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ENVIRONMENT
AGENCY

FIRST ANNUAL REVIEW
OF THE
RIVERS AXE AND LIM
CATCHMENT MANAGEMENT PLAN
(1998)



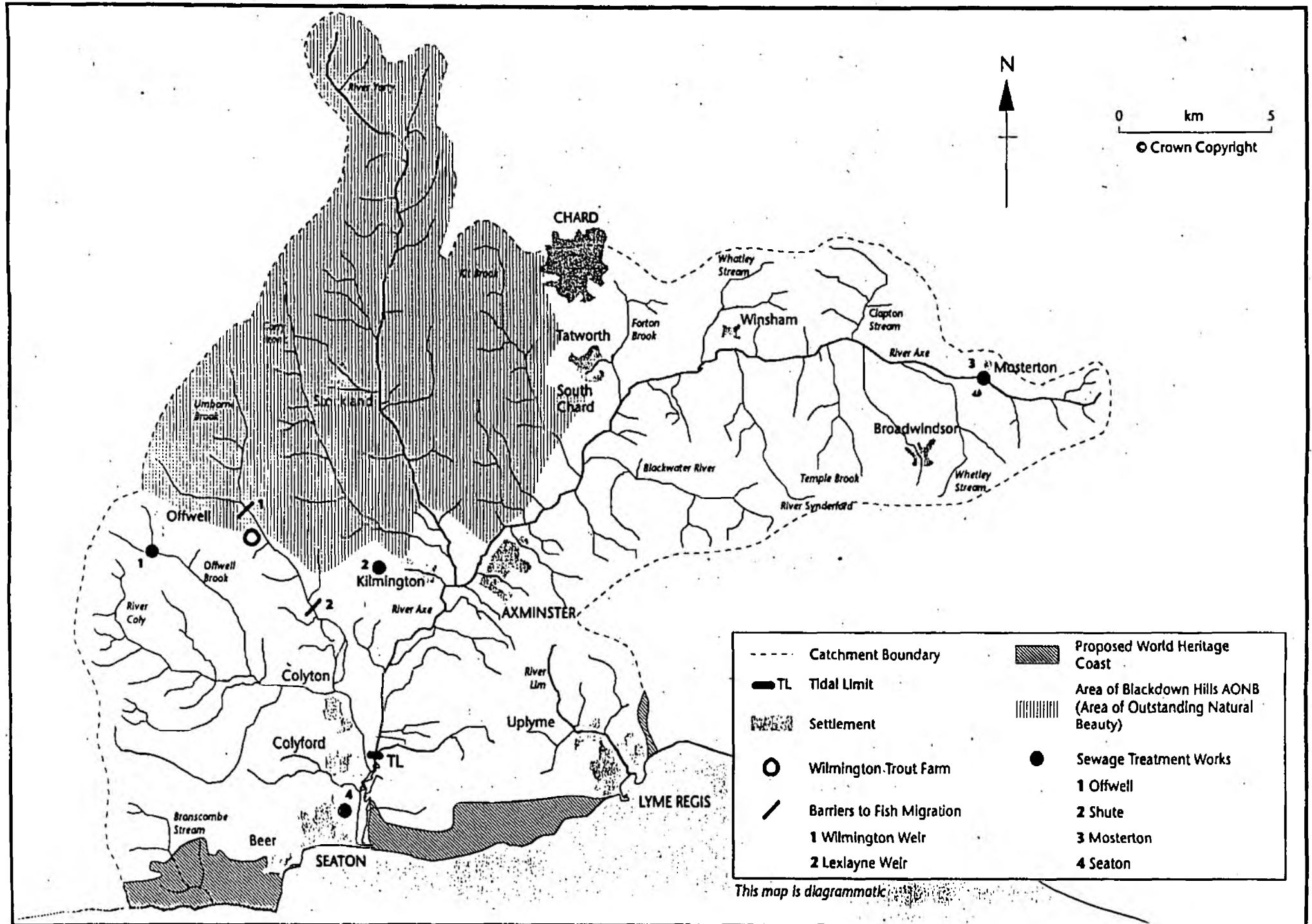
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Map 1 - Key Sites Relating to Issues in the Rivers Axe and Lim Catchment



SOUTH WEST REGION

RIVERS AXE AND LIM CATCHMENT MANAGEMENT PLAN - ACTION PLAN - FIRST ANNUAL REVIEW

CONTENTS:	PAGE NO
CATCHMENT VISION.....	1
1. INTRODUCTION.....	2
1.1 THE ENVIRONMENT AGENCY.....	2
1.2 OUR PRINCIPAL AIM.....	2
1.3 OUR OBJECTIVES.....	2
1.4 OUR ROLE.....	2
1.5 THE ENVIRONMENT PLANNING PROCESS.....	3
1.6 THE CATCHMENT STEERING GROUP.....	3
2. SUMMARY OF PROGRESS.....	4
2.1 PROGRESS TABLES.....	5
2.2 FUTURE REVIEWS.....	5
3. TABLES.....	6
GLOSSARY.....	23
ABBREVIATIONS.....	26
REFERENCES.....	27

Key to Tables:

n/a	costs not attributed to the Agency	ha	hectare
u/k	costs to Agency are unknown	m	metre
<1k	costs to Agency will be under £1000	%	percentage
pa	per annum	>	greater than
#	total cost to South West Region	<	less than
km	kilometre	k	thousand

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March 1998

CATCHMENT VISION

Our vision of the Rivers Axe & Lim Catchment is of a healthy and diverse water environment, managed in an environmentally sustainable way, balancing the needs of all users.

