

local environment agency plan

MIDDLE SEVERN

Second Annual Review

January 2000



ENVIRONMENT
AGENCY

Middle Severn Local Environment Agency Plan (LEAP)

Previous LEAP Documents

Middle Severn LEAP Consultation Report
April 1997 (*now out of stock*)

Middle Severn LEAP Consultation Report Summary
April 1997

Middle Severn LEAP Action Plan
November 1997

Middle Severn LEAP First Annual Review
January 1999

This document should be read in conjunction with the Middle Severn LEAP Action Plan.

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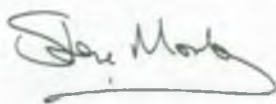
FOREWORD

The Environment Agency was established to protect, monitor and improve the environment in its broadest sense – ultimately contributing to the worldwide goal of sustainable development. One way of achieving this aim is through the production of Local Environment Agency Plans (LEAPs), which provide a framework for protecting and improving our local environment.

This is the second Annual Review of the Middle Severn LEAP. Its purpose is to highlight the progress that has been made by the Agency and others during the past year, in tackling the issues and problems identified in the Action Plan.

The progress that has been made over the last twelve months reflects the commitment of all those involved in the plan, and highlights the importance of the partnership approach developed through the LEAP process. As the demand upon limited funds continues to increase, it is even more vital that the momentum of environmental improvement is kept going through partnerships and collaborative ventures.

I look forward to developing further the positive achievements made so far with our partners, as we work together to safeguard and improve our local environment in the coming year.



Steve Morley
Area Manager - Upper Severn



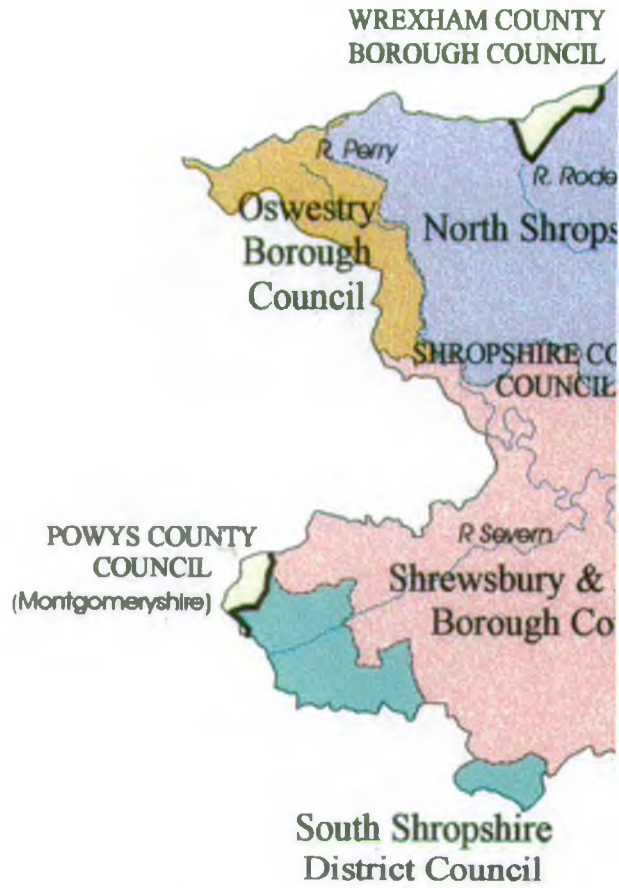
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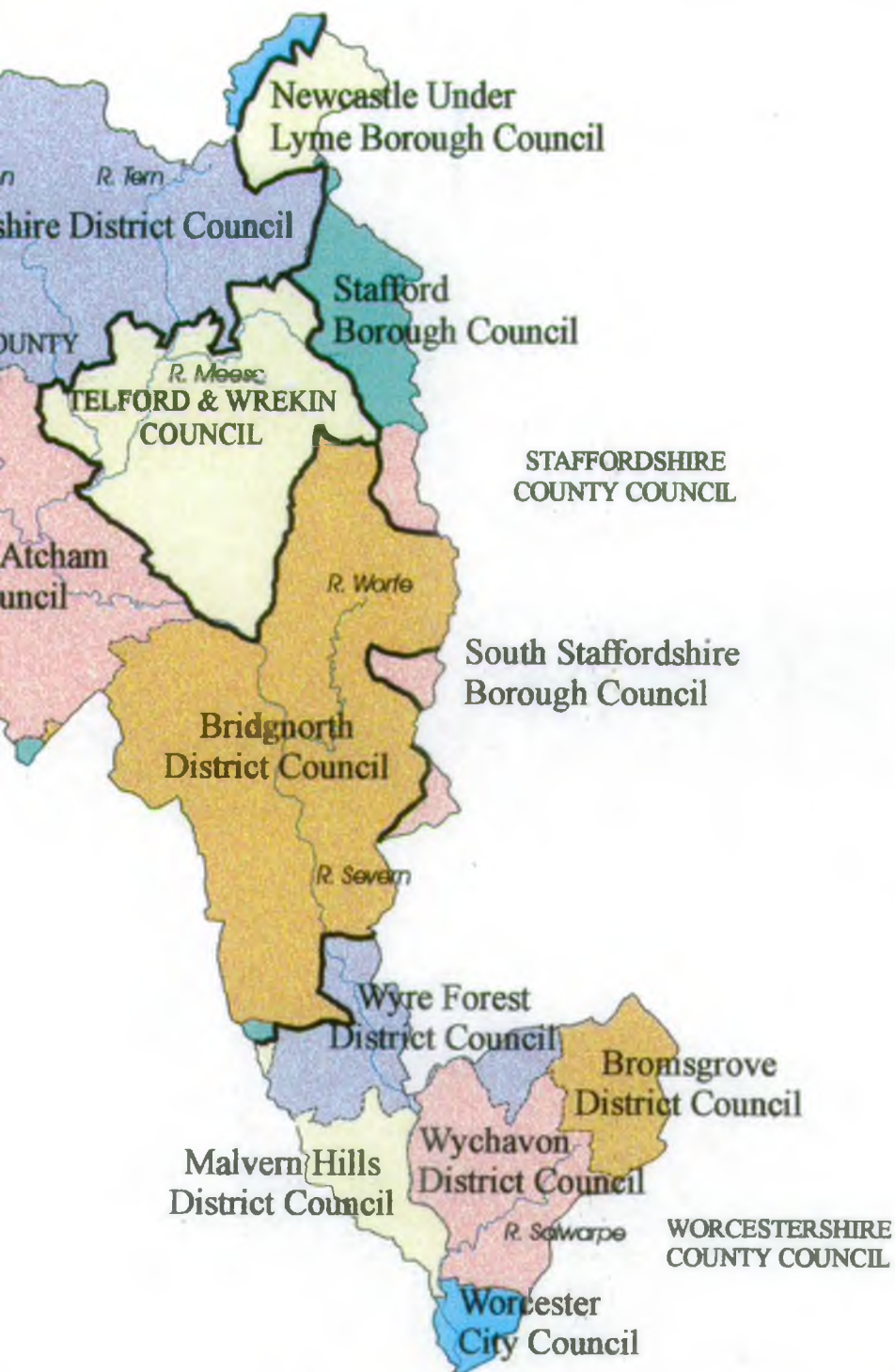
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Middle Severn LEAP Area

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EXECUTIVE SUMMARY

This Annual Review summarises the progress made in achieving targets to improve the local environment in the Middle Severn area in the year December 1998 to November 1999. Good progress has been made by many parties responsible for carrying out the actions that were planned for the year, either as individual organisations or in collaborative projects. Of the 81 actions planned for the year, progress has been made on all but 6, and 20 have been completed. However, competing priorities and the increased demands upon limited funds this year have meant that we have not been able to progress some actions as much as we would have hoped.

Of particular note this year has been:

- the securing of further water quality improvements in the Middle Severn area to be undertaken under AMP3 (see page 11)
- the involvement of a further 40 companies in waste minimisation groups
- completion of elver pass at Walcot sluices
- an improvement in water quality of the Cound Brook
- habitat improvement work on the Old River Bed SSSI in Shrewsbury
- the work undertaken on the groundwater model of the West Midlands Triassic Sandstone which will give us greater understanding of the impacts of groundwater abstraction

A number of key partnerships and collaborative initiatives are under way. These include:

- partnership with Severn Trent Water regarding releases from their Sheriffhales borehole into the Upper Worfe
- partnership with local farmers using their boreholes to provide water to alleviate low flows on another tributary of the River Worfe
- provision of disabled angling facilities on the River Tern at Walcot in partnership with British Sugar and at Dawley Pools, Telford in partnership with Wrekin Council
- wetland developments at Fenns and Whixall Moss with English Nature and the Old River Bed, Shrewsbury with Shrewsbury and Atcham Borough Council

In partnership with others, the Agency is keen to maximise the amount of external funding which is spent on the environment in general. Like other organisations, there are many worthy initiatives we would like to progress but are constrained by the ever-increasing competing priorities on our budgets. Working in partnership with those who share similar objectives should hopefully increase our and other organisations' chances of securing funding to the benefit of the environment. We will be looking at ways to progress this in the Middle Severn area next year. The tables in Section 4.0 form an integral part of this review, and should be referred to for a summary of progress on each action.

