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local environment agency plan

AVON AND ERME

THIRD ANNUAL REVIEW

FEBRUARY 2002

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AVON AND ERME LEAP – THIRD ANNUAL REVIEW FEBRUARY 2002

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Note: This is not a legally or scientifically binding document.

SUMMARY

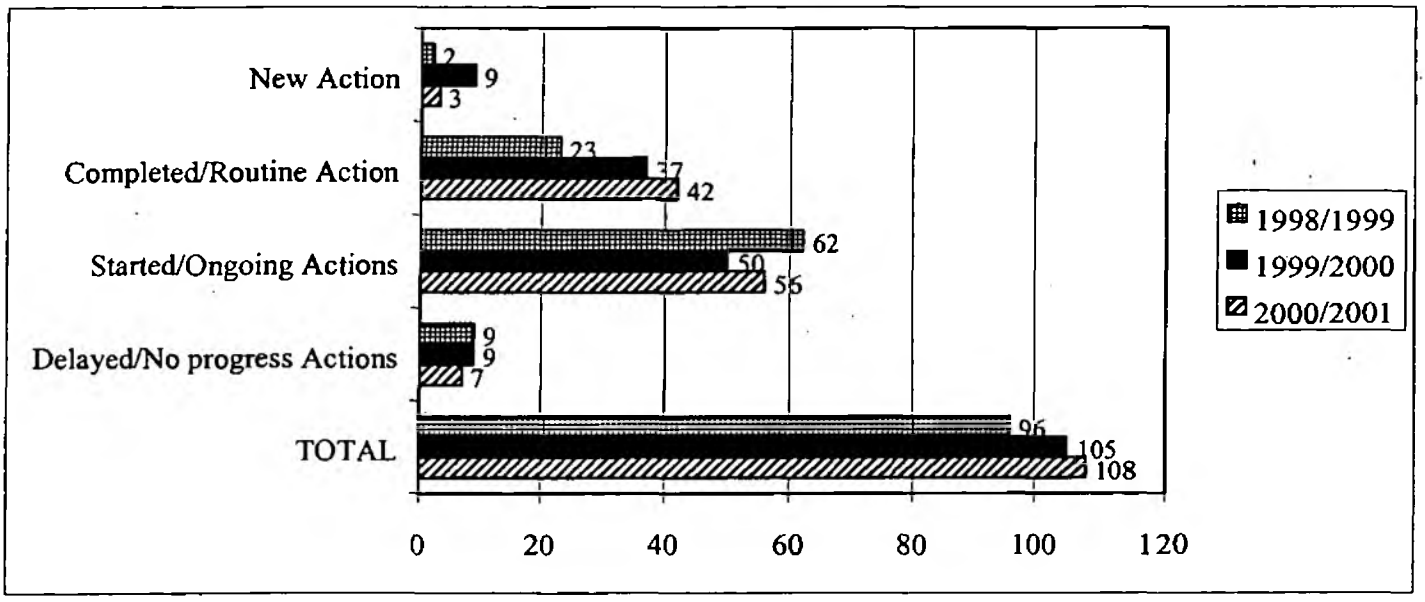
The Avon and Erme LEAP aims to promote integrated environmental management. It seeks to develop partnerships with a wide range of organisations and individuals who have a role to play in the management of this area of Devon. It is vital that the needs of all aspects of the area, including flora and fauna, are balanced to ensure continued protection of these assets. This document reviews the implementation of the actions from the Avon and Erme Action Plan (December 1998) and reports on the progress made over the last year.

We are continuing to make good progress with this action plan, although a lack of funding has affected some actions, particularly fisheries actions. The Foot and Mouth crisis also limited progress on some actions as access was restricted in many areas.

Forty-two out of the 108 actions have now been completed, most of the remaining actions have started and only 7 actions have made no progress (see graph below). We will continue to work on both the outstanding and the ongoing actions, seeking external funding where resources are limited.

We have been working with farmers to develop 'best farming practices' which deliver both environmental improvements and cost savings to the farmer. We are developing programmes to disseminate this practice and we are awaiting a decision on a bid to the Heritage Lottery Fund, led by South Hams District Council, which will help implement more sustainable practices in the Slapton Catchment.

Progress with Actions



Progress is indicated in the Action Tables by the following symbols:

✖ New Action

● Completed/Routine Action

▼ Started/Ongoing Action

■ Delayed/No Progress Action

1 INTRODUCTION

This is the Third Annual Review of the Avon and Erme Action Plan. It introduces the Environment Agency and summarises progress made with actions. Previous publications relating to this catchment contain more detail; this review should be read in conjunction with these publications:

- Rivers Avon and Erme Consultation Report - January 1998[1]
- Avon and Erme Action Plan - December 1998[2]
- Avon and Erme First Annual Review - February 2000[3]
- Avon and Erme Second Annual Review - February 2001[4]

These publications are available on request from the Devon Area office of the Environment Agency.

1.1 The Environment Agency

The Environment Agency has a wide range of duties and powers relating to different aspects of environmental management. These duties and powers, together with those areas where we have an interest but have no powers to act, are described in more detail in Section 4. We are required and guided by Government to use these duties and powers in order to help achieve the objective of sustainable development. Sustainable development has been defined as *'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'*[5].

One of the key outcomes of the United Nations 'Earth Summit'[6] was agreement by governments that, to solve global environmental problems, local action is crucial: we are therefore encouraged to think globally but act locally.

An Environmental Vision, The Environment Agency's contribution to Sustainable Development[7] Our Vision for the environment and a sustainable future '*a healthy, rich and diverse environment in England and Wales, for present and future generations*' was published in January 2001.

Nine themes have been identified to contribute to this long-term goal.

- a better quality of life
- an enhanced environment for wildlife
- cleaner air for everyone
- improved and protected inland and coastal waters
- restored, protected land with healthier soils
- a 'greener' business world
- wiser, sustainable use of natural resources
- limiting and adapting to climate change
- reducing flood risk

Long-term objectives have been set for each theme and progress towards these objectives will be measured using a set of key indicators. Completion of LEAP actions will contribute to achieving this vision.

1.2 Local Environment Agency Plans

Local Environment Agency Plans (LEAPs) help us to identify and assess, prioritise and solve, local environmental issues related to our functions, taking into account the views of our local customers.

The LEAP process involves several stages as outlined below.

The Consultation Draft – Publication of the Consultation Draft[1] marked the start of a three-month period of formal consultation, which enabled external organisations and the public to work with us in planning the future of the local environment. At the end of the consultation period, we produced a Summary of Public Consultation Responses[8] that gave the results of the process.

The Action Plan – The Action Plan[2] takes into account the results of the consultation. It includes numerous actions identifying costs, timescales and partner organisations. Agreed actions are incorporated into our annual business plans.

Some issues can be resolved through our statutory and routine work programme, whilst others require action over and above our day-to-day business. Funding for the latter is not always certain. Usually, because of the short-term nature of our funding, we can only firmly commit ourselves to action in the current and next financial years. Our priorities, policies and budget may change: these changes will be reflected at each Annual Review.

The Annual Review – We monitor implementation of the Action Plan[2] and report on the year's progress in a published Annual Review. The Annual Review also identifies any additional issues and actions needed to maintain progress in light of any changes within the LEAP area. We invite people to contact us at any time to raise new issues or suggest new actions – this ensures the LEAP process is an active one, which evolves to meet the changing needs of the local environment.

Future Reviews – Next year we will review progress again and details will be published in the Fourth Annual Review of the Avon and Erme LEAP.

1.3 The LEAP Steering Group

The Steering Group represents a range of commercial, local authority, recreational and environmental interests. It commented upon the Consultation Draft and the Action Plan prior to public release. The group monitors the implementation of the Action Plan, providing us with specific advice on the importance of issues within the catchment. It acts as a communication link between our committees, the local community and ourselves. It will help to promote and develop initiatives of benefit to the environment within the catchment. The Steering Group members are:

Name	Representing
Mr K Carter	Coast and Country Service: South Hams – South Devon
Mr K Chell	Field Studies Council – Slapton Ley
Mr J Coombes	River Avon Fishing Association
Mr S Day	English Nature
Mr D Ford	The National Trust
Ms S Goodfellow	Dartmoor National Park Authority
Mr A Mildmay-White	Erme and Yealm Riparian Owners Association
Mr N Mortimer	Salcombe Kingsbridge Marine Conservation Officer
Mr D Peters	National Farmers Union
Mr J Smith	Devon Avon Riparian and Fishery Owners Association
Mr P Smith	South Hams District Council
Mr S Tooke	Salcombe Harbour Authority (Harbour Master)
Mr C Trant	Local Fish Farmers
Mr M Williams	South West Water Limited
Mr C Wilson	Local Industry

1.4 Working With Others

We can only deliver long-term environmental improvement by working with others, building partnerships with those who share common objectives, and developing links with the community.

Local Agenda 21 – This is the global action plan endorsed at the United Nations Conference on Development and the Environment in 1992[6]. It is designed to achieve sustainable development within our society.

Within the catchment, local authorities are assisting their communities to develop strategies and action plans for sustainable development.

South Hams District Council has supported an independently produced Agenda 21 Plan[9]. This includes a series of recommendations for action that will act as a signpost for organisations and individuals to follow. Dartmoor National Park Authority endorses the Statement on National Parks, Sustainability and Work on Local Agenda 21; this statement provides a commitment to the pursuit of sustainability and Local Agenda 21 and forms the basis for future action.

Development Plans – These are produced by Local Authorities to guide the way land is developed. We have limited control over the development of land, but we provide advice and guidance to Local Authorities and work with them to develop policies that minimise the impact of development on the environment.

Non-Statutory Plans – We work with a number of other organisations to develop partnerships and collaborative projects. The LEAP is one of a number of separate, but related environmental initiatives that aim to protect the management of the environment. Other non-statutory plans include:

- The Nature of Devon: A Biodiversity Action Plan (BAP)[10]
- The Nature of Dartmoor: A Biodiversity Profile[11]
- Dartmoor Biodiversity Action Plan[12]
- Devon's Local Agenda 21 Network Issues Report[13]
- South Devon Area of Outstanding Natural Beauty Management Plan[14]
- Lyme Bay and South Devon Shoreline Management Plan[15]
- Avon Estuary Environment Management Plan[16]
- The Salcombe Kingsbridge Estuary Environmental Management Plan[33].
- Erme Estuary Management Plan (draft)

2 THE LEAP AREA

The area covered by this LEAP comprises the adjoining catchments of the Rivers Avon and Erme. The Avon catchment includes those watercourses draining to Start Bay and to the Salcombe Kingsbridge Estuary (Map 1).

Key Statistics	**Avon**	**Erme**
Area of Catchment	341.25 km²	107.75 km²
Length of Monitored River in the Catchment (km)	64.30 km	28.90 km
Approximate Population (1991)	24,000	13,000
Main Settlements	Ivybridge, Kingsbridge, South Brent, Salcombe, Modbury	
Administrative Areas	South Hams District Council, West Devon Borough Council, Dartmoor National Park Authority	

2.1 2000 Compliance with River Quality Objectives (RQO)

We manage water quality by setting River Quality Objectives (RQOs), which apply to 93.2 km of rivers in the Avon and Erme LEAP area. RQOs are set using a classification scheme known as the River Ecosystem (RE) Classification which has five hierarchical classes (see table below). These classes reflect the chemical quality needed by different types of river ecosystem. Where solutions and resources have been identified to resolve current water quality problems, yet time and finance are required before improvements can be undertaken, we have also set a long term RQO.

Class	**Description (RE Class)**
RE1	Water of very good quality suitable for all fish species
RE2	Water of good quality suitable for all fish species
RE3	Water of fair quality suitable for high class coarse fish populations
RE4	Water of fair quality suitable for coarse fish populations
RE5	Water of poor quality which is likely to limit coarse fish populations

We have shown failures to meet RQOs as *significant* or *marginal*. Significant failures are those where we are 95 per cent certain that the river stretch has failed to meet its RQO. Marginal failure are those where we are less certain (between 50 per cent and 95 per cent) that the stretch has failed to meet its RQO.

For this review, we have looked at how current water quality compares with targets published in the Second Annual Review. We used data collected over three years, between 1998 and 2000. The 2000 compliance with River Quality Objectives is shown on Map 2 (where a long-term RQO is applicable it is noted within square brackets). Of the 18 monitored stretches (93.2 km) in the catchment, three stretches (19.3 km) marginally failed to meet their RQO.

'Set Aside' of Data: In certain circumstances we can 'set aside' data, that is we will not take into account some or all of the results of a particular determinand (eg pH) when we assess compliance with the RQO. We may 'set aside' data where high concentrations of metals or low pH are caused by the natural geology of the catchment. This allows us to protect good water quality reflected by other parameters (eg biochemical oxygen demand, ammonia) in the RE Classification. The headwaters of the Avon and Erme catchment rise on Dartmoor, where the underlying granitic rocks result in very acidic soils. This, combined with the slight natural acidity of rain water, can result in lowered pH in these watercourses. The provision for pH to be 'set aside' has been used for one stretch of the River Avon from Avon Reservoir to Shipley Bridge in the 2000 RQO compliance assessment.