To realise the potential value and optimise the use of the water environment within this catchment, the Environment Agency will work in partnership with local authorities, environmental groups and other interested organisations. The Rivers Axe & Lim Catchment Management Plan provides an important focus for this partnership. We look forward to a future for the catchment where there is:

- achievement of environmentally sustainable use of the water resource
- maintenance and, where appropriate, enhancement of biodiversity, particularly of aquatic features, habitats and species
- conservation of features of archaeological and historic interest within the aquatic environment and associated land
- continuing improvement to existing discharges to meet the most appropriate standards
- development of a sustainable agricultural, aquacultural and forestry system which reduces the risk of direct and diffuse pollution and improves the physical habitat of the river system and wetlands for wildlife
- the salmon run of the River Axe is restored
- increasing peoples enjoyment and appreciation of the water environment
- minimal risk to people and property from flooding

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.

1.2 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"¹.

1.3 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.

1.4 Our Role

Our work is divided into seven main functions:

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

1.5 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 helps to 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 identifies environmental problems, proposes actions to tackle them 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 Plan is reported in Annual Reviews.

1.6 The Catchment Steering Group

Catchment Steering Groups represent a range of 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. This Annual Review of the Rivers Axe & Lim Catchment Management Plan Action Plan is reported to the members of the Axe & Lim Catchment Steering Group. The Catchment Steering Group Members are:

Rivers Axe & Lim Catchment Steering Group:

Name	Representing
Prof D Walling	Regional Rivers Advisory Committee
Major Gen D Braggins	Devon Fisheries Advisory Committee
Mr C Pole-Carew	Riparian Owners (also Secretary of Axe Vale Rivers Association)
Mr D Minchin	Riparian Owners
Mr J Boulton	Chairman of Axe Fly Fisheries (also on Axe Vale Rivers Association)
Mr B Terry	Axe Fly Fishers
Mr J Williams	Taunton Fly Fishing Club
Mr C Dixon	English Nature
Mr D Campbell	Axe Vale and District Conservation Society
Mr B Newbery	National Farmers Union - Local Farmer
Mr P Burrough	National Farmers Union - Local Farmer
Mr T C Frost	National Farmers Union - Local Farmer
Mr I Dunford	Local Industry (St Ivel)
Mr M Williams	South West Water Services Ltd
Ms C Brewster	East Devon District Council
Mrs S Poupard	Lyme Regis Town Council
Mr K Whetlor	Lyme Regis Environmental Network
Mr N Butler	East Devon Heritage Coast
Comm C B Tuke	Chairman, Axe Vale Rivers Association
Ms D Eckhart	Conservation Officer - Blackdown Hills AONB

2. Summary of Progress

Overall, good progress has been made towards the Vision in the first year of this Action Plan.

The water quality of many parts of the catchment has improved. Many river stretches which previously failed to comply with their water quality targets now comply, whilst no river stretches have deteriorated. However, even where improvements have already occurred, it is important that all the identified actions are carried through to ensure these improvements are sustained. Investigations have been carried out in this first year which have helped to develop further actions to improve water quality.

The completion of the Wimbleball Pumped Storage Scheme by South West Water Services Ltd in January 1997 (to augment the natural flow of water to Wimbleball Reservoir) secures further water supplies for the Wimbleball Supply Zone which includes the Axe & Lim catchment. The scheme was used between 4 February and 20 March 1997, pumping 384,886 cubic metres of water to the reservoir.

A number of steps have been taken towards conserving the natural environment in the catchment. The development of the a biodiversity plan for Devon² is very significant; the plan brings together a large number of different organisations in a coordinated programme of action for 36 habitats, species and earth science features. Practical conservation work in the catchment includes the securing of funding for the restoration of spring-line mire habitat, the entering of areas of both grazing marsh and spring-line mire habitat into conservation management schemes and a number of fencing projects which should benefit both otters and water voles.

Designation of the River Axe Site of Special Scientific Interest is now in its final stages and work is expected to be complete during March 1998. This stretch of river between Wadbrook and Colyford contains rare plant communities and has some excellent features of geomorphological interest. This site will be one of only two river SSSIs in Devon. Further work is now required to investigate concerns about nutrient enrichment in the river to see if control is required to protect the SSSI.

Detailed surveys of floodplain areas have taken place and this information was submitted to East Devon District Council at the end of 1997. These surveys represent a very significant increase in information for planning purposes and the council will be able to use this information to prevent inappropriate development in the floodplain.

