

# catchment management plan

Ref:

A/179



## **RIVER TEME** third annual review April 1998 - March 1999



**ENVIRONMENT  
AGENCY**

# **River Teme Catchment Management Plan (CMP)**

## **Previous CMP Documents**

River Teme CMP Consultation Report  
September 1995

River Teme CMP Consultation Report Summary  
September 1996

River Teme CMP Action Plan  
March 1996

River Teme CMP First Annual Review  
May 1997

River Teme CMP Second Annual Review  
May 1998

The Teme Local Environment Agency Plan (LEAP), to be published December 1999, will supersede the River Teme CMP.

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## FOREWORD

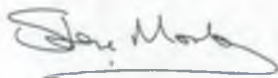
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Catchment Management Plans were used by the former National Rivers Authority (NRA) to manage the water environment with an integrated approach. The plans considered a particular river catchment, identified different uses and activities within the area and highlighted the problems and issues that needed to be resolved. The objective was to work towards a healthy and diverse water environment managed in an environmentally sustainable way, balancing the needs of all users of water. The Environment Agency has continued this work.

This is the third and last Annual Review of the River Teme Catchment Management Plan. It highlights 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.

The Environment Agency is committed to its programme of local environmental action and is building on the strengths of the CMP process in its Local Environment Agency Plans (LEAPs). The Teme LEAP will follow on from this CMP, with the Consultation Draft being available December 1999. This will be the fourth LEAP to be produced by the Upper Severn team, completing the picture for the area.

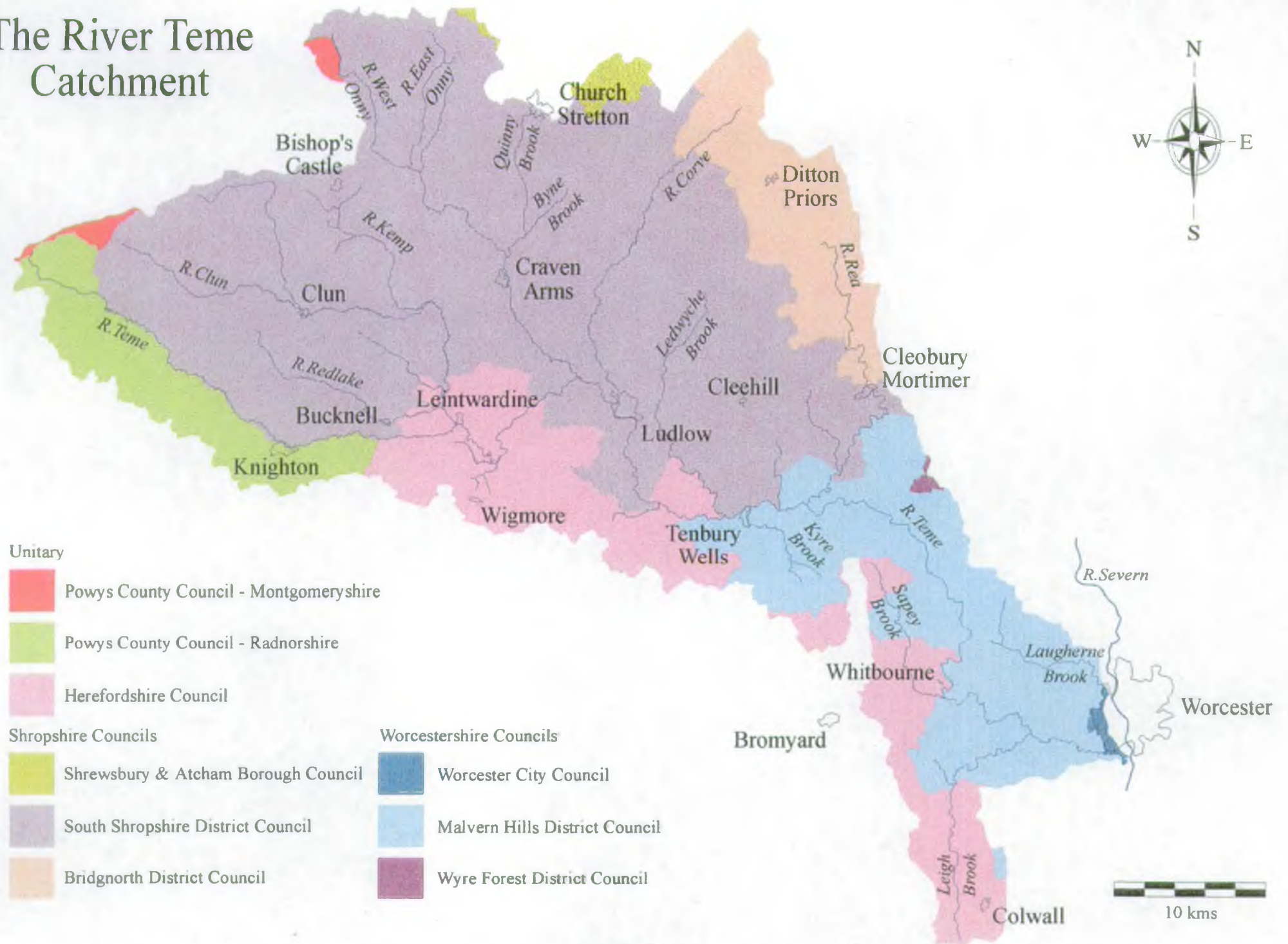
As we approach the year 2000 we must continue to intensify our efforts and work together towards safeguarding and enhancing our local environment.



