group to identify the potential for Sustainable Urban Drainage Systems in the area and to liaise with local authorities to raise the awareness of developers on the benefits to be gained.

### **Final Plan Commitments:**

*We Will: The Agency is the principal consultee on the reclamation by English Partnerships and other partners of ex-British Coal contaminated or derelict sites.*

We have been involved in 32 newly identified contaminated land sites in the catchment, as well as with many known sites. Partnerships with British Gas, English Partnerships and RJB Mining are continuing to secure the remediation of many sites.

A project to investigate, quantify and prioritise the impacts from colliery spoil tips upon surface waters within the region was initiated, and will continue to March 2000. It is anticipated that the eventual prioritised/ranked list of sites can be used to progress a programme of remediation in the future.

*We Will: Review the River Don washland system by a modelling study, to reduce flooding risk and optimise filling of controlled washlands*

The progress of the River Don washland study has been delayed due to the deployment of resources on the actions derived from impacts of the 1998 Easter floods in Midlands.

*We Will: Develop new methods to survey, maintain and manage flood defence and Undertake a programme of works to improve the standard of protection and provide effective defences in flood risk areas. (formerly River-Basin Management)*

Flood defence needs for the future are regularly assessed and are incorporated into an ongoing programme (see Appendix 3).

*We Will: Provide flood plain surveys to local planning authorities.*

Section 105 surveys are being carried out as part of an on-going 5 year programme to provide information on flood risk associated with specific watercourses identified by local authorities. The following surveys have been completed or progressed; on the River Don, Little Don, Clough Dyke, Porter Brook, Mill Dyke, Askern Common Drain, Spittal Brook, Blackburn Brook.

*We Will: Improve existing flood warning service, and extend the service to more flood risk areas. (formerly River-Basin Management)*

Flooding experienced in the Midlands during Easter 1998 has resulted in the development of a national action plan (see Appendix 3).

All local authorities were invited to attend seminars to discuss flood warnings and the emergency response, and to ensure that they had updated copies of the flood warning dissemination plans.

### *Forward Look 1999/2000*

- Implement the new Contaminated Land Regulations.
- Indicative floodplain maps will be issued to all local authorities.
- Continue to work with FWAG project officers to maximise benefits from farm conservation.

Ref	Action	Timescale	Costs	Progress
<i>ISSUE Contaminated land poses a pollution risk to the environment and has a potential to cause significant harm to human health, property and local amenity value.</i>				
4.9.1	Assess the impact of spoil heaps and plan remediate action:  Dodworth Colliery Rabbit Ings Colliery Skelmanthorpe Colliery	1998/99	£1 k	A scheme has been agreed with English Partnerships to stop the site drainage discharge from the tip at Charlston Colliery and retain it on site for treatment in the spring.  Dodworth Colliery; On-going monitoring taking place and discussions underway with Bansley MBC to upgrade treatment of leachate.  Rabbit Ings Colliery; Assessment of leachate impact currently taking place.  Skelmanthorpe Colliery; Assessment of leachate impact currently taking place.
<i>ISSUE Species and habitats, particularly where they are rare or declining, require conservation, enhancement and rehabilitation to promote the development of a healthy and diverse ecosystem.</i>				
4.9.2	Identify opportunities to reinstate more traditional management of floodplain as wet grassland etc and prepare action plans where appropriate e.g. Lower Don	1999-2001	£1 k	A project to investigate, quantify and prioritise the impacts from colliery spoil tips upon surface waters within the region was initiated, and will continue to March 2000.
4.9.3	Develop wider more valuable river corridors through creation of buffer zones and sensitive land management	1999-2003		A meeting was held with advisors for FWAG to discuss future joint farm work. Joint visits between the Agency and FWAG to deliver pollution prevention advice and ecology improvements will concentrate on lower Dearne. In particular an intensive nutrient management project will be undertaken. Also an opportunity has arisen for the Agency to work with FWAG and Doncaster MBC on the River Skell (tributary of Ea Beck). FWAG are pursuing funding options while the Agency will provide practical advice on creation of sustainable wetland habitats.
4.9.4	1 support Farming & Wildlife Advisory Group (FWAG).		£75 k	
4.9.5	2 encourage take up of Countryside Stewardship Scheme and other grants.		£5 k	
4.9.5	3 where current overgrazing is exacerbating erosion of waterside and valuable habitats implement a programme of education & awareness.		£3 k	Successful partnerships with FWAG resulted in grant applications totalling £650,000 for 1998/99 for conservation work on farms that will increase the biodiversity of targeted areas.
4.9.6	Identify areas of bank erosion caused by angling activity and collaborate in action to remedy the problem.	1999-2003	£4 k	No action.
4.9.7	Develop and implement site management plans to sustain and enhance conservation potential for all suitable Agency land holdings. E.g. River Dearne Study	1998-2003  1998-99	£25 k  £10 k (Agency £2k)	The River Dearne Study, undertaken in partnership between the Agency, Barnsley MBC, RJB & Miller Mining and English Partnerships, considered the issue of current usage and pressures of existing washland areas. Potential alternative usage, encouraging ecological enhancement and wetland features was assessed including the possible contribution to Biodiversity and Habitats Directive objectives. The results of this study are expected to be announced in 1999/2000.