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1.0 VISION FOR THE MIDDLE SEVERN AREA

The Environment Agency's vision for the Middle Severn area is:

"to protect and enhance the natural resources and beauty of our local area, for all to enjoy".

The Middle Severn area lies mainly within the counties of Shropshire and Worcestershire, and includes all of Telford & Wrekin, covering an area of 2,634 square kilometres. It is an area renowned for its landscape, beauty and natural resources. Expectation is of a clean, unspoilt countryside with good quality rivers and plentiful water supplies. There are sites of high conservation value with rare flora and fauna. Soil types are suitable for mixed farming and the area is important for agriculture. At the heart of the area is Ironbridge Gorge, which is a designated World Heritage Site and recognised as the birthplace of industry.

One common thread through the locality is the River Severn, providing good quality water and a recreational facility. The river's 120 kilometre journey within the plan area is through a rural, largely agricultural landscape. Historically, the river has acted as a focus for industry and settlement and urban centres such as Shrewsbury, Bridgnorth, Bewdley, Stourport and Worcester lie on its banks. These centres, together with Bromsgrove, Droitwich and new expanding towns like Telford, are the work place and home of over 500,000 people. It is the diversity and natural beauty of this local environment that provides a constant variety for the visiting and resident population alike.

Increasing industrial, agricultural and domestic demands have resulted in a loss of wildlife and habitat, threats to our water resources and low flows in rivers. The Agency's challenge is to protect and manage our natural resources within its environmental capacity and to work with others to preserve and realise the potential of the area.

To achieve this vision we will:

- * Seek to ensure that development in the area is environmentally sustainable.
- * Educate and raise awareness of the environment and environmental issues.
- * Protect and improve the landscape, conservation and recreation value of our environment.
- * Promote waste minimisation, encourage the achievement of national waste management targets where appropriate, and ensure the effective regulation of waste.
- * Manage our water resources in an environmentally sustainable way, balancing abstraction with the needs of the water environment and its legitimate users.
- * Protect and improve the quality of water in rivers and canals.

Some of these objectives have common goals, others may require a degree of compromise between differing demands on the resources of the area. To achieve our objectives we need to work in partnership with Local Authorities, industry, environmental groups and many other organisations and individuals who share the interests of the area. Together, through commitment and enthusiastic co-operation, we can ensure the shared vision of the Middle Severn area becomes reality.

2.0 INTRODUCTION

2.1 Local Environment Agency Plans (LEAPs)

For the Agency to fulfil its role and responsibilities, it needs to manage the environment effectively and to work in partnership with others. LEAPs are an important tool in this process. The plans are non-statutory, integrated action plans based on local river catchments. They provide a focus for those concerned with the future of the local area. The timetable for achieving LEAP coverage for the whole of England and Wales was the end of 1999, which has been achieved.

LEAPs help contribute to the principle of sustainable development through integrated environmental management and improvement. They also play a key role in:

- * Promoting openness and accountability
- * Developing liaison and partnership with key groups
- * Educating the public on local environmental issues
- * Prioritising issues and establishing an action plan for managing and improving the local area over the next 5 years.

The Middle Severn LEAP is part of a national programme to ensure that the whole of England and Wales is covered by LEAPs. There are 131 LEAP areas in all, with four in the Upper Severn Area.

Upper Severn Area LEAP programme

Area	Start	Publish LEAP	Publish Action Plan	Publish 1st Annual Review
Middle Severn	April 1996	April 1997	November 1997	January 1999
West Midlands Stour	April 1997	March 1998	October 1998	December 1999
Severn Uplands	February 1998	December 1998	July 1999	September 2000
Teme	January 1999	December 1999	July 2000	September 2001

☐ Publications completed.

2.1.1 The Middle Severn LEAP

The Middle Severn LEAP Consultation Report was produced in April 1997. This outlined environmental issues within the area, and options for their solution. Following a three month period of consultation, the Action Plan was published in November 1997. This includes a five-year programme of actions for improvements to the local environment, and outlines areas of work and investment proposed by the Environment Agency and others.

An important part of the LEAP process is to monitor the Action Plan to ensure that targets are achieved and actions completed, and that the plan continues to address relevant issues in an appropriate manner. This second Annual Review summarises the progress made for the year December 1998 to November 1999 inclusive. This document is, therefore, part of an ongoing process for the Middle Severn area.

The action tables in Section 4.0 have been reproduced as they appeared in the Action Plan. Notes on progress are included in the final column of each table.

2.2 A Brief Description of the Middle Severn Area

The Middle Severn plan area lies mainly within the Counties of Shropshire and Worcestershire. It also includes Telford & Wrekin unitary authority, and smaller parts of Staffordshire, Wrexham County Borough and Powys County, and covers an area of 2,634 square kilometres. The area is valued for its rich natural beauty and areas of unspoilt countryside.

The area is one of contrasts with two distinct domains: the flatter landscape of the Shropshire Plain in the north and the more undulating, wooded Severn valley to the south, the two areas being separated by the Ironbridge Gorge. The rural nature of the area is reflected by the fact that only around 5% of the area is urban.

The area is also geologically varied, ranging from the craggy scree hills of the Stiperstones to the isolated Wrekin Hill rising from the rolling plain below. The River Severn and its principal tributaries, the Perry, Tern, Worfe and Salwarpe offer good quality waters which support high class fisheries and a diversity of wildlife, including kingfishers, dippers, dragonflies, voles and otters. The rivers are valued for environmental, local amenity and recreational purposes.

Historically the River Severn has been important for settlement and as a transport route for industry. Wroxeter was once a major Roman City, with Shrewsbury and Worcester being medieval centres and sites of monastic settlements. The plentiful supplies of water, coal, iron ore and limestone essential in initiating the industrial revolution were all to be found in or near the Ironbridge Gorge. The canals also played a major part in the development of the area. Today most of this early industry has vanished with only industrial ruins and museums remaining. Ironbridge Gorge was designated a World Heritage site in 1986.

Over the years, however, increasing industrial, agricultural and domestic demands have impacted on the area. Since the sixteenth century various areas have been the subject of land drainage and agricultural improvements. In addition some environmental management practices and engineering improvement works which were carried out over twenty years ago and were thought appropriate at the time have now been recognised for their shortcomings.

This has led to a loss and degradation of river corridor and a decline in flora and fauna in areas, for example near the Rivers Perry, Tern and Strine, whilst rivers like the Worfe have been subject to the effects of unsustainable abstraction of groundwater, which has resulted in unacceptably low flows.

Parts of Shrewsbury, Ironbridge, Bridgnorth, Bewdley and Worcester are at risk of flooding from the River Severn, and there is pressure to further develop the floodplain. Urban development pressures have impacted on many towns, which has had a major impact on land use within the area. Future pressure for increased housing development is likely to be an issue in rural areas. These pressures and land use changes impact on our natural resources, transport routes, flood defences and on the local residents and wildlife.

2.3 Update on events in the Middle Severn area

Flood events

Flooding at the end of October 1998 raised awareness of flood risks in the area, and produced pressure for “something to be done”, particularly in Shrewsbury and Bewdley. The feasibility of flood alleviation in these places is being re-examined together with any changes in public attitudes.

During the year, notable flooding occurred during March in the Severn upstream of Shrewsbury, and a series of localised storms affected the Barbourne Brook and other smaller watercourses throughout the summer.

An action plan was published in November 1998, addressing recommendations made following the Bye Report into the Easter floods. The report highlighted the need to reduce building on floodplains, the maintenance of flood defence schemes or review the colour coding of flood warnings and to raise the public awareness of flood risks. Much work has already been done by the Agency to achieve the targets set. For instance, the Agency has provided all local authorities with updated maps of floodplains and a campaign to raise the public’s awareness of flood risk promoted.

Launch of Floodline

In October 1999 the Environment Agency launched its first national Flood Awareness week, highlighting the danger across the Midlands caused by flooding to lives, homes and businesses, and offering information to help people at risk protect themselves and their property.

Floodline, a new telephone information service for the public, was launched on 18 October. By calling **Floodline 0845 988 1188** people will get help and advice about how to protect their homes as well as find out what flood warnings are in force in their area.

Water Resources

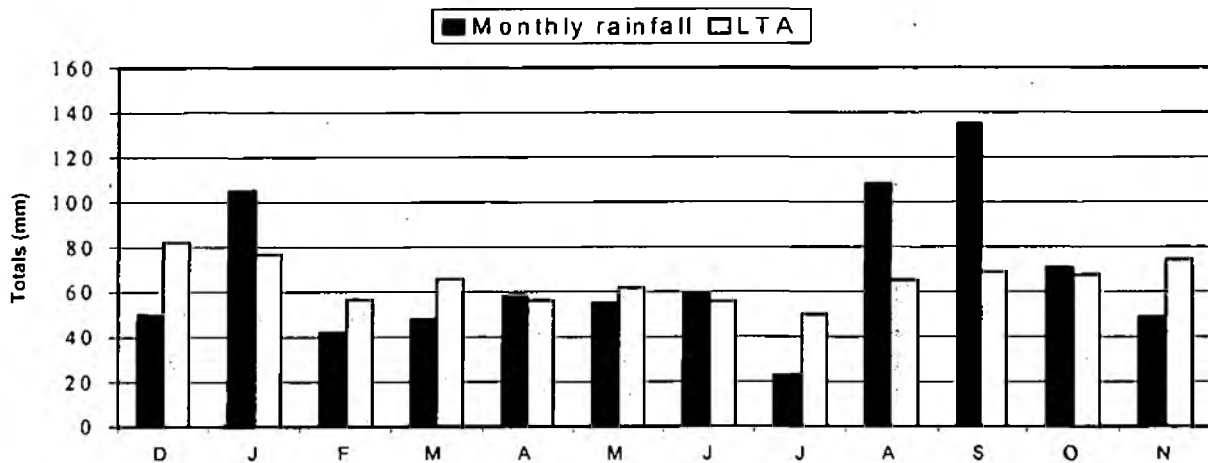
Following on from the successful releases of water from STW’s borehole at Sheriffhales, together with work which is being done on the Groundwater Model, we have commissioned the Farming and Wildlife Advisory Group (FWAG) to carry out a proposed Habitat Improvement Survey of the Upper Worfe.