**Steve Morley**  
**Upper Severn Area Manager**  
**Environment Agency**



# The River Teme Catchment







ENVIRONMENT  
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### RIVER TEME CATCHMENT MANAGEMENT PLAN - THIRD ANNUAL REVIEW

Enclosed is a copy of the third Annual Review of the River Teme Catchment Management Plan (CMP). As with the previous Annual Review, progress in the last year April 1998 to March 1999, is shown in the last column of each of the tables.

Work has started on the Teme LEAP documents, the Consultation Draft and Environmental Overview. They will be published in December.

If you require additional copies of this document please let me know.

*Jo Langfield*

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## EXECUTIVE SUMMARY

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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 Second Annual Review in May 1998. Responsible parties, in carrying out the actions planned for this year including a number of collaborative actions, have made good progress.

Of the 54 actions planned for the year 1998/99 (including ongoing actions) 25 have been completed, bringing to 50 the total number of actions completed since publication of the Action Plan. Progress has been made on all the remainder except for four.

Of particular note this year has been the restoration of Powick Weir. The new weir incorporates passage facilities for the free passage of salmon, shad, coarse fish and eels.

The Conservation Strategies and operational protocols for the River Teme Site of Special Scientific Interest (SSSI) have been agreed and are in operation.

The stream interception and diversion work at the tyre landfill site at Heyope in Knighton has been successfully completed and discussions are taking place on the next steps to remediate the site.

Following the petrol lost from a tank during 1998, a remediation scheme has been commissioned and installed at Castle Garage, Ludlow.

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 seeks 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 Integrated Environmental Planning**

Catchment Management Planning was the means by which the former National Rivers Authority (NRA) undertook integrated planning for the water environment. The Environment Agency's overall aim is to protect and enhance the environment, as a whole, thus contributing to the worldwide goal of sustainable development. Integrated environmental planning 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 builds on the Catchment Management Planning process. The new plans are known as Local Environment Agency Plans (LEAPs) and include the 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 their enforcement in relation to 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.

#### **2.1.1 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 third Annual Review summarises the progress made since the publication of the Action Plan, and covers the period April 1998 to March 1999.

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

## **2.2 A 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 (61.5%), Herefordshire (15.5%) and Worcestershire (16.5%), 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 Laugherne. 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