CONSERVING THE LAND

Ref	Action	Timescale	Costs	Progress
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**CONSERVING THE LAND**  
(cont'd)

**ISSUE** *Future development could impact adversely on the environment unless the Agency maximises its influence on the land use planning system in liaison with local planning authorities.*

4.9.8	Where development or remedial works involve channel alterations or re-construction, maximise opportunities to enhance the redevelopment and maintenance of aquatic habitats. e.g. Orgreave, Sheffield. Avenue Site, Chesterfield. Houghton Main site on the Dearne System.	1998-2000	£3 k	Plans have been approved for the restoration works associated with the Orgreave site at Sheffield. A new river channel will be constructed, and a fish pass installed (see 4.7.3), as well as habitat enhancement which will benefit both fishery and wildlife. RJB have completed a habitat creation project at Houghton Main Open Cast site, Barnsley. The work which was part of a site restoration plan was approved by Barnsley MBC, was designed by the Agency and funded and carried out by RJB Mining (see also 4.6.6). Progress has been made on the development plans for Avenue site at Chesterfield, which is being managed by the new Regional Development Agency. The design for the new river channel has been agreed which will achieve enhancement of biodiversity and variety in habitats.
4.9.9	Establish a forum to promote greater use of Sustainable Drainage systems	1998-2000	£8 k	We have initiated a working group to identify the potential for Sustainable Urban Drainage Systems in the area and to liaise with local authorities to raise the awareness of developers on the benefits to be gained.
4.9.10	Provide information on best environmental practices to developers and others to promote sustainability in development.	1999-2001	£5 k	



## Managing Freshwater Fisheries

Good water quality and adequate flows are a prerequisite for healthy fish populations. We are committed to a programme of habitat improvements, often in collaboration with other interested parties such as farmers and nature conservation groups.

### *Key Achievements In 1998/9:-*

- Together with Yorkshire Water PLC, we restocked the River Dearne with 5000 coarse fish following water quality improvements as a result of investment into Lundwood Sewage Treatment Works.
- An innovative model of the proposed rock chute to replace the Crimpsall Sluice on the River Don has been successfully constructed and tested (see below).

### **Final Plan Commitments:**

*We Will: Where refurbishment is being undertaken, ensure the provision of fish passes on in-channel structures (weirs etc) which currently prevent the free passage of fish.*

*Provide facilities at the new Crimpsall structure on the River Don, at Doncaster.*

Hydraulics Research have constructed and tested a model of the proposed new rock chute weir at Crimpsall, Doncaster. This innovative project is breaking new ground for this kind of structure, and involves careful selection of rock size, back slope gradient, and low flow section.

The new weir is being designed to operate as a fish pass for both salmonid fish and coarse fish, and will be constructed in a channel adjacent to the River Don (subject to required approvals). The chute will provide easier fish passage on the river, and is more ecologically friendly than many other fish passages.

We are also in discussions with Doncaster MBC with regard to the opportunity to enhance the surrounding banksides for improved habitat, access and recreational potential.

Further opportunities for fish passage are being pursued (see 4.7.2).

### *Forward Look 1999/2000*

- Develop further opportunities to install fish passage structures on weirs in the area.
- Continue to work with local authorities on development and implementation of Fisheries Strategies, and the enhancement of degraded urban fisheries.

Ref	Action	Timescale	Costs	Progress
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**FRESHWATER FISHERIES**

*ISSUE Species and habitats, particularly where they are rare or declining, require conservation, enhancement and rehabilitation to promote the development of a healthy and diverse ecosystem.*

4.7.1	Identify opportunities to redevelop indigenous fish populations as water quality improvements allow.  1 On the River Don following Bullhouse minewater remediation project.	1999-2003	tbd  £25 k	The Agency and Yorkshire Water have worked together to re-establish fish populations in the River Dearne, downstream of Lundwood STW, following improvements to the works. 5000 mixed coarse fish stocks were introduced during March 1999. These improvements will also contribute to the successful of habitat improvements created at Houghton Main (see 4.6.6).
4.7.2	In collaboration with Riparian Owners seek opportunities to install fish pass structures, while ensuring the protection of heritage features.	1998-2003	£1 k	Hydraulics Research have constructed and tested a model of the proposed new rock chute weir at Crimpsall, Doncaster. Current discussions are underway with Doncaster MBC for planning permission to construct the rock chute weir in an oxbow channel adjacent to the main River Don.  Sheffield City Council are in the process of designing a fish pass for installation at Walk Mill Weir, Sheffield with advice from the Agency. They are also considering the feasibility of a programme of fish pass installations at all major weirs in their area. The installation of fish passes will enhance the fishery potential of all rivers and tributaries through the free movement of fish species, which will help to increase the diversity of species in all reaches of the river.
4.7.3	Ensure the creation of the fish pass on the Rother at Orgreave results in improved fish passage.	1999-2000	£1 k	Negotiations have been completed with regard to the fish pass on the River Rother at Orgreave, and RJB Mining have agreed to incorporate a design of rock chute similar to the crimpsall design. The rock chute design will be less intrusive on the environment, with no weir being required, and will permit all species of fish to move relatively easily.
4.7.4	Collaborate on enhancements to degraded urban fisheries habitats.	1999-2003	£50 k	The Agency has worked closely with several local authorities to develop a sustainable management programme for authority owned fisheries. i) North East Derbyshire Council have developed a Fisheries Strategy. ii) Chesterfield District Council have developed a management plan with advice from the Agency. iii) Doncaster MBC have also developed a management plan with advice from the Agency, and have identified the opportunity for enhancement works at Sandersons Pond, Doncaster, where the Agency and Doncaster MBC can work together.

tbd = to be determined.



## Enhancing Biodiversity

Conserving and enhancing the variety of animal and plant life and the habitats in which they live is vital in improving the state of the environment.

### *Key Achievements In 1998/9:-*

- Final reports were received from a study commissioned to look at opportunities for ecological enhancements on the River Dearne in the Barnsley area.
- Work on ecological enhancements on the River Dearne was completed. A new meander, and wetland areas were constructed.
- A collaborative project at Houghton Main Open Cast site at Barnsley was completed. New wetland habitat was created through partnership with RJB mining. The project was designed by the Agency, and funded and carried out by RJB.