Biochemical oxygen demand (BOD): Substantial growths of planktonic algae can occur in slow-flowing, nutrient-rich rivers. Where the algal growth is dense, the algal cells themselves exert a high BOD during laboratory analysis. These elevated BOD values do not necessarily represent the BOD exerted in rivers, or that resulting directly from effluent discharges. If this impact is not excluded from classification and the

compliance assessment, non-genuine results may be reported and there is a risk that investment put in place to improve discharges will not be targeted efficiently.

In those river stretches where the Agency has evidence that 'exceptional conditions' exist because planktonic algae are the predominant cause of unusually high BOD results, the affected BOD data may be 'set aside' when assessing compliance with the RQO. We did not 'set aside' any BOD results in 2000.

In comparison with the 1999 compliance assessment, water quality of two river stretches has improved. The Small Brook from source to normal tidal limit and the River Avon from Horsebrook to Loddiswell were both reported as failing their RQO in 1999, but were compliant in 2000.

We also assess whether river stretches comply with their long-term RQO. Water quality of one river stretch has deteriorated. The River Erme from Fawns Bridge to normal tidal limit marginally failed to comply with its long-term RQO in 2000 whereas it was compliant in 1999.

The water quality of three river stretches has shown no RE class improvement or further deterioration in 2000. These are:

The River Avon from Loddiswell to normal tidal limit marginally failed to comply with its RQO of RE1 due to elevated BOD. The most recent elevated results were associated with heavy rainfall. The cause of the poor water quality is unknown although we suspect that the discharges from Loddiswell STW and diffuse agricultural pollution may be contributing factors. We will collect information concerning storm overflow operation at Loddiswell STW to try to identify whether this is impacting on the water quality of the stretch. **New Action 1j**.

The River Erme from Fawns Bridge to normal tidal limit marginally failed to comply with its long-term RQO of RE1. The two high results were associated with moderate rainfall. We suspect that the elevated BOD results may be related to the operation of storm overflows at Ermington STW and diffuse agricultural pollution. We are going to undertake an inspection of the stretch to look for any obvious sources of diffuse pollution and also collect information concerning storm overflow operation at Ermington STW. **Action 2b.**

The South Grounds Stream from source to Slapton Ley inflow marginally failed to comply with its RQO of RE1 due to elevated BOD. The cause of the poor water quality is unknown. We have recently commenced an investigation and will report on our findings in the next Annual Review. **Action 15a**.

The Gara from source to Higher North Mill marginally failed to comply with its RQO of RE1 in 2000 as a result of elevated BOD. The cause of the poor water quality is unknown. Each of the three samples with elevated BOD were associated with moderate rainfall and the ammonia concentration was slightly elevated. We suspect that the poor water quality may be related to diffuse agricultural pollution. The most recent elevated result was recorded in February 2000, previous to that high results were recorded in 1998. We therefore do not propose to undertake any action unless further high results recur. No resources were available for the investigation proposed in the Second Annual Review and it is unlikely that this part of the action will proceed. **Action 15a**.

2.2 Compliance with EC Directives

EC Bathing Waters Directive[17]: This Directive aims to protect the environment and public health of bathing water, by reducing pollution entering identified bathing areas. There are fourteen designated Bathing Waters in the Avon and Erme LEAP area. In 2001, all of the Bathing Waters were compliant with the mandatory standards of the Directive. Three failed to achieve the more stringent guideline standards of the Directive (Salcombe North Sands, Salcombe South Sands and Hope Cove). Water quality at these three bathing waters may improve following improvements in sewage treatment under the AMP3 programme at Galmpton (Hope Cove), Kingsbridge (Gerston), Frogmore and Chillington and West Charleton.

EC Shellfish Waters Directive[18]: The Directive *on the quality required of shellfish waters* is concerned with the protection of shellfish populations and lays down the requirements for the quality of designated waters. It aims to safeguard shellfish populations from harmful consequences resulting from the discharges of polluting substances into associated waters. We are responsible for controlling discharges to these areas to ensure the requirements of the Directive are met. There are two designated Shellfish Waters in the LEAP area,

namely an area of the Avon Estuary (Bigbury and Avon) and an area of the Salcombe Estuary (Salcombe) (see Appendix One). Both designated waters were compliant with the standards of the Directive in 2000.

In order to prevent risk of future failure of the imperative standards of the EC Shellfish Waters Directive and to move towards compliance with the stricter guideline standards, improvements are required under AMP3 to nineteen intermittent sewage discharges and four continuous sewage discharges in the Avon and Erme catchment.

EC Shellfish Hygiene Directive[19]: This Directive *laying down the health conditions for the production and the placing on the market of live bivalve molluscs* is concerned with the quality of the shellfish themselves, rather than the environment in which they live. Shellfish production areas have been designated and a classification system A to C has been introduced based on the level of treatment the shellfish require before sale for human consumption. Local authorities conduct shellfish monitoring and the results are collated nationally by the Centre for Environment Fisheries and Aquaculture Science (CEFAS) on behalf of the Food Standards Agency.

There are seven designated shellfish beds in the Avon and Erme LEAP area: two at Salcombe (mussels and oysters) and five at Bigbury and Avon (three mussels and two oyster beds). In 2001, the two beds at Salcombe were given a provisional classification of C. In 2001, at Bigbury and Avon the three mussel beds were class C, one oyster bed was class B and the other oyster bed was provisional class B.

EC Surface Water Abstraction Directive[20]: This Directive *concerns the quality required of surface water intended for the abstraction of drinking water* to ensure that surface water abstracted for drinking water purposes meets certain standards and receives adequate treatment before entering the public water supply. There are three sites in the LEAP area which are monitored under this Directive they are: Avon Reservoir, Bala Brook at Brent Moor and the River Erme at Harford Moor. In 2000, the standard for colouration was exceeded at all three sites. The high colouration of samples is believed to be the result of runoff from the surrounding peaty, open moorland and therefore a waiver has been applied for due to the natural cause of the exceedences. Avon Reservoir also exceeded the standard for dissolved iron. This is also thought to be a result of moorland runoff and a waiver has been applied for. These sites have a history of exceeding the standards required for colouration and dissolved iron and therefore no action will be taken.

EC Freshwater Fish Directive[21]: This Directive sets out the quality of waters needing protection or improvement in order to support fish life. There are four designated stretches in the Avon and Erme LEAP area. In 2000, the Avon Reservoir failed the standard for low pH due to the upland moorland catchment of the reservoir. As the acidic pH of the reservoir is a result of a natural process, a derogation has been applied for.

The Gara at Slapton Ley failed the standard for high pH in 2000. The alkaline conditions occur as a result of algal blooms which arise due to the nutrient enrichment of the water body. **Actions 1i, 2i and 3h.**

EC Dangerous Substances Directive[22]: This Directive is concerned with controlling discharges to the environment of those substances which are considered particularly dangerous (List I) and less dangerous, but which can still have a harmful effect on the water environment (List II).

List I Substances – There were no failures for List I substances in the LEAP area in 2000.

List II Substances – In 2000 two pesticides (azinphosmethyl and triazophos) were recorded as failing their Environmental Quality Standards (EQSs) at Sequers Bridge on the River Erme. However, this was only because the analysis method for the two substances was not sensitive enough to detect the presticides at concentrations at or below the EQSs. The method has now been improved so this problem will not occur in the future.

EC Habitats Directive[23]: Under this Directive we have to review all authorisations and other permissions that have been previously issued, as well as our own activities, to establish whether or not they are adversely affecting Special Protection Areas (SPAs – designated under the EC Birds Directive[24]) or candidate Special Areas of Conservation (cSACs – to be designated under the EC Habitats Directive), collectively know as Natura 2000 sites. If existing authorisations are causing significant damage, we are required to modify or revoke them. We have embarked on a twelve-year programme (1998-2010) to carry out this review, consisting of a four-stage process. A moderation exercise has resulted in additional features and new sites

being proposed for designation. We assess all new applications for their potential impact on Natura 2000 sites.

EC Integrated Pollution Prevention and Control Directive[25]: This Directive was implemented into law by the Pollution Prevention and Control Regulations (England and Wales) 2000 on 1 August 2000. The overall objective of the Directive is to offer a high level of protection to the environment as a whole. It is designed to prevent, reduce and eliminate pollution at source through the efficient use of natural resources and it is intended to help industrial operators move towards greater environmental sustainability. The Directive covers a number of categories of industrial activity, such as the chemical industry and production and processing of metals. The time-scale for existing and new processes to be regulated is up to 2007, with different industrial sectors being brought under IPPC in the UK at various dates from 2001. The system of permits which will be issued for each installation will include plant operating conditions, emission limits for certain substances to air, land and water and annual reporting of pollutant releases. The permit will also cover noise and vibration, energy efficiency and waste minimisation.

In the Avon and Erme LEAP area, we have received an application for an IPPC permit for Stowford Mill the paper mill at Ivybridge, on the River Erme. This permit will significantly improve environmental controls at the site and should be issued shortly.

2.3 Biological Quality

Biological monitoring forms part of the General Quality Assessment (GQA) scheme undertaken by the Environment Agency to assess the state of our rivers and is complementary to chemical monitoring.

The biological scheme is based on macro invertebrates: the small animals such as mayfly nymphs, snails, shrimps and worms, which inhabit the riverbed.

Six classes of biological quality are used and are shown below:

Biological Class	Class Description
a	Very Good
b	Good
c	Fairly Good
d	Fair
e	Poor
f	Bad

We undertook our five-yearly survey of biological quality in 2000. In the Avon and Erme LEAP area 58% of the monitored network was of very good biological quality, 25% was good, 9% fairly good and 8% fair. This is an improvement compared to the results of the 1995 survey.

Biological quality appears to have deteriorated in a stretch of the River Avon (see **New Action 15b**).

3 PROGRESS WITH ACTIONS FROM THE AVON AND ERME ACTION PLAN

The following pages give updates for the actions from the Avon and Erme Action Plan December 1998 for the last year up to February 2002. The current status of each action is indicated by the following symbols in the left-hand column of the action tables (please note that the symbols have been standardised for all LEAP documents and therefore have changed since the First Annual Review document):

✖	New Action	●	Completed/Routine Action
▼	Started/Ongoing Action	■	Delayed/No Progress Action

All actions which were noted as completed in the First and Second Annual Reviews are listed in Section 4 on page 30.

Key to tables:

n/a	Costs not attributable to the Agency	<1k	Costs to Agency under £1,000
u/k	Costs to Agency are unknown	p.a.	Per Annum

Issue 1: Effluent Discharges

We regulate the disposal of effluent by issuing consents to control discharges, including treated sewage and industrial wastes. Rivers and coastal waters can naturally render the main constituents of many effluents harmless and with proper controls over effluent disposal the environment will not be harmed.

We aim to maintain and, where appropriate, improve the quality of water. We achieve this by setting water quality targets for the catchment based on RQOs to protect recognised uses, standards laid down in EC Directives and international commitments.

A number of South West Water Ltd sewage discharges are known to cause or contribute to the exceedence of water quality targets. These discharges will be improved through the Water Companies' investment programme for the period 2000-2005, known as Asset Management Plan 3 (AMP3). AMP3 has been developed along guidelines agreed between the Environment Agency, the Department of the Environment, Transport and Regions (DETR) (now the Department for Environment, Food and Rural Affairs (DEFRA)), the water services companies (SWW Ltd) and the Office of Water Services (OFWAT).

Improvements to the following STWs will be carried out under AMP3.

STW	Required Treatment Level	Investment Driver	Completion Date
Kingston	Increase in treatment capacity and improved secondary treatment	Urban Waste Water Treatment Directive and protection of downstream River Quality Objective	31 March 2005
Woolston	Secondary treatment and further improvements	Urban Waste Water Treatment Directive and protection of downstream River Quality Objective	31 August 2004
Brownston	Secondary treatment	Urban Waste Water Treatment Directive	31 March 2005
West Charleton	Increase in treatment capacity, improved secondary treatment, ultraviolet (UV) disinfection and reduction in storm discharges	Urban Waste Water Treatment Directive, protection of downstream River Quality Objective and Shellfish Waters Directive	31 August 2004

Frogmore & Chillington	Ultraviolet (UV) disinfection	Shellfish Waters Directive	31 December 2004
Stoke Fleming (North)	Primary treatment	Urban Waste Water Treatment Directive	31 March 2005
Stoke Fleming (South)	Primary treatment	Urban Waste Water Treatment Directive	31 March 2005
Torcross	Appropriate treatment	Urban Waste Water Treatment Directive	31 March 2005
Holbeton	Secondary treatment and ultraviolet (UV) disinfection	Urban Waste Water Treatment Directive and Bathing Waters Directive	31 December 2001*
Galmpton (Hope Cove)	Increase in treatment capacity, secondary treatment, ultraviolet (UV) disinfection and reduction in storm discharges	Urban Waste Water Treatment Directive and Bathing Waters Directive	31 December 2001*
Strete	Outfall improvements	Urban Waste Water Treatment Directive	31 December 2004
Ivybridge	Increase in treatment capacity	Urban Waste Water Treatment Directive	31 August 2004
Aveton Gifford	Ultraviolet (UV) disinfection and reduction in storm discharges	Shellfish Waters Directive and Bathing Waters Directive	See text below *
Kingsbridge (Gerston)	Ultraviolet (UV) disinfection and reduction in storm discharges	Shellfish Waters Directive	31 August 2004
Slapton	Effluent phosphate reduction (depending on outcome of investigations)	To protect a Site of Special Scientific Interest	31 March 2005
Blackawton	Effluent phosphate reduction (depending on outcome of investigations)	To protect a Site of Special Scientific Interest	31 March 2005

* South West Water Ltd are planning to complete the AMP3 improvements at Holberton STW and Galmpton (Hope Cove) STW by March 2002. The AMP3 improvements for Aveton Gifford STW (improved UV disinfection) and associated intermittent discharges were planned for completion by South West Water Ltd by 30 September 2001. South West Water Ltd have completed the upgrade of the disinfection at Aveton Gifford STW but have not completed the work to the intermittent discharges.