Officers from the Water Resources function, now include advice on water minimisation as part of their routine enforcement visits to abstraction licence holders.

The Tern catchment is being assessed by the British Geological Survey (BGS) as a trial catchment for LOCAR, which involves comparing and contrasting three lowland permeable catchment within England.

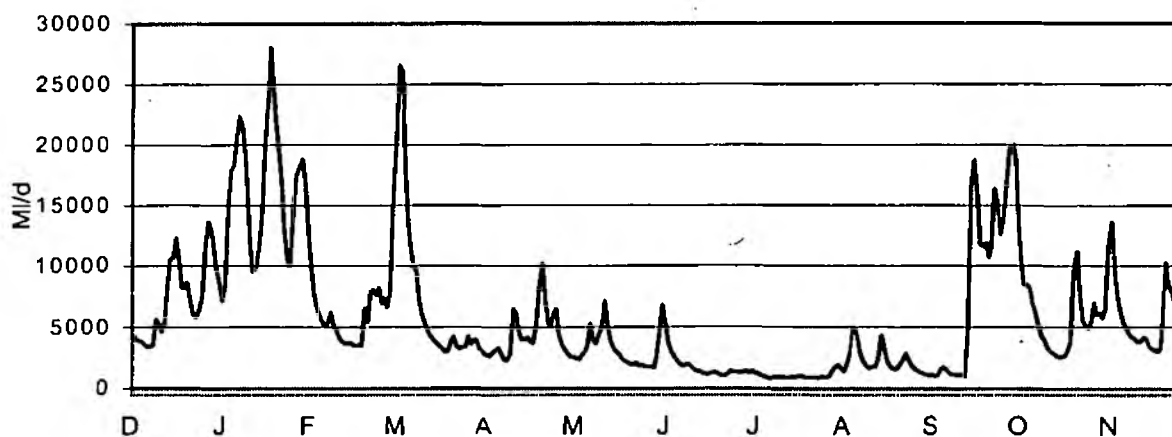
Rainfall: The histogram below shows the actual monthly rainfall for the year in question compared with the long-term average (LTA) for the months. Of particular interest is the rainfall in August and September 1999 with September being twice the normal monthly average.

Monthly rainfall totals - Middle Severn
December 1998 to November 1999



River Severn Regulation: During 1999, regulation releases were required on 33 days. The largest release was made on 30 July, when Llyn Clywedog and Lake Vymwy were employed to give a total release of 675 Ml/day. Releases ceased on 16 September due to rainfall in the Welsh mountains and increased river flows. The minimum mean daily flow at Bewdley was 820 Ml/d. The five-day rolling mean for Bewdley did not fall below 862 Ml/d, 12 Ml/d above the maintained flow of 850 Ml/d.

Mean Daily Flows at Bewdley Gauging Station
December 1998 to November 1999



Further work carried out by the Water Resources Team during the reporting year include:

Test releases out from Sheriffhales and Cramp Pool boreholes during summer 1999, with a view to augmenting flows in the Upper Worfe.

Meetings have been held with consultants and local councils regarding the restoration of the Droitwich Canal and its environmental impact.

Use of a helicopter for aerial surveillance of water resources and waste management licence enforcement proposals.

Drilling of five observation boreholes along the Upper Worfe plus two flow measure weirs to monitor the releases from the boreholes mentioned above.

Implementation of Nitrate Vulnerable Zone (NVZ) scheme

The Agency has defined NVZs around public water supply abstractions, where nitrate concentrations in groundwater have been found to exceed a certain level (50mg/l). The Government's Action Programme for NVZs was implemented in December 1998 (The Action Programme for Nitrate Vulnerable Zones (England and Wales) Regulations 1998). This sets rules, which must be followed by farmers in NVZs and require careful management of fertilisers and manures, including keeping records of their use. The programme measures are based on good agricultural practice and will help protect surface and ground waters against pollution from nitrates. This is particularly relevant to the Middle Severn area (see Issue 1), where there are NVZs – at Wildmoor, Astley, Tom Hill, Shifnal, Telford and part of Swynnerton.

Flytipping/litter

A National Flytipping Stakeholders Forum has been set-up whereby a number of organisations, including the Environment Agency, are collaborating to develop a co-ordinated approach to the problem of flytipping. The Forum has produced guidance to help landowners, managers and members of the public combat flytipping. The outcomes of the forum are now being disseminated at a local level through discussions with local authorities.

First Year of Community Pride in Shropshire

Community Pride, sponsored by the Agency, provides local groups with the opportunity to get involved in community based environmental projects. A small celebration was held early in March 1999 to celebrate the end of the first year of the Shropshire Community Pride competition and to encourage entrants for the following year. Shropshire County Council and the Agency received 14 entries, all of extremely high quality and representing a wide range of projects.

Selection was difficult but, after visiting 6 projects, the prize winners were chosen. First prize was awarded to the Children's Centre in Newcastle on Clun for their original work using textiles and recycled paper to study environmental themes. Two access projects came second. Selattyn Village Projects and Hope Bagot Parish Council have both carried out enormous amounts of work. Both groups have concentrated on restoring access routes and features of local interest and on encouraging visitors to the area.

Worthen School, in the Middle Severn LEAP area, were awarded third prize for their well designed school grounds. Children have been involved in the design and creation of a pond, shady glade, woven willow maze and a formal garden. We were all impressed by the enthusiasm and knowledge of the children at the school and those attending the prize giving.

Two commendations, both in the Middle Severn area, were awarded to the Gospel Oak Project at High Ercall and the Never on a Sunday Project at Snailbeach.

This year's (1999) Shropshire Community Pride competition has received 6 entrants. Judging is to take place soon, and prize giving will be in February/March 2000. The shortfall in entries this year will hopefully not take place with next year's Shropshire Community Pride 2000 competition. The Agency and Shropshire County Council would urge community groups to submit an application for their project, no matter how small or insignificant they think it is. All projects enhance the local environment, and they could win further funding to continue with their community project. Contact Viv Geen 01743 283531 for details/ application forms.

Landspreading activities

In spring 1999, Business Link organised a Sludge Seminar in Tenbury Wells with speakers including the Agency, Hyder, ADAS and consultants WS Atkins. The aim of the seminar was to inform businesses, contractors and farmers about the legislation and best practices concerning landspreading, which is an issue of particular relevance in the Middle Severn area.

Ironbridge Power Station

A variation is due to be issued by the end of January to the IPC authorisation for the power station. The variation is part of a national initiative following extensive consultation exercises and will reflect the Agency's current assessment of what can be reasonably achieved for minimising releases of sulphur dioxide, oxides of nitrogen and particulates without excessive cost.

Emission limits and other conditions will be revised and the document produced will consolidate the original authorisation issued in 1993 and subsequent variations.

Education initiatives

The Area Education Plan aims to raise environmental awareness and promote greater understanding of environmental issues and influence attitudes and behaviour. Over the reporting year the Area has taken part in an Environmental Education Conference in Shrewsbury, Telford's Festival of the Future and the Groundwater Festival near Worcester.

3.0 SUMMARY OF PROGRESS

Of 81 actions planned for this year, progress has been made on all but 6 actions (8.5, 12.2, 13.1, 13.4, 14.2, 17.1), and 20 actions have been completed (3.4, 4.1, 5.1, 5.5, 5.6, 5.7, 6.1, 8.3, 9.1.6, 9.2.2, 9.2.3(ii), 9.2.4, 9.2.5, 9.2.6, 9.3.3, 13.5, 13.7, 19.4, 19.7, 22.1). Many of the actions have involved organisations working in collaboration with others. However, competing priorities and the increased demands upon limited funds this year have meant that progress on some actions has not been as good as we would have hoped. This means that working in partnership to maximise the amount of external funding that is spent on the environment will become increasingly important in the Middle Severn area.

For details of progress for each action, please refer to the 'progress' column in the tables in Section 4.0. Should you wish to contact us for more information on the actions and progress made, please refer to the contact details on the inside front cover.

3.1 Notable achievements

- Completion of elver pass at Walcot sluices. This was a high profile public event (Issue 7).

Further water quality improvements are to be undertaken in the Middle Severn area under AMP3 (see p. 11), following OFWAT's decision (Issue 9).