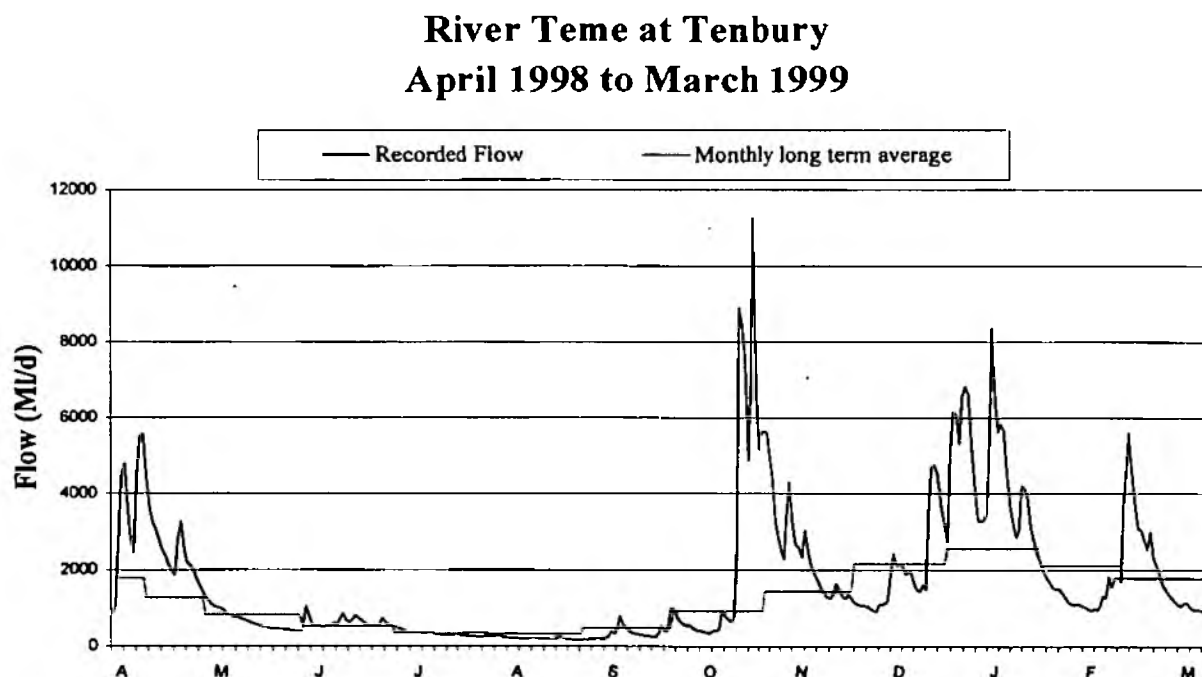


between winter floods and low summer flows following periods of dry weather. Although there are no major aquifers (water-bearing layers of rock) to support base-flows in the Teme catchment, water stored in river gravel deposits helps sustain flows during summer.

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.

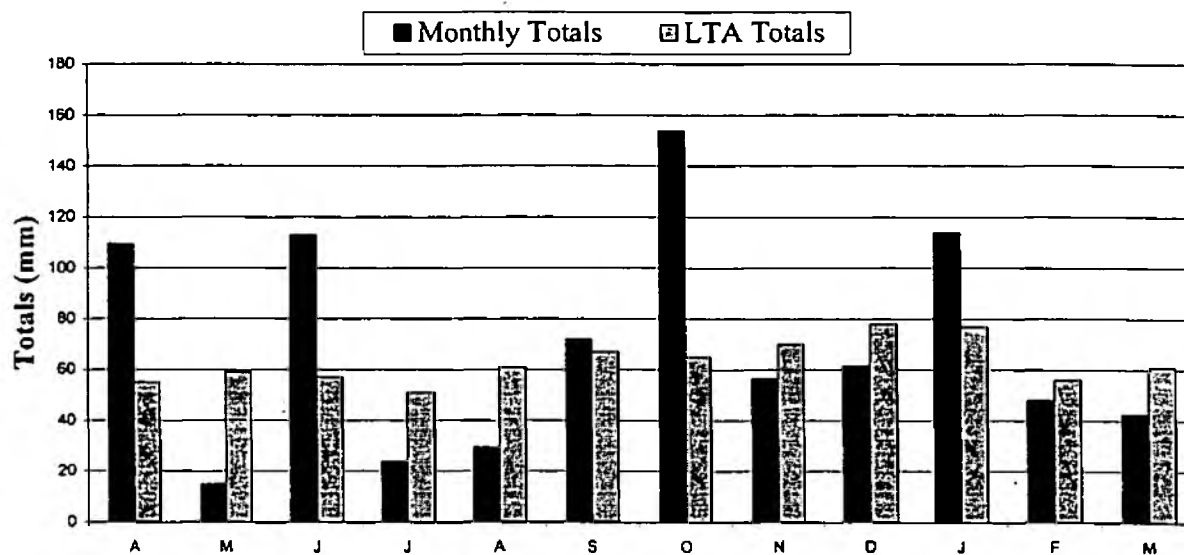
## 2.3 Assessment of the Catchment and major changes during 1998-99

This review year has been wetter than normal. The graph below shows recorded flow for the River Teme at Tenbury against the monthly long-term average.



The graph below shows the monthly rainfall totals compared to the monthly long term averages recorded at the Craven Arms rain gauge site.

### Monthly rainfall totals at Craven Arms April 1998 to March 1999



*Ribbon-leaved water-plantain*  
Anne Nicol

### 3.0 SUMMARY OF PROGRESS

Of 54 actions (including ongoing actions) planned for this year, progress has been made on all but four actions. These are:

- 5b Assess and control potential impact of any proposals for restoration on old mine workings at Whitegrit and Shelve
- 15d Improving footpath network in the Teme/Severn confluence area and access around Laughern Brook
- 15c Investigating opportunities for improving riverside access at other suitable locations
- 19g Investigate feasibility of flood alleviation scheme for Cleobury Mortimer

Twenty-six actions were completed, making a total of 51 actions completed since publication of the Action Plan. 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 stream interception and diversion work at the tyre landfill site at Heyope; Knighton was completed in 1999. The Agency and the consultants will monitor the quality and volume of the remaining discharge from the site. The Agency will begin discussions with the site operators on the next steps to remediate the site.
- A complex remediation scheme has now been commissioned and installed at Castle Garage, Ludlow to clean up the petrol lost from a tank in 1998. This will run for several months.
- Powick Weir was restored in a partnering project with the In House Work Force. The new weir incorporates passage facilities for salmon, shad, coarse fish and eels.
- Bypass channel constructed on Brimfield Brook to enable salmon migration upstream.
- River Teme stocked with 28,000 salmon fry upstream of Ashford using local hatchery-reared salmon.
- Surveys for assessing the present status of native brown trout were completed for the upper reaches.
- Conservation strategies and operational protocols were agreed for the River Teme Site of Special Scientific Interest with English Nature.