Improvement to 32 intermittent discharges are also to be carried out under AMP3. The completion dates for these improvements range from 31 December 2001 to 31 December 2005. The investment drivers for the improvements vary. Six of the discharges require improvement under the EC Bathing Waters Directive, nineteen under the EC Shellfish Waters Directive and the remainder to meet the requirements of the EC Urban Waste Water Treatment Directive.

During Summer 2000, we completed investigations to identify the probable cause of the 1998 failure of Bantham Beach to comply with the mandatory standards of the EC Bathing Waters Directive. It was concluded that this was likely to have resulted from bacterial loading from Burgh Island discharges, the River Avon and Buckland Stream. Following improvements to the sewage disposal system on Burgh Island and the installation of temporary UV disinfection at Aveton Gifford STW in 1999, the water quality at Bantham Beach improved. Further improvements to the water quality at Bantham Beach are considered to be limited to improvement to the water quality of Buckland Stream. Septic tank discharges at Buckland are identified as having a detrimental impact on water quality of the stream. **Action 1e.**

No	Action	Lead/ *Other*	Start	End	Cost	Progress
1a ▼	Improvements to be carried out under UWWTD to Holbeton STW (by 31 December 2001).	SWW Ltd, *Agency*	01/12/98	31/12/01	n/a	Discussions are continuing with SWW Ltd. Improvements are required by the end of 2001, with provision of secondary treatment and UV disinfection under the water company's AMP3 programme.

No	Action	Lead/ *Other*	Start	End	Cost	Progress
1b ●	Liaise with Centre for Environment, Fisheries and Science (CEFAS) to obtain more detailed information on the bacterial quality of shellfish.	Agency	01/12/98	31/03/03	<1k	Liaison with CEFAS is ongoing as part of our routine work. The designated sites in the LEAP area are monitored as required. This action is now closed because we are not undertaking any work outside our routine work.
1e ▼	Continue discussion between SHDC, Parish Councils, SWW Ltd and the Agency regarding improvements to sewage discharge at Buckland.	Owners/ Occupiers, Parish/District Councils, SWW Ltd, *Agency*	01/12/98	31/03/03	<1k	Discussions between the Parish Council and SWW Ltd are continuing. We have provided information to the Parish Council regarding the environmental impact from the discharges.
1f ▼	Continue to seek restrictions on development in areas where sewerage and/or sewage treatment facilities are inadequate and pursue improvements to such discharges.	Agency, SWW Ltd	01/12/98	31/03/03	u/k	We continue to do this as part of our routine planning liaison activities.
1g ▼	Investigate options for resolving environmental impact of Beeson STW.	Agency, SWW Ltd	01/04/99	31/03/03	u/k	Following assessment of the data held concerning the environmental impact of Beeson STW, we plan to undertake more chemical monitoring in the next financial year to obtain further evidence of the environmental impact.
1i ▼	Investigate nutrient loading from Slapton and Blackawton STWs and seek any required improvements in AMP3.	Agency, EN, SWW Ltd	01/04/99	31/03/03	u/k	We are awaiting the results of SWW Ltd's investigation outlining the impact of the STWs on the Ley. The investigation will determine whether nutrient reduction is required at Slapton and/or Blackawton STWs under AMP3.
New 1j ✖	Investigate the impact of Loddiswell STW on the River Avon at Hatch.	Agency	01/10/01	31/03/03	<1k	We will report on progress with this New Action in future plans.

Issue 2: Agriculture

Agricultural activities impact on the environment in several ways, but over the last ten years farmers have made significant improvements in farm waste storage facilities and disposal methods. This has resulted in a marked reduction in the number of point source pollution incidents attributed to farming and has contributed to an overall improvement in water quality. Work still needs to be done to solve the problem of diffuse pollution. The Department for Environment, Food and Rural Affairs (DEFRA) provides guidance to farmers[26] on minimising the risk of pollution to the environment.

Research[27] carried out by the University of Exeter, funded by the Agency and the National Environment Research Council, on the River Torridge highlighted the detrimental impact of siltation on spawning gravels

and identified sources of silt input. This has reinforced the need to install schemes such as fencing and buffer strips to reduce inputs. Lack of funding this year has prevented any schemes being progressed. **Action 2f**.

We have been working with farmers to identify 'best farming practices' which aid them to conserve important resources such as soil, pesticides and fertilizers including slurries and manures. A bid for funding to help disseminate best farming practice has been submitted to the Heritage Lottery Fund and we await a decision on this. **Action 2i**.

No	Action	Lead/ Other	Start	End	Cost	Progress
2b ▼	Review results of the monitoring of the River Erme from Fawn's Bridge to the Normal Tidal Limit to see if RQO failures recur and take action as appropriate.	Agency	01/10/01	31/03/03	<1k	This action has been reopened as this stretch marginally failed to comply with its long-term RQO in 2000. We will undertake a stretch inspection and plan to collect information concerning the impact of storm overflow discharges from Ermington STW. We no longer consider diffuse agricultural pollution to be the only possible cause of the poor water quality.
2f ▼	Conduct research into sediment intrusion into salmon redds and sources of sediment and use results to help prioritise remedial work.	Exeter University, Agency, NERC	01/12/98	31/03/03	5k	Lack of funding this year has prevented putting in any systems to reduce the impact of siltation on spawning gravels.
2h ▼	Promote measures to reduce excessive bankside erosion (e.g. fencing, tree planting and coppicing) where appropriate.	Agency, Landowners, Fishing Interests	01/12/98	31/03/03	u/k	No further progress has been made with this action due to the lack of funding this year.
2i ▼	Encourage farmers to adopt appropriate Best Farming Practices to Protect Soils and Water.	Agency, DEFRA, NFU, CLA	01/12/98	31/03/03	u/k	Dissemination to farmers in the Slapton Ley catchment is planned as part of the Heritage Lottery Fund bid. We await to hear if it was sucessful. See also text above.
2j ■	Review results of erosion mapping survey to be carried out by Oxford University and use results to help prioritise remedial work.	Agency, Oxford University, FSC	01/04/99	31/03/03	<1k	Progress awaited from Oxford University.
2k ▼	Explore opportunities for the application of beneficial agri-environment schemes (ESA, Countryside Stewardship, etc) at relevant locations.	DEFRA, *Agency*	01/12/98	31/03/03	<1k	Dialogue has continued between EA, DEFRA, DNPA to ensure that agricultural schemes benefit the water environment. See Action 10a-c.

Issue 3: Urban Development

Development in the catchment is largely restricted to the towns of Kingsbridge, Salcombe and in particular, Ivybridge. This issue addresses identified current and potential future problems associated with development in the catchment, which are of direct interest to the Agency.

The District Councils and the Park Authority control development within the catchment and we are a statutory consultee in the planning process. We work closely with the local planning authorities in order to influence the location and the type of development as an integral part of our work to protect and enhance the environment.

Floodline - Any person or organisation who would like to receive direct flood warnings should contact us. Leaflets are available which give information on the service provided. Recorded information about current flood warnings in force at any time is available via FLOODLINE 0845 988 1188. Flood warnings are also available 24-hours a day via our internet site www.environment-agency.gov.uk/floodwarning. Information packs on Floodline including advice on what action to take before, during and after a flood are also available from the Agency on request.

The **Contaminated Land Regulations** came into force on 1 April 2000. As required by the Regulations, South Hams District Council have published their Contaminated Land inspection strategy which they will implement to identify areas of Contaminated Land within their district. Once sites have been identified, it will be necessary to decide what remedial work is required and we will be working with the local authorities on this. The District Council will be responsible for holding the register of Contaminated Land sites. It is possible that some sites may be classified as 'Special Sites' and we will be responsible for the regulation of these sites. **Action 3d**.

We have identified that water quality within Slapton Ley is impacted by activities in Slapton Village. We are hoping to address this via a Heritage Lottery Fund project with South Hams District Council. **Action 3h**.

No	Action	Lead/ Other	Start	End	Cost	Progress
3a ▼	Work with local planning authorities to ensure that policies to protect the environment from pollution are included in Local Plans.	Agency, *SHDC, DNPA*	01/12/98	31/03/03	<1k p.a.	We continue to do this as part of our routine planning liaison activities.
3b ●	Work with others to reduce the impact on water quality in the River Erme from drainage from construction.	Agency, *Developers, SHDC*	01/12/98	31/03/03	u/k	We are not aware of any pollution incidents resulting from construction site drainage. We continue to routinely provide pollution prevention advice and promote sustainable development. This action is now closed as we are not intending to undertake further targeted action.
3c ▼	Encourage local authorities to incorporate conditions in planning permissions which reduce the risk to the environment from construction.	Agency, *SHDC, DNPA*	01/12/98	31/03/03	<1k p.a.	We continue to seek conditions which will help to protect the environment and promote sustainable development as part of our routine activities.
3d ▼	Produce database on contaminated land sites in the catchment and ensure there is effective consultation with local authorities regarding contaminated land sites.	SHDC, WDBC, Agency	01/12/98	31/03/03	u/k	SHDC have published their Contaminated Land inspection strategy. The LA will then produce a database/public register of all Contaminated Land sites in their area.
3e ■	Consult and liaise with planning authorities regarding 'Level B' studies and provide floodplain mapping information as it becomes available (S105 Water Resources Act 1991).	Agency, SHDC, DNPA	01/12/98	31/03/03	u/k	No Level 'B' studies have been undertaken to date within the catchment, such studies will only be undertaken when resources permit.

No	Action	Lead/ Other	Start	End	Cost	Progress
3f ▼	Agree programme for works at Slapton Ley to alleviate flooding of Torcross.	SHDC, DCC, Agency, *FSC, EN*	01/12/98	31/03/03	u/k	SHDC funding has yet to be allocated for the drainage scheme around the Methodist Chapel area. The SWW Ltd's element of the problem is due for completion in 2002 and 2005.
3h ▼	Work with others to reduce the impact on water quality in Slapton Ley from Slapton Village.	Agency, SHDC, FSC, Villagers	01/04/01	31/03/04	30k	We await the decision on the Heritage Lottery Fund bid.

Issue 4: Barriers to Fish Migration

There are 34 weirs and other obstacles in the Avon and Erme Catchment, some of which are complete barriers to the migration of salmon and trout. Many of the works required on the weirs call for considerable expenditure to make them passable under all flow conditions. The Agency has limited resources to carry out these improvements and is now very reliant on external contributions and collaborative schemes to ensure that they are achieved.

Curtisknowle Weir – The investigation to see whether the weir can be altered to improve fish passage without compromising abstraction from the weir is ongoing. The high flows of 2000/2001 curtailed the Agency's efforts to take further flow gaugings that could be associated with those taken during 2000. We expect to investigate water interests associated with the weir as part of any future abstraction licence application. **Action 4c**.

No	Action	Lead/ Other	Start	End	Cost	Progress
4a ▼	Make abstractors aware of problems caused by inadequate screening and ensure screens are installed to Agency satisfaction and timetable.	Agency, *Abstractors*	01/12/98	31/03/03	u/k	The Agency is continuing to work with abstractors in the catchment and seeks to have solutions in place by the end of 2003.
4b ■	Modify man-made barriers in the system to permit fish passage.	Agency, Fishing Associations, Riparian Owners, *Others*	01/12/98	31/03/03	u/k	We are considering outline proposals from the Island Trust to reinstate Brent Island Weir at South Brent. If rebuilt a fish pass will have to be installed.
4c ▼	Investigate and resolve unauthorised reinstatement works at Curtisknowle Weir.	Agency	31/03/00	31/03/03	u/k	High river flows have prevented flow gauging work, but investigations to improve fish passage is ongoing (see text above).

Issue 5: Additional Threats to the Salmonid Fishery

Many of the factors which influence numbers of migratory fish (salmon and sea trout) returning to the river to spawn fall outside our statutory responsibilities; for example, distant water fisheries and the Irish drift net fishery. This places particular importance on measures adopted locally to maximise the number of fish

returning to spawn, and to ensure that conditions in the river system are favourable for successful spawning and survival. We will continue to campaign for a reduction in high seas netting, particularly the Greenland, Faroes and Irish Drift Net Fisheries.

No	Action	Lead/ *Other*	Start	End	Cost	Progress
5a ■	Develop Salmon Action Plan.	Agency	01/04/01	31/03/03	5k	No progress due to a lack of funding.
5b ■	Seek designation of additional stretches of river under the EC Freshwater Fish Directive.	Agency, DEFRA	01/12/98	31/03/03	<1k	We will be raising the issue of designation of new river stretches, under the EC Freshwater Fish Directive, with DEFRA by the end of 2001.
5c ▼	Continue research into the effects of fish-eating birds. Disseminate findings of research and develop actions if appropriate.	Agency, DEFRA	01/12/98	31/03/03	u/k	We continue to follow Government guidance.