- There has been an improvement in water quality of the Cound Brook for 1999 (Issue 9).
- A reduction in a summer 'licence of right' in the Worfe catchment has been secured in return for the authorisation of a new winter abstraction (Issue 10).
- Habitat improvement work has been carried out to the Old River Bed Site of Special Scientific Interest (SSSI) in Shrewsbury (Issue 11).
- Implementation of the Water Level Management Plan for Marton Pool SSSI (Issue 11).
- Wetland creation and improvement at Fenns and Whixall Moss.
- The River Perry Barn Owl nest box scheme has been completed (Issue 12).
- A survey of Great Crested Newts in Shropshire has been carried out in partnership with Shropshire Wildlife Trust (Issue 12).
- The take-up on the Diglis Avenue, Worcester, floor raising scheme (for flood alleviation purposes) has been good, with numbers completed on target for the year (Issue 18).
- The 'Canoeists' Guide to the River Severn' has been reprinted (Issue 19).

- A fishing competition for the disabled was held in partnership with Telford & District Angling Association and British Sugar to mark the opening of the disabled angling pegs developed by the Agency and British Sugar (Issue 19).
- A further 40 companies have been involved in Waste Minimisation Groups. The Hereford & Worcester Waste Minimisation Group has been identified as an example of good practice nationally and the Environmental Technology Best Practice Programme is producing a good practice case study on the activities of the group (Issue 20).
- The work undertaken on the West Midlands Groundwater model which will enable a greater understanding of the relationship between recharge, abstraction and surfacewater flow.
- Successful test releases from Sheriffhales and Cramp Pool boreholes to augment flows in the Upper Worfe and established operating rules for future releases.
- The work completed in partnership with FWAG and riparian owners for habitat improvements on the Upper Worfe.
- Good progress made with the construct and commission Phase 4 and 5 of the Shropshire Groundwater Scheme, which will maintain and improve environmental standards of the River Severn. Drilling and testing completed. Civil, mechanical, electrical and building contracts completed for Phase 4. Phase 5 initial Stage A pipeline contract completed on schedule.

3.2 New issues/actions

As a result of this review, two **new actions** have been introduced this year:

new action 10.8 - to determine the resource availability and the impact of abstraction in the upper reaches of the Cound Brook catchment.

new action 18.4 – to re-assess public attitudes to flood defences for Shrewsbury and review proposals and alternatives.

4.0 ACTIONS UPDATE

The following tables have been taken from the Action Plan, and updated to show progress on the 22 Issues in the LEAP, and any changes that have occurred. Progress for each action is summarised in the column on the right hand side. Where actions are shown in **bold**, this indicates they have been added at this Annual Review stage. Revised costs are also shown in bold. The background information relating to each issue is given in the Action Plan.

Key

- < less than.
- Action in the year indicated (cost figures given if known).
- R Recurring - no additional costs to annual budgetary provision.
- U Unknown costs at this time.
- U(i) Individual costs will be identified and agreed during negotiations.
- U(ii) Capital costs will be identified during investigations or surveys.
- + Action added as a result of consultation.
- K £1,000

Notes on abbreviations

AMP	Asset Management Plan ¹	NVZ	Nitrate Vulnerable Zone
CC	County Council	RA	Ramblers' Association
CCTV	Close Circuit Television	RSPB	Royal Society for the Protection of Birds
BW	British Waterways	SABC	Shrewsbury & Atcham Borough Council
DC	District Council	SAC	Special Area of Conservation
DETR	Department of the Environment, Transport and the Regions	SC	Sports Council
EN	English Nature	SCC	Shropshire County Council
EP	English Partnerships	SSSI	Site of Special Scientific Interest
FA	Forestry Authority	STW	Sewage Treatment Works
FWAG	Farming and Wildlife Advisory Group	STW Ltd	Severn Trent Water Ltd
LA	Local Authority	TBG	Tidy Britain Group
MAFF	Ministry of Agriculture, Fisheries and Food	WCC	Worcester City Council
NSA	Nitrate Sensitive Area	WMRC	West Midlands Rowing Council
		WT	Wildlife Trust

Please refer to the original Middle Severn Action Plan for a full glossary of terms.

































Note¹ AMP3 (Asset Management Plan No 3)

Every five years the Water Industry Companies have to agree its investment programme with the Director General of OFWAT as part of a price review process. As part of that review the Agency has prepared a list of work that is necessary to meet statutory objectives on river quality improvements. This is called the National Environmental Programme. Much of that programme has now been funded as part of the review. The Agency will expect the full implementation of those schemes listed in the programme.

New actions

As indicated previously, this is an ongoing plan and following this year's review several new actions have been included, reflecting changes and/or addressing potential new problem areas. The two new actions are shown in bold in the tables, and are: **10.8** and **18.4**.

List of issues

- Issue 1: Agricultural pollution and the land spreading of controlled waste  
- Issue 2: The disposal of sewage in rural areas 
- Issue 3: The impact of contaminated sites  
- Issue 4: Monitoring of Ironbridge Power Station air emissions  
- Issue 5: The impact of urban pollution and development  
- Issue 6: Caravan site development in the floodplain 
- Issue 7: Decline in eel fisheries 
- Issue 8: Degradation of wetland and riverine habitats  
- Issue 9: Failure to comply with Water Quality Objectives and EC Standards 
- Issue 10: Impacts of water abstraction 
- Issue 11: Protection of existing high quality riverine and other wetland habitats   
- Issue 12: Protection of Biodiversity 
- Issue 13: Protection of high quality coarse and game fisheries 
- Issue 14: Protection of high quality water resources  
- Issue 15: Water temperature impact of Shropshire Groundwater Scheme on the aquatic habitat 
- Issue 16: Threats to the Farley Brook, Much Wenlock  
- Issue 17: Stability in the Ironbridge Gorge area  
- Issue 18: Flood alleviation schemes 
- Issue 19: Opportunities for amenity, recreation and navigation 
- Issue 20: Sustainable waste management 
- Issue 21: River Severn Control Rules 
- Issue 22: Floodplain management 

Issue 1: Agricultural pollution and the land spreading of controlled waste

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead								
1.1 Inspect land spreading activities as a priority. Provide advice to industry, contractors and farmers on best practice.	Environment Agency	Industry, STW Ltd Contractors Farmers FWAG	R	■	■	■	■		A sewage sludge national pilot study, started in autumn 1998, has continued for a second year. As a result of the study, there have been some inspections of Severn Trent Water Ltd sludge spreading around Shrewsbury. However, due to other work commitments and priorities (such as licensed site inspections, planning enquiries, pollution incidents, sheep dip inspections) there have been no landspreading inspections in the last six months. Sludge seminar held - see p.8. Meeting held with Dairy Crest at Crudginton to discuss and offer advice about the possibility of landspreading a sludge cake, rather than the usual dilute liquid.
1.2 Monitor water quality effects of measures taken by farmers in NSAs ¹ and NVZs ² in the area.	Environment Agency	MAFF Farmers	R	■	■	■	■		Ongoing monitoring of long term effects taking place. Appointment of NVZ Officer April 1999.
1.3 Report on above water quality and actual changes to land use/fertiliser use in NSAs and NVZs.	MAFF Environment Agency		U				■		No action planned for this reporting year, although appointment of NVZ Officer will begin to address this.

¹Nitrate Sensitive Areas (NSA)

An area where nitrate concentrations in sources of public drinking water exceed, or are at risk of exceeding the limit of 50 mg/l laid down in the 1980 EC Drinking Water Directive, and where voluntary, compensated agricultural measures have been introduced as a means of reducing those levels.

²Nitrate Vulnerable Zone (NVZ)

An area where nitrate concentrations in sources of public drinking water exceed, or are at risk of exceeding the limit of 50 mg/l laid down in the 1991 EC Nitrate Directive, and where compulsory, uncompensated agricultural measures came into force on 19 December 1998 as a means of reducing those levels.

Issue 2: The disposal of sewage in rural areas

Actions	Responsibility		Total Cost (£k)	1998 /99	1999/ 2000	2000 /01	2001/ 02	Future	Progress
	Lead	Other							
2.1 Negotiate improvements to village drainage systems in Vennington and Lyneal.	Environment Agency	STW Ltd	R	■	■				Vennington sewerage scheme is anticipated to be completed by April 2000. The Environment Agency is assessing the options regarding Lyneal.
2.2 Negotiate sewerage improvements at Hartlebury.	Environment Agency STW Ltd	LA	R	■	■				Negotiations ongoing.
2.3+ Negotiate sewerage improvements at Maer village.	Environment Agency	STW Ltd Parish Council Owner/ occupiers	R	■	■				Liaison is taking place with the Parish Council.
2.4+ Negotiate sewerage improvements at Waters Upton (north side of village).	Parish Council	STW Ltd Owner/ occupiers	R	■	■				The timescale of implementation of the sewerage scheme is to be determined by Severn Trent Water Ltd.

Note: It is part of the Environment Agency's routine work to establish the impact of inadequate rural sewerage facilities within the area, specific problems will be included as future actions as appropriate.