### **Final Plan Commitments:**

*We Will:* In partnership with local authorities, support the development and implementation of local Biodiversity Action Plans, with particular regard to those species and habitats for which the Agency is a contact point or lead partner.

We are providing advice and help to a number of projects concerned with the native crayfish, which is a protected species (see 4.6.1). Contributions are being made to the national Biodiversity Action Plan for crayfish and an information leaflet about the species has been produced.

*We Will:* Ensure the protection and enhancement of internationally important sites by reviewing all consents and licences affecting the South Pennine Moors Special Protection Area and the Thorne Moor proposed Special Area of Conservation and Special Protection Area.

Much progress has been made in terms of identifying the main areas of concern for each site, and agreeing a timetable with English Nature. This will form the basis of next phase of implementation of the Habitats Directive; identifying the existing licences and consents to ascertain if they have a significant effect on the sites.

*We Will:* In collaboration with local authorities, carry out a study to identify opportunities to improve the ecological value of washlands throughout the Dearne Valley.

A collaborative study of the washland areas within the River Dearne valley identified the potential for enhancement and a return to more ecological management regimes. The study concentrated on the existing pressures on the land, for development and agricultural use as well as highlighting the requirement for water level management.

### *Forward Look 1999/2000*

- Habitats Directive: Thorne Moor to achieve stage 2, South Pennine Moors to achieve stage 1.
- Investigate feasibility of restoration scheme on River Don between Barmby Dun and Kirk Bramwith as identified in the catchment review (4.6.9).
- Work with the Otters & Rivers Project Officer (4.6.1).

Ref	Action	Timescale	Costs	Progress
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BIODIVERSITY	<i>ISSUE Implementing the UK's Biodiversity Action Plan.</i>				
	4.6.1	Assess the need for baseline surveys of important species and plan action in collaboration with organisations involved in producing Local Biodiversity Action Plans.	1999-2000	tbd	A Regional project jointly funded via Water UK, Yorkshire Water, and the Agency has been established with the appointment of a Rivers & Otters Project Officer with Yorkshire Wildlife Trust. The project will examine the potential for expansion of the range of otter populations in East, South & West Yorkshire. Project officers for other areas of the North East Region are also in place. Ongoing support is being given to the Three Valleys project for studies into native crayfish in the Moss Valley. Sheffield University and Sheffield Hallam University both undertaking research studies, have expressed an interest in sharing the data that has already been collected. We are also providing advice and help to a number of projects concerned with the native crayfish, which is a protected species. Contributions are being made to the national Biodiversity Action Plan for crayfish and an information leaflet about the species has been produced.
	<i>ISSUE Species and habitats, particularly where they are rare or declining, require conservation, enhancement and rehabilitation to promote the development of a healthy and diverse ecosystem.</i>				
	4.6.2	Negotiate and identify rehabilitation of river channels damaged by past industrial/land drainage activity in the Don, Deame, and Rother catchment.	1998-2003	tbd	Actions in 4.6.3 – 4.6.6 will contribute to this action, as will the potential opportunities identified in the catchment review under 4.6.9.
	4.6.3	Investigate opportunities and carry out remedial works on the tidal River Don including the re-connection of oxbow sections of the original river channel where appropriate. e.g. Kirk Bramwith Thorne Waterside	1999-2003	£10 k	A scheme proposed for the re-connection of ox-bow sections to the main River Don has been designed, with feasibility studies undertaken. Funding is now being sought.
	4.6.4	Investigate opportunities to restore degraded habitats resulting from past land drainage works on: e.g. the River Went, downstream of the A19.  the River Ea Beck, from the A1 Downstream to Carcroft.	1999-2000	£5 k	Progress was made on developing fisheries restocking and enhancement work on the River Went downstream of the A19. Proposals include in-river structures for flow diversity, and planting to enhance encourage wildlife. Funds are being actively sought and it is expected that the scheme will be completed during 99/2000.
	4.6.5	Undertake habitat improvement and river rehabilitation schemes in the River Deame catchment:  e.g. Old Moor Washlands	1998-2003	tbd	Further opportunities may be identified through the catchment review under 4.6.9.  River Deame Rehabilitation – Improvements to the river channel and marginal areas have been completed. Further enhancements to secure additional wetlands habitats adjacent to the realigned channel have been achieved. These involve shallow pools planted with phragmites and other emergent vegetation to attract a greater range of bird species and to encourage the return of amphibians, mammal and insect species.
	4.6.6	Carry out habitat improvements at Houghton on the River Deame.		ACTION COMPLETE	RJB Mining completed a habitat creation project at Houghton Main Open Cast site, Barnsley. The work which was part of a site restoration plan was approved by Barnsley MBC, and designed by the Agency (links to 4.9.8). The project entailed the construction of a ½ acre pool connected to the adjacent River Deame, which will provide a safe haven for breeding fish and fry development. The young fish will provide a sustainable source for re-establishing the indigenous fish species in the river, and the recent improvements to water quality resulting from investment in Lundwood STW (see 4.7.1) will contribute to the overall sustainability of these fish populations.

tbd = to be determined.





## Business Development

We have made clear our intention to be efficient and businesslike in everything we do. We aim to help achieve a better environment by maximising resources available for environmental improvement and realising additional resources.

### *Key Achievements In 1998/9:-*

- The Area has made significant progress towards establishing a Customer Service Centre to provide an integrated response to customers needs with regard to issuing consents and permits (South Yorkshire only – North East Derbyshire will direct such requests towards our Midlands Region).
- The final LEAP for the South Yorkshire and North East Derbyshire area was completed and published after extensive consultation.
- The South Yorkshire Area Environment Group discussed issues related to the South Yorkshire and North East Derbyshire LEAP.
- A series of successful road-shows were held with each local authority, aimed at developing relationships and understanding each other's perspective on a number of issues.

