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FIRST ANNUAL REVIEW

of the

RIVER TAW

CATCHMENT MANAGEMENT PLAN

(1996)

ENVIRONMENT AGENCY



127179



**ENVIRONMENT
AGENCY**

South West Region
November 1996

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VISION FOR THE CATCHMENT

The River Taw Catchment is predominantly rural in character, offering a diverse environment for differing interests, from its headwaters in upland moorland Dartmoor and Exmoor to the estuary on the North Devon coast at Barnstaple.

Our vision for the River Taw Catchment is of a healthy and diverse water environment. We endeavour to balance the legitimate uses of the catchment in the context of our fundamental duty to protect and enhance the natural environment.

Key objectives include:

- minimizing the impacts of these pressures on water quality, water quantity and the physical characteristics of the aquatic environment
- minimizing the risk to people and property from flooding
- enhancing the ecosystem through improvements to fisheries, aquatic and associated habitats and the protection of species
- restoring salmonid fisheries to their previous high quality.

It is important to recognise that already established partnerships need to be reinforced and new areas of co-operation developed.

We will work with other organisations and individuals to promote and achieve integrated management of the catchment.

1. Introduction

1.1 The Environment Agency

The Environment Agency was formed on 1 April 1996, bringing together the National Rivers Authority (NRA), Her Majesty's Inspectorate of Pollution (HMIP), the Waste Regulation Authorities (WRAs) and some units of the Department of the Environment (DoE) dealing with the technical aspects of waste and contaminated land.

Our Principal Aim

Our aim as set out in the Environment Act 1995, is to protect or enhance the environment, taken as a whole, in order to play our part in attaining the objective of sustainable development.

Sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report).

Our Objectives

The Environment Agency works towards Sustainable Development through seven objectives, set by Ministers:

- An integrated approach to environmental protection and enhancement, considering the impact of all activities on natural resources;
- Delivery of environmental goals without imposing excessive costs on industry or society as a whole;
- Clear and effective procedures for serving its customers, including the development of single points of contact with the Agency;
- High professional standards, using the best possible information and analytical methods;
- Organisation of its own activities to reflect good environmental and management practice, and provision of value for money for those who pay its charges, and for taxpayers as a whole;
- Provision of clear and readily available advice and information on its work;
- Development of a close and responsive relationship with the public, including Local Authorities, other representatives of local communities and regulated organisations.

Our Role

Our work is divided into seven main functions:

- Flood Defence
- Water Resources
- Pollution Prevention and Control
- Navigation
- Fisheries
- Recreation
- Conservation.

1.2 Catchment Management Plans and Local Environment Agency Plans.

Catchment Management Plans (CMPs) instigated by the NRA will continue to be called Catchment Management Plans, although new plans initiated by the Agency will be known as Local Environment Agency Plans (LEAPs). LEAPs slot into a sequence of plans which were being prepared by the NRA to cover all river catchments in England and Wales by the end of 1998. We will use LEAPs to cover the same topics as CMPs but they will also deal with new topics to cover the full range of our responsibilities.

1.3 The Environment Planning Process

The environment is subject to a wide variety of uses which invariably interact with and sometimes conflict with each other. The process of Environment Planning is being developed to help manage these interactions and conflicts for the overall benefit of the environment and its users. This planning process includes the production of two documents - a Consultation Report and an Action Plan. The Consultation Report describes our vision for each catchment, identifies problems and acts as a focus for consultation between ourselves and other interested parties in the catchment. Following consultation, the Action Plan identifies actions to resolve the problems and issues. The Plans provide background data for Environment Agency responses to development plans and highlight our concerns about development. Achievement of the Action Plans is reported annually in Annual Reviews.

This First Annual Review summarises the progress made by the National Rivers Authority and now the Environment Agency from November 1995 to November 1996

It is recommended that this report is read in conjunction with the River Taw Consultation Report (December 1994), and the River Taw Action Plan (November 1995).