Whilst cuts to government grants for fisheries work have undoubtedly affected the level of fisheries work undertaken, progress has still been made on many fronts. Most notably funding has been secured for the stocking of 20,000 young salmon in August/September 1998. This coupled with the rehabilitation of spawning gravels across the catchment, progress towards providing a fish pass for Lexhayne Weir and improvements to water quality mean that we have moved towards the target of restoring salmon to the River Axe.

There is growing evidence that excessive sedimentation in rivers can have a serious impact on aquatic fauna and affect fisheries. In November 1997 we had a visit from Dr Fred Theurer, an American expert in soil erosion and sedimentation who is helping the Agency to develop policies to combat these issues.

We must ensure that the momentum of the first year of the Action Plan is maintained; will we follow through work which started this year and also focus attention on areas where little progress has been made.

2.1 Progress Tables

Issues are listed, together with the relevant actions as set out in the Rivers Axe & Lim Catchment Management Plan Action Plan (January 1997).

A summary of progress is given for each action, together with target dates for future work.

2.2 Future Reviews

We will review progress again in January 1999, when we will publish our 2nd Annual Review of the Action Plan.

3 TABLES

1 RIVER QUALITY OBJECTIVES

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Significant failure of RQO in River Axe; A3066 Bridge Mosterton - Seaborough (RE2) <i>The 1996 classification (data from 1993-1996) shows this stretch now only marginally falls its current objective.</i>				
1ai	Conduct investigation work and enforce pollution control legislation where necessary. <i>Action Years 1997</i>	Agency	3k	Investigation work has revealed that the failure is mainly due to diffuse pollution from agriculture. Pumping Station at Mosterton unlikely to be a contributory factor. Ongoing enforcement where individual dischargers are identified.
1aii	Work with others to target this river stretch to promote the uptake of less intensive agricultural schemes, such as Countryside Stewardship. <i>Action Years 1998/1999/2000/2001</i>	Agency, MAFF CoCo, ADAS, Farmers	u/k	To be progressed 1998/1999. Training for field staff to improve understanding of schemes planned for this spring. Training may also include details of planting schemes available.
Marginal failure of RQO at: Offwell Brook - Source of Offwell (RE1) <i>The 1996 classification shows this stretch now complies with current objective.</i>				
1bi	Improve maintenance at Offwell STW. <i>Action Years 1997</i>	SWWSL	n/a	Update to be provided at the meeting.
1bii	Review descriptive consent. <i>Action Years 1997</i>	Agency	u/k	As above.
Marginal failure of RQO at Umborne Brook - Triffords Farm to Coly Confluence (RE2 2000) <i>The 1996 classification shows this stretch now complies with its objective.</i>				
1biii	Liaise with owner to improve discharge at Wilmington Trout Farm. <i>Action Years 1997/1998</i>	Agency, Fish Farm Owner	<1k	Agency working with owner to achieve improvements. Expecting installation of settlement tanks early 1998.
1biv	Carry out improvements to STW at Shute.	EDDC	n/a	It has been agreed with East Devon District Council that improvement works will be carried out during 1998.

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Marginal failure of RQO at: Bruckland Stream (RE2) <i>The 1996 classification shows this stretch is still a marginal failure.</i>				
1bv	Conduct farm visits. Seek improvement to discharges at Combyne. <i>Action Years 1998</i>	Agency, Farmers, Residents	3k	Farm visits planned during 1998. Pipe carries domestic sewage from settlements at Combyne and discharges to a field. Attempts are being made by the Agency's Legal Department to define ownership of the pipeline.
Marginal failure of RQO at: River Coly - Heathayne Farm to normal tidal limit (RE2 2000) <i>The 1996 classification shows this stretch now complies with (RE2).</i>				
1bvi	Farm visits and catchment checks. <i>Action Years 1997/1998/1999</i>	Agency, Farmers	u/k	Several unsatisfactory farm discharges have been identified and remedial works have been undertaken in most cases (in one case prosecution is being considered).
Failure to meet long term RQOs at: Drimpton Stream (RE1), Clapton Stream (RE2), Blackwater River (RE1), River Yarty (RE1), River Axe - Seaborough to Bow Bridge, Axminster (RE1) <i>The 1996 classification shows all except River Axe Seaborough to Bow Bridge now comply with their objectives.</i>				
1ci	Conduct farm visits. <i>Action Years 1998/2000</i>	Agency	4k	Action to be reassessed in light of recent water quality results.
1cii	Work with others to target these river stretches to promote the uptake of schemes that encourage less intensive land use, such as Countryside Stewardship. <i>Action Years 1998/1999/2000/2001</i>	Agency, Farmers, MAFF, CoCo, ADAS	u/k	See above.

