

catchment management plan



RIVER TEME **first annual review** **April 1996 - March 1997**



**ENVIRONMENT
AGENCY**

River Teme Catchment Management Plan (CMP)

Previous CMP Documents

River Teme CMP Consultation Report
September 1995

River Teme CMP Action Plan
March 1996

River Teme CMP Consultation Report Summary
September 1995

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River Teme - First Annual Review

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FOREWORD

On the 1st April 1996 the National Rivers Authority (NRA) merged with Her Majesty's Inspectorate of Pollution, Waste Regulation Authorities and several small units from the Department of the Environment, to form the Environment Agency. This merger results in a more comprehensive approach to the protection and management of the environment by combining many aspects of the regulation of land, air and water. It also provides a single point of contact for its customers.

Catchment Management Plans were used by the former NRA to manage the water environment in an integrated way. The plans take a particular river catchment, identify different uses and activities within the area and highlight the problems and issues that need to be resolved. The objective is to work towards a healthy and diverse water environment managed in an environmentally sustainable way, balancing the needs of all users of water. This work has been continued in the Environment Agency.

This is the first Annual Review of the River Teme Catchment Management Plan. Its purpose is to highlight the progress that has been made by the Agency and others, in tackling the issues and problems identified in the Consultation Report and the Action Plan. I am pleased to report that good progress has been made reflecting the commitment of all those involved in the plan.

The Environment Agency is committed to environmental planning and is building on the strengths of the CMP process in its new Local Environment Agency Plans (LEAPs). The Teme LEAP will follow on from this CMP with the Consultation Report being available in 1999.

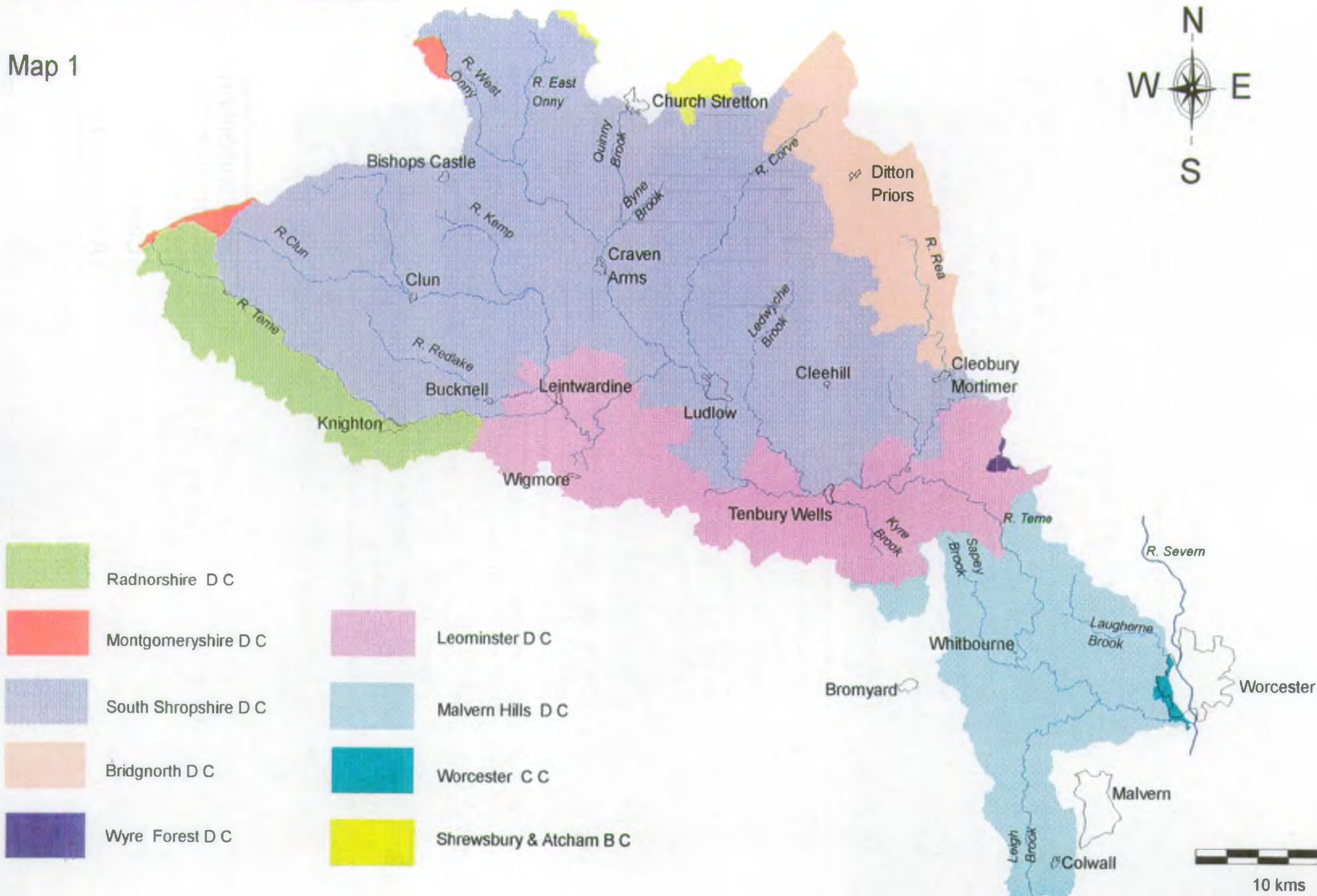
I look forward to working together towards safeguarding and enhancing our environment in the coming year.

Dr. John H Kalicki
Area Manager - Upper Severn Area



The River Teme Catchment

Map 1



- | | | | |
|--|----------------------|---|-------------------------|
|  | Radnorshire D C |  | Leominster D C |
|  | Montgomeryshire D C |  | Malvern Hills D C |
|  | South Shropshire D C |  | Worcester C C |
|  | Bridgnorth D C |  | Shrewsbury & Atcham B C |
|  | Wyre Forest D C | | |

10 kms

EXECUTIVE SUMMARY

This Annual Review summarises the progress made in achieving targets to improve the water environment in the Teme Catchment in the year since publication of the Action Plan (March 1996). Generally good progress has been made by responsible parties in carrying out the actions planned for this year including a number of collaborative actions.

Of the 56 actions planned for this year (including ongoing actions) 3 have been completed with the remainder in progress. Three actions not originally scheduled for this review year were brought forward with one of these being completed. One outstanding action, where no specific project was undertaken in the catchment, has been deferred to next year.

Of particular note is the improvement in water quality in the Dumbleton Brook and the successful farm inspections programme carried out in the River Kemp area, where farm waste problems were identified and solutions sought. The pesticide sampling programme carried out on the River Teme to date, has also yielded some valuable information.