Issue 3: The impact of contaminated sites

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
3.1 Investigate the potential for pollution from Betton Abbots landfill site, including any potential impact on nearby Betton Pool SSSI.	Environment Agency	Shropshire Waste Management	U(i)	■	■	■			Investigation continuing.
3.2 Investigate the risk of pollution from Overlay Hill, Telford (risk assessment).	Environment Agency	owner	20	15	■	■	■		Sampling pumps have been installed. Monitoring commenced Spring/Summer 1999. Successful SCA (Supplementary Credit Approval, government loan) bid to undertake risk assessment, work to be carried out 1999/2000.
3.3 Continue groundwater remediation at Bridgnorth to Agency satisfaction.	owner		U(ii)	■	■	■			Limited success at remediating oil contamination of groundwater. Additional investigation and remediation now in progress, together with major investment to eliminate oil source by December 2000.
3.4+ Investigate potential problem of minewater drainage in the general Telford area.	Telford & Wrekin Council Environment Agency		U(i)	■	■				Study completed. Identified localised mineswater emissions in liaison with Telford & Wrekin Council. The Region's future priorities are with the recently closed, more extensive coalfields. However, some further assessment of this long-closed coalfield will take place in the near future by the Coal Authority.

Issue 4: Monitoring of Ironbridge Power Station air emissions

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
4.1 Undertake dispersion modelling to estimate concentration of pollutants in air.	Eastern Merchant Generation ¹ / Environment Agency		Nil to Agency	■					Modelling work completed some fine tuning necessary.
4.2 Measure the concentration of pollutants in air local to station.	"		Nil to Agency	■	■				Work continuing.
4.3 Identify the main areas where emissions have greatest impact and measure the concentration of pollutants.	"		Nil to Agency	■	■				Work continuing, some further work needed here in the light of findings in 4.1 and 4.2.
4.4+ Assess potential impacts of emissions on SACs, SSSIs and other sites of conservation importance.	Environment Agency		Nil to Agency	■	■	■			Review being carried out in accordance with the Habitats Directive.

Note¹ Part of company's requirement under authorisation and additional work being conducted by company to gain information on dispersion and effects of their discharge.

Issue 5: The impact of urban pollution and development

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
5.1 Identify unsatisfactory combined sewer overflows that will form part of AMP 3 programme.	Environment Agency	STW Ltd	R	■					List of CSOs for inclusion in AMP3 has been determined. Action complete.
5.2 Investigate the cause and effects of the discoloured discharge from Rushmoor STW.	STW Ltd	Environment Agency	U(i)	■	■	■			Improved maintenance of outfall pipe. Improvements/expansion of Sewage Works treatment being undertaken. Final assessment post-March 2000.
5.4 Liaise with LAs to persuade them to enforce maintenance of ordinary watercourses to an acceptable standard: i)Battlefield Brook.	Environment Agency	LAs	R	■	■	■	■		Clean-up of Battlefield Brook completed, including tree maintenance by developer.
5.5 Identify areas where litter is a particular problem and liaise with TBG and LAs to develop a strategy for litter control.	Environment Agency TBG/LAs	SABC	R	■					Work is taking place at Offerton Lane, Worcester, to combat the problem of flytipping and litter.
5.6 Monitor improvements to drainage and investigate remaining sources of pollution from industrial units on the Honeyman's Brook, Droitwich.	Environment Agency	STW Ltd LA	10	2	2				One company on the industrial estate has been prosecuted. The water quality in the Brook has improved, and incident rate has decreased. Monitoring now reduced to inspections only, so there is now no need to include this as a specific issue in the LEAP.
5.7+ Assess potential impacts of new boat moorings on swan sanctuary, R Severn at Worcester.	Environment Agency	WCC Civic Society	R	■					No new boat moorings have been installed, but they were proposed as part of the Worcester river front development. The Agency will continue to make inputs to the planning process as and when any future proposals are put forward. This issue will therefore no longer be included as a specific action in the LEAP.

Note¹ Both the Agency and Local Authorities have powers to take action against flytippers. A national Memorandum of Understanding between the Environment Agency and the Local Government Association has been established in order to promote a lasting framework for consultation and co-operation and to make the best use of limited resources. Specialist protocols are being developed to underpin this framework and one on flytipping has been agreed. The flytipping protocol outlines the Agency's level of response to incidents of flytipping. The response is broadly based on a risk approach with the Agency becoming involved when hazardous waste is flytipped or where the waste is flytipped in a sensitive location. Action 5.3 - Target inspections of industrial units draining to the Battlefield Brook, Shrewsbury - was completed during the last Annual Review period. The Agency will continue its routine monitoring.

Issue 6: Caravan site development in the floodplain

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
6.1 Set up roadshows and additional consultation with LAs to press for policies to be included in Development Plans to protect flood plain from caravan site development. (also see 22.1)	Environment Agency	LAs	R	■					The roadshows programme has now been completed. Roadshows held with Worcestershire County Council and Telford & Wrekin this year. Policy on caravans included in Malvern Hills Local Plan this year. There are still issues with caravan sites in flood plain, but these will be addressed as part of the Agency's routine work on development plan reviews etc. This issue will therefore not appear in future Annual Reviews, unless warranted by changes in circumstances. Flood Explorer seminars held with all LAs included the problem of caravan sites in floodplain.

Issue 7: Decline in eel fisheries

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
7.1 Construct elver passes on navigation weirs along the R. Severn and at other appropriate weirs on tributary streams.	Environment Agency		15		5	5	5		Elver pass has been constructed at Walcot Mill.

Issue 8: Degradation of wetland and riverine habitats

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
8.1 Identify and implement wetland creation opportunities as part of the Severn Valley Wetland strategy.	Environment Agency	EN, WTs owners, Water Co FWAG	100	20	20	20	20		Habitat improvements undertaken on the Old River Bed SSSI, Shrewsbury, in partnership with Shrewsbury & Atcham Borough Council.
8.2 Develop and implement management strategy for Shropshire Meres and Mosses (e.g. Wem Moss, Brown Moss).	EN	Environment Agency LAs	75	15	15	15	15		Scrub clearance has taken place at Fenns Moss and Whixall Moss. Bracken spraying at Wem Moss.
8.3+ Establish forum with English Nature to investigate polluting impacts on the Meres and Mosses, including septic tanks at Fenns and Whixall Mosses (SAC).	Environment Agency EN	owners	R	■	6				Financial contribution made towards production of catchment management plans around the Meres and Mosses.
8.4 Carry out habitat rehabilitation work on degraded rivers, including the R.Perry, R.Tem and R.Strine.	Environment Agency		100	20	20	20	15		Development of off-stream spawning channel and elver pass at Walcot.
8.5 Create 'Buffer Strips' on degraded rivers by fencing in conjunction with above works, and through Countryside Stewardship schemes.	Environment Agency MAFF	FWAG	25	5	5	5	5		River Strine wetlands initiative, started earlier, aimed at targeting agri-environment packages towards wetlands and buffer zones. Sympathetic weed cutting undertaken on the River Strine this year. Reduction in Grant in Aid (GIA) may impact on this action, amongst others.
8.6+ Identify opportunities for wetland creation in Worfe catchment following reductions in abstractions.	Environment Agency	owners EN, WTs	R	■	■	■			Opportunities to carry out work being taken as they arise.
8.7+ Develop 'River Corridor' project group to identify and target rehabilitation of degraded rivers.	Environment Agency FWAG	EN, WTs owners LAs	R	■	■				Limited habitat improvements undertaken at Wall Farm on the River Strine.

Also refer to Issue 11.

Issue 9: Failure to comply with Water Quality Objectives and EC Standards

Issue 9.1: Failures requiring investigation by the Environment Agency

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
9.1.2 River Perry, Gobowen: Target farm inspections.	Environment Agency	Farmers	2	■	■				Some farm inspections have been undertaken. More are planned for next year.
9.1.3 Stoke Brook, Stoke-on-Tern: Monitor to ensure anticipated improvements in quality occur.	Environment Agency		2	■	■				Stoke on Tern STW included on list for AMP3.
9.1.5 Barbourne Brook, Worcester:	Environment Agency								
i) Assess need for further farm inspections upstream of Blackpole	Environment Agency	Farmers	}	■	■				Monitoring ongoing. One farmer recently prosecuted.
ii) Continue leachate extraction from landfill	Environment Agency	WCC	} 5	■	■	■	■		Monitoring of the remediation measures installed by Worcester City Council is ongoing.
iii) Continue water quality monitoring.	Environment Agency		10	2	2	2	2		Monitoring of the remediation measures installed by Worcester City Council is ongoing.
9.1.6 Cound Brook: Assess work required to achieve quality target.	Environment Agency		1/R	■	■				Programme of farm inspections completed. Analysis of data has shown improvement in water quality since 1998.

Action 9.1.1 – 'River Severn, Cressage and Bever: Assess reason for failure to meet quality target' – was completed during the last Annual Review period. The river stretches now meet their respective RQOs.

Action 9.1.4 – 'River Worfe, Stableford: Investigate quality target failure' – was completed during the last Annual Review period. The river stretch now meets its RQO.