1.4 The Catchment Steering Group

This Steering Group represents a range of commercial, local authority and environmental interests who endorse the Consultation Report and Action Plan prior to public release. They monitor the implementation of the Action Plan and provide the Agency with specific advice on the importance of issues within the catchment. They act as a communication link between the local community, the Agency and its committees and help to promote and develop initiatives of benefit to the environment within the catchment. The Catchment Steering Group Members are:

Representing

<i>Mr R Boa</i>	<i>Local Industry</i>
<i>Mr A N E Cox</i>	<i>Riparian Owners</i>
<i>Mrs R M E Day</i>	<i>Taw/Torridge Estuary Forum</i>
<i>Mr J Delbridge</i>	<i>Local Farmers</i>
<i>Mr T Gameson</i>	<i>South West Water Services Limited</i>
<i>Mr B Hill</i>	<i>Netsmen/Shell Fishermen</i>
<i>Mr D Ingyon</i>	<i>Tourism - Fox & Hounds Hotel</i>
<i>Mr R Nickell</i>	<i>Devon Fisheries Advisory Committee</i>
<i>Mr N Phillips</i>	<i>North Devon Sea Anglers Association</i>
<i>Mr D Spear</i>	<i>Regional Flood Defence Committee</i>
<i>Mr D Thorne</i>	<i>North Devon District Council</i>
<i>Mr S Toms</i>	<i>Barnstaple and District Angling Association</i>
<i>Mr M Turner</i>	<i>Regional Environment Protection Advisory Committee</i>
<i>Mr R Wolton</i>	<i>English Nature</i>
<i>Ms Sheelagh Darling</i>	<i>Devon Bird Watching & Preservation Society</i>

Future Reviews

We will review progress again in November 1997 when we will publish our Second Annual Review of the River Taw Catchment Management Plan- Action Plan

2. Review of Progress

2.1 Summary of Progress

Actions are only shown here which are outstanding, actions which were noted as being completed in the Action Plan, together with actions which are part of our routine work, and enforcement at known problem sites, are not shown. The costs for this routine work are not included in the costs shown to the Agency.

Actions concerning liaison with planning authorities are also not shown in the tables as this is part of our routine work. The policies in the statutory development plans produced by local authorities guide the way that land is developed in the future. We advise and guide local planning authorities to encourage them to adopt policies which protect the environment from harmful development. We will reinforce these policies, where we can, when commenting on planning matters or making our own decisions.

The licence to abstract water from Taw Marsh remains suspended until the time limited licence to abstract water from the River Exe to transfer to the River Taw expires. This will be brought forward if the Wimbleball pumped storage scheme is commissioned before the expiry date on the time limited licence. SWWSL are currently reviewing their strategy for water supply in North Devon. This will determine how the company maintain supplies and meet the increasing demand for water. The future of the Taw Marsh abstraction may be considered as part of this review.

The interpretation and analysis of land use in the catchment from aerial photographs has been completed. We are now awaiting further development of the Geographical Information Service (GIS) to enable full use of the information.

The farm visit and pollution prevention work aims to control point source pollution from farms and lead to an overall improvement in water quality in the catchment. Improvements to water quality will take a period of time to become apparent.

Some new issues have been added to this report. Issue 1e involves an investigation into the method to be adopted in measuring flows at Taw Bridge Gauging Station. Issues 2h, 6a and 6c involve R & D projects which have relevance to the River Taw Catchment

A three year study has been carried out on the River Torridge Catchment to investigate the circumstantial evidence linking changes in agricultural land use to deterioration in both river water quality and salmonid populations. Intensive and non-intensive sub-catchments were studied and the study is summarised in *'The Impact of Land Use on Salmonids - A study of the River Torridge Catchment'*, published by HMSO. One of the findings of the study was that river bed gravels in the intensively farmed areas contained fine sediment concentrations likely to be damaging to salmonid embryo survival. However, the processes by which sediment is supplied to watercourses are complex and further work is now required to examine sediment sources. A research project has been set up with Exeter University to identify sources and dynamics of sediment in spawning gravel on the River Torridge. We will be looking at the findings of these studies and seeing how they relate to other catchments including the River Taw (See Issue 4d).

Biodiversity targets, priorities and actions for achieving wildlife conservation are being developed through biodiversity action plans (BAPs). This process began at the Rio Summit in 1992 and is intended to halt the worldwide loss of habitats and species. In this country, a sequence of documents from both Government and other conservation bodies have been published, setting out national plans.

Most actions to fulfil these plans will be carried out at a local level; in order to help decide where and how to work most effectively, national plans must be translated into regional, county or catchment plans. We have supported a collaborative project with RSPB, Wildlife Trusts and local authorities to produce a regional biodiversity audit, to be followed by regional BAP's for priority habitats and species. In Devon, the Devon Wildlife Trust, supported by the Agency and other groups, have recently published the Biodiversity Action Plan for Devons Rivers and Wetlands; this will be an important element of the forthcoming County Nature Conservation Strategy.