### **Notable disappointments:**

- When identifying historic breeding areas for wading birds for habitat enhancement, lapwings were found to be virtually extinct as breeding birds in the RSPB/SOS survey for the Clun ESA.
- Lack of landowners' permissions for wetland creation work in the Teme Valley.
- Lack of progress was made with implementing the Clun flood alleviation scheme.

### **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 area, and protect against pollution. These operations and regulatory responsibilities form the basis of our work.

During 1998/1999 there were no prosecutions brought against polluters in the Teme catchment and no formal cautions. 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. There were 64 reported pollution incidents in total in the Teme catchment but no major incidents. In comparison with last years, the figures show an increase in minor oil incidents but an overall decline in the number of reported pollution incidents.

Routine monitoring work includes site inspections throughout the catchment. During 1998/1999 there were 310 site inspections carried out at sewage works (private and water companies), 138 inspections of sewerage systems, 143 industrial sites and 24 contaminated land inspections. In addition there were 32 farm inspections.

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 five abstraction licences were issued, four of which were for surface water and one for groundwater abstraction. In addition, 85 routine enforcement visits to licence holders were carried out.

A total of 11 water resource incidents were investigated in the catchment mainly relating to non-compliance with licensing regulations. Twelve land drainage consents were granted in the catchment and two were refused.

Fish populations were surveyed at eight sites along the River Teme.

## 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 ( <i>see below</i> )	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 (former)
CA	Countryside Agency	RQO	River Quality Objective
DC	District Council	RSPB	Royal Society for the Protection of Birds
DCWW	Dŵr Cymru/Welsh Water	SCC	Shropshire County Council
DETR	Department of the Environment, Transport and the Regions	SSDC	South Shropshire District Council
EN	English Nature	STW	Sewage Treatment Works
FWAG	Farming and Wildlife Advisory Group	STW Ltd	Severn Trent Water Ltd
		WDA	Welsh Development Agency
		WOAD	Welsh Office Agriculture Department
		WT	Wildlife Trust

### 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. We are now in the third review, which will cover the period 2000 to 2005, and the Agency is anxious to ensure full consideration is given to securing environmental improvements.

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

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Seek additional EC fisheries designations on River Redlake, Gosford Brook and Byne Brook.	EA		R					Under review by Regional Office.
c. Identify risks to water supply boreholes by undertaking surveys.	EA EN LAs		4	2				Clungunford and Munslow groundwater protection survey in progress.
d. Develop targets for habitat protection and enhancement in relation to the UK Biodiversity Action Plan and Local Authorities Biodiversity Challenges.	EA	WTs	U	==				River Teme Conservation Strategy complete.

NB: Action 1b – 'Remodel groundwater protection zones for supply sources at Clungunford, Leintwardine and Munslow' was completed in 1997/98. Refer to previous Annual Review.



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

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Review consent conditions on Colwall STW discharge and improve STW.	EA STW Ltd		1 U		1	==		Review of consent conditions completed. Colwall STW is on the provisional AMP3 list.
d. Monitor investment in improvements to Bishop's Castle STW and sewerage system under AMP2 programme.	EA	STW Ltd	R6 CS	2 ==	2 ==			Second phase of improvements scheduled for completion in 2000. This will involve two new filter beds and a further (storm only) reed bed. The unsatisfactory combined sewer overflow will be resolved with the drainage works.
e. Investigate causes of reduction in expected biological quality in River Rea and identify any remedial action needed.	EA		1					Biological quality in the brook during 1998 remained good.
f. Investigate pesticide sources on River Teme upstream of Whitbourne Water Treatment Works.	EA	DCWW	5					Monitoring ongoing.
g. Carry out site surveys of timber preservation sites and impose consents if applicable.	EA HSE	LPA's Timber companies	R U	== ==				Monitoring ongoing.

Note: Action 2b 'Investigation into the causes of poor quality in River Kemp upstream of Colebatch' has been completed. Action 2c 'Ensure improvements to Bishop's Castle sewerage system are undertaken' has been completed. Refer to previous Annual Review.

### ISSUE 3 – AGRICULTURAL POLLUTION INCLUDING THE EFFECTS OF AMMONIA AND NITRATE

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Liaise with LPAs to ensure applicants submit supporting information with planning applications for intensive livestock units.	EA LPAs		R	==	==	==		Roadshows with Worcester CC, Herefordshire Unitary Authority, Wyre Forest DC. Continuing work on development plans.  NVZ officer to be appointed 1999.  Strategic study for anaerobic digestion within the Marches started March 1999.
c. Monitor effectiveness of NVZs in reducing nitrates.	DETR		U	==	==	==		
d. Investigate feasibility of providing community-based anaerobic digester.	SCC ADAS	EA	<40	==				

Note: Action 3b - 'Target farm inspections - identification of remedial action needed' was completed in 1996/97. Action 3e 'Promote uptake of free advisory visits and Farm Waste Management Plans' completed in 1997/98. Refer to previous Annual Review.