2 INTERNATIONAL COMMITMENTS TO WATER QUALITY

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Nutrient status of the Axe Estuary				
2ai	<p>Collect and analyse chemical and biological monitoring data to determine trophic status of the estuary and source of nutrient inputs and seek improvements if appropriate.</p> <p><i>Action Years 1997/1998</i></p>	Agency	7k	<p>The Axe Estuary was put forward as a proposed designated Sensitive Area (Eutrophic) site under the Urban Waste Water Treatment Directive. Having been nominated it was necessary to gather both chemical and biological data to confirm the status of the estuary as a designated site. This was done over the period 1994 to 1996. Analysis of the data shows that whilst nutrient levels in the estuary are elevated, they are not causing eutrophication. A potential major source of nutrient input to the estuary is Seaton STW, with a population equivalent of 15,000.. A modelling impact assessment into the effects of the sewage works was carried out using the data collected over the study period. The model specifically looked into suppressing loads of nitrogen and phosphates from the sewage works and indicated that this action would not significantly reduce the concentrations found in the estuary; the conclusion was that nutrient input to the estuary was from another source. From the data produced by our investigation plus additional supplementary information this would appear to be the case. As a result of these studies, the Axe Estuary has not been put forward for Sensitive Area (Eutrophic) status and there are no proposals for nutrient stripping at Seaton STW. In order to establish the source of nutrient input that is contributing to the elevated nutrient levels in the estuary, further studies of the freshwater system will be necessary (see Issue 9a iv).</p>

3 WATER RESOURCES

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Forecast deficits In Wimbleball Public Water Supply Zone				
3ai	Complete and operate Wimbleball Pumped Storage Scheme Operational Management Strategy. <i>Action Years 1997</i>	Agency, SWWSL	2k	Pumped storage scheme now operational. First operated in February/March 1997.
Low flows In the Umborne Brook				
3bi	Complete calibration work to enable precise gauging of abstraction. <i>Action Years 1997</i>	Agency	<1k	The work is currently being undertaken. If weather conditions are suitable, it is hoped to complete the exercise by March 1998.

4 ARCHAEOLOGY AND THE HISTORIC ENVIRONMENT

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Lack of archaeological information in a useable format				
4ai	Discuss options for a rapid archaeological assessment of the whole catchment with potential partners. <i>Action Years 1997</i>	DCC, Agency, EDDC, DAS, AVCS	<1k	No progress in this financial year. A pilot project for East Devon will be carried out next year.
Potential loss of historic pill boxes				
4bi	Sites need to be properly assessed and recorded and where necessary protected. <i>Action Years 1997</i>	Defence of Britain Project	n/a	This forms part of the Defence of Britain Project. This is a five year project (1998 is the third year of the project). A Devon County document is due to be produced in the year 2000 or earlier if the work is completed before this date. Axminster local history group have been very active and may produce their own local document this year.
Potential obstruction to flow from undermined pill boxes				
4ci	Actions dependant on assessment of 4bi. <i>Action Years 1998</i>	Agency	u/k	Progress depends on the results of the previous issue.
Concern over loss of amenity at Middle Mill Weir				
4di	Examine feasibility of reinstating leat at Middle Mill Weir, taking account of environmental and flood defence considerations. <i>Action Years 1997</i>	Lyme Regis Town Council, Agency	<1k	Site meeting held to consider temporary repair on 16 September 1997. Lyme Regis Town Council are intending to make an interim repair to collapsed section of the leat to enable the existing leat flows (from surface runoff) to continue further along the leat, improving its amenity value.

5 CONSERVATION OF THE NATURAL ENVIRONMENT

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
General threat to key habitats and species in the catchment as a whole				
Sai	Continue development and implementation of the County BAP. <i>Action Years 1997/1998/1999/2000/2001</i>	DWT, Agency, EN, RHIER, LAs	5k (1997)	Rivers & Wetlands BAP incorporated into County BAP. This action to be included in Saii.
Saii	Develop Biodiversity initiatives, eg County Nature Conservation Strategy, Regional Habitat and Species Action Plans. <i>Action Years 1997/1998/1999/2000/2001</i>	DCC, RSPB, EN, Wildlife Trusts, Agency, LAs	2k pa	County BAP now out in draft form. Due to be published in final form in March 1998. Contains 36 action plans for species, habitats and earth science features with countryside distribution.
Saiii	Confirm actions required relating to existing authorisations to comply with EC Habitats Directive. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, EN	u/k	Progress is being made to determine which consents and licences require review.
Spring-line mire habitat and associated species in decline and under threat				
Sbi	Enter 80% of catchment resource into protective management scheme by 2005.	DWT, ADAS, ESA, Officers, EN	n/a	Several new sites have been entered into schemes in the past year.
Sbii	Produce list of priority sites for restoration. (Target: no further loss of existing resource - restore 20 ha of mire habitat by 2005). <i>Action Years 1997</i>	DWT, EN, Agency	<1k	Stockland Turbaries identified as high priority. Leaflet produced by Devon Wildlife Trust Blackdown Hills Project, East Devon District Council. Agency funding work at Bucehayes Common.
Sbiii	Implement and promote actions from County BAP for marsh fritillary. (Target: maintain existing marsh fritillary populations). <i>Action Years 1997/1998/1999/2000/2001</i>	Butterfly Conservation Society, DWT, Agency, EN, Blackdown Hills JAC	u/k	Marsh fritillary will benefit from work at Bucehayes Common.