We will use these plans to guide our work in fulfilling our conservation duties. The biodiversity action planning process is an evolving one and we need, therefore, to continue to be aware of changes and to further develop and refine the plans. We will attempt to identify priority habitats and species in the catchment for inclusion in the next Annual Review (See Issue 6).

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
a. Taw Marsh - Whilst SWWSL continue to hold the Exe-Taw transfer licence no. 14/45/02/2429 no abstraction may take place at Taw Marsh under licence no. 14/50/08/0563.			n/a	n/a	
b. River Bray at Leehamford - SWWSL to make a formal application to vary the existing licence no. 14/50/08/0694 to make permanent the current temporary conditions by 31.3.96 (condition of Exe - Taw transfer licence no. 14/45/02/2429).	SWWSL		<£3K	<£3K	Licence variation determined (14/50/08/0694) and temporary conditons now made permanent.
c. Exe-Taw Transfer - New licencc no. 14/45/02/2429 issued on 13 June 1995. Valid until 1 May 2004. SWWSL to submit plans and evidence for operation under the emergency arrangements contained within the licence. Implement agreed aquatic macroinvertebrate and macrophyte monitoring programmes in the upper River Yeo (Molland). Assess survey work in context of other Agency routine monitoring programmes to indicate if additional work needed in 1997.	SWWSL SWWSL Agency	 Agency SWWSL	<£500 n/a Unknown Unknown	£250 n/a n/a n/a	Company plans submitted and accepted by the Agency. The monitoring programme has been agreed and appropriate fieldwork undertaken in 1996
d. Snapper Weir - Complete calibration of measurement structure in the leat to allow measurement of abstraction for licence enforcement and returns information.	Agency		£2K	£1K	Completion scheduled for 31st March 1997
e. Taw Bridge Gauging Station - improved measurement of flows. Investigation into method to be adopted	Agency		£10K	£5K	Cost in 1995 due to bank stablisation works. Design completion scheduled 97/98 Building completion scheduled 98/99

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
f. Bradford Water - Complete calibration of measurement structure in the leat to allow measurement of abstraction for licence enforcement at Blakewell Fisheries. Review returns information.	Agency		£1K	<£1K	Aim for completion by 31st March 1997
Continue smolt removal from leats.	Agency		<£1K p.a.	<£1K	No major problems encountered 1996
Remove escaped rainbow trout from downstream of fish farms recovering costs from fish farmers where appropriate.	Agency	Fish Farms	£2K p.a.	£2K	Not required 1996. A list of priority sites for screening is being prepared. The Agency to negotiate improvements with abstractors
Pursue long term solutions for the above two actions.	Agency	Fish Farms	Unknown	n/a	List of priority sites for screening being prepared. Agency to negotiate improvements with abstractors.
g. River Taw Catchment as a whole. Review 4 years of fish movement data.	Agency		Nil	n/a	Review in progress. Report due for completion December 1996

ISSUE 2 - NEED FOR IMPROVEMENT OF WATER QUALITY

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
a. Identify areas sensitive to forestry operations and consult with the Forestry Authority and Forest Enterprise.	Agency	FA, FE, TDC	unknown	n/a	Opportunities may arise for changes in management of areas along the River Bray
b. High Aldrin and Dieldrin in Spires Lake Stream - Review biological and other historical data collected. Determine appropriate actions.	Agency		<£1K	<£1K	Review to be completed by December 1996

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
<p>c. Preliminary investigation showed elevated background concentrations of copper and zinc found upstream and downstream South Molton STW in River Mole.</p> <p>Continue copper and zinc monitoring upstream, downstream and in the final effluent of South Molton STW.</p> <p>Review data and determine appropriate action.</p>	Agency Agency		Unknown	£1.2K	Investigation DEV/18/95 (Dec. '95) indicates likely source of copper and zinc to be either historic mine activities or natural geology. South Molton STW is not suspect and therefore there has been no copper or zinc sampling during 1996. Monitoring for zinc and copper along length of River Mole is continuing
<p>d. Coloration of river water samples and high iron concentrations at Brokenburrow intake (River Bray).</p>	Agency	DoE, EC	Negligible	n/a	Failure of the colour standard was a result of natural conditions (drainage from marshes around intake). We have applied to the DoE for a waiver for this standard in the Surface Water Abstraction Directive at this site. We are awaiting a response.
<p>e. High zinc concentrations in River Venn - Negotiations with Venn quarry owners have resulted in a plan to ensure any site drainage is reused in quarry activities to stop the polluting discharge.</p> <p>Ensure modifications are carried out as planned (expected completion date Autumn 95).</p>	Agency	CAMAS	<£1K	<£1K	Short term measures have proven effective. A long term solution should be completed this winter.
<p>f. We have recommended that Ash Brook, Rivers Yeo (Lapford) and Daleh are targeted by MAFF for one of their intensive campaigns to promote Farm Waste Management Plans (farmers are encouraged to prepare their own plans and are given free advice on a voluntary basis).</p> <p>Rye Stream - Carry out field investigation into cause.</p>	MAFF Agency	ADAS, Farming Community	Unknown £0.5K	n/a £0.5K	MAFF have agreed this action and have contracted ADAS to undertake the work. The programme was launched on 11 September 1996 Investigation carried out. No identifiable source of zinc found.