The River Teme has been formally notified as a Site of Special Scientific Interest (SSSI).

The low flow gauging carried out on the River Teme upstream of Leintwardine, provided useful background information. This will be used for further investigations into the reasons for the river drying up in this area.

Good progress was made on the development of a footpath and education facilities above the Laugherne Brook and the survey of alder tree disease in the catchment has been completed.

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 RIVER TEME CATCHMENT

*"The pools and rivers wash so clean
The trees and clouds and air,
The like on earth was never seen,
And oh that I were there."*

One hundred years have passed since Housman wrote these lines, and it seems an appropriate time to take stock of the rivers and countryside that inspired them. We owe it to future generations to work towards ensuring a sustainable environment, so that these words will be as true next century as when they were written.

The River Teme rises in the Kerry Hills and is a top quality river of high conservation value throughout its 122 kilometre journey eastwards to the Severn just south of Worcester. The high quality of the landscape is reflected by the fact that a large part of the catchment is designated as an Area of Outstanding Natural Beauty. The landscape is varied, ranging from rolling hills to wooded slopes, from hidden valleys to open summits, and from rugged moorlands to the wide pastoral valleys and rich farmscapes of the lowlands. The streams and rivers are an integral part of the catchment's picturesque countryside.

Our overall aim is to safeguard and maintain the highest possible level of protection for the catchment, and to work towards resolving those issues and existing problems that have been identified in the plan.

Key objectives are to:

- Protect, and where appropriate, enhance the habitat quality, biodiversity, fisheries, conservation and landscape value of the river catchment.
- Improve the water quality of the 12.9 km of rivers where the required longer-term River Ecosystem River Quality Objective is not already met and seek solutions to problems of inadequate sewerage, contaminated land and diffuse nitrate pollution.
- Manage water resources to meet legitimate abstraction demands and maintain and where possible enhance the conservation and fishery value of the catchment.
- Ensure current levels of protection from flooding are maintained and improved where appropriate.
- Ensure increased demands for recreational activities which may impact on the water environment in the catchment are developed in an environmentally sustainable manner.

It seems fitting that we should base our vision for the future of the catchment on Housman's words written a century ago. However, we cannot realise these aspirations without the committed and enthusiastic co-operation of others. To achieve a shared vision we need to work in partnership with local authorities and many other agencies, environmental groups, individuals and all those who have the interests of the catchment at heart.

*"In valleys of springs of rivers,
By Ony and Teme and Clun,
The country for easy livers,
The quietest under the sun..."*

From 'A Shropshire Lad' by A E Housman, published 1896.
(by kind permission of The Society of Authors as the literary representative on the Estates of A E Housman)

2.0 INTRODUCTION

2.1 Environment Planning

Catchment Management Planning was the means by which the former National Rivers Authority undertook integrated planning for the water environment. The Environment Agency's overall aim is to protect and enhance the whole environment and contribute to the world-wide goal of sustainable development. Environmental planning as a whole will be a principal tool in delivering this objective. This forward planning in the Agency will be undertaken for the full spectrum of our responsibilities and will build on the Catchment Management Planning process. The plans will be known as Local Environment Agency Plans (LEAPs) and will include the new functions of Integrated Pollution Control (IPC) and Waste Regulation.

Integrated Pollution Control (IPC) was introduced by the Environmental Protection Act (1990) and is a method by which complex industrial processes having the greatest potential for causing pollution are regulated. This includes the regulation of sites, which use, store or dispose of radioactive material. A main feature of IPC is that it takes account of all releases to air, water and land, in order to achieve the best environmental outcome.

Waste Regulation includes the setting of consistent standards for waste management, and to regulate the treatment, storage, movement and disposal of controlled waste.

The timetable for achieving LEAP coverage for all the catchments in England and Wales is by the end of 1999.

The Teme CMP

The first stage of the CMP was the production of a Consultation Report in April 1995. This outlined the Issues within the catchment and options for their solution. Following a period of consultation, a final Action Plan was produced in March 1996. This included a programme of actions for improvements to the water environment. It outlined areas of work and investment proposed by the former NRA and others.

An important part of the CMP process is to monitor the Action Plan to ensure that targets and actions are achieved and that the plan continues to address relevant and significant issues in the catchment in an appropriate manner.

This first Annual Review summarises the progress made since the publication of the Action Plan, and covers the period April 1996 to March 1997.

The action tables in Section 4.0 have been carried forward from the Action Plan. Notes on progress are included in the final column of each table.

2.2 Brief Description of the Catchment

The Teme catchment comprises an area of approximately 1,648 square kilometres (636 square miles) located to the north west of Worcester and extending to the Welsh borders. Most of the catchment is within the counties of Shropshire (61%) and Hereford and Worcester (32.5%), with a small proportion being in Powys (6.5%).

Settlement is mainly focused on the river valleys, in market towns and larger villages, although there are a number of smaller villages and settlements scattered throughout the catchment. The resident population is just over 75,000, with the largest towns being Ludlow, Tenbury Wells and Knighton, although the highest concentration of population occurs in the western part of Worcester City that comes just within the catchment area.

The River Teme is the second largest tributary of the River Severn. It rises in the Kerry Hills in Mid-Wales from a small spring in Bryn Coch quarry on Cilfaesty Hill at 460 metres above sea level. From near its source the river follows the Welsh/English border for some 27 kilometres. The Teme is a very rural river, passing through only three market towns mentioned before it joins the River Severn just south of Worcester, some 122 kilometres (76 miles) from its source.

The Teme has many tributaries, including the rivers Clun, Onny, Corve and Rea, and larger brooks such as the Ledwyche, Kyre, Sapey, Leigh and Laughern. The rural nature of the catchment is reflected by high quality rivers, with the Teme and many of its tributaries supporting high class fisheries and providing a variety of habitats for a wide range of flora and fauna.