Issue 6: Waste Management Activities

The National Waste Strategy[28] sets out the Government's framework for the management of waste. It identifies ways in which waste can be managed in a more sustainable way, and sets out targets for achieving that aim through reduction, re-use, recycling, composting and recovering energy.

We are keen to promote the reduction of waste at source and continue to support business waste minimisation groups. Groundwork EBS (formerly known as PAYBACK), a business environment association working in partnership with Business Link, local authorities and ourselves initiate schemes for businesses to reduce waste at source, as part of a wider initiative covering the whole county. The first South Devon Waste Minimisation Group ran a successful project in 1999 and the success was repeated with a second group in Winter 2000. Seven companies took part in the second project and as a result have set up a number of waste initiatives. The total potential savings identified by the companies were over £200,000. **Action 6a.**

No	Action	Lead/ *Other*	Start	End	Cost	Progress
6a ▼	Support Groundwork EBS/Business Link initiative to reduce waste at source.	Groundwork EBS, Business Link, Agency, *DCC, SHDC, TDC, TC*	01/12/98	31/03/03	10k	The second South Devon Waste Minimisation Group set up many waste initiatives and potentially saved over £200,000.
6d ▼	Liaise with the Waste Disposal Authority to provide a system of control of migration of landfill gas from Molescombe tip, and ensure a comprehensive monitoring and restoration plan is implemented.	Agency, WDA	01/12/98	31/03/03	<1k	DCC to start site remediation work to consider risks to water quality, landfill gas emissions and heat generation. We will undertake a biology survey in Autumn 2001 to provide advice to DCC of the impact on biological quality of the stream.

Issue 7: Water Abstraction

Water is an essential but finite resource. One of the Agency's roles is to protect the water environment (lakes, rivers and wetlands) from over-abstraction whilst considering the needs for water of the public, agriculture and industry.

We are not responsible for the supply of water to households and industry but have a central role in water resources planning in England and Wales. We continue to protect the environment by comparing future demands for water with water availability, and seek to identify options to balance the two in an environmentally sustainable manner. To help achieve this we work closely with water companies requiring them to prepare and submit their individual Water Resources Plans looking 25 years ahead. In addition, the Agency's national and regional water resources strategies were published in the Spring of 2001. These documents consider the wider issues of how we can protect the environment and ensure reliable water supplies to 2025.

A region wide reassessment of available catchment resources started in April 2000 is known as Catchment Abstraction Management Strategies (CAMS). It forms a major part of a wide consultation exercise. From 2004 we are investigating and assessing the availability of water resources within the Avon and Erme catchment.

No	Action	Lead/ Other	Start	End	Cost	Progress
7a ▼	Investigate need and feasibility for increasing prescribed flow at Harford Moor intake on the River Erme.	Agency, SWW Ltd	01/04/99	31/03/03	n/a	Technical assessment is ongoing.
7b ▼	Investigate feasibility for increasing the compensation flow from Avon Reservoir.	Agency SWW Ltd	01/04/99	31/03/03	n/a	Technical assessment is ongoing.

Issue 8: Cryptosporidium

Cryptosporidium is a microscopic animal that can infect the gut of humans and other animals. One species, *Cryptosporidium parvum*, can cause Cryptosporidiosis, a disease that produces prolonged severe diarrhoea in humans. *Cryptosporidium parvum* is thought to be widely present in the environment and may be found in cattle and sheep.

Occasionally outbreaks of Cryptosporidiosis occur in human populations, and the public water supply is often implicated in these situations. The risk of *Cryptosporidium* entering the water supply is thought to be greatest where there is a direct river abstraction, particularly in an agricultural catchment. SWW Ltd can abstract water for public supply at the Bala Brook and in the headwaters of the River Erme.

In response to the increased awareness of the potential risk to public health posed by this organism a task group was formed in 1997 with representatives from SWW Ltd, MAFF (now DEFRA), Environmental Health Departments and the Environment Agency. This group has assessed the risk of *Cryptosporidium* entering the public water supply in the South West and SWW Ltd are reviewing procedures for the spreading of sewage sludge in catchments with potable supplies such as this one. The Environment Agency, in conjunction with MAFF (now DEFRA), is also promoting the Code of Good Agricultural Practice in the same catchments.

Increasing awareness of the risk of *Cryptospiridium* entering groundwater and contaminating borehole water supplies has recently lead to the need for risk assessment of potable groundwater sources. As part of a nation-wide initiative, SWW Ltd have been required by the Drinking Water Inspectorate (DWI) to complete an assessment of the risk posed to their groundwater sources and identify corrective action to mitigate risk

where required. Following on from this work, we have initiated a review of our own network of groundwater monitoring positions across the South West to ensure the potential risk of transmission of *Cryptosporidium* to groundwater is minimised.

Issue 9: Air Pollution

Air pollution can damage flora, fauna and buildings and can have significant effects on soils and water. Sources of air pollution include traffic, industrial processes and power generation. These sources may be present within or outside the catchment. Ambient concentrations of air pollutants are generally lower in the South West of England than in other part of England and Wales, although local data is limited. The National Air Quality Strategy[29] requires local authorities to examine the air quality within their areas and, through a system of review and assessment, determine whether set standards and objectives for specific pollutants are likely to be met by 2005.

Eutrophication – There is concern that the deposition of atmospheric nitrogen can act as a fertilizer and cause change to plant growth and lead to eutrophic conditions in the waterbody. The Institute of Terrestrial Ecology is carrying out a national monitoring programme for atmospheric ammonia to obtain a more accurate assessment of potential aerial nitrogen deposition. The National Environmental Research Council (NERC) has a research programme called Global Nitrogen Enrichment (GANE). The first GANE newsletter is available on the Web site at http://www.ncl.ac.uk/gane/news.doc. **Action 9d.**

No	Action	Lead/ Other	Start	End	Cost	Progress
9b ▼	Improve knowledge of status of lichen communities sensitive to air pollution in the catchment.	EN, DNPA, Agency	01/12/98	31/03/03	u/k	The Dartmoor BAP (published 2001) includes an action to monitor sample populations of key species and air quality indicators every five years to assess changes in population size and habitat quality including air and water quality.
9c ▼	Co-operate in development of clean air quality standards to protect key species.	EN, JNCC, Agency, DNPA	01/12/98	31/03/03	<1k p.a.	The Agency has influence through the planning process. The Dartmoor BAP contains relevant actions taken from Dartmoor Species Action Plan for Mosses, Lichens and Ferns.
9d ▼	Conduct and support research to improve understanding of effects of airborne acidification and eutrophication on semi-natural habitats and species.	Universities, Agency, EN, DNPA, ITE	01/12/98	31/03/03	u/k	Slapton Ley is one of 40 shallow lakes in the UK to be sampled in the GANE research programme.

Issue 10: Biodiversity and Earth Science

The conservation of Biodiversity, or the variety of life, has been recognised as an international issue. Biodiversity actions for the Avon and Erme LEAP area are aimed to be integral with and guided by the following documents: Biodiversity: The UK Steering Group Report[30], Action for Biodiversity in the South West (1997)[31], The Nature of Devon: A Biodiversity Action Plan for Devon[10], Action for Wildlife – the Dartmoor Biodiversity Action Plan[12].

The UK Biodiversity Action Planning process has continued to develop with Action Plans now extending to six volumes covering a very wide range of species and habitats. In addition the production of the Dartmoor BAP

will guide priorities within the LEAP area. Additional habitats and species have been identified through the UK BAP process. We are the contact point or Lead Partner for a number of species, mainly the lower plants and invertebrates. Devon rivers have been found to be particularly valuable for river shingle beetles.

The Countryside and Rights of Way Act 2000 provides a statutory basis for biodiversity conservation. Government Departments have a duty to have regard to biodiversity conservation. Procedures associated with the notification, protection and management of SSSIs are improved, and legal protection for threatened species is strengthened. Management of Areas of Outstanding Natural Beauty is also improved.

The Environment Agency has produced "Focus on Biodiversity" [32] which summarises the Agency's contribution to the national BAP process.

To avoid repetition we have not included previous introductory text on different habitats and are using this document primarily to update on actions. National and County targets for habitats and species have been set and we are progressively adapting them on a catchment scale. We have amended some of the previous, often generic targets, with more specific targets for the catchment. Some of the actions for Biodiversity and Earth Science have been reworded to rationalise and reflect the current status of Biodiversity Action Planning in the catchment.

10a: Loss/deterioration of key habitats and species in general

Although Action 10a-a was completed at the First Annual Review, we continue to contribute to Biodiversity Action Planning and earth science conservation. For this reason we have created Action 10a-e reflecting the ongoing and expanding nature of this process.

There is ongoing management of UK BAP habitats at Slapton Ley, including: coastal shingle vegetation, eutrophic standing water, fen, reedbed, grazing marsh, wet woodland. **Action 10a-e.**

10a-d Targets: (i) Promote the uptake of ESA so that 80% of eligible land is under agreement by 2005.

(ii) Outside the ESA area, 80% of all County Wildlife Sites larger than 5 hectares to be entered into management agreements by 2005.

No	Action	Lead/ Other	Start	End	Cost	Progress
10a-b ▼	Promote and implement action plans, particularly for those features, habitats and species which may be affected by our operational or regulatory activities.	Agency	01/12/98	31/03/03	5k	Ongoing through our work under the Habitats Directive. A site action plan has been produced for shore dock.
10a-c ▼	Work with others to ensure that prescriptions and payments, under agri-environment schemes such as ESA and Countryside Stewardship, are set so as to allow objectives to be met.	DEFRA, Agency, Landowners	01/12/98	31/03/03	2k	We are working with DEFRA but progress was affected by the Foot and Mouth outbreak, see also Action 2k.
10a-d ▼	Encourage uptake of agri-environment schemes, particularly where there are benefits for target features, habitats or species.	Agency, Landowners, Managers, Others	01/12/98	31/03/03	1k	Ongoing.
10a-e ▼	Continue to progress Biodiversity Action Plans and earth science conservation.	Agency, Others	01/04/00	31/03/03	7k p.a.	The Dartmoor Project started in September 2001, but DNPA continue to seek funding for its two subsequent years.

10b: Loss/deterioration of blanket bog

English Nature is using remote sensing by aerial photography to assess the state of blanket bog and to monitor future changes in vegetation.

10b-e Target: (i) *Achieve 90% of total resource in the catchment on Dartmoor under favourable management (with particular attention given to hydrologically linked sites and the effects of water abstraction) by 2005 and in favourable condition by 2010.*

No	Action	Lead/ Other	Start	End	Cost	Progress
10b-e ▼	Implement actions from Dartmoor BAP for blanket bog – includes prevention of uncontrolled burning to protect hydrology and research the effects of 'swaling'.	DNPA, Devon Fire Brigade, Agency, EN, DEFRA, Plymouth University	01/01/01	31/03/04	8k	Ongoing.

10c: Loss/deterioration of valley mire

10c-c Target: (i) *Ensure all located valley mires are maintained or restored to a favourable management condition (eg in terms of hydrology) by 2005.*

No	Action	Lead/ Other	Start	End	Cost	Progress
10c-c ▼	Promote and implement actions for valley mire and associated species from Dartmoor BAP, including Scarce Dragonlflies Action Plan which includes priorities for surveys to determine dragonfly interest.	EN, DNPA, Agency, DEFRA, BDS	01/01/01	31/03/03	3k	English Nature is using aerial photography to assess the state of valley mire and analysis is still to be done.

10d: Loss/deterioration of upland heathland

10d-a Target: (i) *Maintain moorland on Dartmoor with >25% dwarf shrub cover and restore 75% of degraded heath, within the catchment, to >25% dwarf shrub cover by 2005 and restore 90% by 2010.*

No	Action	Lead/ Other	Start	End	Cost	Progress
10d-a ▼	Promote and implement action plans for upland heathland and associated species from Dartmoor BAP.	DNPA, EN, Agency, DEFRA	01/12/98	31/03/03	1k	Dartmoor BAP has identified actions and lead responsibilities. Dartmoor ESA seen as main vehicle for achieving these targets. Fire Plans being produced by Dartmoor Commoners Council with support from DNPA. The Moorland Fire Liaison Group still meet to resolve practical issues concerning swaling on Dartmoor commons.

10e: Loss/deterioration of Rhôs pasture

Management work is continuing on Rhôs pasture sites under management agreements with the Dartmoor National Park Authority.

10e-a Target: (i) *Achieve a minimum of 75% of Rhôs pasture under management agreements with DNPA and/or within the Dartmoor ESA by 2001, with 90% by 2010.*

(ii) *Assess the potential for restoration of Rhôs pasture by 2001, to include targets for 2010.*

No	Action	Lead/ Other	Start	End	Cost	Progress
10e-a ▼	Promote and implement action plans for Rhôs pasture and associated species from Devon BAP and Dartmoor BAP.	DNPA, EN, Agency, DEFRA, Barn Owl Trust	01/12/98	31/03/03	3k	Ongoing. Butterfly Conservation have produced 'A guide to managing damp grassland' to benefit the marsh fritillary butterfly.

10f: Key catchment habitats and species associated with the freshwater environment

Much of **New Action 10f-d** is covered by the Agency's routine operational activities. Where we carry out works, we seek opportunities to protect and enhance conservation value of watercourses and wetlands. We discourage modifications such as culverting, inappropriate bank protection techniques and interference with natural channel features.