### *Forward Look 1999/2000*

- Ensure that the Customer Service Centre is fully operational.
- Continue to develop the role of the South Yorkshire Area Environment group, including the monitoring of LEAP review process.
- Continue to develop the 'Environment First Culture' within the Area (see appendix 4).

### 3.0 PARTNERSHIPS.

Partnerships, in the form of pooled resources and expertise can bring about greater environmental benefit than could be achieved by one organisation working alone. Many organisations and individuals have responsibilities for the environment and, perhaps more importantly, *can* play a vital role in improving it.

The level of interest in local communities, conservation/recreation groups, local authorities and industry in tackling environmental issues has greatly increased and therefore the opportunities for greater achievement are plentiful. The hard work usually involves bringing these like-minded people together in the right place, at the right time. The project detailed below is an example of what can be achieved when individuals from organisations work together to maximise the benefits for the environment by working together.

#### 3.1 River Dearne Rehabilitation Scheme

The River Dearne flows through a landscape with a chequered history. Described in the nineteenth century as "one of the finest landscapes in England", the valley was soon overtaken by the onset of the Industrial Revolution. The river and its valley suffered from the combination of poor water quality and the effects of heavy industry and mining. Mining in particular led to the loss of many of the natural features of the river.



There has been a high level of interest in the restoration of the Dearne valley. Schemes have been ongoing to recreate a more natural river corridor, and to promote public access to the river as a recreation site. Several organisations have been involved in these works including the Agency, Barnsley MBC, and Groundwork Dearne Valley. This common interest in improving the river corridor has led to joint works being carried out.

We have been involved in collaborative work to restore the ecological value of several areas of the river. Initially we were working with Barnsley Metropolitan Borough Council, RJB Mining, Miller Mining and English Partnerships on the Dearne Washlands study, to enhance washlands along the river. We provided advice on this project, and improvements were paid for and carried out by our partners. From this involvement a new opportunity for enhancement works was identified.



**Miller Mining**



**ENVIRONMENT  
AGENCY**

Barnsley MBC had mining interests in an area of our land next to RJB Mining's opencast site at Houghton Main. The Council decided that the land was unsuitable for opencasting, but looked to use it productively to bring about environmental improvements. We agreed to this use of the land, and plans were drawn up for a wetland habitat creation project. The scheme was designed by the Agency and approved by Barnsley MBC. Work was funded and carried out by RJB and Miller Mining.



Completed in October 1998, the scheme incorporates an offline pond to provide habitat for fish and wildlife. "Offline" means that the pond is separate from the main river channel and is connected by a separate inlet that allows fish free passage and maintains water levels, but the water transfer rate from the river to the pond is very low. This means it should be protected from any pollution incidents. The pond is shallow, making it warm and therefore ideal habitat for fish fry, with plenty of food available to enable fast growth of the fish. As it is offline, it will also provide a refuge for wildlife. The land around the pond also provides valuable habitat for other wildlife such as water voles and birds.



The pond lies between the River Dearne and the new Dearne Valley Trunk Road extension. It will be visible from the road, and so will improve the visual quality of the area.

## APPENDIX 1

**NEW DUTIES OF THE AGENCY**

Over the next two to three years, the Environment Agency will have a number of new regulatory duties. These result from European Directives, Government Policies and Agency developments. There may be additional resources for some of these tasks but rigorous priorities will have to be set to accommodate the new statutory requirements.

Comprehensive reviews of abstraction licensing and fisheries legislation are also in progress.

**1 Integrated Pollution Prevention and Control**

The law enacting the EC Directive comes into force in October 1999 and extends the concept of Integrated Pollution Control to a wide range of industrial sectors, embraces elements of waste management licensing and includes aspects such as noise, energy and waste minimisation. It will apply straight away to new or substantially changed installations but will be phased in over an eight-year period.

**2 Contaminated Land**

The Environment Act 1995 (section 57) introduced the framework for a new contaminated land regime. This legislation which is due to be implemented on 1<sup>st</sup> December 1999 will provide new duties and powers to Local Authorities and the Agency that will enable the legacy of potential problem sites to be tackled.

Under this new legislation the two joint regulators have the following responsibilities:

Local Authorities	Agency
<b>Duties:</b> Inspect their areas to identify contaminated land (CL). Consult the Agency where CL affects the pollution of controlled waters. Ensure remediation of CL. Transfer regulatory responsibility of 'special sites' to the Agency. Maintain 'remediation register'.	<b>Duties:</b> Ensure remediation of 'special sites'.* Maintain a register of 'special site' remediation. Prepare a national report on the state of CL.  <b>Powers:</b> To provide advice to local authorities on; <ol style="list-style-type: none"> <li>1 Identifying pollution of controlled waters.</li> <li>2 The remediation of contaminated land.</li> </ol>

\* Special sites are ones which effect the environmental quality standards of surface waters, major aquifers or public water supplies, or are sites with IPC processes or tar lagoons, or are owned by the Ministry of Defence.

**3 Groundwater Directive**

New Groundwater Regulations came into force January 1999 to implement fully this Directive. The disposal of List I or II substances (i.e. the potentially most polluting ones) require Agency authorisation. Disposal of sheep dip to land will require a Water Resources Act 1991 consent which will place restrictions on the quantity to be disposed, the frequency of disposal and the location. The Agency also has a duty to issue notices, prohibiting or controlling certain activities in or on ground involving List I and II substances.