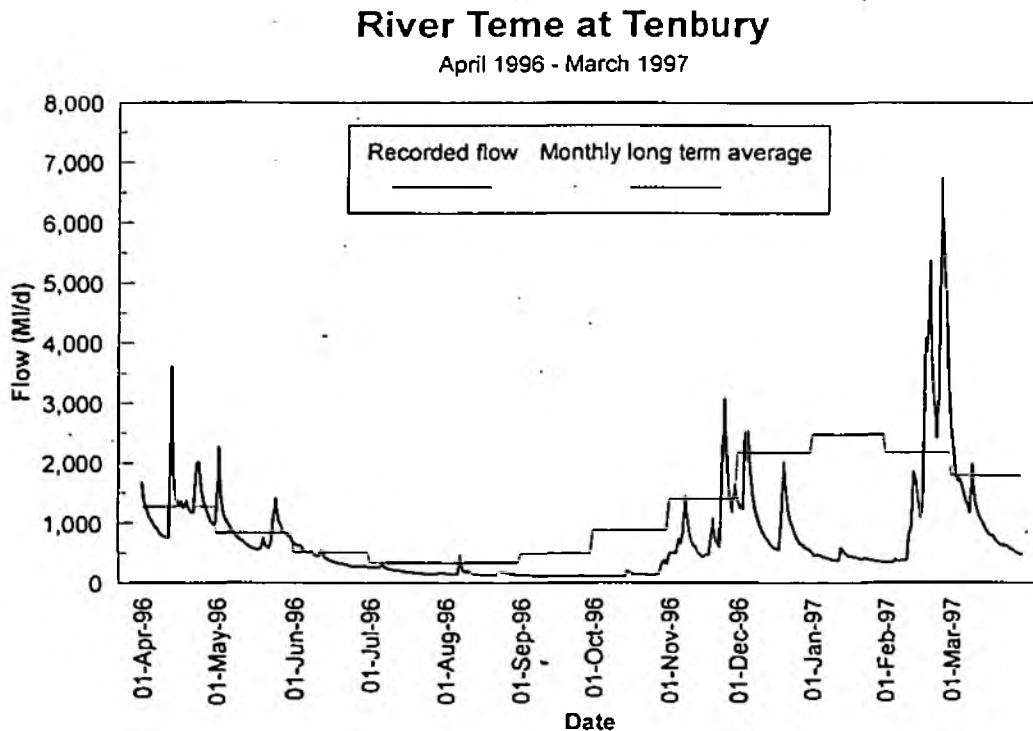
The unspoilt countryside is widely regarded as some of the most attractive in Britain, and large parts of the catchment are designated as Areas of Outstanding Natural Beauty.

The landscape is characterised by rolling hills and attractive valleys, with the sheep-grazed Welsh border uplands in the west giving way eastwards to the softer, more fertile countryside of the English Midlands. The catchment features a wide variety of hill country from the Mid Wales hills through those of South Shropshire, the Stiperstones, Long Mynd and Clee Hills to the Abberley Hills and the western slopes of the Malvern Hills near the Teme's confluence with the River Severn.

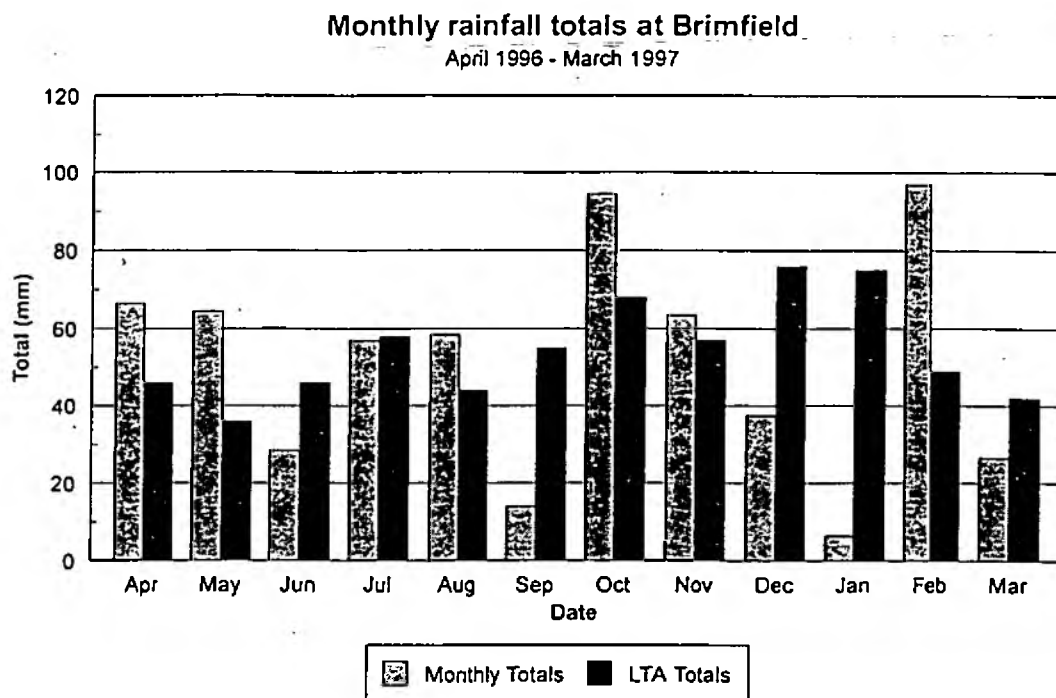
It is a predominantly natural catchment, with the flow regime of the Teme and its tributaries modified very little by human activities. There is a considerable variation between winter floods and low summer flows following periods of dry weather. Although there are no major aquifers (water-bearing layers of rock) to support base-flows in the Teme catchment, water stored in river gravel deposits helps sustain flows during summer. Agriculture is the most important land use in the catchment. Upland pasture and rough grassland accounts for about a third (33%) of the catchment area, mainly in the west and north. This land is used mainly for sheep farming, sometimes in conjunction with beef farming. Arable land accounts for just under 26% of the area, concentrated mainly in the river valleys and lower land to the south east of the catchment where hop growing is locally important. A further 24% is grassland, and woodland is limited to only about 5% of the catchment area. Just over 6% of the catchment is moorland.

2.3 Assessment of the Catchment and major changes during 1996-1997

This review year has been an extremely dry year resulting in low river flows. This is illustrated by the graph below, which shows recorded flow for the River Teme at Tenbury against the monthly long term average (April 96 - March 97).



The graph below shows the monthly rainfall totals compared to the monthly long term averages (April 1996 - March 1997) recorded at the Brimfield rain gauge site.



There have been no major changes in the catchment to warrant new issues being raised at this time. The updated status of Local Development Plans is shown in Appendix 1.

3.0 SUMMARY OF PROGRESS

Of 56 actions (including ongoing actions) planned for this year, progress has been made on all but one action, and three actions were completed. Many of the actions have involved organisations working in collaboration with others.

For details of progress for each action, please refer to the 'progress' column in the tables in Section 4.0.

3.1 Notable achievements and disappointments

Notable achievements :

- The River Teme has been formally notified as a Site of Special Scientific Interest (SSSI).
- Dumbleton Brook investigation was completed and improvements to water quality have been achieved.