### ISSUE 4 - INADEQUATE RURAL SEWERAGE

ACTIONS	RESPONSIBILITY		(k)					Progress 1997/98
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Amend discharge consent for West Malvern STW within constraints of AMP2.	EA STW Ltd		R <5				==	Consent amended.
b. Improve Bishop's Castle sewerage system (See also 2c).	SDDC STW Ltd	EA Developers	U CS	==				See comments under Issue 2c and 2d.
c. Monitor impact of Church Stretton sewerage system for prioritisation under AMP3.	STW Ltd	EA Developers		==	==			Church Stretton STW and CSO have been included in the AMP3 schedule.

Note: Action 4d - 'Investigate discharges to Dumbleton Brook at Clows Top' was completed in 1996/97. Refer to previous Annual Review.

# ISSUE 5 - POLLUTION RISKS FROM CONTAMINATED LAND

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Investigate, assess and implement method of leachate management and control at Aldon Landfill.	Shropshire Waste Management	EA	U R	=== ===				Site restored. Investigations into leachate management continue.
b. Continue monitoring groundwater/leachate contamination around Penny Hill landfill and instigate improvements via site completion and restoration.	Shanks & McEwan	EA	U R	=== ===				Capping of the site complete. Surface water discharged through settlement lagoon. Monitoring of ground and surface waters continuing.
c. Evaluate change in quality of contaminated minewater at Clows Top and modify clean up programme accordingly.	EA	Operator	R	===	===	===		Interim report produced which has shown some decrease in chromium levels. The report highlights the need for further monitoring.
d. Assess and control potential impact of any proposals for restoration on old mine workings at Whitegrit and Shelve.	EA LA	Landowners	R	===	===	===	Ongoing	No further progress.



# **ISSUE 6 - POLLUTION RISKS ASSOCIATED WITH HEYOPE TYRE TIP**

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Seek engineering and Waste Management solutions in liaison with interested parties.	Owners WDA EA		U	==				Stream diversion complete. Agency and site owner monitoring quality and rate of discharge.
b. Monitor impact of fire on water quality.	EA		R6					Improved biological quality fine. No change in chemical quality.
c. Review Waste Management Licence.	EA		R					Waste licence reviewed last year; licence is still 'on hold.'

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

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
c. Assess appropriate location for and install automatic water quality monitors on River Teme.	DCWW EA		75*					Monitoring station installed at Ham Bridge March 1998.
d. Reconstruct Knightsford bridge flow measurement station (also see issue 12(d)).	EA		170	160				Successfully completed Autumn 1998.

**Note:** Actions 7a - 'Review need for new flow measurement station on River Teme upstream of Tenbury Wells' and 7b - 'Implement recommendations of review under (a)' were completed in 1996/97. Refer to previous Annual Review

# ISSUE 8 - PROBLEMS OF ABSTRACTION LICENSING IN THE TEME CATCHMENT

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
b. Review groundwater licensing exemptions policy (also see issue 21).	EA	STW Ltd DCWW NFU	R	==				It is likely that 'exempt' area status will be removed as part of the DETR review of all abstraction licensing.
c. Investigate relationship between abstraction and low flows for dilution in Cradley Brook headwaters.	EA		R	==	==	10	==	Scoping report completed in preparation to contract consultants to investigate the issue during 1999/2000.
d. Investigate effects of groundwater abstractions on wetland SSSIs and other sites of conservation value.	EA	EN CCW	1	==				Reports complete. No sites affected by groundwater abstraction.
e. Review surface water licensing policy, specifically the resource allocation for summer abstractions.	EA		1	==				Complete. Policy for abstraction upstream of Ludlow now changed - related to higher flow at Tenbury.
f. Establish which surface water controls support wetlands and riparian SSSIs (also see issue 9).	EA		R	==				This has now been addressed by Actions 8d and 8e above.

Note: Action 8a - 'Review whether new flow control point is required for abstractions in the upper catchment' was completed in 1996/97. Refer to previous Annual Review.