Note refer to page 11 for note on AMP3

Issue 9.2: Failures involving Sewage Treatment Works

Actions	Responsibility		Total Cost (£k)	1998 /99	1999/ 2000	2000/ 01	2001/ 02	Future	Progress
	Lead	Other							
9.2.1 Wesley Brook, Shifnal STW: Assess what improvements are necessary.	Environment Agency LA	STW Ltd	R	■	■				Shifnal STW included on list for AMP3 programme. The Agency is in discussion with Severn Trent Water Ltd and the LA with regard to the capacity of the sewerage system in relation to further development at Shifnal.
9.2.2 River Tern, Market Drayton: Assess effects of sewer overflows and seek improvements.	Environment Agency	STW Ltd	R	■	■				Market Drayton STW included on list for AMP3 programme.
9.2.3 River Salwarpe catchment:									
i) Implement planned improvements to Droitwich and Stoke Prior STWs	STW Ltd	Environment Agency LA	U(ii)	■	■				Droitwich STW included on list for AMP3 programme. Stoke Prior STW work completed under AMP2.
ii) Negotiate improvements to Bromsgrove and Stoke Prior STWs	Environment Agency	STW Ltd	R	■	■				Bromsgrove STW included on list for AMP3 programme.
9.2.4 Lakehouse Dingle, Hampton Loade: Assess need for future investment at Alveley STW.	Environment Agency	STW Ltd	R	■	■				Alveley STW included on list for AMP3 programme.
9.2.5 *To protect the RQO, promote the inclusion of funding under AMP3 for possible improvement work at the following STWs: Albrighton, Baschurch, Bomere Heath, Edgmond, Loggerheads Village, Minsterley, Ombersley.	Environment Agency	STW Ltd	R	■	■				All STWs included on list for AMP3 programme.

*This was a new action added during the last Annual Review

Action 9.2.3(iii)- 'Seek to tighten discharge consent limits at a Bromsgrove industrial site' – was completed during the last Annual Review period.

Issue 9.2: Failures involving Sewage Treatment Works (continued)

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
9.2.6 *To protect the quality of the Prees Brook, promote the inclusion of funding under AMP3 for possible improvement work at Prees, Golhouse Lane STW.	Environment Agency	STW Ltd	R	■	■				Golhouse Lane STW included on list for AMP3 programme.

Issue 9.3: Failure to meet EC Directive Standards

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
9.3.2 Assess impact of inputs from adits to Minsterley Brook.	Environment Agency		2	■	■				Initial sampling study complete. Awaiting funding from English Partnerships in order to progress the matter.
9.3.3 *To prevent possible breaches of EC Fisheries Directive, ensure funding is available under AMP3 for possible improvement work at the following STWs: Baschurch, Conover, Dorrington, Minsterley, and Shawbury.	Environment Agency		R	■	■				All STWs included on list for AMP3 programme.

Note: All sites that are subject to EC directives are monitored as part of the Environment Agency's routine work. Any failures to comply with these standards automatically trigger an increase in monitoring to identify the cause of failure.

*This was a new action added during the last Annual Review

Action 9.3.1 – 'River Severn, Shrewsbury: Investigate cause of exceedance of EC limit for cadmium.' – was completed during the last Annual Review period.

Issue 9.4: Potential revision of quality targets and derogations

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
9.4.1 Examine water quality data and land use changes to determine appropriate sustainable targets:									
a) Soughton Brook, currently RE2.	Environment Agency		R		■	■			Water quality data collected. Procedure for reassessing RQOs awaited from DETR.
b) Mad Brook, Haldane, currently RE2.	Environment Agency		R		■	■			As above.
c) Elmbridge Brook, Droitwich, currently RE2.	Environment Agency		R		■	■			As above.
*d) Pipe Strine, currently RE2.	Environment Agency		R		■	■			As above.
9.4.2 River Meese: derogate for effects of algae. ¹	Environment Agency		R		■	■			Awaiting procedure for derogations.

Note¹ 9.4.2 - The cause of algal blooms in the River Meese and potential sources of high nutrient water entering Aqualate Mere are being investigated by the Agency as part of the duty under the Urban Waste Water Treatment Directive (91/271/EEC)

*This was a new action added during the last Annual Review.

Issue 10: Impacts of water abstraction

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
10.1 Groundwater modelling of Kidderminster/ Stourbridge/ Wombourne and Cosford/Worfield aquifers.	Environment Agency		216.5	70	84.5				Phase I of the model has been completed, Phase II is being evaluated at present.
10.2+ Investigate short term options to restore flows to affected reaches and implement viable schemes.	Environment Agency STW Ltd		150	30	30	30	30	30	Test releases from Sheriffhales and Cramp Pool boreholes were carried out during summer 1999, with a view to augmenting flow in the upper reaches of the Worfe catchment. Data obtained during the test releases is to be included in the West Midland and Worfe water resources model referred to in 10.1 above. The Farming & Wildlife Advisory Group (FWAG) have been contracted to draw up a plan for habitat improvement along the upper Worfe river corridor.
10.3 Reduce groundwater abstractions from sensitive areas e.g. Cosford aquifer through AMP3 periodic review. ¹	STW Ltd/ Environment Agency		U				■		Negotiations with the water company are drawing to a conclusion. It is proposed that any increase in the licence at Uckington will be off-set by a reduction in abstraction in the Worfe valley. Telford rainwater project – 4 sites have been set up with a view to using recycled rainwater for washing machines, car washing and toilet flushing. The scheme will go online in April 2000 with a review of water savings in April 2001. A further project has been agreed to retro-fit water use saving measures at a school in Telford.
10.4 Encourage conjunctive use of local sources within Worfe catchment to reduce seasonal over abstraction of surface water for spray irrigation. ¹	Environment Agency Farmers		R	■	■	■	■		The Agency has recently completed one scheme transferring river abstraction to a borehole. Other schemes are currently being sought. Negotiations for a recent winter storage abstraction licence involved the surrender of some summer surface water abstraction.
10.5 Encourage winter abstraction and storage e.g. R Worfe, Perry, Cound, other smaller brooks.	Environment Agency Farmers		R	■	■	■	■		5 winter storage reservoirs have been issued in the LEAP area during 1998/99, with several more applications under consideration.
10.7 *Alleviate low flows in the Looce Brook.	Environment Agency	BW EN	U	■	■	■	■		Discussions have been continuing with British Waterways. A plan to resolve this issue and secure the necessary funding is currently being drawn up.
10.8 Determine the resource availability and the impact of abstraction in the upper reaches of the Cound Brook catchment.	Environment Agency		10		5	5			New action.

Issue 10 (continued)

Note¹ Will be considered as part of modelling options.

Action 10.6 'Construct new gauging station on Cound Brook' was completed during the last Annual Review period.

*This was a new action added during the last Annual Review.

Issue 11: Protection of existing high quality riverine and other wetland habitats

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
11.1 Review all relevant Agency consents at SACs (EC Habitats Directive).	Environment Agency		R	■	■				Review work ongoing on Fenns and Whixhall Moss.
11.2+ Investigate source of nutrient enrichment entering Aqualate Mere (SSSI) and undertake remedial action if appropriate.	Environment Agency		R	■					In discussion with British Waterways to encourage remedial works to be carried out. Monitoring of Aqualate tributaries (Wood Brook and Humesford Brook) taking place as part of the Urban Waste Water Treatment Directive. If the resources are available the Aqualate tributaries will also be included as part of the routine invertebrate monitoring programme.

Also refer to Issue 8.

Note: The Old River Bed SSSI at Shrewsbury may be at risk from the proposed Shrewsbury north west relief road. Currently this road development is unlikely to take place during the plan 5 year period, but if brought forward, the Agency will aim to ensure the long term security of the SSSI by seeking appropriate environmental protection measures in the design and construction stages of the works. Other road schemes, such as the proposed Hodnet bypass, which could impact on important wetland sites will need similar consideration.

The Agency is reviewing its policy on the reduction of Giant Hogweed and other invasive weeds in the catchment and will include an action in future plans if appropriate.

Action 11.3 - 'Prepare Water Level Management Plans for Aqualate Mere, Fernhill Pastures, Marton Pool and RueWood Pastures.' was completed during the last Annual Review period.

Action 11.4 - 'Seek additional EC fisheries designations on Sheinton, Cound, Mor, Borle, Coal, Minsterley and Claverley Brooks.' has been taken out of the Action Plan as at present the government does not propose any further EC fisheries designation.

Issue 12: Protection of Biodiversity

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
12.1 Determine the present distribution and status of water vole, otter, crayfish, freshwater pearl mussel and depressed river mussel, and develop targets for the protection of these species.	Environment Agency	EN WTs, LAs RSPB FWAG	10	2	2	2	2		The Shropshire Biodiversity Action Plan (BAP) is being compiled; draft will be ready at the end of January 2000. Surveys being undertaken as opportunities arise.
12.2+ Monitor the otter populations through the River Severn Otter Project.	Environment Agency	WTs EN LAs	10	2					No further funding by the Environment Agency. National survey possibly taking place. Project continuing with external funding.
12.3+ Create new otter habitat in conjunction with river maintenance works and habitat improvement schemes.	Environment Agency		10	2	2	2	2		Pond created near Droitwich on the River Salwarpe. Construction of otter holt on Cole Brook.
12.4 Investigate status of shad and assess suitability of habitat upstream of Diglis as spawning area.	Environment Agency		2		1	1			Suitable habitats identified upstream of Diglis Passage facilities unlikely to be funded in the foreseeable future.
12.5+ Seek protection for remaining native crayfish populations in the catchment area.	Environment Agency MAFF	FA	R	■					Recording and limited control of signal crayfish populations.
12.6 Assess the distribution of alder disease to support Forestry Authority studies.	Environment Agency	LAs FA	2	1	■				Further problems identified in last Annual Review in Worfe and Salwarpe catchments, so work being continued this year. Research & Development (R&D) project continuing on the Hadley Brook.
12.7 Determine the distribution, types and scope for regeneration of Black Poplars and undertake planting schemes.	Environment Agency		20	5					Planting to be undertaken during the winter of 2000/01.
12.8 Implement Barn Owl nest box scheme on River Perry.	Environment Agency		3	1	1	1			Action completed, monitoring taking place.