Notable achievements contd.,

- Initial pesticide sampling and interim report has been completed. This identified main chemicals of concern and source catchments.
- A successful farm visit campaign was carried out in the River Kemp area. This identified problem facilities some of which have now been improved.
- The consent to discharge at West Malvern sewage treatment plant has been amended and water quality monitoring is now in place to identify improvements in the quality of the receiving watercourse.
- Low flow gauging of the River Teme at several locations upstream of Leintwardine has given valuable background data for the investigation into the drying up of the river in this area.
- A footpath and education facilities were developed above the Laugherne Brook.
- The survey of Alder tree disease in the catchment has been completed.

Notable disappointments :

- The upper reaches of the River Teme, upstream of Knighton, were not designated as 'main river',
- No progress was made on developing an Angling and Canoeing Liaison Group.
- Slow progress has been made on the modelling of the groundwater protection zones for supply sources at Clungunford, Leintwardine and Munslow.

3.2 Summary of the Agency's routine activities in the Teme catchment

The strategic nature of the CMP 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 catchment. Our everyday work, of which examples are given below, commits substantial resources to managing the environment.

Enforcement and routine monitoring work are important in achieving the Agency's objective to progressively improve water quality throughout the catchment, and protect against risk of pollution. These operations and regulatory responsibilities form the basis of our work.

During 1996/1997 there were 4 successful prosecutions brought against polluters in the Teme catchment and 3 formal cautions. Formal cautions were 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. See Appendix 2 for further information.

Routine monitoring work includes site inspections throughout the catchment. During 1996/1997 there were 187 site inspections carried out at sewage works (private and water company), 61 inspections of sewerage systems, 161 industrial sites and 28 contaminated land inspections. In addition there were 101 farms inspections.

There were 1,116 water samples taken for chemical analysis and 162 for biological determination.

The responsibilities for water resources include licence determination, charging, policing and enforcement. Through these responsibilities an integrated approach is taken that aims to strike a balance between the needs of abstractors and the environment.

During the year a total of 11 abstraction licences were issued, 8 were for surface water abstraction and 3 were for groundwater abstraction. In addition, 62 routine enforcement visits to licence holders were carried out.

A total of 8 water resource incidents were investigated in the catchment mainly relating to low flow problems.

Restrictions on abstraction licences because of low flows were introduced in July and remained in place until the end of October.

Other non-routine work included investigating the time of travel down the Ledwyche Brook. This was done as part of our pollution prevention measures upstream of large surface water abstractions for public water supply (in this case Welsh Water's abstraction at Whitbourne).

The Flood Warning System for the Teme from its confluence with the Severn up to Ludlow was changed from 1st September 1996 by the Agency's National Flood Warning project. The Agency replaced the role of the Police in the dissemination of Flood Warnings.

A total of 7 Land Drainage Consents were granted in the catchment.

4.0 ACTIONS UPDATE

The following tables have been taken from the Action Plan, and updated to show progress and any changes that have occurred. Progress for each action is summarised in the column on the right hand side.

Key:

<	Less than
==	Action in the year indicated (numeric entry given if costs known)
U	Unknown at this time
CS	Commercially sensitive
R	No additional costs to annual budgetary provision (recurring or routine)
*	Costs shared between identified bodies
▲	New or modified issue/action added as a result of consultation
pa	per annum
I	To be undertaken as part of a Regional investigation

Notes on Abbreviations:

ADAS	Agricultural Development Advisory Service	HSE	Health and Safety Executive
AMP	Asset Management Plan	LA	Local Authority
BCU	British Canoe Union	LPA	Local Planning Authority
CC	County Council	MAFF	Ministry of Agriculture, Fisheries & Food
CCW	Countryside Council for Wales	NFU	National Farmers Union
CLA	Country Landowners Association	NRA	National Rivers Authority
CoCo	Countryside Commission	RQO	River Quality Objective
DC	District Council	RSPB	Royal Society for the Protection of Birds
DCWW	Dŵr Cymru/Welsh Water	SCC	Shropshire County Council
DoE	Department of the Environment	SSDC	South Shropshire District Council
DoT	Department of Transport	STW Ltd	Severn Trent Water Ltd
EA/ The Agency	Environment Agency	WDA	Welsh Development Agency
EN	English Nature	WOAD	Welsh Office Agriculture Department
		WT	Wildlife Trust

ISSUE 1 - NEED TO SAFEGUARD HIGH QUALITY WATER, WATER RESOURCES AND HABITATS

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Seek additional EC fisheries designations on River Redlake, Gosford Brook and Byne Brook.	The Agency		R	===	===					Area submissions made to region.
b ¹ . Designate groundwater protection zones for supply sources at Clungunford, Leintwardine and Munslow.	The Agency		4	===						Modelling phases for all zones to be completed by September 1997.
c. Identify risks to water supply boreholes by undertaking surveys.	The Agency		4		2	2				
d. ▲ Develop targets for habitat protection and enhancement in relation to the UK Biodiversity Action Plan and Local Authorities Biodiversity Challenges.	EN LAs The Agency	WTs	U		===	===				Development of conservation strategy standard in 1996/1997.

Note ¹: Action 1b will now read: Remodel groundwater protection zones for supply sources at Clungunford, Leintwardine and Munslow. This reflects the work currently being carried out on the already designated zones.

ISSUE 2 - FAILURE TO COMPLY WITH RIVER WATER QUALITY OBJECTIVES AND EC WATER QUALITY DIRECTIVES

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Review consent conditions on Colwall STP discharge and improve STP.	The Agency STW Ltd		1 U				1	===	Hoped to include in AMP3	Ongoing monitoring in preparation for review of consent conditions.
b. Investigate causes of poor quality in river Kemp upstream of Colebatch. Instigate remedial action where appropriate.	The Agency		1	1						Farms inspected and assessed. Likely source of pollution located and advice given to farmers by the Agency and ADAS. Some improvements already made and others planned. Water quality is being monitored for improvement.
c. Ensure improvements to Bishop's Castle sewerage system are undertaken.	SSDC STW Ltd	Highways Authority	U U	===	===	===	===			Work on surface water system began recently. Land purchased by Severn Trent Water Ltd for improvements at Bishop's Castle Water Reclamation Works next year (see (d) below).
d. Monitor investment in improvements to Bishop's Castle STP and sewerage system under AMP2 programme.	The Agency	STW Ltd	R6 CS		2 ===	2 ===	2 ===			

ISSUE 2 - FAILURE TO COMPLY WITH RIVER WATER QUALITY OBJECTIVES AND EC WATER QUALITY DIRECTIVES (CONTD).