**4 Metal Recycling Sites**

All metal recycling sites that remain unregulated are to be brought under waste licensing or registration by October 1999. This will deliver a level playing field and has potential for environmental improvement. Working relationships are being developed with the relevant trade associations and with local government. The licensing and registration process will take place between April and October 1999.

**5 Control of Major Accident Hazards (COMAH)**

This replaces the former Directive on Control of Industrial Major Accidents (CIMA) and requires operators of industrial processes involving dangerous substances to take all measures necessary to prevent and mitigate the effects of major accidents on man and the environment. The COMAH regulations place a statutory duty on the Agency, along with the Health and Safety Executive (HSE) as part of a Competent Authority, to enforce the requirements of the regulations in England & Wales.

**6 Nitrate Vulnerable Zones (NVZ)**

The 'Action Programme for Nitrate Vulnerable Zones (England & Wales) Regulations 1998', require the Agency to visit designated NVZs (located in East Yorkshire in Ridings Area) to assess compliance with statutory controls on fertiliser and manure use. The Agency will as far as possible adopt a partnership approach with the farming community, based on promoting benefits and education.

**7 Minewaters**

There are a number of issues relating to European legislation, in particular the Dangerous Substances Directive and Groundwater Directive that will impact on the way the UK deals with minewaters. These issues have implications for the Agency specifically in terms of its monitoring regime and consenting policy. It is anticipated that the bulk of the improvement work will fall to the Coal Authority, subject to adequate funding being made available. The Agency will be responsible for the regulatory role and will need to balance this additional requirement with the existing programme for minewater remediation. This will ensure that the priority for action remains focused on the significant environmental improvements, whilst maintaining progress towards meeting the objectives of the relevant Directives.

**8 Habitats Directive**

A European Directive came into force in 1994. Its provisions require a widespread review of environmental consents and licences to ensure that they take account of the impacts of abstractions, discharges or atmospheric emissions on Special Protection Areas (SPA) or Special Areas of Conservation (SAC). These reviews must be carried out between 1998 and 2004 on a prioritise basis.

**9 Flood Action Plan**

Following the severe flooding in parts of the Midlands at Easter 1998, a comprehensive review was undertaken of flood warning and response, and other measures to protect people vulnerable to flooding. The Agency has developed an action plan (November 1998) that builds on the outcomes of the review, to ensure the effective management and delivery of a flood warning service.

## APPENDIX 2

UPDATE ON ASSET MANAGEMENT PLANS (AMP)

The following information represents the most up to date available and supercedes the AMP3 table that was published in the final Plan (August 1998).

All AMP2 schemes (not listed here) are on target to complete by end of 1999/2000.

Proposed Sewage Treatment Works Improvement Schemes for Investment during 2000-2005 (AMP3).

The investment by Yorkshire Water under the third Asset Management Plan (period 2000-2005) will be part statutory and part discretionary. Statutory investment will be to ensure compliance with EC Directives (Urban Waste Water Treatment, Fisheries, & Habitats). Discretionary investment will be undertaken to achieve other environmental improvements such as compliance with River Quality objectives.

Discharge name	Receiving water name	Receiving water Chemical GQA grade 1997	Receiving water RQO River Ecosystem (RE)	Population equivalent	Length of river or area of SSSI affected km	Driver
Adwick	Goosepool Drain/Mill Dyke	F	4	22100	7.7	RQO
Arkwright	Pools Brook	D	4	400	4.8	RQO
Balby (Midlands Region)	Mother Drain	D	4	19240	15	RQO
Bently (Arksey Lane)	Bently Mill Dyke	E	4	21584	2.5	RQO
Bolsover	Doe Lea	E	4	10000	3.7	RQO
Bolton On Dearne	River Dearne	D	4	25200	6	RQO
Burcroft	River Don	D	4	11780	8	U1, RQO
Carleton	Little Went	F	4	8500	3.2	U1, F
Cawthorne	Cawthorne Dyke	C	2	2200	2.6	RQO
Cheesebottom	River Don	B	2	2000	8	RQO
Crane Moor	Rockley Dyke	E	4	500	4.8	U2, RQO
Cudworth	Cudworth Dyke	E	4	9900	2.6	U1, RQO
Darfield	River Dearne	E	4	250	5	RQO
Denaby	River Don	D	4	5200	2	RQO
Dronfield	River Drone	D	5	24532	4.2	RQO
Fitzwilliam	Hessle Beck	C	2	900	2.4	F, RQO
Grimethorpe New	Shafton Beck	E	4	11800	4.4	RQO
Gt Houghton	Houghton Beck	E	3	3400	2.2	U1, RQO
Hatfield Woodhouse (Midlands Region)	Hatfield Waste Drain	E	6	400	15	U2, RQO
Holbrook	River Rother	C	4	23889	3.9	RQO
Long Lane	River Rother	E	4	20640	3	RQO
Mexborough	River Don	D	4	16628	1	RQO
Rawcliffe (Goole)	Dobeller Drain	E	4	1755	1.8	RQO
Renishaw	Smithy Brook	C	4	2700	0.8	U1, RQO
Shuttlewood	Hawke Beck	C	4	1728	3.9	RQO
Silkstone	Silkstone Beck	C	3	3500	3.2	U1, RQO
Stapleton Park	Womersley Beck	D	4	2002	6	RQO
Stockley	Doe Lea	B	4	3500	2.4	U1, RQO
Stocksbridge	River Don	C	3	13400	8	U1, RQO
Swinton	River Don	D	4	38	4	RQO
Tankersley	Warren Dyke	C	3	2500	2.4	U1, RQO
Thorne	River Don	E	4	46390	8.9	RQO
Tupton	River Rother	C	2	11200	4.5	RQO
Unstone	River Drone	D	2	1502	2	U2, RQO
Wath On Dearne	Brook Dyke	E	4	16900	1.8	RQO

Wentworth	Harley Dyke	U	U	441	1	RQO
West Bretton	Bretton Brook	D	4	2100	1.8	U1, RQO
Wharnccliffe Side	River Don	B	3	2300	3.5	U1, RQO
Williamthorpe	Muster Brook	E	4	5200	2.6	U1, RQO
Woodall	County Dike	D	4	2000	1.3	U2, RQO
Wrangbrook	Wrangbrook Dyke	E	4	6600	5.5	RQO

**Drivers:**

Statutory U1 – to comply with Urban waste Water Treatment Directive (population equivalent > 2000).  
 U2 – to comply with Urban Waste Water Treatment Directive (population equivalent < 2000).  
 F – to comply with Freshwater Fisheries Directive.