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

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/99	1999/ 2000	2000/ 2001	Future	
a. Identify historic breeding areas for wading birds and assess scope/need for habitat enhancement.	EA	RSPB EN WTs	5	<5				Lapwings are listed as virtually extinct as breeding birds in the RSPB/SOS lapwing survey for Clun ESA 1998. Subject to EC approval, a £120 Wet Area Supplement is to be added to existing ESA payments.
c. Restore and create wetlands in the Teme Valley at sites identified in Teme Valley conservation strategy.	EN/CC W EA	WT/ Landowners	45*	15	15	15		Difficulties have been experienced in obtaining landowner permission for suitable habitat creation work. Other possibilities being explored for 1999.
d. A Work with EN to implement site management statements promoting the development of riparian buffer zones and the protection of riparian habitats.	EN/CC W EA		U	==	==	==		Continue work of the joint English Nature/Farming and Wildlife Advisory Group (FWAG) project.
e. Investigate requirements for Water Level Management Plans on:								
(i) River Teme	EA	EN/ Landowners	R	==				Water Level Management Plans (WLMPs in draft form, March 1999.
▲ (ii) Burrington Meadows	LAs	Landowners	U	==				No further action planned.
f. Assess prevalence of invasive weeds in the catchment and reduce further spreading by spraying or other appropriate techniques.	EA EN CCW		10	<5	<5	<5		Spraying of giant hogweed carried out at Leintwardine. No further action planned.

Note: Action 9b – 'Develop wetland conservation strategy for the Teme Valley' was completed in 1997/98. Refer to previous Annual Review. Action e(iii) – 'Investigate requirements for Water level Management Plans on appropriate other sites complete. No further sites identified.

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

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/2000
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
e. Implement agreed actions from above Conservation Strategy.	EA	Landowners MAFF	30*	10	10	10		Ongoing.
f. Investigate and monitor phosphate concentrations in the River Teme (prior to Action g).	EA		6	2				River Teme is now designated as a Sensitive Area under the Urban Waste Water Treatment Directive.
g. Designate appropriate Special Ecosystem targets and assess compliance with targets.	EA		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 FWAG		U	==		==		Joint EN/FWAG initiative now underway.

**Note:** Actions 10a 'Notify River Teme as SSSI', 10b 'Negotiate agreed management statements with owners/occupiers following notification', 10c 'Develop protocols for the Agency operations and regulatory activities within the SSSI and 10d 'Conservation Strategy for River Teme SSSI, with biodiversity targets for important species and habitats.

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

ACTIONS	RESPONSIBILITY		(k)					Progress 1999/2000
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Review bylaws and voluntary restrictions on salmon fishing methods.	EA		R					To be included in River Severn Salmon Action Plan, due summer 1999. New national byelaws approved April 1999.
b. Construct salmon passes at Buckton Weir (Teme), Tetsill Weir (Rea), Knapp and Hopton Court Weirs (Leigh Brook).	EA		200	50	50	50	50	No fish pass constructed in 98/99 (lack of funding). Proposals for Stokesay weir fish pass in 99/2000 under consideration.
d. Improve salmon spawning gravels and access to Ledwyche, Leigh, Corn and Sapey Brooks.	EA		15	5	5			Bypass channel constructed on Brimfield Brook to enable salmon migration upstream.
e. Stock River Teme upstream of Ashford and tributaries with local hatchery-reared salmon.	EA		R40	<10	<10	<10		28,000 salmon fry stocked in 1998.
f. ▲ Assess present status of native brown trout in catchment.	EA	Angling Clubs	5	<5				Upper reaches surveyed in September 1998. Full surveys planned for 1999.
g. ▲ Determine stocking policy for protection of native brown trout, implement with Section 30 procedure.	EA		R					
h. ▲ Investigate opportunities for production of hatchery reared trout from local genetic stock.	EA	Fish Farms Angling Clubs	U	==				No trout rearing in 1998/99.
i. Establish and implement rearing and/or restocking programmes for grayling using native broodstock if possible.	EA		15	<5	<5	<5		None stocked in 1998. Further stocking planned in 1999.

Note: Action 11c 'Improve salmon facilities at Stokesay (Onny) and Halford Weirs (Onny)' has been completed. Refer to previous Annual Reviews.



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

ACTIONS	RESPONSIBILITY		(k)					Progress 1999/2000
	LEAD	OTHER	Total Cost	1998/99	1999/ 2000	2000/ 2001	Future	
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	EA	U	==	==	==		No substantiated incidents in 1998/99.
b. Review Fisheries Byelaws to assist in enforcement action against fish thefts and implement public awareness campaign on this problem.	EA		R					Byelaws review expected 1999/2000.
c. Obtain coarse fish broodstock from River Teme for rearing and restocking programmes.	EA		<10	<5	<5	<5		Alternative source used in 1998.
d. Construct elver passes at Powick, Ashford and the proposed Knightwick Weirs.	EA		<10	<5	<5			Elver passes completed at Powick and Knightwick Weirs.

## ISSUE 13 - IMPACTS OF PISCIVOROUS BIRDS ON FISH STOCKS

ACTIONS	RESPONSIBILITY		(k)					Progress 1999/2000
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Investigate substantiated reports of adverse impacts by piscivorous birds on local fish stocks.	EA		U	==	==	==		No further developments in 1998/99. Awaiting outputs from National R & D project.