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
e. Investigate causes of reduction in expected biological quality in River Rea and identify any remedial action needed.	The Agency		1	<1	<1					Increased monitoring and evaluations have not identified the reasons or source(s) for variable biological quality findings. Autumn 1996 assessments within typical range. A further summer 1997 survey is scheduled for upstream of Neen Sollars.
f. Investigate pesticide sources on River Teme upstream of Whitbourne WTW.	The Agency	DCWW	5	3	2					Sampling programme undertaken. Intermediate report highlighted the main chemicals and source catchments. Follow up sampling carried out. Farms in Corve Valley visited and provided with information on pesticide use and disposal. Further analysis of results and report in hand.
g. Carry out site surveys of timber preservation sites and impose consents if applicable.	The Agency HSE	LPAs Timber Companies	R U	=== ===	=== ===	=== ===				Survey ongoing, draft report prepared. Consent issued at one site.

ISSUE 3 - AGRICULTURAL POLLUTION INCLUDING THE EFFECTS OF AMMONIA AND NITRATE

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a Liaise with LPAs to ensure applicants submit supporting information with planning applications for intensive livestock units.	The Agency	LPAs	R	=====	=====	=====	=====	=====		Liaison with LPAs undertaken. Local Authorities now more familiar with our requirements.
b Target farm inspections-identification of remedial action needed.	The Agency		I	1						Farms submitting intensive agricultural applications (e.g. poultry) visited to assess storage and disposal facilities. Results show land available for spreading of waste is often insufficient
c Monitor effectiveness of NVZs in reducing nitrates.	DoE		U	=====	=====	=====	=====	=====		NVZ action plan to be started by MAFF in 1998, with monitoring for effectiveness of NVZs to follow.
d Investigate feasibility of providing community-based anaerobic digester.	SCC ADAS	The Agency	<40	=====						Strategy for anaerobic digester for Shropshire and West Hereford & Worcester being developed.
e ▲ Promote uptake of free advisory visits and Farm Waste Management Plans.	MAFF/ WOAD ADAS The Agency		U U I	===== ===== =====						Provided by staff via pollution visits and planning visits. Many farmers took up visit and received help and advice from ADAS. It is hoped to extend the free visits targeting the Corve and Onny catchments.

ISSUE 4 - INADEQUATE RURAL SEWERAGE

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Amend discharge consent for West Malvern STP within constraints of AMP2.	The Agency		R <5	==== <5						Consent issued November 1996.
b. Improve Bishop's Castle sewerage system (See also 2c).	SSDC	The Agency Developers	U CS	====	====					No work undertaken until very recently. Surface water system is being looked at by South Shropshire District Council.
c. Monitor impact of Church Stretton sewerage system for prioritisation under AMP3.	STW Ltd	The Agency Developers		====	====	====	====			Storm overflow needs consenting and has been put forward for improvement in AMP 3.
d. Investigate discharges to Dumbleton Brook at Clows Top.	The Agency	LA	R	====						Survey undertaken, improvement attained.

ISSUE 5 - POLLUTION RISKS FROM CONTAMINATED LAND

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Investigate, assess and implement method of leachate management and control at Aldon Landfill.	Shropshire Waste Management	The Agency	U R	=== ===	=== ===	=== ===				Two monitoring boreholes installed by Shropshire Waste Management and levels assessed. Now considering pumping from these and removal of effluent offsite, as occurs, within two existing leachate pumping chambers.
b. Continue monitoring groundwater/leachate contamination around Penny Hill landfill and instigate improvements via site completion and restoration.	Shanks & McEwan	The Agency	U R	=== ===	=== ===	=== ===				Improvements are being implemented, effect closely monitored.
c. Evaluate change in quality of contaminated minewater at Clows Top and modify clean up programme accordingly.	The Agency	Operator	R	===	===	===	===	===		Stabilised improvement attained, monitoring continues.
d. Assess and control potential impact of any proposals for restoration on old mine workings at Whitegrit and Shelve.	The Agency LA	Land-owners	R						Ongoing	No proposals received, land now has good cover of grass.

ISSUE 6 - POLLUTION RISKS ASSOCIATED WITH HEYOPE TYRE TIP

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Seek engineering and Waste Management solutions in liaison with interested parties.	Owners WDA The Agency		U	===	===					Detailed scheme put forward by CHEMCAP and Combined Waste Systems Ltd. High cost and uncertainty of success not favoured by company. Now re-exploring provision of stream diverts. Consultant currently working on proposal and plans have been submitted to WDA for their approval.
b. Monitor impact of fire on water quality.	The Agency		R6	3	3					Site upstream and downstream routinely sampled, both chemically and biologically, and impact assessed. No change from previous years (i.e. seasonal and rainfall related patterns).
c. Review Waste Management Licence.	The Agency		R	===						Site licence reviewed and new one currently in draft form. Possibly to be issued during 1997/98.

ISSUE 7 - DEFICIENCIES IN THE LEVEL OF FLOW AND QUALITY MONITORING

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Review need for new flow measurement station on River Teme upstream of Tenbury Wells (also see issues 8 and 18).	The Agency		R	===						A higher control flow on the River Teme at Tenbury is to be used, rather than build a new station to control upstream abstractions.
b. Implement recommendations of review under (a).	The Agency									Completed.
c. Assess appropriate location for and install automatic water quality monitors on River Teme.	DCWW The Agency		<25*	===					Progress dependent on site availability and funding.	An automatic monitor for organic chemicals has been installed at Whitbourne Water Treatment Works by Welsh Water.
d. Reconstruct Knightsford bridge flow measurement station (also see issue 12(d)).	The Agency		170	10			80	80		Design work has been done but unlikely to be constructed until 1999/2000 at earliest. Environmental assessment completed.