A variety of flood plain habitats at Slapton Ley are managed for nature conservation (see also text at 10a).

10f-d Target: *Ensure no net loss of river length and natural features. Restore 10km of river channel and 10 hectares of floodplain by 2010.*

10f-e Target: *Ensure no net loss of habitat and create 1 hectare of new reedbed by 2010.*

10f-f Target: *Safeguard and strengthen breeding otter populations on all watercourses and major water bodies within the catchment.*

10f-g Target: *(i)* *Ensure the protection of all known bat roosts. Achieve a 30% increase in the population of greater horseshoe bats within the catchment by 2010.*

(ii) *Achieve 10 site enhancement and protection initiatives for bats by 2003.*

No	Action	Lead/ Other	Start	End	Cost	Progress
10f-d ■	Implement actions from Devon BAP and Dartmoor BAP Freshwater Action Plan for Rivers, Streams, Floodplain & Fluvial processes, including: pollution control, production of water level management plans, increase floodplain habitats.	Agency SWW Ltd, *DWT, DNPA*	01/01/01	31/03/03	5k p.a.	Routine work is ongoing, but the planned bank protection works at Knapp Hill have yet to be started.
10f-e ▼	Implement actions from Devon Biodiversity Action Plan for Reedbeds – including encouragement of creation of new reedbeds and conservation management of existing areas.	Agency, Marine Conservation Officer	01/01/01	31/03/03	5k	Ongoing.

No	Action	Lead/ Other	Start	End	Cost	Progress
10f-f ▼	Implement actions from Devon BAP and Dartmoor BAP Freshwater Action Plan for Otters – including continued post-mortem examinations, habitat restoration.	Agency, DWT, *Riparian Owners*	01/01/01	31/03/03	3k	A study for the Highways Agency has looked at Otter mortality and roads. It focused on sites at watercourse crossings on the A38 and A30 and recommended improvements to reduce the number of road casualties.
10f-g ▼	Implement actions from Devon and Dartmoor Biodiversity Action Plans for bats which includes – protection and restoration of wetland and riparian habitats and encourage water quality levels which will help support populations of aquatic insects on which bats feed.	Agency, EN, DNPA, Devon Bat Group, DWT, Others	01/01/01	31/03/03	u/k	We assess the likely impact on bats as part of our screening process for planning proposals and for the Agency's own activities. We seek opportunities to enhance habitats for bats as part of new schemes.

10g: Threats to key bird species

No	Action	Lead/ Other	Start	End	Cost	Progress
10g-b ▼	Support research to determine effects of acidification on dipper populations.	Agency, BTO, Universities	01/12/98	31/03/03	<1k	This action is ongoing.
10g-c ▼	Record dipper nest sites and pass information to county highways section in relation to bridge repairs.	Agency	01/12/98	31/03/03	<1k	We continue to advise the Highways Authority of known nesting sites when we are consulted by them with regard to bridge repairs.

10h: Threats to key fish species

A range of activities threaten salmon. Actions for this species are covered in Issues 2, 4 and 5 of this Annual Review.

No	Action	Lead/ Other	Start	End	Cost	Progress
10h-a ▼	Improve knowledge of the distribution and abundance of bullhead and lamprey species, ensuring lampreys are identified to species level in fisheries surveys.	Agency	01/12/98	31/03/03	<1k	Species abundance is included in our routine survey programme.

10i: Threats to freshwater lagoon habitats

No	Action	Lead/ Other	Start	End	Cost	Progress
10i-a ▼	Investigate changes to flora and fauna of Slapton Ley through an agreed programme.	FSC, EN Universities, Agency	01/12/98	31/03/03	u/k	Survey and study work is ongoing.
10i-b ▼	Promote and support the establishment of a voluntary action group with input from statutory agencies to tackle recognised problems in the Ley through collaborative approach.	EN, FSC, Agency, DEFRA, NFU, CLA	01/12/98	31/03/03	1k p.a.	Ongoing.

10j: Loss/deterioration of shingle bar habitats

Shingle bars have both biological and earth science importance. The shingle bank at Slapton is part of the National Nature Reserve and has been identified as an internationally important site. There are several unusual species which are adapted to the harsh conditions which prevail and a clear transition can be seen across the bar. Both the plants and the physical feature are vulnerable to damage by recreational activities. Shingle bars are also vulnerable to changes in sediment processes. The actions relating to this issue are addressed in Actions 3f and 3g.

10k: Threats to estuarine habitats

No	Action	Lead/ Other	Start	End	Cost	Progress
10k-a ▼	Promote and implement action plans for estuaries and associated habitats and species from Devon BAP.	Agency, SHDC, Marine Conservation Officer, DWT, Landowners	01/12/98	31/03/03	2k	Estuary Management Plans have been produced for the Avon, Erme and Salcombe/Kingsbridge Estuaries by the Marine Conservation Officer (see Actions 14a and 14b) We also work to prevent inappropraite infilling along estuaries through our routine planning activities.
10k-b ▼	Support initiatives to enhance fringing habitats (grazing marsh, reed swamp) around Salcombe Kingsbridge Estuary.	Agency, SHDC, Marine Conservation Officer	01/12/98	31/03/03	1k	North Sands site enhancement works are completed and site interpretation is to be completed this winter. West Charleton Marsh is under conservation management.
10k-c ▼	Investigate possibilities for water level management, particularly on grazing marshes alongside the Avon and Erme estuaries.	EN, Agency, Landowners	01/04/99	31/03/03	u/k	Progress regarding water level management is co-ordinated via the Estuary Management Plans (see Actions 10k-a, 14a and 14b).
10k-d ●	Support investigations to determine reasons for decline in number of swans on Salcombe Kingsbridge Estuary.	Agency, Marine Conservation Officer	01/12/98	31/03/03	1k	The swan population is no longer felt to be under anthropogenic threat. The decline in their number appears to be due to natural causes. Action closed.

10l: Threats to key plant species

Two plant species occur in the catchment which are very localised in the UK and are considered to be vulnerable overall. Dwarf spike rush occurs in a few areas in tidal mud in the Avon Estuary while pennyroyal is found only in damp grassland around the Salcombe Kingsbridge Estuary. We will work with others to ensure that these species remain in their present sites and increase if possible. Heath lobelia, a plant of damp lowland heath, is threatened in Europe. Its largest regional population is found in the Avon catchment. Although the site is protected, there is a need for careful management to protect the population. Agricultural improvement outside the protected area is also a threat.

No	Action	Lead/ Other	Start	End	Cost	Progress
10l-a ▼	Contribute to local action plans to protect and encourage spread of dwarf spike rush and pennyroyal.	Agency, SHDC, BSBI, Marine Conservation Officer	01/12/98	31/03/03	<1k	Conservation measures are proposed in the Avon Estuary Management Plan.

Issue 11: Spread of Non-native Invasive Plants

Together with Plantlife and Pesticide Action Network, we are working nationally to raise the issue of invasive plants. Media interest is increasing, the issue was highlighted on the BBC Watchdog programme, and new legislation is anticipated shortly to aid regulation of invasive plants.

The management and control of estuarine and marine invasive species are proposed within the relevant Estuary Management Plans, and their introduction discouraged by Salcombe Kingsbridge Estuary codes-of-conduct and the proposed Local Nature Reserve Byelaws.

No	Action	Lead/ Other	Start	End	Cost	Progress
11a ▼	Record all occurences of invasive species on sites owned or managed by the Agency and implement control programmes.	Agency, SHCCS	01/12/98	31/03/03	3k p.a.	We continue to take measures to control invasive plants on sites managed or owned by the Agency as part of our routine work.
11b ▼	Collaborate with Japanese knotweed control programmes initiated by others.	Agency, DNPA, SHDC, SHCCS	01/12/98	31/03/03	u/k	The Agency has produced a Code of Practice for the management of Japanese knotweed, and an advisory leaflet on its control, management and disposal. Devon Biodiversity Records Centre have started a county-wide recording programme, which is intended to lead to a control strategy for the whole of Devon. We have been distributing DBRC recording forms with the advisory leaflet.
11c ▼	Encourage removal/control programmes for invasive plants (bankside and aquatic) to be carried out by riparian owners, pond owners and other interested bodies.	Agency, SHCCS	01/12/98	31/03/03	<1k	We continue to provide specialist advice on the management of invasive plants.

No	Action	Lead/ Other	Start	End	Cost	Progress
11d ▼	Raise awareness among general public and distributors of problems associated with introduced aquatic plants, and discourage suppliers from making invasive species available.	Agency, Garden Centre Trade Association, SHCCS	01/12/98	31/03/03	1k	DEFRA are producing a review of non-native species legislation which we hope will help address this issue.
11e ▼	Check ponds for presence of alien species as part of routine operations.	Agency, SHCCS	01/12/98	31/03/03	1k	This action is ongoing as part of our routine work.

Issue 12: Recreational Use of the Catchment

We have a general duty to promote the use of inland and coastal waters for recreational purposes, and to take account of the needs of the less able. In carrying out this duty we balance the potential conflicts between conservation and recreation. We will not encourage new access routes or promote the use of particular rights of way without considering the needs of landowners or other countryside interests.

The Countryside and Rights of Way Act 2000 gave the public a new right of access to mountain, moor, heath, down and registered common land. It also recognised the needs of landowners and managers. The Act also improved the rights of way legislation by encouraging the creation of new routes and clarifying uncertainties about what rights already exist.

Although a local code of practice exists for vessels approaching surface dwelling marine fauna, there are concerns over disturbance of marine mammals by pleasure craft off the South Devon coast and within its estuaries. Stephen Westcott, a regional authority on seals, has carried out research and made recommendations to reduce disturbance of grey seals at haul-out areas, commonly rocks where seals bask out of the water. Lindy Hingley, Brixham Seawatch, has made observations of bottlenose dolphins in the Salcombe Kingsbridge Estuary displaying avoidance behaviour of boats and showing signs of stress. Seaquest, a joint marine initiative between Devon and Cornwall Wildlife Trusts, are initiating a public debate on these issues. It is hoped that management and codes of practice can be introduced through Estuary Management Plans, see Issues 10 and 14.

Salcombe Harbour Authority have produced a Harbour Guide which includes a Code of Conduct for boat owners regarding approaching pelagic creatures (Pelagic Animals Protection Scheme).

The Dartmoor BAP, including the Freshwater Action Plan, encompasses issues relating to access and recreational use.

The Agency has supported research into antifouling paints containing the biocide Irgarol 1051 and diuron (see **Action 12e**). Following a review of Irgarol 1051 and diuron by the Health and Safety Executive, the Advisory Committee on Pesticides has revoked the use of these biocides. The sale of products containing diuron was prohibited from November 2001 and the use of diuron will be banned in November 2002. The advertisement and sale of Irgarol 1051 for amateur use was banned in November 2001 and use on small boats (less than 25 metres in length) is prohibited from November 2002. The sale or advertisement for professional use will be banned from July 2002 and the use on boats over 25 metres in length will be prohibited from July 2003.

Although monitoring for Irgarol 1051 has not been carried out on the Salcombe Kingsbridge Estuary we have taken numerous water samples from the Dart and Teign estuaries and analysed them for Irgarol 1051. Irgarol was not detected in 73 out of 74 samples (the limit of detection being <8 ng/l) and only one sample positively contained Irgarol at a concentration of 11 ng/l; these results are similar to those found in other UK estuaries (although concentrations in marinas can be as high as 1400 ng/l). In view of these results it was deemed unnecessary to conduct sampling on the Salcombe Kingsbridge Estuary as we would not expect this estuary to be any more contaminated with Irgarol than the Dart or Teign (see **Action 12f**).

However, the Agency does visit boatyards, when necessary, to provide advice on pollution prevention measures and raise awareness of which antifoulants may be legally used on small boats. There is a pollution and prevention guideline leaflet available from Agency offices entitled 'Marinas and Craft: PPG 14" which gives advice on minimising the environmental impact of boat hull cleaning and antifouling. This can also be found on the internet at http://www.environment-agency.gov.uk/business/ppg/ppg14?version=1. In addition, the Environment Agency, in conjunction with the Health and Safety Executive, has produced a leaflet entitled 'Safe Waters – Using antifouling paints safely: A guide for private boat owners'. **Action 12f.**

No.	Action	Lead/ *Other*	Start	End	Cost	Progress
12a ▼	Work with others to develop sustainable recreation in the catchment which does not conflict with wildlife interests.	Agency, Estuary Project, DNPA, SHCCS	01/12/98	31/03/03	1k	This action will be progressed via the Estuary Management Plans.
12b ▼	Take part, as a neutral party, in any discussions over access agreements for canoeists.	Agency, *DNPA, BCU, ROs*	01/12/98	31/03/03	>1k	This forms part of our routine activities, however there has been no requirement for particular discussions this year.
12c ▼	Carry out further investigation into causes of saltmarsh erosion in Avon Estuary.	SHDC	01/12/98	31/03/03	u/k	This action is still being investigated.
12e ●	Support research into the anti-fouling paint irgarol and its environmental effects.	Agency	01/12/98	31/03/03	u/k	WRc's report 'Environmental Modelling of Antifoulants', contract research report 342, has been published by Health and Safety Executive books, see also text above. This action is now completed.
12f ●	Consider relevance of local and national studies on Irgarol 1051 to the Salcombe Kingsbridge Estuary.	Agency, *Estuary Project*	01/04/99	31/03/02	1k	Monitoring for Irgarol 1051 on the Salcombe Kingsbridge Estuary is not considered to be necessary, however the Agency does provide pollution prevention advice, see text above. This action is now closed.
12j ●	Carry out data analysis to identify if an investigation is necessary at Thurlestone (North) Bathing Water.	Agency	01/04/01	31/03/02	u/k	Data analysis showed that water quality of the bathing water has deteriorated since 1996. This action is closed and a New Action 12k opened for an investigation.
New 12k ✖	Investigate the cause of deteriorating water quality at Thurlestone (North) Bathing Water.	Agency	01/10/01	01/10/03	u/k	We have carried out a dry weather survey of the catchment and a wet weather survey is planned. We will report on findings in future plans.