# ISSUE 14 - PROTECTION OF RARE AND THREATENED SPECIES

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. ▲ Identify key habitat types and species within the catchment and develop and implement targets and objectives to maintain biodiversity.	EA/CCW EA	WTs	U	==	==	==		Identification complete. Implementation ongoing but subject to financial resources.
b. Maintain and improve bankside cover and other riparian habitat for otters.	EA EN/CCW Landowners	MAFF/ WOAD	10					Tree maintenance strategy agreed with EN to protect riparian and instream habitats.
c. Identify current distribution of alien crayfish in the catchment.	EA		R					Completed.
d. Develop policy on alien crayfish and restrict any further introduction into the catchment.	MAFF/ WOAD EN		U					River Teme SSSI notification will strengthen powers to restrict new introductions.
e. Determine the current spawning distribution of shad in the catchment and take steps to increase this if practicable.	EA	WT	R5	<5				Observations carried out by National Shad Group located Shad eggs downstream of Powick Weir only.
g. Collate records of black poplar distribution along rivers and floodplains and implement new planting at suitable sites.	EA LA	WT Specialist Nurseries	EA 15 Others U	5 ==	==	==		Planting for this year complete and draft strategy in place.
h. ▲ Investigate genetic variability of black poplars and promote availability of local stocks if appropriate.	EA LA		EA 10 Others U	==	==			Three-year funding has ended and all targets achieved.

Note: Action 14f – 'Determine the extent and possible impact of alder disease in the catchment' was completed in 1996/97. Refer to past Annual Reviews.

# ISSUE 15 - THE INCREASED DEMAND FOR AMENITY AND RECREATION

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Seek resolution to access and river use conflicts between canoeists, anglers and riparian owners, particularly between Ashford and Tenbury.	BCU Anglers Landowners EA	Sports Council LAs	U					No further action.
c. A Re-evaluate historic and recent evidence in respect of the navigation status of the River Teme.	EA	BCU LAs	<5					Funding not available.
d. Improve footpath network in the Teme/Severn confluence area and access around the Laughern Brook.	EA LA		10	==				No further action.
e. A Investigate opportunities for improved riverside access at other suitable locations.	EA CA	LAs Landowners EN	U	==				No further action.

Note: Action 15b – 'Develop angling and canoeing liaison group' unsuccessful. Refer to previous Annual Review.

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

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Identify key landscape, archaeological and heritage issues related to the water environment in the catchment, develop policies and implement improvements where appropriate.	LAs Archaeological Trusts CA EA	EN/ CCW MAFF/ WOAD	U	==	==	==		Ongoing.
b. Carry out landscape assessment of river corridors.	EA	CA	5					This requirement has now been fulfilled by other organisations (e.g. Countryside Character Maps produced by CoCo, EN).
d. Investigate viability and costs of restoring historically important weirs through Ludlow.	Teme Weirs Trust/Ludlow Town Council SSDC Weir Owners	English Heritage SCC EA	U	==				Lottery funding secured by Teme Weir Trust.
e. Investigate options for repair of Powick Weir and implement if appropriate.	EA		R/U	==				Weir repaired. Completed.
f. A Investigate the status of other historic weirs and water management systems in the Teme catchment.	LAs EA	English Heritage Archaeol. Trust	<5	<5				Complete.

Note: Action 16c – 'Investigate scope for archaeological river corridor surveys' was completed in 1997/98. Please refer to past Annual Review

# **ISSUE 17 - EROSION AND UNAUTHORISED RIVER WORKS**

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Undertake campaign to promote awareness in the agricultural community of the damaging impacts of unauthorised river works.	EA	MAFF/ WOAD CLA NFU LPAs	<5					Ongoing distribution of leaflet produced in partnership with Farmers Union of Wales (FUW) together with press releases.

# **ISSUE 18 - PRESSURE FOR DEVELOPMENT IN FLOOD PLAIN**

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Carry out ground level surveys and computer modelling.	EA		126	==				Survey completed. Model constructed and in proving stage.
b. Update flooding survey for S105 Water Resources Act 1991.	EA		R					Evaluation of data collation of flood risks delayed by Easter '98 flood.



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

ACTIONS	RESPONSIBILITY		(k)				Future	Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001		
b. Implement flood alleviation scheme for Clun.	LA		U	==				Meeting held but no work has been carried out.
c. Investigate feasibility of flood alleviation scheme for Ludlow.	EA		U		==			Feasibility delayed by priorities arising from Easter '98 flood and other floods.
d. Re-examine feasibility of flood alleviation scheme for Tenbury Wells.	EA		U					No progress.
f. Instigate feasibility of surface water drainage improvements for Church Stretton.	LA		U	==	==	==	==	Major improvements to Church Stretton sewerage system are now included in the AMP3 programme.
g. Investigate feasibility of flood alleviation scheme for Cleobury Mortimer.	LA		U	==	==	==		No progress.