ISSUE 8 - PROBLEMS OF ABSTRACTION LICENSING IN THE TEME CATCHMENT

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Review whether new flow control point is required for abstractions in the upper catchment.	The Agency		R	===						It has been decided not to construct new flow measuring station, but to tie abstraction from the upper reaches to a higher level at Tenbury thus protecting the upper reaches (see 7a).
b. Review groundwater licensing exemptions policy (also see issue 21).	The Agency	STW Ltd DCWW NFU	R			==				Initial report has been produced. This may lead to the full review not proceeding as the Government's policy is to deregulate rather than more regulations.
c. Investigate relationship between abstraction and low flows for dilution in Cradley Brook headwaters.	The Agency		R				===			

ISSUE 8 - PROBLEMS OF ABSTRACTION LICENSING IN THE TEME CATCHMENT (CONTD)

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
d. ▲ Investigate effects of groundwater abstractions on wetland SSSIs and other sites of conservation value.	The Agency	EN CCW	I	===	===					Delayed due to staffing problems in Groundwater Management Team. Will now take place in 1997/98.
e. Review surface water licensing policy, specifically the resource allocation for summer abstractions.	The Agency		I	===						A new nationally agreed Surface Water Abstraction Licencing Policy (SWALP) was carried out on the River Teme. The catchment however, proved too large for reliable interpretation of the information. A further in house study of the present liaising policy will be carried out in 1997/98.
f. Establish which surface water controls support wetlands and riparian SSSIs (also see issue 9).	The Agency		R		===					

ISSUE 9 - PROTECTION, ENHANCEMENT AND RESTORATION OF RIVERINE AND OTHER WETLAND HABITATS

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Identify historic breeding areas for wading birds and assess scope/need for habitat enhancement.	The Agency	RSPB EN WTs	5		<5	<5				
b. ▲ Develop wetland conservation strategy for the Teme Valley.	EN/CCW The Agency		R	===	===					In progress. Completion 1997/98. Sites being investigated in Leintwardine area.
c. Restore and create wetlands in the Teme Valley at sites identified in 9(b) above.	EN/CCW The Agency	WT/ Land-owners	45*			15	15	15		
d. ▲ Work with EN to implement site management statements promoting the development of riparian buffer zones and the protection of riparian habitats.	EN/CWW The Agency		U		===	===	===	===		

ISSUE 9 PROTECTION, ENHANCEMENT AND RESTORATION OF RIVERINE AND OTHER WETLAND HABITATS (CONTD)

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
e. Investigate requirements for Water Level Management Plans on										
(i) River Teme	The Agency	EN/Land-owners	R			---				
▲ (ii) Burrington Meadows	LAs	Land-owners	U			---				
▲ (iii) appropriate sites Other	LAs	WT/Land-owners	U						---	
f. Assess prevalence of invasive weeds in the catchment and reduce further spreading by spraying or other appropriate techniques.	The Agency EN/CCW		10	<5	<5	<5	<5	<5		Spraying of Giant Hogweed carried out at Leintwardine.

ISSUE 10 - NOTIFICATION, PROTECTION AND MANAGEMENT OF THE RIVER TEME AS A SITE OF SPECIAL SCIENTIFIC INTEREST

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. ▲ Notify River Teme as SSSI.	EN/CCW		U	===						Notified July 1996.
b. ▲ Negotiate agreed management statements with owners/occupiers following notification.	EN/CCW		U	===	===					Ongoing through SSSI process.
c. ▲ Develop protocols for the Agency operations and regulatory activities within the SSSI.	The Agency EN		R	===						Rescheduled as per National Guidelines. Target now Jan 1998, forecast June 1997.
d. ▲ Develop Conservation Strategy for River Teme SSSI, with biodiversity targets for important species and habitats.	EN/CCW The Agency		R	===	===					Phase 1 complete. Phase 2 due 1997/98.
e. Implement agreed actions from above Conservation Strategy.	EN/ The Agency	Land-owners MAFF	30*			10	10	10		

ISSUE 10 - NOTIFICATION, PROTECTION AND MANAGEMENT OF THE RIVER TEME AS A SITE OF SPECIAL SCIENTIFIC INTEREST (CONTD).

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
f. ▲ Investigate and monitor phosphate concentrations in the River Teme (prior to Action g).	The Agency		6	2	2	2				Sampling undertaken and results assessed. Interim report produced, identified further work needed to relate findings to rainfall and river flow.
g. Designate appropriate Special Ecosystem targets and assess compliance with targets.	The Agency		U						==(1)	No progress to date. Currently awaiting Head Office guidance on Special Ecosystem policy and implementation.
h. Promote/implement *Wildlife Enhancement Scheme for River Teme SSSI.	EN/CCW		U		===	===	===	===		

ISSUE 11- MAINTENANCE, IMPROVEMENT AND DEVELOPMENT OF HIGH QUALITY GAME FISHERIES

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress	
	LEAD	OTHER									
a. Review bylaws and voluntary restrictions on salmon fishing methods.	The Agency		R		==					To be included in River Severn Salmon Action Plan. Due October 97.	
b. Construct salmon passes at Buckton Weir (Teme), Tetsill Weir (Rea), Knapp and Hopton Court Weirs (Leigh Brook).	The Agency		200			50	50	50	50		
c. Improve salmon passage facilities at Stokesay (Onny) and Halford Weirs (Onny).	The Agency		5		5						Completed Aug. 1996. More work anticipated if funding permits.
d. Improve salmon spawning gravels and access to Ledwyche, Leigh, Corn and Sapey Brooks.	The Agency		15		5	5	5				Gravel improvement works on Ledwyche. Further work planned.
e. Stock River Teme upstream of Ashford and tributaries with local hatchery-reared salmon.	The Agency		R40	<10	<10	<10	<10	<10			47,000 Salmon fry and 7,000 tagged salmon smolts stocked in 1996.

ISSUE 11 - MAINTENANCE, IMPROVEMENT AND DEVELOPMENT OF HIGH QUALITY GAME FISHERIES (CONTD)

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
f. ▲ Assess present status of native brown trout in catchment.	The Agency	Angling Clubs	5		<5	<5				Survey programmed for July 1997.
g. ▲ Determine stocking policy for protection of native brown trout and implement through Section 30 Consents procedures.	The Agency		R	===	===					Draft policy produced. Consultation planned for 1997/98.
h. ▲ Investigate opportunities for production of hatchery reared trout from local genetic stock.	The Agency	Fish Farms Angling Clubs	U		===	===				
i. Establish and implement rearing and/or restocking programmes for graylings using native broodstock if possible.	The Agency		15	<5	<5	<5	<5	<5		2,000 graylings reared from native broodstock and stocked into river in 1996.

ISSUE 12 - MAINTENANCE, IMPROVEMENT AND DEVELOPMENT OF HIGH QUALITY COARSE FISHERIES

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Enforce Schedule provisions of Theft Act 1968 to combat theft of barbel and other coarse fish from rivers and still waters in the catchment.	Police/ Fishery Owners	The Agency	U	===	===	===	===	===		No substantiated incidents in 1996/97.
b. Review Fisheries Byelaws to assist in enforcement action against fish thefts and implement public awareness campaign on this problem.	The Agency		R		===					Reviewed 1996/97. To be incorporated in national Byelaw Review 1997/98
c. Obtain coarse fish broodstock from River Teme for rearing and restocking programmes.	The Agency		<10	<5	<5	<5	<5	<5		Alternative source used in 1996.
d. Construct elver passes at Powick, Ashford and the proposed Knightsford Weirs.	The Agency		<10		<5	<5	<5			Provision for elver pass included in design for Knightsford Weir.
e. ▲ Review rationale for coarse fish removals from game fisheries.	The Agency		U		===					

ISSUE 13 - IMPACTS OF PISCIVOROUS BIRDS ON FISH STOCKS

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Investigate substantiated reports of adverse impacts by piscivorous birds on local fish stocks.	The Agency		U	===	===	===	===	===		Applications were received by MAFF for licences to shoot Cormorants on the Teme (believed to be unsuccessful). Detailed investigation will be carried out by Leintwardine fishery and The Agency in July 1997.