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
g. Significant failure to achieve RQOs: Sturcombe River River Dalch (targeted for Farm Waste Management Plan - see Action 2f)	Agency		Unknown	n/a	Monitoring has continued - no problems found. FWMP should improve water quality and may address RQO failure.
h. Marginal failure to achieve RQOs: River Yeo (Barnstaple) Nadrid Water Mully Brook	Agency		Unknown	n/a	Task forced in 1995. Investigation revealed a minor problem and one major problem, which should be fully addressed by farm improvements, due for completion end of 1996. Wet Weather Survey to be carried out in upper reaches. Cause unknown - further investigations to be carried out during winter 96/97. Minor improvements carried out at Riddlecombe STW. Further investigations continuing.
i. National R&D project to develop land management techniques including the use of buffer zones. Once completed the findings from this project will be reviewed to assess their relevance for the River Taw Catchment.	Agency	River Restoration Project, EC LIFE	£38 k (from National Budget)	n/a	Phase 2 has been completed; this has identified a site to construct buffer zones to be included as part of the River Restoration Project on the River Cole in Thames Region of the Agency.

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
<p>a. Carry out feasibility and appraisal studies to provide flood defence schemes at:</p> <ul style="list-style-type: none"> - Braunton - North Tawton - Bishops Tawton 	Agency		£65K £20K £48K	£2K £1K £2K	Pre feasibility studies complete. The schemes have gone forward for appraisal.
<p>b. Carry out asset survey (e.g. of existing schemes, bridges etc).</p> <p>Adopt Standards of Service (SoS) methodology for the catchment:</p> <p>Compare target SoS with actual SoS and address the differences.</p> <p>Prepare technical contracts (Service Level Agreements) for all maintenance operations, incorporating environmental constraints and enhancement opportunities.</p> <p>Review contracts annually.</p> <p>Provide floodplain mapping (Section 105 surveys) to assist our development control activities in the River Taw Catchment as for whole region.</p>	Agency		£10K	n/a	Asset survey in progress. Completion expected end of 1997/98.
	Agency		Unknown	n/a	In progress
	Agency		£3K		Complete
	Agency		Unknown	n/a	Ongoing
	Agency	Planning Authorities	£10K		On target with indicative floodplain maps Stage I. Detailed phase - Stage II, follows Stage I.
<p>c. Review flood risk areas and warning systems.</p> <p>Review existing provisions of flood warning with respect to Emergency Response Levels of Service.</p> <p>Recommend improvements and produce a programme of future work with cost implications. Implement recommendations where appropriate</p>	Agency	District Councils, Police	Part of regional programme	Part of regional programme	Flood risk areas to be reviewed as part of Levels of Service Study - see below
	Agency				Programmed to start 1997, following the collection of flood risk area data (Section 105 surveys). Police flood warning cascade lists have now been taken over by the Agency.
	Agency		unknown	n/a	Dependant upon review as shown above.

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
<p>a. Apply to MAFF for new byelaw to control catches (rods and nets).</p> <ul style="list-style-type: none"> • Implement and enforce catch controls agreed with MAFF then review • Consider byelaw to control sea fishing if thought detrimental to migratory fish. Gather data and review • Introduce byelaw to control sea fishing on the Barnstaple Yeo. 		MAFF	£100K	£10K	Net limitation Order and Byelaw proposals submitted to MAFF. Public Inquiry to be held in November 1996
			Unknown	n/a	
			<£1K	<£1K	MAFF currently considering proposals to modify existing byelaws.
			£1K	<£1K	Completed
<p>b. Apply to MAFF for byelaws to protect spring fish (nets and rods).</p> <p>Implement and enforce new legislation as agreed with MAFF.</p> <p>Promote catch and release of fish by increasing awareness of the benefits.</p>	Agency	MAFF	Unknown	£5K	Byelaw proposals submitted to MAFF. Public Inquiry to be held in November 1996.
	Agency	MAFF	Unknown	n/a	
	Agency		£1Kp.a.	£2K	National catch and release leaflet produced and distributed
<p>c. Install fish passes at North Molton and Plaistow according to regional priority and capital availability.</p> <p>Modify fish pass at Head Weir and monitor effectiveness.</p>	Agency	Riparian Owners	N.Molton £5K Plaistow £3K	n/a	No funding available.
	Agency	TFA	£1.4K	£1.4K	Consultant employed to design improvements which have now been carried out. This is a collaborative project with Taw Fisheries Association who have contributed £3,500. There is an indication that the modifications is very successful. Monitoring to continue.