Non Statutory RQO – investment to achieve or protect River Quality Objectives downstream of STW discharge.

**Proposed Combined Sewer Overflow (CSO) Improvement Schemes for Investment during 2000-2005 (AMP3).**

A number of zones have been identified to require schemes to address water quality problems. Yorkshire Water is undertaking surveys across the Region to ensure that all deficiencies associated with intermittent discharges (water quality and aesthetics) are identified in the current planning period.

Schemes designed to reduce the impact of CSOs on water quality generally entail a high cost and require detailed sewer and river modelling. They may involve re-sewerage and the provision of new overflow structures and storage. Schemes to reduce aesthetic impact are generally lower cost involving installation of screens at the overflow and additional storage or pumping facilities.

Funding of environmental obligations by Yorkshire Water in the period 2000 – 2005 will address 84% of unsatisfactory intermittent discharges, in line with DETR guidance to water companies.

Drainage Area Zone	Watercourse	No of Discharges
Abbey Lane	River Sheaf	3
Abbeyle Road	River Sheaf	4
Ackworth	River Went	1
Adwick-Le-Street	Mill Dyke	6
Athersley	River Dearne	6
Attercliffe	River Don	4
Balby	River Don	2
Birley	Shire Brook	10
Blackburn Valley	Bagley Dike	11
Bolsover	River Doe Lea	2
Bolsover Rural (N)	River Doe Lea	3
Bolsover Rural (S)	River Doe Lea	1
Bolton	River Dearne	4
Boythorpe	River Rother	6
Brightside	River Don	2
Brimington	River Rother	4
Brushes	River Drone	3
Burcroft	Burcroft beck	3
Burngreave	River Don	1
Central	River Dearne	8
Chapletown	Black Burn	5
Chesterfield Road	River Sheaf	2
Chesterfield West 1	River Hipper	2

Drainage Area Zone	Watercourse	No of Discharges
Chesterfield West 2*	River Hipper	2
Chesterfield West 4	River Hipper	5
Clay Cross*	River Rother	4
Dalton/Thrybergh	Dalton Brook	3
Darnall*	Carr Brook	18
Dearne Valley	River Dearne	6
Denaby Lane	River Don	1
Dore & Otley	River Sheaf	3
Drone Residual	River Drone	8
Ellin Street	Porter Brook	2
Featherstone	River Went	4
Greasborough/Nether Haugh	Greaseborough Dike	6
Grimethorpe*	River Dearne	10
Hemsworth	River Went	6
Herringthorpe/Listerdale	River Don	1
Holmes	River Don	4
Hunger Hill	River Don	3
Long Lane*	River Rother	3
Loxley Valley	River Loxley	7
Marsh Street*	River Rother	2
Masbrough/Kimberworth*	River Dearne	8
Mexborough	River Dearne	6
Middlewood Road	River Don	2

Drainage Area Zone	Watercourse	No of Discharges
Mosborough	River Rother	2
Owler Lane*	Bagley Dyke	8
Penistone	River Don	4
Penistone Road	River Don	9
Porter Brook	Porter Brook	13
Rawmarsh	River Don	1
Residual East	River Don	1
Roundwood	River Don	2
Sandy Lane	River Don	2
Sheaf Valley	River Sheaf	5
Shirtcliffe Brook	Shirtcliffe Brook	7
Spital Valley	Spital Beck	2

Drainage Area Zone	Watercourse	No of Discharges
Staveley	River Rother	8
Stocksbridge*	River Dearne	4
Swinton	River Don	4
Thorne	River Don	5
Thorpe Hesley	River Rother	3
Tupton Residual	River Rother	7
Wath	Brook Dike	3
Wilthorpe	River Dearne	2
Wincobank	Bagley Dike	2
Wingerworth	River Doe Lea	1
Wombwell	Knoll Beck	5
Worsbrough	River Dove	7

\* Drainage Area Zones with water quality problems linked to intermittent discharges.

## APPENDIX 3

**UPDATE ON FLOOD DEFENCE PROGRAMME OF WORKS**

- Work has continued on the Ea Beck Flood Defence scheme. A water vole survey has been completed prior to creating meanders in the channel on Phase 3. Preparatory works for Phase 4 have started, and the detailed design is complete. The stoning works on the River Don (Phase 5) are complete, and a new outfall structure has been constructed.
- The scheme at Stainforth and minor works at Wentbridge have been completed.
- Designs submitted for the proposed scheme at Dronfield are being evaluated, and site works are anticipated to commence in February 2000.
- The design work for the replacement of Crimpsall Sluices has commenced.

**Flood Warning and Emergency Response**

- The Agency has published an official response to the Independent Report on the Easter 1998 floods. This identifies our key objectives in flood warning, flood defence and emergency response. Actions include publishing revised flood risk maps by September 1999, visually surveying all flood defences by April 2000, and developing and testing emergency response plans in conjunction with local authorities and emergency services.
- As part of the Easter Flood Actions, the assessment of all existing telemetry sites for performance at extreme flood levels was completed. A co-ordinated program of new and improved sites is now being prepared. Group meetings were also held with a number of local authorities on the Flood Defence Action Plan.
- The North East Region is employing a Public Relations officer specifically to raise public awareness of the Agency's flood warning service and clarify emergency response arrangements.