ISSUE 14 - PROTECTION OF RARE AND THREATENED SPECIES

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. ▲ Identify key habitat types and species within the catchment and develop and implement targets and objectives to maintain biodiversity.	EN/CCW The Agency	WTs	U		===	===	===	===		
b. Maintain and improve bankside cover and other riparian habitat for otters.	The Agency EN/CCW Land-owners	MAFF/WO AD	10		<5	<5	<5			

ISSUE 14 - PROTECTION OF RARE AND THREATENED SPECIES (CONTD.)

ACTIONS	RESPONSIBILITY		Total Cost	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
c. Identify current distribution of alien crayfish in the catchment.	The Agency		R		===					
d. Develop policy on alien crayfish and restrict any further introduction into the catchment.	MAFF/ WOAD EN		U		==					
e. Determine the current spawning distribution of shad in the catchment and take steps to increase this if practicable.	The Agency		R5		<5	<5				
f. Determine the extent and possible impact of alder disease in the catchment.	The Agency FA		R	===						Completed 1996/97
g. Collate records of black poplar distribution along rivers and floodplains and implement new planting at suitable sites.	The Agency LA	WT	EA 15 Others U	5 ===	5 ===	5 ===	===	===		Collection and collation of records completed.
h. Investigate genetic variability of black poplars and promote availability of local stocks if appropriate.	The Agency LA	WT Specialist Nurseries	EA 10 Others U	10 ===	===	===	===			Completed

ISSUE 15 - THE INCREASED DEMAND FOR AMENITY AND RECREATION

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Seek resolution to access and river use conflicts between canoeists, anglers and riparian owners, particularly between Ashford and Tenbury.	BCU Anglers Land-owners The Agency	Sports Council LAs	U	=====	=====					The Agency attended meetings with Fisheries representatives and corresponded with British Canoe Union. Teme Catchment Fisheries Association declined to have further dialogue with canoeists.
b. ▲ Develop angling and canoeing Liaison Group.	BCU Anglers Land-owner The Agency	Sports Council	U		=====					Unsuccessful. No further action planned at this stage.
c. ▲ Re-evaluate historic and recent evidence in respect of the navigation status of the River Teme.	The Agency	BCU LAs	<5		<5					
d. Improve footpath network in the Teme/Severn confluence area and access around the Laughern Brook.	The Agency LA		10	5	5					Footpath creation and education facilities developed above Laugherne Brook.
e. ▲ Investigate opportunities for improved riverside access at other suitable locations.	The Agency CoCo	LAs Land-owners EN	U		===	===				

ISSUE 16 - PROTECTION OF LANDSCAPE, ARCHAEOLOGICAL AND CULTURAL HERITAGE VALUE OF THE CATCHMENT

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Identify key landscape, archaeological and heritage issues related to the water environment in the catchment, develop policies and implement improvements where appropriate.	LAs Archeol Trusts CoCo The Agency	EN/ CCW MAFF/ WOAD	U		===	===	===	===		Sites of importance identified through archaeological river corridor survey (see 16c below).
b. Carry out landscape assessment of river corridors.	The Agency	CoCo	5		5					
c. Investigate scope for archaeological river corridor surveys.	The Agency	Archeol Trusts LAs	R	===						Archaeological River Corridor survey completed March 1997.
d. Investigate viability and costs of restoring historically important weirs through Ludlow.	Teme Weirs Trust/ Ludlow Town Council SSDC Weir Owners	English Heritage SCC The Agency	U	===	===					Currently being pursued by newly established Teme Weirs Trust. Lottery bid made. The Teme Weirs Trust have engaged a consultant and produced a feasibility study.

ISSUE 16 - PROTECTION OF LANDSCAPE, ARCHAEOLOGICAL AND CULTURAL HERITAGE VALUE OF THE CATCHMENT (CONTD.)

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
e. Investigate options for repair of powick Weir and implement if appropriate.	The Agency		R/U		===	===				
f. ▲ Investigate the status of other historic weirs and water management systems in the Teme catchment.	LAs The Agency	English Heritage Archaeo. Trusts	<5		<5	<5				Archaeological Survey of Powick Weir completed Sept.1996.

ISSUE 17 - EROSION AND UNAUTHORISED RIVER WORKS

ACTIONS	RESPONSIBILITY		Total Cost	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Undertake campaign to promote awareness in the agricultural community of the damaging impacts of unauthorised river works.	The Agency	MAFF/ WOAD CLA NFU LPAs	<5		<5					Press release September 1996.
b. Investigate the possibility of extending main river designation on the Teme upstream of Knighton to enable appropriate controls to be exercised by NRA on all river works.	The Agency		R	===						Proposal put to Regional Flood Defence Committee 1996 MAFF guidelines precluded river being mained for environmental reasons only.

ISSUE 18 - PRESSURE FOR DEVELOPMENT IN FLOOD PLAIN

ACTIONS	RESPONSIBILITY		Total Cost	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Carry out ground level surveys and computer modelling.	The Agency		126	===	===					Ground level survey complete. Computer modelling commencing on programme.
b. Update flooding survey for S105 Water Resources Act 1991.	The Agency		R	===	===					Started in 1996/97 expected to be complete 1997/98.

ISSUE 19 - FLOODING AT SPECIFIC LOCATIONS INCLUDING PROBLEMS CAUSED BY SURFACE WATER RUN-OFF

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Investigate feasibility of flood alleviation scheme for Knighton.	LA		U	===						Scheme not considered feasible and will now not be progressed further.
b. Implement flood alleviation scheme for Clun.	LA		U	===	===	===				Survey carried out, report prepared and recommendations being followed.
c. Investigate feasibility of flood alleviation scheme for Ludlow.	The Agency		U				===			

ISSUE 19 - FLOODING AT SPECIFIC LOCATIONS INCLUDING PROBLEMS CAUSED BY SURFACE WATER RUN-OFF (CONTD.)