Issue 13: Protection of high quality Coarse and Game Fisheries

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
13.1 Review Fisheries Byelaws to control fish removals from watercourses.	Environment Agency	MAFF	R	■					Awaiting national decision.
13.2 Monitor impacts of pike and zander on other fish stocks in the middle reaches of the River Severn.	Environment Agency	Angling clubs	5	1	1	1	1		No surveys undertaken this year. No reported problems with pike or zander. Zander are being caught at Stourport on Severn.
13.3 Maintain and improve security provisions at vulnerable locations near weirs on the River Severn.	Environment Agency		5	1	1	1	1		No work required this year.
13.4 Seek funding and plan for future installation of salmon passes on the River Severn navigation weirs and weirs on tributary streams.	Environment Agency		R	■					No further progress. Funding structure expected to become more difficult over the next few years.
13.5 Review byelaws and voluntary restrictions on salmon fishing methods.	Environment Agency	MAFF	R	■					Completed. 'Catch and Release' and bait restrictions brought in.
13.6 Seek funding and re-establishment of Shrewsbury salmon counter.	Environment Agency		25					25	No work planned for this reporting year.
13.7 Review and implement S30 trout stocking policy.	Environment Agency		R	■					Implemented as planned.

In addition to the above actions, the Agency will, through its routine work, have regard to:

Effects of flow variations on angling relating to major water supply abstractions from the River Severn.

Protection of fisheries requirements in the middle reaches of the river and its tributaries in reviewing the River Severn flow operating rules (also see Issue 21).

Low flow problems - certain watercourses in the area suffer from low flow problems, which have an adverse impact on native brown trout populations (also see Issue 10).

Issue 14: The protection of high quality water resources

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
14.1 Undertake programme of pollution prevention site inspections in catchment and around water supply boreholes.	Environment Agency	Industry Farmers	20	4	4	4	4	5 year rolling programme	Two catchment surveys undertaken during 1999 at Lee Brockhurst and Bomere Heath.
14.2 Assess the possibility of installing additional surface water pollution monitoring equipment in the catchment.	Environment Agency		1		■	■			No further progress on this action due to budget constraints.

Action 14.3 – 'Ensure that pesticides from the wool industry in Telford do not affect the River Severn.' – was completed during the last Annual Review period.

Issue 15: Water temperature impact of Shropshire Groundwater Scheme on the aquatic habitat

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
15.1 Investigate the extent and impact of temperature changes in receiving watercourses.	Environment Agency		U(ii)	■	■	■	■	Costing and timing dependent on year by year use of scheme.	Shropshire Groundwater Scheme not operated during 1999, therefore no further investigation possible this year.

Issue 16: Threats to the Farley Brook, Much Wenlock

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
16.1 Monitor the disposal of liquid waste stored on industrial site.	SCC Environment Agency Site owners	Biffa Waste EP	Was 1000 disposal cost (SCC). See progress column	■	■	■			All tanks are now empty of liquids although residual contamination remains. A proposal has been made to English Partnerships that this contamination is removed prior to tanks being grouted with cement PFA grout. A decision is still awaited on this.
16.2 Assess current and future flows from Much Wenlock STW and their impact on the brook.	Environment Agency	STW Ltd	1	■	■	■			Much Wenlock STW has been included in the AMP3 programme to tighten the consent to protect the quality of the downstream watercourse. Severn Trent Water Ltd are assessing the impact of recent water mains replacement work on the amount of clean water infiltration to the town's sewers. The Agency has installed a flow gauge on the watercourse upstream of the STW and will continue to compile information to assess the impact of this sewerage system on the Farley Brook.

Issue 17: Stability in the Ironbridge Gorge Area

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
17.1 Monitor the geological stability of the area.	Inter-Agency Group	Environment Agency	U	■	■	■	■		Gorge stability not discussed further.

Issue 18: Flood alleviation schemes

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
18.1 Evaluate hydrometric data and reassess need for flood alleviation scheme for the Diglis area of Worcester.	Environment Agency		120	■	120				Last year approval was obtained for the Agency to joint fund with house-owners a scheme to raise floor levels in Diglis Avenue properties. 16 out of approximately 20 properties opting to raise floor levels have been completed to October 1999.
18.2 Re-visit flood alleviation scheme for Bewdley.	Environment Agency		10	■	■				Consultation of alternative methods of flood alleviation started.
18.3 *Investigate feasibility of flood alleviation scheme for Beechwood Park, Barbourne Brook, Worcester.	Environment Agency		U		■	■			Feasibility study in progress, catchment models built. Feasibility expected to be completed in 2000-01. CCTV surveys of culverts are being carried out regularly and removal of debris taking place.
18.4 Re-assess public attitudes to flood defences for Shrewsbury and review proposals and alternatives.	Environment Agency	SABC	R		■	■			New action. Review commenced and public opinion canvassed.

*This was a new action added during the last Annual Review.

Issue 19: Opportunities for amenity, recreation and navigation

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
19.1 Seek opportunities for increased recreational and amenity use of rivers in urban areas (e.g. Worcester and Shrewsbury).	Environment Agency LAs SC	land owners BW	25	5	5	5	5		Ongoing. Examples include: assistance given for fishing pegs in Shrewsbury, development of a 'walking for health' project at Montford Bridge.
19.2 Establish an Agency view on potential increased navigational use of the River Severn.	Environment Agency	BW	2	2	■				Recreation User Study carried out in 1999. Recreation Vision Statement planned for 2000.
19.4 Implement marketing and promotion strategy for the Severn Way footpath.	Environment Agency CCs	RA	15	5					The official walkers Guide to the Severn Way has been completed and is available from the Agency's Shrewsbury office, bookshops and tourist information offices (price £6.95).
19.5 Seek opportunities for better access to and use of watercourses by disabled persons (e.g. Telford, Albrighton and Shrewsbury).	Environment Agency LAs Sports Council	land owners	30	5	5	5	5		Angling platforms have been constructed at Telford, and an annual fishing competition for disabled anglers held at Walcot in partnership with Telford & District Angling Association and British Sugar.
19.6 Seek opportunities for further development of stillwater fishing opportunities near urban areas.	Environment Agency	Angling clubs	40	10	10	10	10		Completion of disabled angling facilities in Telford and Walcot. Targeting Ellesmere in 2000.
19.7 Update and reprint the River Severn canoe guide.	Environment Agency	Drummond Outdoor BW	4	4					Action completed. Please contact our Conservation and Recreation Department at our Shrewsbury office (01743 272828) for a copy.
19.8+ Produce rowing information for River Severn.	Environment Agency	WMRC	2		2				No further action planned. The rowing clubs have produce information. This action will not be included in the next Annual Review.

Further significant initiatives relating to recreational use of watercourses are being pursued by other bodies, including proposals to restore the Droitwich Canal navigation by the Droitwich Canals Trust (and restoration of the towpath to potentially provide cycle route), and the development of a rowing/canoeing centre on the River Severn at Worcester by the Sports Council. Opportunities also exist for restoration of other canals such as the Shrewsbury Canal and the Coalport Canal system in the Ironbridge Gorge. Although the Agency currently has no plans for financial involvement in these schemes, we will support these restorations provided it can be demonstrated that these developments are sustainable.

Action 19.7 'Undertake baseline River Habitat Surveys of middle reaches of the River Severn in relation to potential future river uses' was completed during the last Annual Review period.

Issue 20: Sustainable Waste Management

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
20.1 Expand the Waste Minimisation Initiative to cover the plan area.	Environment Agency	Partners	<65	■	■	■	■		A second series of training workshops has been held for companies in Shropshire and Worcestershire, each involving approximately 20 companies.
20.2+ Investigate potential local markets for composted material.	Telford & Wrekin Council	Environment Agency	R	■	■				A Local Agenda 21 sub-group in Telford & Wrekin is considering composting issues and it is hoped that business partners might be identified through this group.
20.3+ Promote home composting and raise public awareness of the need for sustainable waste management.	LAs	Environment Agency	U	■	■	■	■		Examples of progress on home composting/recycling include – Telford & Wrekin Council have sponsored parish-based sales of home composting bins with Parish Councils, managed by a partnership with Friends of the Earth, this achieved 3,500 bin sales over the last 18 months – 2 years. Also had a sale of bins at two central sites in October, when about 2,000 bins were sold. A survey will be carried out in March to assess the success rate and identify any reasons for unwillingness to take up composting by other householders. Telford & Wrekin Council is looking to expand municipal composting through use of tender specifications for contractors. Shrewsbury & Atcham BC are appointing for a new post of Recycling Officer. Bridgnorth DC are putting forward a scheme to subsidise approximately 2,000 composting bins next year, green waste from skips at Civic Amenity (CA) sites is separated. Bromsgrove DC have sold approximately 1,000 subsidised composting bins a year since 1994 and next year are going to introduce a kerbside collection for textiles, cans and paper. Wychavon DC have sold approximately 1,500 subsidised composting bins. They are re-writing their recycling policy and have teamed up with Worcestershire CC to do this. Wyre Forest DC (info wiped off database). North Shropshire DC have supplied approximately 550 composting bins as part of an ongoing programme which began two years ago. They are investigating centralised composting in line with the draft Shropshire Sustainable Waste Management Strategy.