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Sbiv	Implement and promote actions from County BAP for curlew. (Target: increase breeding curlew numbers by 25% by 2010). <i>Action Years 1997/1998/1999/2000/2001</i>	DWT, Blackdown Hills JAC, EN	n/a	See comment for action Sbiii above.
Loss of wet woodland (carr) and bankside trees				
Sci	Achieve better understanding of extent and value of existing resources. (Target: create 5 ha of wet woodland by 2005). <i>Action Years 1998</i>	DWT, Agency	2k	Habitat action plan now produced. Some improvement in understanding, especially in relation to invertebrate fauna.
Scii	Liaise with landowners and encourage sensitive farming practices including the restriction of stock access to sites of potential bankside tree regeneration. <i>Action Years 1999/2000</i>	Blackdown Hills JAC, Agency	u/k	Demonstration fencing project in progress with Mr Burrough at Wadbrook Farm. Will encourage growth of new bankside trees. No progress on wet woodland.
Sciii	Identify areas of river valleys where tree planting will not increase flood risk, and encourage planting in those areas. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency	2k pa	No progress to date.
Sciv	Continue to monitor extent of alder root disease. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency	<1k pa	Number of infected trees has increased significantly. No further progress on action to date.
Spread of invasive plant species				
Sdi	Monitor extent and spread of invasive alien species; Himalayan balsam, Japanese Knotweed, Giant hogweed. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, Riparian Owners	<1k pa	Little progress to date. We would welcome contributions from riparian owners, fishing associations.
Sdii	Control invasive species on Agency owned or managed land. <i>Action Years 1998</i>	Agency	u/k	No sites identified in this catchment to date. Staff being trained to improve ID skills. Control programmes are being trialled elsewhere.

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Sdiii	Promote control of invasive species by others, especially on land of conservation value or where rights of way exist or are developed. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, DCC, EDHCS, EDD, Parish Paths Initiative, NT, BTCV	<1k pa	Ongoing. We promote action wherever possible.
Loss of marginal habitats				
Sei	Encourage riparian owners to provide suitable conditions for development of more extensive marginal vegetation. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency	<1k pa	Little progress, although fencing schemes may help (see Issue 10).
Wildlife value of floodplain habitats restricted by agricultural practices				
Sfi	Produce list of priority sites for management (Target: maintain existing area of floodplain habitat with high conservation value - increase by 20 ha floodplain grassland managed for conservation by 2000 - enhance value of 10 ha of degraded grazing marsh by better management of water levels by 2000 - increase numbers of breeding waders by 20% by 2005). <i>Action Years 1997/1998</i>	DWT, Agency, EN, EDHCS, Other Wildlife Trusts, RSPB	<1k	No progress to date.
Sfii	Implement and promote actions from County BAP to improve conservation value of floodplains, grazing marsh and associated species. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, DWT, EN, EDHCS, RSPB	u/k	Part of grazing marsh adjacent Axe Estuary entered into conservation management.
Sfiii	Develop a water level management plan for the grazing marshes adjacent to the Axe Estuary to improve their conservation value. <i>Action Years 1998</i>	EN, Agency, EDDC, DWT, EDHCS, Occupiers	5k	No formal plan started.
Sfiv	Seek to influence levels of payment and priorities for agri-environment schemes to encourage wider uptake. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, MAFF, EN	<1k pa	Influencing needs to be primarily at National level, however we have an input to the South West Region of MAFF. Five year review of Blackdowns ESA due in 1998.

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Damage and disturbance to estuarine habitats and species				
Sgi	Ensure public access arrangements and management to banks, etc. do not adversely affect estuary through increased disturbance. (Targets: maintain and seek to increase numbers of waders and wildfowl using the estuary - actively manage all reedbeds >.5 ha for wildlife - create additional reedbed site >.5 ha in lower River Axe Valley by 2000). <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, EDHCS	<1k	No progress to date.
Sgii	Promote and implement, as appropriate, actions from the County BAP for reedbeds. <i>Action Years 1997/1998/1999/2000/2001</i>	DWT, Agency, Landowners	<1k	No progress to date.
Sgiii	Investigate possibility of saltmarsh creation associated with MAFF habitat scheme. <i>Action Years 1997/1998</i>	Agency, ADAS, EDHCS	<1k	No appropriate sites identified to date.
Lack of public awareness of the high value and threats to marine habitats				
Shi	Examine possibility of producing, with others, interpretative material (such as information boards and leaflets) highlighting value of marine habitats and species. <i>Action Years 1998</i>	EDHCS, EDDC, Agency	<1k	The Agency has supported the work of the East Devon Marine Awareness Centre at Ladram Bay (Otter Catchment).
Shii	Work with Sea Fisheries Committee to minimise damage to valuable habitats and features by inappropriate fishing methods. <i>Action Years 1998</i>	DSFC, Agency	<1k	Report produced by Devon Wildlife Trust restating the value of and damage to reefs in Lyme Bay.