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
d. Remove trash dams and other obstacles after fully considering wider ecological impact, and according to the agreed regional procedure.	Agency	TFA, Riparian Owners	<£1K p.a.	<£1K	No problems reported with this work up to date
e. Identify appropriate sites on an annual basis that could benefit from gravel rehabilitation after fully considering wider ecological impact.	Agency		<£1K	£300	Three sites in the George Nympton area to be completed in autumn 1996.
Monitor improvements in spawning success through regular juvenile surveys. Review 2000.	Agency		£7K p.a.	£7K	Annual Dip Surveys carried out 1994 - 1996
Consider relevance of Torridge research on the impact	Agency		<£1K	<£1K	To be progressed in 1997.
Promote riparian fencing and planting schemes to stabilise banks, reduce stock ingress to streams and reduce silt inputs.	Agency	DCC, MAFF, NFU, Farmers, Landowners, TFA	Unknown	n/a	
f. Adopt system suggested by MAFF of egg deposition targets and assess on an annual basis.	Agency	MAFF	Unknown	£1K	Egg deposition targets set for salmon. Compliance assessed to 1994
Support monitoring with juvenile surveys.	Agency		£20K/3 years	n/a	Major catchment survey 3 yearly Carried out 1996. Next scheduled for 1999
Consider use of national system for fisheries classification.	Agency		Unknown	<£1K	System available, but problems with software.

ISSUE 5 - NEED FOR IMPROVEMENT OF CONSERVATION DATABASE

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
a. Update records held of Local Authority Conservation Areas as designated by the Planning (Listed Buildings and Conservation Areas) Act 1990 (Ref. 7).	Agency	LAs	<£1K	<£1K	Ongoing
b. Investigate possibilities of collaboration with County Archaeologist and other interested parties to provide a simple assessment of the overall archaeological value of the River Taw Catchment, within the wider area.	DCC	Agency, EH, District Councils	Unknown	n/a	No progress.
c. Continue macrophyte, plant and river corridor (100m) surveys at routine biological sampling sites when they are sampled for aquatic macroinvertebrates.	Agency		<£1K per site	n/a	Ongoing, but dependant on biological monitoring work programme.
d. Continue routine annual programme of wardens' surveys at selected locations in catchment for Himalayan Balsam, and Japanese Knotweed.	Agency		<£1K	<£1K	Some indication of increase, especially in abundance at sites where plants were already present.

ISSUE 6 - LOSS OF SEMI-NATURAL HABITATS, IMPORTANT SPECIES, LANDSCAPE AND FEATURES OF ARCHAEOLOGICAL OR HISTORIC VALUE

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
Where areas of wetland or associated habitat of conservation value occur, we will continue to safeguard them through our regulatory role and support initiatives to maintain and extend areas of value.	Agency				Completed. Findings from this project will be reviewed during 1997 to assess their relevance for the River Taw Catchment
a. National R&D project into 'Resource Evaluation and the Agency's Role in Wetland Conservation' (Project No.474).			£34.3K	£6K	