Note: Action 19a 'Investigate feasibility of flood alleviation scheme for Knighton' was not considered feasible and will not be progressed further. Action 19e 'Design and implement flood alleviation scheme for Bishop's Castle' complete. Refer to previous Annual Review.

# ISSUE 20 - EXTENSION OF FLOOD WARNING SYSTEM

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Identify need for extension of flood warning system.	LA		U		==	==		Accelerated as part of the Action Plan arising from the Easter floods 1998.
b. Investigate feasibility of extension of flood warning service to meet need identified in (a).	EA		U		==	==		Brought forward due to the Easter Floods Action Plan. Extension of the flood warning service to Tenbury Wells. The Agency is in the process of writing to residents of the town.
c. Implement more level and flow gauging stations identified in (b).	EA		U		==	==	==	Brought forward to 1999/2000 to reflect the programme of (b) above.

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

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Investigate possible reasons for drying up of River Teme upstream of Leintwardine during dry summers, including long-term flow data analysis.	EA	DCWW	5		R	==	==	A further hydrogeological study is to be carried out during 1999/2000.

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

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Review long term data trends and upgrade the long term RQOs where sustainable.	EA		R	==				National review of RQO's planned.

**A ISSUE 23 – USE OF PYRETHROID SHEEP DIP**

New issue highlighted in the River Teme 2<sup>nd</sup> Annual Review, March 1998.

ACTIONS	RESPONSIBILITY		(k)					Progress 1998/99
	LEAD	OTHER	Total Cost	1998/ 99	1999/ 2000	2000/ 2001	Future	
a. Assess current situation and prioritise farm visits to sheep farming areas.	EA			==				Many farms visited, especially in the Upper Reaches of the River Teme and in the River Unk catchment near Clun. Advice and information on safe dipping procedures provided.

## 5.0 FUTURE REVIEWS

Work has commenced on the Temе Local Environment Agency Plan (LEAP) which will look at water, land, air, wildlife and heritage issues in the area. The Temе LEAP Consultation Draft is due to be published in December 1999.



*Anne Nicol*

## APPENDIX 1

### Current Status of Local Authority Development Plans in the Teme catchment

Local Authority	Area km <sup>2</sup>	Development Plan
South Shropshire District Council	880	Local Plan being replaced to roll policies forward to 2006. Deposit draft issued July 1998.
Bridgnorth District Council	120	Local Plan being reviewed to roll plan forward to 2011.
Shrewsbury & Atcham Borough Council	13	Shrewsbury & Atcham Borough Local Plan. Public Local Inquiry Jan - May 1999.
Shropshire County Council	1,013 (61.5%)	Structure Plan Review to roll plan forward to 2011. Consultation draft due late 1999. Mineral Local Plan, 2 <sup>nd</sup> Public Inquiry commenced.
Malvern Hills District Council	266	District Local Plan adopted January 1998. Part of the previous Malvern Hills DC is now in the new Herefordshire.
Worcester City Council	3	City wide Local Plan adopted March 1998.
Wyre Forest District Council	2	District Local Plan adopted May 1996. Review to commence late 1999.
Worcestershire County Council	271 (16.5%)	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, Consultation Draft May-July 1999. Status of existing Hereford & Worcester Plan - refer below.
Herefordshire Council	254 (15.5%)	New unitary authority created 1 April 1998 from predecessor Hereford & Worcester County Council, incorporating most of Leominster DC and part of Malvern Hills DC* in the Teme catchment area. Herefordshire Unitary Development Plan - consultation due 1999.  Existing Hereford & Worcester County Structure Plan, second alteration operative March 1993, Minerals Plan adopted April 1997. Leominster DC - adopted. Malvern Hills DC - refer above.
Radnorshire District	101	Public Inquiry March 1998. Modifications issued Nov 1998.
Montgomeryshire District	9	Local Plan Inquiry September 1996. Inspector's Report June 1997. Adoption awaiting Secretary of State decision.
Powys County Council	110 (6.5%)	Structure Plan adopted February 1996. Minerals Local Plan adopted March 1995. UDP work commenced.



## APPENDIX 2

### Pollution Incident Reports by Type and Cause during April 1998 - March 1999

		Class 1	Class 2	Class 3	Cumulative Total
<b>TYPE</b>	Agriculture	0	0	12	12
	Oil	0	0	25	25
	Chemical	0	1	1	2
	Sewage	0	0	13	13
	Other	0	1	11	12
	TOTAL	0	2	62	64
<b>CAUSE</b>	Industry & Commercial	0	0	9	9
	Agriculture	0	1	16	17
	Water Utility Company	0	0	6	6
	Other	0	1	31	32
	TOTAL	0	2	62	64

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

## MANAGEMENT AND CONTACTS:

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