Issue 13: Lack of Information on the Archaeological/Historic Value of the Catchment

The catchment contains many sites of historic and archaeological value, the majority of which are found on Dartmoor. There are 148 Schedule Ancient Monuments within the catchment, and two Historic Parks and Gardens. Buildings and structures of county importance are protected under the Planning (Listed Buildings and Conservation Area) Act 1990. Thirty-one Built Conservation Areas have been declared in the catchment.

We have a duty to have regard to the protection and conservation of buildings, sites and objects of archaeological or historic interest when considering any proposals relating to our functions. Archaeological/historic features as yet unidentified are at risk from new developments or changes in land use.

No	Action	Lead/ *Other*	Start	End	Cost	Progress
13a ■	Support production of document(s) covering entire area; investigate potential for collaboration.	DCC, LAs, EH, DNPA, DAS, Agency, RCHME, U of Exeter, NT	01/12/98	31/03/03	u/k	There has been no further progress on this action this year.

Issue 14: Estuary Management Plans

The Salcombe Kingsbridge Estuary Environmental Management Plan[33] was produced in 1994 and is presently being reviewed. The management plan for the Avon Estuary[16] was produced in Autumn 2001. The Erme Estuary Management Plan is at the draft stage and the inaugural meeting of the Erme Estuary Management Advisory Group was held in October 2001. The Marine Conservation Officer produces and manages all these plans and is based at the Harbour Offices in Salcombe. The Agency is represented on the Estuary Conservation Forum and has a close working relationship with the Marine Conservation Officer.

No	Action	Lead/ *Other*	Start	End	Cost	Progress
14a ▼	Continue to contribute to Salcombe Kingsbridge Estuary Conservation Forum.	Agency, Marine Conservation Officer	01/12/98	31/03/03	<1k	We continue to attend meetings and liaise with the Marine Conservation Officer.
14b ▼	Prepare an Estuary Management Plan for the Avon and Erme Estuaries in partnership with relevant organisations, landowners and estuary users in order to ensure and maintain the sustainable use of the estuaries.	Marine Conservation Officer, Agency, SHDC, DCC, EN, Duchy of Cornwall, Flete & Evans Estates, Users, *Others*	01/04/99	31/03/03	<1k	The Avon Estuary Action Plan document was published in Autumn 2001. The Erme Estuary Management Plan is at the draft stage.

Issue 15: Unknown Causes of Poor Water Quality

The investigation into the cause of poor water quality of the South Grounds Stream has recently commenced. We will report on the findings in the next Annual Review. The proposed investigation into the poor water quality of the River Gara is no longer a high priority and it is therefore unlikely to proceed (see Section 2.1). **Action 15a.**

Biological quality appears to have deteriorated from class 'a' (very good) in 1990 and 1995 to class 'd' (fair) in 2000 in the River Avon stretch from A38 Bridge South Brent to Horsebrook. The cause of this apparent deterioration is not known. The class calculated for 2000 was based on data from the Spring, as opposed to the normal more statistically robust procedure of using Spring and Autumn data because high river flows in Autumn 2000 prevented sampling. The apparent 'poor' biological quality in 2000 may therefore be related to

the limits of the dataset. We are proposing to undertake a repeat survey in Autumn 2001 in order to identify whether the poor quality is 'real'. **New Action 15b**.

No	Action	Lead/ Other	Start	End	Cost	Progress
15a ▼	Investigate causes of poor water quality in the River Gara and South Grounds Stream.	Agency	01/04/00	31/03/03	u/k	Investigation for South Grounds Stream has started and we will report on the findings in future plans, but no further investigation will be taken for the River Gara.
New 15b ✖	Undertake investigation into the apparent poor biological quality of the River Avon at Horsebrook.	Agency	01/10/01	31/03/03	1k	We will report on the progress of this New Action in future plans.

4 LIST OF COMPLETED ACTIONS

The following is a list of all actions that were completed at either the First or Second Annual Review stage.

No:	Action	Progress
Issue 1 Effluent Discharges		
1c ●	Investigate the cause of poor biological water quality in the Bala Brook.	This action was completed at the Second Annual Review. Biological survey of 1999 showed a significant improvement and indicated a recovery of invertebrate fauna.
1d ●	Carry out an investigation to determine the effect of unsatisfactory septic tank discharges on the Buckland Stream.	Action completed at First Annual Review. The survey of Summer 2000 implicated the discharges at Buckland as detrimental to water quality (see text above and Action 1e below).
1h ●	Investigate impact of Didworthy STW on the River Avon and seek improvements to the discharge.	Action completed at First Annual Review. The STW performs within its consent.
Issue 2 Agriculture		
2a ●	Target the South Hams coastal area for an intensive campaign promoting Farm Waste Management Plans (FWMPs).	Action completed at First Annual Review. However awaiting confirmation regarding the joint Heritage Lottery bid. See also Action 2i and 10i-b.
2c ●	Investigate the cause of poor water quality in the South Grounds Stream.	This action forms part of Action 15a, therefore was closed at the Second Annual Review. See Action 15a for progress.
2d ●	Modify Habitat Scheme (Water Fringe option) to encourage greater uptake in the Gara and Start catchements.	Action completed at First Annual Review. Existing agreements will continue until their natural end.
2e ●	Consider the need to investigate sources of sediment to the Salcombe Kingsbridge Estuary.	Action completed at First Annual Review. No evidence that sediment impacting on habitat or species therefore investigation not undertaken.
2g ●	Continue gravel rehabilitiation work to remove the build-up of silt and re-establish the gravels for salmonid spawning.	Action completed at First Annual Review as routine work.
2l ●	Dependent on the findings of the Exmoor pilot scheme, investigate the presence of synthetic pyrethroids in Dartmoor streams.	Action completed at First Annual Review. No evidence was found of an impact of these substances on invertebrate life in Dartmoor Streams.
2m ●	Implement new groundwater regulations to control use and disposal of sheep-dip (synthetic pyrethroids).	Action completed at First Annual Review. The new regulations were implemented and form part of our routine work.
Issue 3 Urban Development		
3g ●	Produce Shoreline Management Plan for South Devon coastline taking full account of the importance of the shingle bank.	Action completed at First Annual Review. The Shoreline Management Plan was produced and adopted in 1999. It will be updated every 5 years.
Issue 6 Waste Management Activities		
6b ●	Provide advice to those companies affected by the Producer Responsibilities Obligations.	Action completed at First Annual Review, it forms part of our routine work.
6c ●	Investigate closed landfill sites and take action as appropriate.	Action completed at First Annual Review, see also Action 6d.
6e ●	Investigate any new information relating to fly-tipping at a site at Chillington and seek to prosecute offenders if possible.	Action completed at First Annual Review. There has been a marked decrease in fly-tipping incidences at this site.
6f ●	Investigate options for cleaning up Chillington site with owner, Parish/District Councils.	Action completed at Second Annual Review due to the unstable nature of the site and health and safety implications/risks for Agency staff undertaking removal of the tipped waste.
6g ●	Publicise the problem of fly-tipping to encourage the public to give information about suspected illegal waste tipping and to discourage them from tipping waste outside Civic Amenity Sites when they are closed.	Action completed at First Annual Review. The situation at Ivybridge Civic Amenity Site has improved.

Issue 9 Air Pollution		
9a ●	Review air quality in the area, in line with National Air Quality Strategy.	Action completed at Second Annual Review because air quality reviews have been completed.
9e ●	Ensure all proposals for forestry development within the areas of critical load exceedences receive an environmental impact assessment where appropriate.	Action completed at the Second Annual Review as part of our routine work and no proposals were received.
Issue 10 Biodiversity and Earth Science		
10a-a ●	Continue to develop the Biodiversity Action Planning process at regional, county and more local levels to establish priorities for wildlife and earth science conservation.	Action completed at First Annual Review, as the BAP documents have been produced. See Action 10a-e.
10b-a ●	Increase public awareness of dangers of uncontrolled fires.	This action has been combined into Action 10b-e.
10b-b ●	Conduct research into effects of 'swaling' and changes to moorland vegetation on both catchment hydrology and nutrient leaching.	This action has been combined into Action 10b-e.
10b-c ●	Promote and implement action plans for blanket bog and associated species from forthcoming Dartmoor BAP.	This action has been combined into Action 10b-e.
10b-d ●	Review all existing authorisations and activities that we license within Dartmoor candidate SAC.	This action has been combined into Action 10b-e.
10c-a ●	Promote and implement action plans for valley mire and associated species from Dartmoor BAP.	This action has been combined into Action 10c-c.
10c-b ●	Support survey to determine dragonfly interest.	This action has been combined into Action 10c-c.
10f-a ●	Rivers and streams – implement flood plain policy, identify additional stretches of river bank that require active management to conserve or enhance wildlife, ensure Drought Orders and Permits do not compromise wildlife and ecology of watercourses.	This action has been reworded into Action 10f-d.
10f-b ●	Freshwater reedbed – encourage development of sympathetic water abstraction policies and appropriate coastal zone management plans in order to protect existing reedbeds. Advise on economic benefits of reedbed management as well as wildlife value. Encourage use of reedbeds for pollutant/sewage effluent treatment.	This action has been reworded into Action 10f-e.
10f-c ●	Otters – promote and implement action plan for otters from DBAP, including continued post-mortem analysis and habitat reinstatement.	This action has been reworded into Action 10f-f.
10g-a ●	Carry out county-wide survey of sand martin and kingfisher nest sites.	Action completed at First Annual Review. Survey completed 1997 no plans for a further survey.
10i-c ●	Establish/agree suitable habitat management to encourage the spread of strapwort around the Ley.	Action completed at First Annual Review. Repair to Torcross weir will assist in providing habitat suitable for strapwort.
10l-b ●	Manage site to maintain and if possible promote increase of heath lobelia colony.	Action completed at the Second Annual Review because grazing management has led to the highest population recorded.
Issue 12 Recreational use of the Catchment		
12d ●	Develop and encourage use of shore based disposal systems to reduce impact of sewage and litter from boats.	Action completed at First Annual Review.
12g ●	Provide advice on the disposal of boat scrapings.	Action completed at First Annual Review. Advice was provided for the Salcombe Harbour Initiative.
12h ●	Support Salcombe Harbour Authority's initiative regarding the controlled collection of anti-fouling scrapings and contaminated materials.	Action completed at First Annual Review. The SHA now have a controlled collection system in place.
12l ●	Draw up contingencies for the influx of visitors viewing the 1999 solar eclipse.	Action completed at First Annual Review. No major incidents were reported during or after the Eclipse event.
Issue 14 Estuary Management Plans		
14c ●	Consider financial support towards producing an Estuary Management Plan for the Avon and Erme Estuaries.	Action completed at the First Annual Review.