**Flood defence schemes timetable and costs.**

<i>Fluvial Defences:</i>		Estimated Cost £ (k)
Stainforth (River Don)	Completed	
Arksey (River Don)	2002/03	500
Ea Beck	In progress - 2001/02	3530
Sheffield (River Don)	2006/07	300
Blackburn Brook	2004/05 - 2005/06	600
Darton (River Dearne)	2005/06	300
Chesterfield (River Rother)	2007/08	300
Dronfield (River Drone)	In progress - 2000/01	1312
<i>Tidal Defences:</i>		
Old Goole	2004/05	850
Old Goole to Dutch River Bridge	2004/05 - 2006/07	1700
Dutch River Bridge to Rawcliffe Bridge	2006/07 - 2007/08	2000

<i>Renew ageing flood defence structures such as regulators, tidal outfalls, flood banks and flood walls:</i>		Estimated Cost £ (k)
Crimpsall Sluices (River Don)	1998/99 - 1999/2000	510
Sykehouse Barrier Bank	2003/04	250
Bolton Ings Regulator (River Dearne)	2004/06	500
Woodhouse Mill Regulator (River Rother)	2003/04	500

**APPENDIX 4****INTERNAL ENVIRONMENTAL POLICY**

The Agency believes in setting an example in good environmental practice; in September 1996 the Board agreed to adopt an 'Environment First Culture' to implement effective environmental management.

Our internal environmental policies, aim to reduce energy and water consumption, minimise waste and promote sustainable travel by reducing business mileage and increasing the efficiency of our vehicles.

The following points show some of our internal environmental achievements against these policies for 1998/99;

- **Reduce energy use in offices and depots**

Ridings Area staff have carried out energy audits for all offices in the area. Campaigns to turn off computers when not in use have been successful.

- **Reduce water consumption in offices and depots**

Water consumption is 30% less than accepted norm for offices

- **Reduce mileage, improve transport efficiency**

Staff are encouraged to car-share to meetings, video-conferencing is used increasingly for meetings to avoid travelling. The Area more than met the target for mileage reduction.

- **Use recycled aggregates in construction works**

Schemes in South and East Yorkshire used recycled aggregates for flood defence works, saving costs and materials.

New targets are being developed for the year 1999/2000.

These are just some of the initiatives that are underway in the Agency. If you would like more information on the our internal environmental policy and performance, please contact;

Ridings Area Environmental Management Co-ordinator  
Environment Agency  
Phoenix House  
Global Avenue  
Leeds LS11 8PG

**APPENDIX 5****PROGRESS ON TACKLING MINEWATER DISCHARGES**

The Agency is currently working closely with the Department of the Environment, Transport and Regions (DETR), the Coal Authority (CA) and the Department of Trade and Industry (DTi) to establish a national prioritisation programme of actions for dealing proactively with all minewater issues. This will result in a revised Memorandum of Understanding (MoU) between the Agency and the CA to tackle the issues in a consistent and cost effective manner.

**Background**

Prior to 1993 little action was taken to alleviate the pollution caused by abandoned minewaters. Whilst operators could, in theory, be prosecuted for causing pollution, they were specifically excluded from the offence of permitting pollution. At that time even the scope and scale of the problem in England and Wales was not clearly understood.

The National Rivers Authority and the then British Coal established a Memorandum of Understanding (MoU) which set the framework for dealing with further round of pit closures in late 1993. In 1994 MoU's were established with RJB (Mining) Ltd. and the CA as the new parties to take over most of British Coal's responsibility.

In 1995 the NE Region initiated a project to quantify the scope and scale of the problem in the region using an impact methodology developed in Welsh Region. This was quickly expanded into a national scheme, identifying the top 50 or so significant minewaters in the country. The CA accepted these results and proceeded to carry out feasibility studies for the treatment of minewaters at these sites.

**Minewater Remediation Programme**

There are currently 51 minewaters in England and Wales which the Agency consider to have the most significant environmental impact on the receiving watercourses. The impact is measured using biological, physical and chemical impacts and these, together with the potential uses of the waters, are combined through a technique called the Multi-Attribute Technique (MAT) to ensure that the most significant discharges are tackled first

To date eight schemes have been or are nearing completion across the UK with a further 16 feasibility studies that are completed. The average cost of the schemes is £400,000 with annual running costs of between £10-150,000.

In Ridings Area the Bullhouse Minewater project has just been completed on the River Don. This is undoubtedly a flagship scheme for the Area, who played the major role in promoting the scheme, obtaining the funding and managing the project through to completion. The running of the site will ultimately fall on the CA. A start has been made in South Yorkshire on Fender, Sheepbridge Industrial Estate, near Chesterfield and Silkstone minewater schemes with completion expected in 2000.

Further work on the Don is proposed with the Sheepphouse Wood minewater being the next high priority site for progressing with a feasibility report and potentially a collaborative project with Yorkshire Water and other local firms. Other issues at Summerley and Unstone, on the Drone have not been forgotten, it was, after all pressure from this local Parish Council that initiated much of the impetus for a National Ranking scheme. It is hoped that the Coal Authority will ultimately be able to promote a time scale for future remediation schemes greater than the current 12 months. This is caused by the current annual funding arrangements, for what is a discretionary programme of work not any lack of planning or commitment by the Authority. Some work will be done this year, but the detail is awaited.