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
b. Monitor the effectiveness of conservation measures incorporated into the Environment Agency's regulatory and operational activities.	Agency		Unknown	<£1K	Ongoing, but little audit done due to lack of time
c. Work with other relevant organisations, to set standards for conservation of habitats and species	DWT	Agency, EN, DCC, WERG, SWWSL	<£1K	<£1K	Now progressing well. Some county regional targets set. Will be produced for River Tax as soon as possible
d. Implement the targets and action plans where appropriate for key riverine and wetland species and habitats, e.g. Culm grassland and otters.	Agency	DWT, EN, DCC, WERG, SWWSL	£5K	<£1K	Already working towards this through the actions of others
e. Continue present practise of post-mortem examination and toxicological analysis of otter casualties	Agency		£0.1K/animal	£0.1K/animal	Ongoing; major R & D project now set up (results not yet available).
f. Encourage suitable tree planting as part of riparian fencing and other such schemes.	Agency	Land Owners	<£1K p.a.	<£1K	Ongoing, but not widely taken up.
g. Assess extent of Himalayan Balsam and Japanese Knotweed and consider appropriate management techniques on Environment Agency owned land.	Agency		<£1K p.a.	<£1K	Knotweed surveyed and control being planned for 1997. Himalayan Balsam considered too widespread for effective control. A booklet has been made available and advice is regularly given.
Encourage riparian owners to control the spread if a problem with invasive plant species is established.	Agency	Land Owners			

ACTIONS	RESPONSIBILITY		PLANNED COST TO Agency	ACTUAL COST 1995	PROGRESS
	LEAD	OTHER			
a. Continue wardens' surveys of recreation use of the water environment and associated lands.	Agency		<£1k p.a.	<£1K	Ongoing. Little change noted
b. Facilitate discussion on the possibility of improvements at known locations where canoeing is dangerous or difficult.	Agency	BCU, Riparian Owners	<£1k p.a.	n/a	Discussions have taken place with BCU. There has been little progress. Further discussion has been put on hold at present.
c. Identify Environment Agency holdings that would benefit from a management plan.	Agency		Unknown	n/a	No progress - There are few Agency holdings in this catchment and priority is low in terms of the whole of the area.
d. Develop management plans for Environment Agency land holdings to enhance conservation value and recreation use.	Agency		Unknown	n/a	As above
e. Promote low-key recreation use of flood defence schemes on River Venn (as part of our Service Level Agreement).	Agency		Unknown	n/a	No progress - Landkey Flood Alleviation Scheme has few opportunities for recreation due to being mainly river channel with some hazards.
f. Assess the need for further recreation provision within the water environment and associated lands.	Agency	Sports Bodies & Local Authorities	Unknown	n/a	No progress. Low priority at present

Glossary and List of Abbreviations

Abstraction

Removal of water from surface or groundwater

Biodiversity

The variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part, this includes diversity within species, between species and of ecosystems. (Article two of the Biodiversity Convention).

Buffer Zone

A strip of land typically 10-100m wide alongside rivers, which is removed from intensive agricultural use, can reduce inputs of pollutants and improve habitat diversity and landscape.

Culm Grassland

A habitat which comprises a characteristic mixture of marshy grassland bog, wet heath and scrubby woodland, which collectively supports a wide range of flora and fauna. The habitat is underlain by a geological formation of sandstones and shales.

Macroinvertebrate

A large invertebrate, e.g. jellyfish, snail, fly.

Macrophyte

All plants excluding fungi, mosses, lichens and algae - higher plants.

Riparian Owner

Owner of river bank and/or land adjacent to a river. Normally owns river bed and rights to midline of channel.

River Catchment

The total area from which a single river collects surface runoff.

Salmonid

Game fish of the salmon family e.g. salmon, trout and sea trout.

Section 105 Surveys

Section 105 of the Water Resources Act 1991 allows for Standards of Service Assets and Flood Risk Surveys.

Semi-Natural Habitat

Habitats which although not planted by man have been modified to some extent by human activity. (No examples of completely natural habitat are considered to remain in Britain).

Abbreviations

<	Less than
ADAS	Agricultural Development and Advisory Service
Agency	The Environment Agency
BCU	British Canoe Union
CMP	Catchment Management Plan
DCC	Devon County Council
DoE	Department of the Environment
DWT	Devon Wildlife Trust
EC	European Commission
EH	English Heritage
EN	English Nature
FA	Forestry Authority
FE	Forestry Enterprise
FWMP	Farm Waste Management Programme
IFIM	Instream Flow Incremental Methodology
GIS	Geographical Information Service
HMIP	Her Majesty's Inspectorate of Pollution
K	Thousand
LA	Local Authority
LEAP	Local Environment Agency Plan
MAFF	Ministry of Agriculture, Fisheries and Food
p.a.	Per annum
n/a	Not applicable
NFU	National Farmers Union
NRA	National Rivers Authority
R & D	Research and Development
RQO	River Quality Objectives
SoS	Standards of Service
STW	Sewage Treatment Works
SWWSL	South West Water Services Limited
TDC	Torridge District Council
TFA	Taw Fisheries Association
WERG	Wetland Ecosystem Research Group
WRA	Waste Regulation Authority