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
d. Re-examine feasibility of flood alleviation scheme for Tenbury Wells.	The Agency		U						===	
e. Design and implement flood alleviation scheme for Bishops's Castle.	LA STW Ltd		U	===	===					Design complete Works started April 1997.
f. Instigate feasibility of surface water drainage improvements for Church Stretton.	LA		U		===	===	===	===		Investigation programmed to start in 1997/98.
g. Investigate feasibility of flood alleviation scheme for Cleobury Mortimer.	LA		U			===	===	===		

ISSUE 20 - EXTENSION OF FLOOD WARNING SYSTEM

ACTIONS	RESPONSIBILITY		Total Cost (£)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Identify need for extension of flood warning system.	LA		U	===						No action to date.
b. Investigate feasibility of extension of flood warning service to meet need identified in (a).	The Agency		U		====					Will be reviewed in 1999/2000 as part of National Flood Warning Project.
c. Implement more level and flow gauging stations identified in (b).	The Agency		U		====	====				

▲ ISSUE 21 - PERIODIC DRYING UP OF THE RIVER TEME UPSTREAM OF LEINTWARDINE

ACTIONS	RESPONSIBILITY		Total Cost	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Investigate possible reasons for drying up of River Teme upstream of Leintwardine during dry summers, including long term flow data analysis.	The Agency	DCWW	5		====					Some low flow river gauging at several sites upstream of Leintwardine were carried out on 96/97 as background information for the forthcoming detailed investigation.

▲ ISSUE 22 - RIVER STRETCHES THAT CAN BE UPGRADED TO PROTECT FUTURE WATER QUALITY

ACTIONS	RESPONSIBILITY		Total Cost (k)	1996/97	1997/98	1998/99	1999/2000	2000/2001	Future	Progress
	LEAD	OTHER								
a. Review long term data trends and upgrade the long term RQOs where sustainable.	The Agency		R	===	===	===				Review of long term data trends in progress.

5.0 Future Reviews

We will review progress again next year and aim to publish our second Annual Review of the River Teme CMP in May 1998. Work is expected to commence on the Teme Local Environment Agency Plan in January 1999 which will look at water, land, air, wildlife and heritage issues in the area. The Teme Consultation Report is due in December 1999.

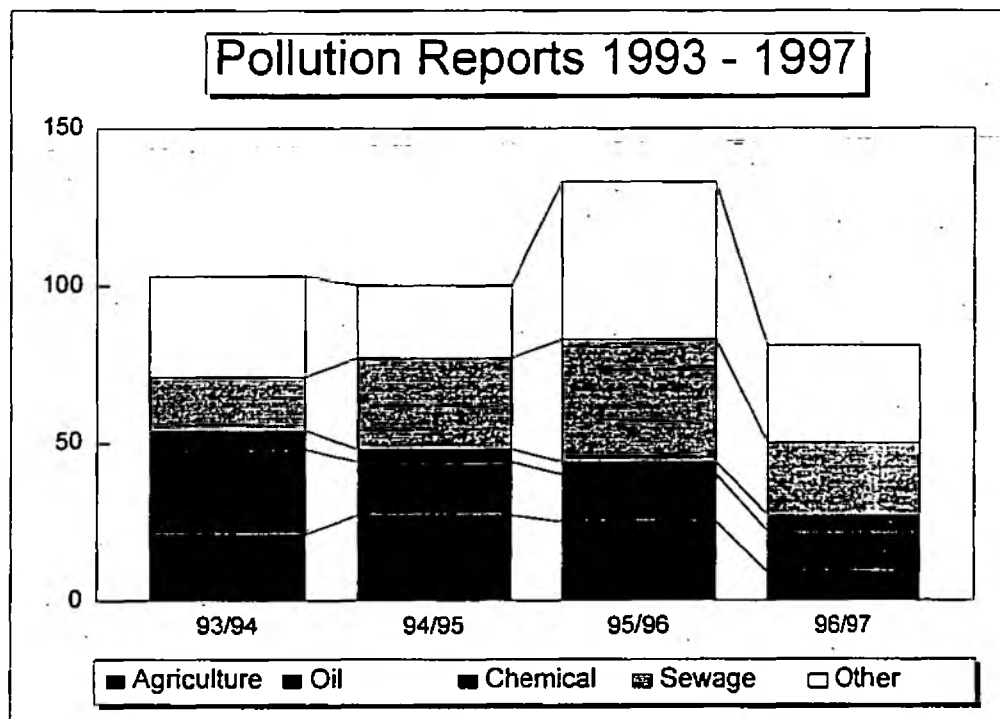
APPENDIX 1

Current Status of Development Plans in the Teme catchment.

Local Authority	Area (Km ²)	Development Plan
South Shropshire District Council	876.7	Local Plan being reviewed to roll policies forward to 2006. Draft expected summer 1997.
Bridgnorth District Council	120.3	Adopted September 1994, review expected to start shortly.
Shrewsbury & Atcham Borough Council	11.5	Deposit Draft of a district wide plan is expected during 1997.
Shropshire County Council	1, 008.6 (61.2%)	Work on a review is in it's early stages and a consultation draft is expected soon.
Leominster District Council	271.9	Deposit Draft Local Plan was on deposit in April/ May 1996. Local Plan Inquiry April - June 1997.
Malvern Hills District Council	252.1	Inspectors Report on a district wide Local Plan was published in September 1996.
Worcester City Council	3.3	Modifications were on deposit in February/ March 1997. The Plan will be adopted in Summer 1997.
Wyre Forest District Council	1.65	Local Plan adopted May 1996.
Hereford & Worcester County Council	529.0 (32.1%)	County Minerals Plan adopted Aril 1997. County Structure Plan, second alteration operative March 1993. County Waste Local Plan, project report.
Radnorshire District	100.5	Deposit Draft Local Plan published April 1997.
Montgomeryshire District.	9.9	Local Plan Inquiry September 1996. Inspectors Report published April 1997.
Powys Unitary Authority	110.4 (6.7%)	Structure Plan adopted February 1996.

APPENDIX 2

The histogram below shows the overall trend of reported pollution incidents by type in the Teme Catchment April 1993 - March 1997.



Pollution Incident Reports by Type and Cause - April 1996 - March 1997

		Class 1	Class 2	Class 3	TOTAL
CAUSE	Industrial and Commercial	0	0	9	9
	Water Utility Companies	0	0	14	14
	Agriculture	0	5	8	13
	Other	0	3	42	45
		0	8	73	81
TYPE	Chemical	0	4	1	5
	Oil	0	1	12	13
	Sewage	0	2	21	23
	Agriculture	0	1	8	9
	Other	0	0	31	31
		0	8	73	81

Class 1 - Major incident Class 2 - Significant incident Class 3 - Minor incident