Issue 21: River Severn Control Rules

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
21.1 Review and reassess Control Rules.	Environment Agency	Major users of the River Severn	45	5	15	10	5	Monitor impacts and effects. Expenditure 5 (outside 5 year plan).	This work is ongoing and is being co-ordinated by our Regional Office. The imminent submission by Severn Trent Water Ltd of an application to vary their Llandinam licence will lead to changes in the Control Rules.

Issue 22: Floodplain management

Actions	Responsibility		Total Cost (£k)	1998/99	1999/2000	2000/01	2001/02	Future	Progress
	Lead	Other							
22.1 Set up roadshows and additional consultation with LAs to persuade them that long term strategic withdrawal from the flood plain is the only sustainable option.	Environment Agency	LAs	R	■					Roadshows held this year with Worcestershire County Council and Telford & Wrekin. The roadshows programme has now been completed. The issues related to strategic withdrawal from flood plain will be addressed as part of the Agency's routine work on development plan reviews etc. This issue will therefore not appear in future Annual Reviews, unless warranted by changes in circumstances. Flood Explorer seminars held with all LAs emphasised floodplain management.

Action 22.2+ -Floodwarning:

- i) Collate database of flood risk property, Bewdley to Stourport,
- ii) Consult 'at risk' property owners on possible warning dissemination methods,
- iii) Implement flood warning scheme, Bewdley to Stourport, was completed during the last Annual Review period. The 1998 floods increased the take-up of the flood warning service substantially.

In addition to the above, the Agency will address this issue through its routine activities, in particular by pressing for the policies in the Agency's *'Policy and Practice for the Protection of Floodplains'* to be included in Development Plans, via roadshows and consultation with LAs.

5.0 FUTURE REVIEWS

We will review progress again next year and aim to publish our third Annual Review of the Middle Severn LEAP in January 2001.



APPENDIX 1

Summary of the Environment Agency's routine activities in the Middle Severn area

The strategic nature of the LEAP as a long-term planning tool, directing manpower and financial resources to resolving environmental problems, means that the plan is not designed to reflect fully on routine activity within the LEAP area. Our everyday work, of which examples are given below, commits substantial resources to managing the environment.

Education, raising environmental awareness, routine monitoring work and enforcement are important in achieving the Agency's objective to protect and improve the environment. These activities and regulatory responsibilities form the basis of our work. Our routine activities include:

- regulation of discharges to controlled waters through the issue and enforcement of discharge consents, responding to pollution incidents, prosecuting polluters, sampling water quality, carrying out surveys, setting water quality targets, and protecting groundwater quality;
- regulation of industrial processes with the greatest pollution potential;
- regulation of the disposal, keeping and use of radioactive waste;
- regulation of the keeping, treating, movement and disposal of controlled waste;
- regulation of the remediation of contaminated land designated as special sites;
- the responsibility for water resources includes abstraction licence determination, charging, policing and enforcement;
- fisheries - fish surveys, fish rescues, restocking, regulation of fisheries by licences;
- flood defence activities include regulation (including issuing of land drainage consents), enforcement, maintenance and improvement works, and issuing of flood warnings;
- the Agency works closely with local planning authorities through its planning liaison function, commenting on planning application consultations and promoting policies to protect and enhance the environment in development plans.

The Agency educates industry through consultation, collaborative activity and focussed campaigns to promote the culture of prevention rather than cure. However where this fails or if the offence is of a serious nature, the Agency will use available powers, including legal action, to prevent or to rectify the situation. During 1999 in the Middle Severn Area there was one successful waste prosecutions for an offence under the Environmental Protection Act 1990. There were no prosecutions brought against water polluters in the area, and two formal prosecutions. Formal cautions are given where it is deemed inappropriate to prosecute but it was clear that a significant offence had been committed. Other pollutions are dealt with by warning letters. We responded to 511 reported pollution incidents in total in the Middle Severn area, of which 356 were substantiated on investigation. Of the 356 substantiated pollutions, two were Category 1 incidents.

Routine monitoring work includes site inspections throughout the area at sewage works (private and water company), sewerage systems, industrial sites, contaminated land sites, farm sites, licensed waste management facilities, and landspreading sites. There were 4,372 samples taken for chemical analysis and 175 for biological determination.

During the year (1998/99 data) a total of 20 abstraction licences were issued, 12 were for surface water abstraction, eight for groundwater abstraction. In addition, 539 routine enforcement visits to licence holders were carried out. A total of four water resource incidents were investigated in the catchment, mainly relating to low flow problems. A total of 89 Land Drainage Consents were granted in the Middle Severn area during 1999.

APPENDIX 2

Current Status of Local Authority Development Plans in the Middle Severn area

Local Authority	% of Area	Development Plan and Current Status
Shropshire County Council	65.4	Shropshire County Structure Plan 1989-2006 – operative January 1993. Structure Plan Review 1996-2011. 1 st deposit early 2000. Minerals Local Plan expected April 2000. Waste Local Plan - Issues Report March 2000.
North Shropshire District Council	20.2	North Shropshire Local Plan 1999 - 2001 adopted August 1996. Local Plan review commenced. Issues report May 1999.
Bridgnorth District Council	19.8	Local Plan being reviewed to roll plan forward to 2011. 1 st deposit due Feb 2001.
Shrewsbury & Atcham Borough Council	19.6	Shrewsbury & Atcham Borough Local Plan – Deposit Draft November 1997. Inspectors Report due Autumn 2000.
South Shropshire District Council	3.0	South Shropshire Local Plan – adopted October 1994. Proposed Alterations 1996-2006 – Deposit Draft July 1998. Review commenced. 2 nd deposit due 2000.
Oswestry Borough Council	2.8	Oswestry Borough Council Local Plan (District Wide) – Deposit Draft May 1996. Adopted 1999. Issues report for Review April 2001.
Telford & Wrekin Council	11.3	Wrekin Local Plan Deposit Draft February 1996. Adoption (due) December 1999. Review to commence 2000. Joint Structure Plan with Shropshire CC (and Minerals and Waste) – details as above.
Worcestershire County Council	15.7	New authority (two-tier) created 1 April 1998 from predecessor Hereford & Worcester County Council. Worcestershire County Structure Plan to be produced for period 1996-2011, 1 st Deposit Draft January 2000.
Wychavon District Council	5.4	Wychavon District Local Plan adopted January 1998. Review started. Issues report due June 2000.
Wyre Forest District Council	3.9	Wyre Forest District Local Plan adopted May 1996. Review starting 2000.
Bromsgrove District Council	2.8	Bromsgrove District Local Plan – Deposit Draft November 1993, Inspector's report following Public Inquiry February 1997. Initial deposit of new plan may be issued summer 2000.
Malvern Hills District Council	2.6	Malvern Hills District Local Plan adopted May 1998. Review may commence 2000.
Worcester City Council	1.0	Worcester City Local Plan adopted February 1998. Review commenced late 1999. 1 st deposit plan c. June 2000.
Staffordshire County Council	6.9	Staffordshire and Stoke on Trent Structure Plan 1996 – 2011 Consultation draft October 1997. Examination in public October 1999.
Stafford Borough Council	3.0	Stafford Borough Local Plan adopted November 1998.
Newcastle Borough Council	2.1	Newcastle-under-Lyme Borough Local Plan adopted May 1995. Review about to commence.
South Staffordshire District Council	1.8	South Staffordshire District Local Plan adopted December 1996. Review about to commence.

Local Authority	% of Area	Development Plan and Current Status
Wrexham County Borough	<1	Unitary Development Plan – Deposit due January/February 2000.
Powys County – Montgomeryshire	<1	Montgomeryshire Local Plan (including waste policies) – Deposit draft October 1995. Public inquiry September 1996, Inspector's report, June 1997. Adoption awaiting National Assembly for Wales decision. UDP Issues report Autumn 1999.

APPENDIX 3

Pollution Incident Reports by Type and Source: January 1999 – December 1999

		Category 1	Category 2	Category 3	Cumulative Total
TYPE	Farm Effluent	2	1	61	64
	Oil	-	6	91	97
	Chemical	-	-	19	19
	Sewage	-	1	54	55
	Other	-	2	119	121
	TOTAL	2	10	344	356
SOURCE	Industry & Commercial	-	2	47	49
	Agriculture	2	3	84	89
	Water Utility Company	-	3	67	70
	Other	-	2	146	148
	TOTAL	2	10	344	356

Category 1 - Major incident, Category 2 - Significant incident, Category 3 - Minor incident