5 DUTIES, POWERS AND INTERESTS OF THE ENVIRONMENT AGENGY

The Environment Agency has a wide range of interests in the areas of water management, waste management and pollution prevention and control. Whilst many of these interests are supported by statutory duties and powers, much of the Agency's work is advisory, with the relevant powers resting with other bodies such as local planning authorities. The following table summarises the Agency's duties, powers and interests and their relationship to land-use planning.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in :	Partnership
Water Resources The Agency has a duty to conserve, redistribute, augment and secure the proper use of water resources.	• Grant or vary water abstraction and impoundment licences on application with appropriate conditions imposed to safeguard the needs of the environment whilst allowing reasonable and justified use of available and sustainable water resources – with the aim of achieving an equitable balance between competing demands. • Revoke or vary existing licences to reinstate flows or levels to surface waters or groundwater which have become depleted as a result of abstraction. Compensation may be payable if such powers are used. • Secure the proper use of water resources through its role in water resources planning, and the assessment of reasonable need for abstractions and the promotion of more efficient use of water resources. • Monitor and enforce abstraction and impoundment licences. • Issue conservation notices to direct appropriate practices with regard to water resources issues associated with exempt dewatering activities.	• The more efficient use of water by water companies, developers, industry, agriculture and the public and the introduction of water-efficiency measures and suitable design and layout of the infrastructure.	• The Agency uses its position as a statutory consultee to the planning authorities to secure conditions and agreements that protect the water environment and that encourage water conservation measures. • The Agency also seeks to influence planning decisions for new development by ensuring that planning authorities allow for any lead time required for resource development. • The Agency is committed to water-demand management and will work closely with water companies and developers, local authorities and relevant organisations to promote the efficient use of water. • The Agency acknowledges that new resources may be needed in the future and supports a twin-track approach of planning for water resource development alongside the promotion of demand-management measures.
Flood Defence The Agency has a duty to exercise general supervision over all matters relating to flood defence throughout each catchment.	• Control, through Land Drainage consents, of development within 8 m of main river (Water Resources Act 1991, Section 109) or construction of a structure that would affect the flow of an ordinary watercourse (Land Drainage Act, 1991 Section 23). • Produce flood risk maps for all main rivers under S105 of Water Resources Act 1991. • Undertake works to main rivers using permissive powers. • Issue flood warnings relating to main river to the public, local authorities and the police. • Consent mineral working within 16 m of main rivers.	• Granting of planning permission throughout a catchment but especially floodplains where development can significantly increase flood risk. This permission is granted by local planning authorities. • Installation of surface water source control measures e.g. flood attenuation structures. • Supervising the maintenance of ordinary watercourses which is a local authority remit, but may impact on main rivers. • Installation of buffer zones which reduce flood risk and have significant environmental benefits. • Urban and rural land use and measures that can reduce flood risk or the need for watercourse maintenance.	• As a statutory consultee on planning applications within main river floodplains the Agency offers advice based on knowledge of flood risk. It also advises on the environmental impacts of proposed floodplain development. • The Agency will encourage best practice, including source control measures and common standards, among local authorities and riparian owners to protect and enhance the environment. • The Agency works with the civil authorities to prepare flood warning dissemination plans and supports their endeavours to protect communities at risk.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in :	Partnership
Water Quality The Agency has a duty to monitor, protect, manage and, where possible, enhance the quality of all controlled waters including rivers, groundwaters, lakes, canals, estuaries and coastal waters through the prevention and control of pollution.	• Issue discharge consents to control pollution loads in controlled waters. • Regulate discharges to controlled waters in respect of water quality through the issue and enforcement of discharge consents. • Issue 'works notices' and enforcement notices where action is required to reduce the risk of pollution. • Prosecute polluters and recover the costs associated with incidents. • Serve prohibition notices (with or without conditions) on highway authorities to require treatment and pollution measures for highway runoff.	• The greater use of source control measures to reduce pollution by surface water runoff. • Prevention and education campaigns to reduce pollution incidents. • The provision of highway runoff control measures, which is a highway authority remit.	• The Agency will liaise with local authorities, developers, the Highways Agency, industry and agriculture to promote pollution prevention and the adoption of source control measures. As a statutory consultee on planning applications, the Agency will advise local planning authorities on the water quality impact of proposed developments.
Air Quality The Agency has a duty to implement Part 1 of the Environmental Protection Act 1990.	• Regulate the largest technically complex and potentially most polluting prescribed industrial processes such as refineries, chemical works and power stations including enforcement of, and guidance on, BATNEEC and BPEO. • Have regard to the government's National Air Quality Strategy when setting standards for the releases to air from industrial processes.	• The vast number of smaller industrial processes which are controlled by local authorities. • Control over vehicular emissions and transport planning.	• The Agency provides data on IPC processes and advice on planning applications to local authorities. The Agency is willing to offer its technical experience to local authorities on the control of air pollution. The Agency wishes to liaise with local authorities in the production of their Air Quality Management Plans. The Agency will advise and contribute to the government's National Air Quality Strategy.
Radioactive Substances The Agency has a duty under the Radioactive Substances Act 1993 to regulate the use of radioactive materials and the disposal of radioactive waste.	• To issue certificates to users of radioactive materials and disposers of radioactive waste, with an overall objective of protecting members of the public.	• The health effects of radiation.	• The Agency will work with users of the radioactive materials to ensure that radioactive wastes are not unnecessarily created, and that they are safely and appropriately disposed of. The Agency will work with DEFRA to ensure that the disposal of radioactive waste creates no unacceptable effects on the food chain. • The Agency will work with the Nuclear Installations Inspectorate to ensure adequate protection of workers and the public at nuclear sites. The Agency will work with the HSE on worker protection issues at non-nuclear sites.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in :	Partnership
Waste Management The Agency has a duty to regulate the management of waste, including the treatment, storage, transport and disposal of controlled waste, to prevent pollution of the environment, harm to public health or detriment to local amenities.	• Vary waste management licence conditions. • Suspend and revoke licences. • Investigate and prosecute illegal waste management operations.	• The siting and granting of planning permission for waste management facilities. This is conducted by the waste industry and local planning authorities. The Agency, as a statutory consultee on planning applications, can advise on such matters.	• The Agency will work with waste producers, the waste management industry and local authorities to reduce the amount of waste produced, increase re-use and recycling and improve standards of disposal.
Contaminated Land The Agency has a duty to develop an integrated approach to the prevention and control of land contamination, ensuring that remediation is proportionate to risks and cost-effective in terms of the economy and environment.	• Regulate the remediation of contaminated land designated as special sites. • Prevent future land contamination by means of its IPC, Water Quality and other statutory powers. • Report on the state of contaminated land.	• Securing with others, including local authorities, landowners and developers, the safe remediation of contaminated land.	• The Agency supports land remediation and will promote this with developers and local authorities and other stakeholders.
Conservation The Agency will further conservation, wherever possible, when carrying out water management functions; have regard to conservation when carrying out pollution control functions; and promote the conservation of flora and fauna which are dependent on an aquatic environment.	• The Agency has no direct conservation powers but uses its powers with regard to water management and pollution control to exploit opportunities for furthering and promoting conservation.	• The conservation impacts of new development. These are controlled by local planning authorities. • Protection of specific sites or species, which is a function of English Nature. The Agency does, however, provide advice to local authorities and developers to protect the integrity of such sites or species. • Implementation of the UK Biodiversity Plan for which we have taken responsibility as lead organisation for 34 species and 5 habitats of wetland character.	• The Agency supports action to sustain or improve natural and man-made assets so that they are made available for the benefit of present and future generations. Many development schemes have significant implications for conservation. The Agency will work with developers, local authorities, conservation bodies and landowners to conserve and enhance biodiversity.
Landscape The Agency will further landscape conservation and enhancement when carrying out water management functions; have regard to the landscape when carrying out pollution control functions; and promote the conservation and enhancement of the natural beauty of rivers and associated land.	• The Agency must further the conservation and enhancement of natural beauty when exercising its water management powers and have regard to the landscape in exercising its pollution control powers.	• The landscape impact of new development, particularly within river corridors. This is controlled by local planning authorities.	• The Agency produces River Landscape Assessments and Design Guidelines which it uses when working with local authorities and developers to conserve and enhance diverse river landscapes.
Archaeology The Agency has a duty to consider the impact of all of its regulatory, operational and advising activities upon archaeology and heritage, and implement mitigation and enhancement measures where appropriate.	• The Agency must promote its archaeological objectives through the exercise of its water management and pollution control powers and duties.	• Direct protection or management of sites of archaeological or heritage interest. This is carried out by local planning authorities, County Archaeologists and English Heritage.	• The Agency will liaise with those organisations which have direct control over archaeological and heritage issues to assist in the conservation and enhancement of these interests.

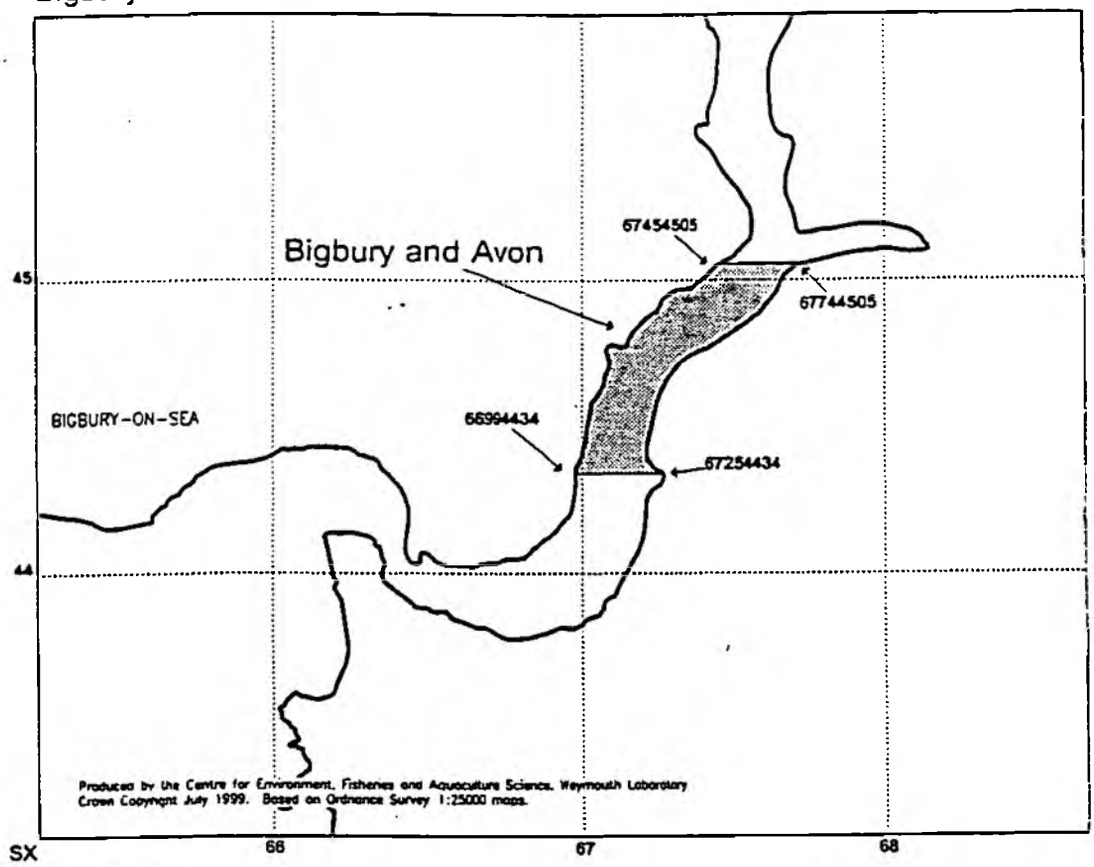
Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in :	Partnership
Fisheries The Agency has a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries.	• Regulate fisheries by a system of licensing. • Make and enforce fisheries byelaws to prevent illegal fishing. • Promote the free passage of fish and consent fish passes. • Monitor fisheries and enforce measures to prevent fish entrapment in abstractions. • Promote its fisheries duty by means of land drainage consents, water abstraction applications and discharge applications.	• The determination of planning applications which could affect fisheries.	• Many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and local authorities to protect fisheries.
Recreation The Agency has a duty to promote rivers and water space for recreational use.	• The Agency contributes towards its recreation duty through the exercise of its statutory powers and duties in water management.	• Promotion of water sports. The Sports Council and other sport bodies carry this out.	• The Agency will work with the Countryside Commission, the Sports Council, British Waterways and other recreational and amenity organisations to optimise recreational use of the water environment.

APPENDIX ONE:

The Surface Waters (Shellfish) (Classification) Regulations 1997.

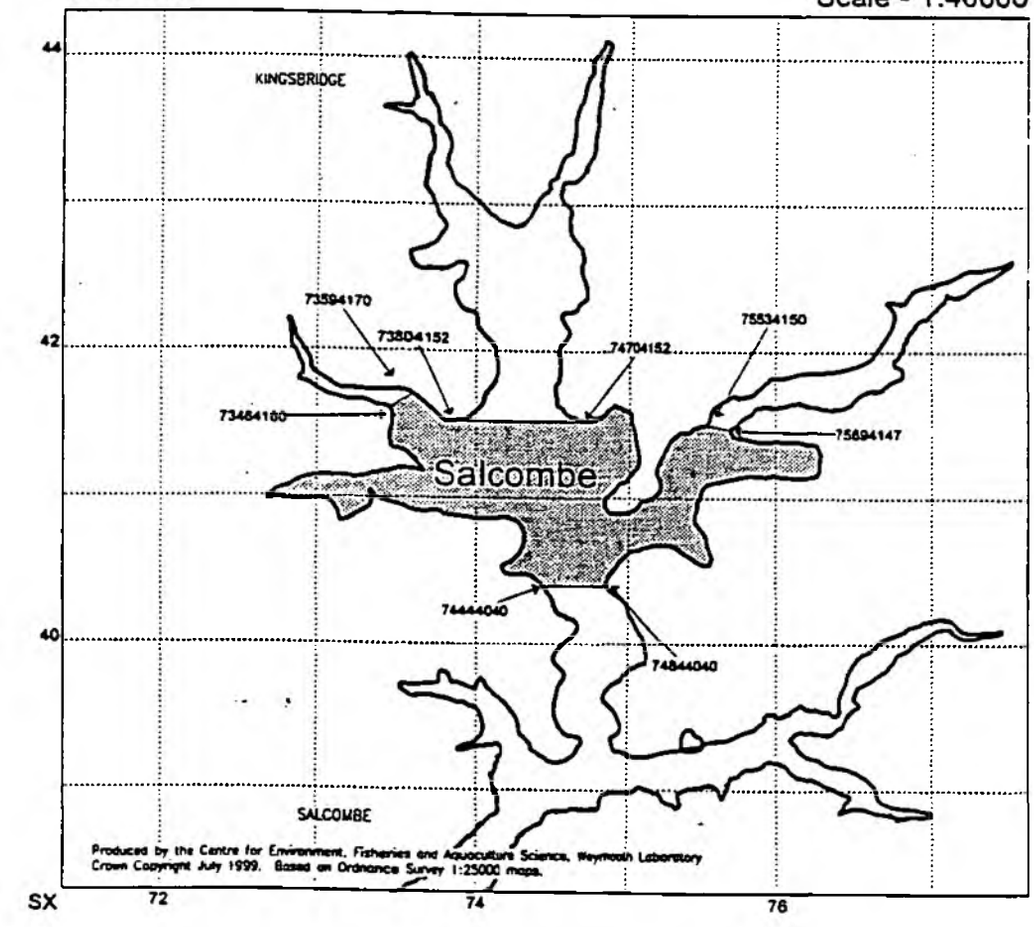
Bigbury and Avon

Scale - 1:2000



Salcombe

Scale - 1:40000



NB: Any land above the Mean High Water Mark, e.g., islands that falls within this area is excluded from the designation.