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Failure of otters to recolonise the catchment in expected numbers				
Sii	Promote and implement, as appropriate, otter action plan from County BAP (includes survey work, habitat restoration, investigations into prey availability, research into levels of contaminants, etc) (Targets: restore breeding otters to whole of catchment 2005 - ensure road casualties are minimised by appropriate preventive measures). <i>Action Years 1997/1998/1999/2000/2001</i>	DWT, Agency, EDDC, Volunteers, Riparian Owners, Other Wildlife Trusts	2k pa	Progressing fairly well. Countrywide quarterly surveys now take place, post mortems continuing. Fencing projects will benefit otters (see Issue 10).
Decline of water voles				
Sji	Promote and implement, as appropriate, water vole action plan from County BAP (includes survey, improvement of riparian habitat, awareness raising, monitoring of mink numbers, etc.) (Targets: identify current distribution by 1997 - achieve return to 1970's range by 2010 - restore 2km of suitable habitat by 2005). <i>Action Years 1997/1998/1999/2000/2001</i>	DWT, Agency, EDDC, Volunteers, Riparian Owners, Other Wildlife Trusts	2k pa	No historic sites reported. Fencing projects may help vole habitat (see Issue 10).
Loss of nesting sites for riparian birds				
Ski	Support county-wide survey of sand martin nest sites. <i>Action Years 1997</i>	DBWPS, Agency, RSPB	u/k	Survey carried out in 1997. See action Skii.
Skii	Survey Rivers Axe and Lim to identify kingfisher nest sites. <i>Action Years 1997</i>	DBWPS, Agency, RSPB	u/k	Survey carried out in 1997. Relatively few locations on the River Axe. Records for nest sites of both species would be welcomed.
Loss of earth science features (eg rock exposures and floodplain forming processes)				
Sli	Support the designation of Lyme Bay coastline as a World Heritage Site. <i>Action Years 1997/1998</i>	Agency, EN, LAs	<1k pa	Late in 1997 Dorset County Council submitted information to the Government's Media, Culture and Sports department for consideration for designation as a World Heritage Site, awaiting decision (expected to take 6 - 12 months).
Slii	Raise public awareness of importance of earth science and promote code of practice for fossil collection. <i>Action Years 1997/1998/1999/2000/2001</i>	County RIGs Groups, LAs, Agency, EN	<1k pa	No progress to date.

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Sliv	Promote measures to prevent loss of earth science sites and features in rivers and floodplains. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency	u/k	Ongoing. See River SSSI section 9.
Sliv	Support programme of identification and documentation of County Geological Sites. <i>Action Years 1997/1998/1999/2000/2001</i>	County RIGs Groups, LAs, Agency, EN	<1k pa	County RIG sites in East Devon identified.
Slv	Seek to develop schemes that reduce the impact on landowners of using sympathetic management practices, or of allowing geomorphological processes to proceed. <i>Action Years 1997/1998</i>	Agency, MAFF, DCC	u/k	No progress to date.

6 RECREATION

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Public access to the water environment often difficult especially for the less able				
6ai	Work with others to provide and maintain good access, whilst protecting the wildlife and the interests of landowners. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, EDHCS, LAs, Blackdown Hills JAC, DCC, CoCo, Users, Riparian Owners	u/k	No progress to date. Ramblers Association proposed a waymarked long distance footpath trail from the north to south Devon coasts across the Blackdown Hills. The Blackdown Hills JAC will only support such a scheme if there is evidence of strong, local enthusiasm. There is an existing route from Lyme Regis to Chard.

7 REVIEW OF FLOOD DEFENCE OPERATIONS

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Potentially inadequate flood warning action				
7ai	Complete review of flood warning and where necessary improve flood warning service at some locations. <i>Action Years 1997</i>	Agency	10k	A contract has been let to consultants as part of the Flood Warning Level of Service project to run next financial year. This study is to be completed by May 1999. On completion of the study a prioritised programme of works will be implemented across the South West Region.
Planning and flood risk				
7bi	Provide information (S105 Surveys) to planning authorities to prevent inappropriate development in the floodplain. <i>Action Years 1997</i>	Agency, Planning Authorities	5k	S105 Survey Data was provided to East Devon District Council on the 20 November 1997.