**Monitoring Programme – Recently Abandoned Mines**

It is proposed that the current programmes for monitoring of both surface and ground water are reviewed and a revised programme agreed. This programme, which will be reviewed annually, will form the basic tool for evaluating which mine waters are passed forward to either the prevention or the remediation programmes.

On the surface water side, there are a number of sites identified, which have discharges resulting from more recent colliery closures. These have been included on an extensive monitoring programme, which goes on until September 1999. The sites are predominantly in Wales. There are only three sites in Ridings Area: Wheatley Adit and Elsecar minewaters on the River Dearne, and Hepper minewater on the Calder which are currently subject to this comprehensive monitoring programme.

The Wheatley Adit mine water which broke out on the River Dearne, near Clayton West, during 1998 has now stopped running completely, whilst nearby Benny Lane adit, which had stopped running during 1998, has now started again. Obviously the Wheatley adit cannot now be monitored as part of this programme, and will be removed from the list, with DETR being advised accordingly. A new minewater has recently emerged on Tanyard Beck, in Cawthorne. The impact was quite severe, during the first flush, but as it runs through a secluded wood with footpaths and not past any residential population, it has not resulted in any local complaints at present. Guyder Bottom minewater, which used to discharge near-by, stopped running quite a while ago and could well be the source of the new outbreak.

**Prevention Programme – Minewater Rebound**

In addition to the above programmes the government is keen to ensure that no significant pollution results from any future groundwater rebound caused by mine closures.

The CA operate a number of minewater pumping and treatment schemes to prevent uncontrolled outbreaks. The main areas are the Durham Coalfield, Scotland and at Woolley near Barnsley.

Woolley minewater, which discharges to the River Dearne, near Barnsley, protects the neighbouring Calder catchment from uncontrolled minewater outbreaks. Not all of the water that was anticipated to drain to Woolley actually does so. This is despite the fact that major underground roadways existed, which should have ensured that the water pathways would continue following the closure. This highlights the problems of accurate prediction of what happens to groundwaters, on the closure of mines, and how they can best be tackled in the longer term. In this instance the water in Hope Shaft, adjacent to Caphouse Mining Museum has risen to levels which required local pumping and treatment followed by discharge to the Calder.

There are a number of significant issues still to be resolved within Ridings Area. There are major future implications, particularly in South Yorkshire where the inter-linking of the mines means that the whole of the coalfield from Sheffield to Nottingham, covering some 1,000 square kilometres, needs to be evaluated together. Whilst the time scale for potential rebound is measured in decades, for the most part, the actions taken now, in terms of shaft sealing, water pathways and continued pumping arrangements, all impact on the range of future possibilities for action.

**APPENDIX 6****THE ROUTINE WORK OF THE AGENCY**

On a day-to-day basis, the Agency carries out a huge environmental monitoring and regulatory operation, most of which is to achieve statutory requirements. The aim of regulation is to balance the needs of people and the environment. The Agency works to:-

- conserve, redistribute and improve river, lake, reservoir and underwater supplies
- prevent and control pollution of air, land and water
- reduce the risk of harm from contaminated land and bring it back into use
- make sure waste is dealt with safely and legally
- make sure radioactive materials are kept, used and disposed of safely
- make sure flood risks are reduced and new ones are not created or exacerbated.

Regulating the environment takes place through licensing. The Agency manages licences for abstraction of water from rivers and boreholes, releases to air and water, the carrying and disposal of waste and to carry out work in, over, under or near a watercourse. Within Ridings Area we manage over 1,800 water abstraction licenses, 3,800 consents to discharge to water, 850 waste management licences, over 280 authorisations under Integrated Pollution Control for processes which make releases to air and 460 permits for radioactive materials and waste. We determine approximately 400 applications each year to work on or near water.

We monitor the environment to ensure that pollution is controlled and resources are adequately protected. We regularly monitor the quantity and quality of rivers, estuaries and the sea and check emissions from the processes we regulate. Results are reported on a public register, which can be inspected at the Agency's main offices. We run a 24-hour service for receiving reports of and responding to flooding and pollution incidents and emergencies in the air, water or on land. We also work with others to reduce the risk of harm from contamination and to bring land back into good use.

We work to minimise waste and prevent pollution through advice and education, including national campaigns, and through working with other environmental regulators. When necessary, we are prepared to enforce environmental legislation in a tough way. Those who show little regard for the law and who cause blatant and persistent damage to the environment can expect to be prosecuted.

The Agency also has the role of reducing risk to people and the environment from flooding by providing effective defences. Protecting life is our highest priority and to meet this aim we provide a flood forecasting and warning service and discourage development in flood-risk areas. In Ridings Area, we also manage over 900 km of flood defences and aim to protect and improve the natural environment by promoting flood defences that work with nature.

We are responsible for maintaining, improving and developing fisheries. We regulate fisheries by issuing licences for rod angling and net fishing. We carry out improvements to fisheries by improving the habitat and fish stocks and providing advice to fishery owners. The Agency seeks to ensure that wildlife, landscape and archaeological heritage are protected both in any work we carry out and also in work carried out by others.

We have two primary statutory duties in respect of features of conservation interest; to further, wherever possible, conservation when carrying out water management functions; to have regard to conservation when carrying out pollution prevention and control functions. We also have a free standing duty generally to promote the conservation of natural beauty and amenity and the wildlife dependent upon the aquatic environment.

Our principal aim for recreation is to protect, improve and promote the water environment for recreational use. We do this by protecting existing use and creating opportunities in the course of our work and by maximising the use of Agency owned sites for recreation.

**APPENDIX 7**

**VISION & AIMS OF THE ENVIRONMENT AGENCY**

*Our vision is:*

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

*Our aims are:*

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

*We will do this by:*

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