Glossary

abstraction - removal of water from surface or groundwater.

acidification - the detrimental effect of acid rain on soils and freshwater.

alien - plant or animal not native to the country concerned.

ammonia - a chemical found in water often as the result of discharge of sewage effluents. High levels of ammonia affect fisheries and abstractions for potable water supply.

Area of Outstanding Natural Beauty (AONB) - designated by the Countryside Commission under the National Parks and Access to the Countryside Act 1942, to conserve and enhance the natural beauty of the landscape, mainly through planning controls.

biodiversity - variety of wildlife and habitats.

buffer zone - strip of land, 10-100 m wide, alongside rivers which is removed from intensive agricultural use.

catchment - the total area from which a single river and its tributaries collect surface runoff.

controlled waste - defined by the Control of Pollution Act 1974, Part 1 section 30. It includes household, industrial and commercial waste.

Conservation Area - the Planning (Listed Buildings and Conservation Areas) Act 1990 imposes on local planning authorities a duty to designate as conservation areas any 'areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance'. Conservation Area status is the main mechanism available to effect conservation policies over a particular neighbourhood or area, as opposed to individual buildings. Designation introduces a general control over the demolition of unlisted buildings and provides the basis for policies designed to preserve or define an area's special architectural or historic interest.

controlled waters - defined by the Water Resources Act 1991 Part III section 104. They include groundwaters and inland waters, estuaries and coastal waters to three nautical miles from the shore.

critical load - the annual quantity of acidity, in hydrogen ion equivalents per hectare per year, which can be neutralized by soil or freshwater's natural buffering capacity.

dangerous substances - substances defined by the European Commission as in need of special control because of their toxicity, bioaccumulation and persistence. The substances are classified as List I or II according to the Dangerous Substances Directive.

demand management - activities to manage the amount of water required from a source of supply; includes measures to control waste and/or discourage use.

determinand - a general name for a characteristic aspect of water quality. Usually a feature which can be described numerically as a result of scientific measurement, e.g. pH, BOD, DO, etc.

diffuse pollution - pollution without a single point source, e.g. acid rain, pesticides, urban runoff, etc.

diversity - relates to the number of species present and their abundance.

ecosystem - a functioning, interacting system composed of one or more living organisms and their effective environment, in a biological, chemical and physical sense.

eutrophication - the enrichment of water by nutrients, such as compounds of nitrogen or phosphorus. It causes an accelerated growth of algae and higher forms of plant life.

floodplain - parts of river valleys or coastal plains which are inundated during floods.

groundwater - water contained in the void spaces in pervious rocks and also within the soil.

habitat - natural home of plant or animal.

hydrology – the study of the interaction between rainfall, river flow and groundwater.

Integrated Pollution Control (IPC) - an approach to pollution control in the UK which takes account of potential effects upon all environmental media. Applies to prescribed processes and uses the principles of BATNEEC and BPEO.

invertebrates - animals without a backbone, e.g. insects, worms and spiders.

landfill site - site used for waste disposal into/onto land.

lichen - a group of lower plants consisting of a fungus which enfolds an alga, the two living together to their mutual benefit.

Local Nature Reserve (LNR) - nature reserves established, and usually managed, by District/Borough Councils. Local authorities are empowered to designate such sites under the National Parks and Access to the Countryside Act 1949.

Main River - designated under the Water Resources Act 1991 by the Ministry of Agriculture, Fisheries and Food. Formal consent is required for all activities that interfere with the bed or banks of the river or obstruct the flow.

mire - area of peatland; includes bog (acid) and fen (alkaline).

National Nature Reserve (NNR) - sites owned or leased and managed by English Nature and established as reserves under the National Parks and Access to the Countryside Act 1949.

outfall - the point where a river or pipe discharges.

permissive powers - powers which confer the right to do things but not the duty.

pH - a measure of the concentration of hydrogen ions in solution. Water with a pH less than 7 is acid and water with a pH of more than 7 is alkaline.

poaching - trampling by livestock causing land to break up into wet muddy patches.

reach - a length of channel.

restoration - the return to a pristine state.

Rhôs pasture – Rhôs is a Welsh word which means 'a wet, often heathy grazing pasture'. Nationally the word Rhôs has come to be used to describe this type of unimproved pasture, a characteristic mix of wet heath, rush pasture, fen meadow, mire and scrub. On the Culm Measure of north-west Devon and north-east Cornwall the habitat is known as Culm Grassland.

riparian - relating to or situated on the bank of a river or stream.

riparian owner - owner of land next to river; normally owns river bed and rights to mid-line of channel.

River Quality Objective (RQO) - the level of water quality that a river should achieve in order to be suitable for its agreed uses.

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).

septic tank - an underground tank used to treat sewage from properties without mains drainage. The sewage is settled and some bacterial treatment occurs. Discharge of effluent is usually to a soakaway system.

sewage - liquid waste from cities, towns and villages which is normally collected and conveyed in sewers for treatment and/or discharge to the environment.

sewerage - a system of underground pipes designed to carry sewage to Sewage Treatment Works.

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.

sludge - the accumulation of solids from treatment processes.

smolt - young salmon migrating to sea for the first time.

soakaway - system for allowing water or effluent to soak into ground, commonly used in conjunction with septic tanks.

Special Area of Conservation (SAC) - areas designated under the EC Habitats Directive.

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

sustainable development - development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

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.

Abbreviations and Units

Agency	Environment Agency
AMP	Asset Management Plan
AONB	Area of Outstanding Natural Beauty
BATNEEC	Best Available Technology Not Entailing Excessive Cost
BAP	Biodiversity Action Plan
BC	Butterfly Conservation
BCU	British Canoe Union
BDS	British Dragonfly Society
BPEO	Best Practicable Environmental Option
BOD	Biochemical Oxygen Demand
BSBI	Botanical Society of the British Isles
BTO	British Trust for Ornithology
CAMS	Catchment Abstraction Management Strategies
CEFAS	Centre for Environment Fisheries and Aquaculture Science
CLA	Country Landowners Association
DAS	Devon Archaeological Society
DBAP	Biodiversity and Earth Science Action Plan for Devon
DCC	Devon County Council
DEFRA	Department for Environment, Food and Rural Affairs
DETR	Department of the Environment, Transport and the Regions
DNPA	Dartmoor National Park Authority
DO	Dissolved Oxygen
DWT	Devon Wildlife Trust
EC	European Council
EH	English Heritage
EN	English Nature
ESA	Environmentally Sensitive Area
FA	Fishing Associations
FRCA	Farming and Rural Conservation Agency
FSC	Field Studies Council
FWMP	Farm Waste Management Plan
IPC	Integrated Pollution Control
ITE	Institute of Terrestrial Ecology
JNCC	Joint Nature Conservation Committee
LA	Local Authority
LEAP	Local Environment Agency Plan
MAFF	Ministry of Agriculture, Fisheries and Food
NERC	National Environmental Research Council
NFU	National Farmers Union
NT	National Trust
OFWAT	The water industry regulator
PAYBACK	Business environment association.
RCHME	Royal Commission on the Historical Monuments of England
RE	River Ecosystem
RO	Riparian Owners
RQO	River Quality Objective
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SHA	Salcombe Harbour Authority
SHCCS	South Hams Coast and Countryside Service
SHDC	South Hams District Council
SMP	Shoreline Management Plan
SPA	Special Protection Area

SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
SWW Ltd	South West Water Limited
TC	Torbay Council
TDC	Teignbridge District Council
UK	United Kingdom
U of Exeter	University of Exeter
UV	Ultraviolet
UWWTD	Urban Waste Water Treatment Directive
WDA	Waste Disposal Authority
WDBC	West Devon Borough Council

Units

°C	degrees centigrade
g	grams
ha	hectare
km	kilometres
km^2	square kilometres
l	litre
m	metre
m^3/day	cubic metres per day
m^3/s	cumecs: cubic metres per second
mg	milligrams
Ml	megalitre
Ml/d	megalitres per day
Ml/yr	megalitres per year
mm	millimetre
MW	megawatts
ng/l	nanogram per litre
ppb	parts per billion
$\mu g/m^3$	micrograms per cubic metre
<	less than
≤	less than or equal to
>	greater than
≥	greater than or equal to
%	percentage

SW-02/02-0.4K-D-BGGQ

References

[1] Local Environment Agency Plan, Rivers Avon and Erme Consultation Report January 1998, The Environment Agency, January 1998.

[2] Local Environment Agency Plan, Avon and Erme Action Plan, December 1998, The Environment Agency, December 1998.

[3] Avon and Erme First Annual Review February 2000, The Environment Agency, February 2000.

[4] Avon and Erme Second Annual Review February 2001, The Environment Agency, February 2001.

[5] Our Common Future, The World Commission of Environment and Development, 1987 (The Brundtland Commission).

[6] United Nations Conference on Development and the Environment "Earth Summit", Rio de Janeiro 1992.

[7] An Environmental Vision, The Environment Agency's contribution to Sustainable Development, The Environment Agency, January 2001, ISBN 1 857054 881

[8] Rivers Avon and Erme Local Environment Agency Plan – Summary of Public Consultation Responses January 1998 – April 1998, The Environment Agency, June 1998.

[9] The South Hams Agenda 21 Plan, South Hams District Council.

[10] The Nature of Devon: A Biodiversity Action Plan, Biodiversity Devon Partnership, July 1998, ISBN 1 85522 637 5

[11] The Nature of Dartmoor: A Biodiversity Profile, Dartmoor National Park Authority/English Nature, January 1997. Second Edition 2001.

[12] Action for Wildlife: The Dartmoor Biodiversity Action Plan, Dartmoor National Park Authority, February 2001.

[13] Devon's Local Agenda 21 Network Issues Report, Devon Local Agenda 21, 1997.

[14] South Devon AONB Management Plan, South Hams District Council, 1997.

[15] Lyme Bay and South Devon Shoreline Management Plan, South Hams District Council, English Nature, 1998.

[16] Avon Estuary Environment Management Plan, Coast and Countryside Service – South Hams, South Devon, 2001.

[17] European Council Directive of 8 December 1975 concerning the Quality of Bathing Water (76/160/EEC). Official Journal of the European Communities No: L31/1.

[18] European Council Directive of 30 October 1979 on the Quality Required for Shellfish Waters (79/923/EEC). Official Journal of the European Communities No: L281.

[19] European Council Directive on 15 July 1991 laying down the Health Conditions for the Protection and Placing on the Market of Live Bivalve Molluscs (91/492/EEC). Official Journal of the European Communities No: L268/1.

[20] European Council Directive on Surface Water Abstractions (75/440/EEC).

[21] European Council Directive on the Quality of Freshwaters needing Protection or Improvement in order to support Fish Life (78/659/EEC). Official Journal of the European Communities No: L22/1.

[22] European Council Directive on Pollution Caused by the Discharge of Certain Dangerous Substances into the Aquatic Environment (76/464/EEC). Official Journal of the European Communities No: L129.

[23] European Council Directive on Species and Habitats (92/43/EEC). Official Journal of the European Communities No: L206, 1992.

[24] European Council Directive on the Conservation of Wild Birds (79/409/EEC).

[25] European Council Directive on Integrated Pollution Prevention and Control, 1 August 2000, (96/61/EC).

[26] Code of Good Agricultural Practice for the Protection of Water, MAFF, 1991.

[27] The impact and source of sediment infiltrating the egg zone of salmon redds in the River Torridge catchment, North Devon, D Nicholls, Prof D E Walling, Dr R Smith, University of Exeter, Spring 2000.

[28] Waste Strategy 2000, England and Wales Part 1 and Part 2, May 2000, DETR, (Part 1) ISBN 0 10 146932 2, (Part 2) ISBN 0 10 146933 0.

[29] The UK National Air Quality Strategy – Department of the Environment/Scottish Office 1997, HMSO.

[30] Biodiversity: The UK Steering Group Report, Volume 2: Action Plans 1995, HMSO, ISBN 011 753228 2.

[31] Action for Biodiversity in the South-West: A Series of Habitat and Species Plans to Guide Delivery, June 1997, English Nature/Environment Agency/RSPB/County Wildlife Trusts/South West Regional Planning Conference, ISBN 0 903138 972.

[32] Focus on Biodiversity, The Environment Agency, June 2000.

[33] The Salcombe Kingsbridge Estuary Environmental Management Plan, English Nature/South Hams District Council, 1994.

Map 1 - Avon and Erme LEAP Area

Map 2 - 2000 Compliance with River Quality Objectives (River Ecosystem Classification)

Map 3 - Key Sites in the Avon and Erme LEAP Area

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