8 FISHERIES

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Decline in runs of salmon				
8ai	Continue stocking programme. <i>Action Years 1997</i>	Agency, Anglers	10k	Planned to stock with 20k 0+ parr during August/September 1998.
8aii	Carry out habitat improvements as necessary including gravel rehabilitation and trash dam removal. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, Riparian Owners, Anglers	1k	Gravel rehabilitation was carried out across the catchment using chisel plough and high pressure pumps in collaboration with Axe fishing interests in September/October 1997.
8aiii	Ensure installation and operation of screens to prevent fish escapement and smolt entrapment at fish farms and other abstraction points. <i>Action Years 1997/1998</i>	Abstractors, Fish Farmers, Agency	<1k	Problem sites are to be visited and advice given to abstractors. No major problems have been identified in this catchment.
Need to develop national strategy for the management of salmon				
8bi	Develop Salmon Action Plan for the River Axe in line with national guidance. <i>Action Years 1997/1998</i>	Agency	5k	The Salmon Action Plan for the River Axe is currently being prepared. Draft document is expected in March 1998.
Barriers to fish movement in the catchment				
8ci	Install fish passes, according to regional priority, on: Lexhayne Weir and Wilmington Weir. <i>Action Years 1998/1999</i>	Agency, Riparian Owners, Angling Associations	6k / 9k	A design for the fish pass at Lexhayne Weir has been prepared, no progress to date with the construction. There has been no progress on Wilmington Weir.
8cii	Plan for improvements to less significant structures and improve conditions for fish migration where possible using low cost solutions. <i>Action Years 1997/1998/1999</i>	Agency, Riparian Owners, Angling Associations	<1k pa	No progress to date.
8ciii	Seek to have existing 'Irish Bridges' that restrict fish passage removed or replaced. <i>Action Years 1997/1998</i>	Agency, SCC, DCC	<1k pa	No progress to date.

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Stocking with farmed fish				
8di	Discourage stocking of the catchment with farmed fish for angling purposes. Promote habitat improvements as preferred means of improving the fishery. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, Rip Owners, Fishery Associations	<1k pa	This is ongoing
Decline in brown trout stocks				
Bei	Continue current restoration programme including stocking with broodstock from the catchment to provide a regular supply of juveniles. (NB: Subject to external funding after 1997). <i>Action Years 1997</i>	Agency, Fishery Associations	10k	Due to hatchery closure, no further stocking of brown trout and sea trout from the catchment is currently possible.
Beii	Continue programme of habitat improvements including rehabilitation spawning gravels where a need is identified (see also Issue 10). <i>Action Years 1997/1998/1999/2000/2001</i>	Agency	2k pa	Annual gravel rehabilitation programme ongoing.
Decline in roach and dace, particularly of larger fish				
8fi	Investigate status of stocks, including surveys of middle and lower reaches to assess current coarse fish populations. <i>Action Years 1997</i>	Agency, Fishery Associations	2k	Survey is planned to take place during 1998 subject to hydroacoustic equipment being operational.
The effect of fish-eating birds on salmonid and coarse fish populations				
8gi	Co-operate with the licensing authority to progress further research into this issue. <i>Action Years 1997</i>	Agency, MAFF, Landowners, Anglers	<1k	MAFF/Agency R&D project ongoing. Due to be completed in December 1998. Interim recommendations to be implemented if appropriate.
8gii	Continue to work positively with owners and anglers to establish the full facts in each situation. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, Landowners, Anglers	<1k	Some monitoring of numbers carried out in lower reaches of catchment. No input requested on application for MAFF licence to control cormorants to date.
Damage to spawning/nursery areas due to works in the River Axe not requiring Agency consent				
8hi	Seek to dissuade riparian owners from carrying out gravel removal or to limit the extent of the operation. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, Riparian Owners	<1k	This is ongoing

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
8hii	Continue to pursue changes to the legislation to allow increased control on in-river works where damage to the fishery is likely to result. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency	<1k	To be included in current review of fisheries legislation.
Illegal exploitation of sea trout and salmon in coastal areas				
8ii	Continue regular coastal patrols in East Devon, enforcing areas closed to netting. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, DSFC	u/k	Ongoing. There was a successful prosecution undertaken in the Summer 1997 for nets set illegally near Axmouth.

9 RIVER AXE PROPOSED SSSI

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Notification of River Axe SSSI				
9ai	Develop conservation strategy and consenting protocol for SSSI. <i>Action Years 1997</i>	EN, Agency	2k	Due for completion March 1998.
9aii	Implement conservation strategy. <i>Action Years 1997/1998/1999/2000/2001</i>	EN, Agency, Riparian Owners, Land Owners, Occupiers	2k	Dependant on above action 9ai.
9aiii	Ensure all authorisations protect value of aquatic plant communities and river geomorphology. <i>Action Years 1997/1998/1999/2000/2001</i>	Agency, EN	u/k	Ongoing but protocol basically agreed.
9aiv	Investigate potential sources of nutrient inputs to the proposed SSSI using plant surveys and nutrient data. <i>Action Years 1997/1998</i>	Agency, EN	u/k	The Agency has begun an intensive programme of nutrient monitoring in the Axe Catchment, sampling 26 (freshwater) sites on a monthly basis for nitrate, phosphate and suspended solids. We will be working closely with English Nature to establish the effects of elevated levels of nutrients on the SSSI, and to identify appropriate actions.
9av	Examine need and feasibility of nutrient control in the catchment and include in the conservation strategy. <i>Action Years 1997/1998</i>	Agency, EN	u/k	No progress to date.

10 CATCHMENT EROSION

ISSUE	ACTION	RESPONSIBLE LEAD / OTHER	COST TO AGENCY	PROGRESS TO DATE
Catchment erosion				
10ai	<p>Promote riparian fencing and planting schemes to stabilise banks and reduce silt inputs, discouraging the use of inappropriate methods of bank erosion control, (NB: cost here is to riparian owners).</p> <p><i>In river works may require consent from the Agency. In granting consent the Agency will consider the effect of the proposed works on each of the Environment Agency's function interests. Works within the proposed SSSI will also require consent from English Nature. The Environment Agency and English Nature have a consenting protocol.</i></p>	Agency, MAFF, NFU, Farmers, Landowners, Westcountry Rivers Trust	n/a	Various projects are being pursued. Investigations ongoing with regard to a demonstration project using willow to control bank erosion. Survey carried out to assess area requiring fencing. Sites to be fenced before April 1998.
10aii	<p>Consider relevance of Torridge Research to the River Axe sub-catchment.</p> <p><i>Action Years 1997/1998</i></p>	Agency	<1k	There may be some relevance, but concretion of gravels, as opposed to compaction by silts, is probably more significant here.

GLOSSARY

ABSTRACTION

Removal of water from surface or groundwater.

ALIEN

Plant or animal not native to the country concerned.

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 II of the Biodiversity Convention).

CARR

Wet woodland composed of trees such as willow and alder.

CATCHMENT

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

COARSE FISH

This is a lay-man's term for cyprinid fish and other commonly associated species such as pike, perch and eels of angling significance. The term does not normally refer to minor species such as bullhead, stone loach, minnow and stickleback.

CONFLUENCE

The point at which two rivers meet.

CONSENT (DISCHARGE)

A statutory document issued by the Environment Agency under Schedule 10 of the Water Resources Act 1991 as amended by the Environment Act 1995 to indicate any limits and conditions on the discharge of an effluent to a controlled water.

COUNTRYSIDE STEWARDSHIP SCHEME

An initiative run by MAFF to enhance and conserve farming landscapes, wildlife habitats and cultural heritage.

EUTROPHIC

Water enriched with nutrients which result in high plant (including algal) growth. Usually used when referring to enrichment from man-made sources such as fertilisers leaching from the soil.

FLOODPLAIN

Parts of river valleys or coastal plains which are inundated during floods. It includes areas protected by flood defences.

GEOMORPHOLOGY

Scientific study of land forms and of the processes that formed them.

GROUNDWATER

All the water contained in the void spaces in pervious rocks and that held within the soil.

HABITAT

Natural home of plant or animal.

RIPARIAN OWNER

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

RUNOFF

Water leaving a river catchment. Normally regarded as rainfall minus evapotranspiration (evaporation and loss of water by plants) but commonly used to mean rainwater flowing across the land (also known as overland flow).

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.

SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)

Sites of national importance designated under the Wildlife and Countryside Act 1981 by English Nature in England. Sites may be designated to protect wildlife, geology or land forms.

SURFACE WATER

General term used to describe all the water features such as rivers, streams, springs, ponds and lakes.

TURBARY

The right of digging turf or peat on common ground.

WETLANDS

Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt including areas of marine water, the depth of which at low tides does not exceed 6 m.

ABBREVIATIONS

Agency	Environment Agency
AONB	Area of Outstanding Natural Beauty
AVCS	Axe Vale Conservation Society
BAP	Biodiversity Action Plan
BTCV	British Trust of Conservation Volunteers
CMP	Catchment Management Plan
CoCo	Countryside Commission
DAS	Devon Archaeological Society
DBWPS	Devon Bird Watching & Preservation Society
DCC	Devon County Council
DoE	Department of the Environment
DSFAC	Devon Sea Fisheries Advisory Committee
DWT	Devon Wildlife Trust
EC	European Commission
EDDC	East Devon District Council
EDHCS	East Devon Heritage Coast Service
EN	English Nature
ESA	Environmentally Sensitive Area
HMIP	Her Majesty's Inspectorate of Pollution
HMSO	Her Majesty's Stationery Office
IPC	Integrated Pollution Control
JAC	Joint Advisory Committee
LA	Local Authority
LEAP	Local Environment Agency Plan
MAFF	Ministry of Agriculture, Fisheries and Food
NFU	National Farmers Union
NRA	National Rivers Authority
NT	National Trust
NWC	National Water Council
PCC	Plymouth City Council
RE	River Ecosystem, RE1, RE2, etc
R&W	Rivers and Wetlands
RHIER	Royal Holloway Institute of Environmental Research
RIGS	Regionally Important Geological Site
RQO	River Quality Objective
RSPB	Royal Society for the Protection of Birds
SCC	Somerset County Council
SSSI	Sites of Special Scientific Interest
STW	Sewage Treatment Works
SWWSL	South West Water Services Limited
UK	United Kingdom
WRA	Waste Regulation Authority
WWSL	Wessex Water Services Limited

REFERENCES

¹ Our Common Future, The World Commission on Environment and Development, 1987.

² The Nature of Devon; A Biodiversity Action Plan for Devon, Consultation Draft November 1997, Devon Biodiversity Partnership.

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