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local environment agency plan

West and Mid Cornwall Review 2001 OCTOBER 2001



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ENVIRONMENT AGENCY



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Our Vision

Our vision is of this area being managed in a sustainable way, that balances the needs of all users with the needs of the environment. We look forward to a future where a healthy economy leads to:

Biodiversity and the physical habitat for wildlife being enhanced

People's enjoyment and appreciation of the environment continuing to grow

Pressures from human needs being satisfied sustainably

Foreword

This is a combined Annual Review of the West Cornwall and Fal and St Austell Streams Action Plans. It describes the progress that has been made since publication of the second annual review of both LEAP areas.

In addition to our own actions in the plan area we welcome opportunities to work in partnership with other groups.

A handwritten signature in black ink, appearing to read 'Geoff Boyd', with a stylized, cursive script.

GEOFF BOYD
Area Manager (Cornwall)

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1. Annual Summary

This review of the West Cornwall and Clay Countries catchments reports on the progress made over the last year against LEAP actions

The past year has been an eventful one with the Agency working through severe floods, the fuel crisis and the recent regrettable foot and mouth disease. Throughout the autumn last year the country for a time saw its road, rail, air and sea transport infrastructure severely disrupted. Flooding became widespread and prolonged and we saw many communities both devastated and traumatised as their homes and personal possessions were inundated and in some cases destroyed by floodwater. At this time the country also had a fuel crisis making it hard for the Agency to carry out routine work. All incidents were still attended although many routine surveys were put on-hold until the crisis was over.

The recent Foot and Mouth outbreak has seen the area strained to its limits. The Agency has worked hard throughout the crisis to ensure that permits have been issued as quickly as possible to avoid ensuring vital work to contain the disease was carried out at minimal risk to the environment.

Despite these problems a number of actions have been successfully carried out by the Agency and partners that work towards our vision for the area.

KEY ACHIEVEMENTS:

'Biodiversity and the physical habitat for wildlife being enhanced'

- A 'Best Farming Practices Manual' has been produced. It is designed for farmers and illustrates the cost benefits of adopting best practice.
- The booklet 'Forest and Water Guidelines' which explains how to minimise pollution from forestry activities, has been updated.
- A conservation GIS system has been set up after many years of development by a number of organisations. The Environmental Records Centre provides one of the main pillars of this database for Cornwall and the Isles of Scilly. The centre manages up-to-date digitised data ranging from field by field land-use to biodiversity and species information. The potential for using this database to understand the status and impact of human activities on the natural capital of Cornwall is enormous.
- Japanese Knotweed leaflet: 'Guidance for Householders and Landowners' has recently been produced by the Agency with assistance from members of the Japanese Knotweed Control Forum for Cornwall and Devon and Cornwall County Council.
- Marazion Marsh has recently been designated as a potential Special Protection Area under the Birds Directive 79/409/EEC. Designated as a SSSI the marsh contains the largest reedbed in Cornwall, as well as other wet habitats such as grazing marsh and willow carr. The Agency recently part-funded the creation of new open water and reed-fringe habitat.

'People's enjoyment and appreciation of the environment continuing to grow'

- In May 2000, the Agency carried out a pilot litter collection from the River Cober during Helston Flora Day. A net was placed across the river with the aim of collecting as much litter as possible before it entered Loe Pool. The pilot was a great success and will be an annual part of the festivities each year.
- A canoe access agreement has been set up on the River Fal

'Pressures from human needs being satisfied sustainably'

- A long-term minewater treatment plant has been constructed at Wheal Jane
- A new joint Code of Practice has been published by IMERYS and the Environment Agency to help manage the effects of the china clay industry.
- In spring 2001 the Agency organised a seminar for local authorities to discuss the issues surrounding the new contaminated land legislation.
- The Agency helped sponsor Cornwall County Council's 'Message on a bottle' recycling competition to raise awareness and encourage householders to recycle waste
- The Agency funded Recycling Works' waste interchange - a project aimed at reusing waste in Camborne/Redruth area.

2. Working with others

The Agency influences many activities affecting the environment through the Environmental Protection Act 1990, the Environment Act 1995 (including amendments of the 1990 Act) and other legislation. We must work in partnership with others to ensure that the actions in this LEAP get done and our vision for the area is realised.

Foot and Mouth Disease

On the 24 February 2001 local communities braced themselves as Foot and Mouth (FMD) was confirmed at Burdon Farm near Hatherleigh in Devon. The Agency opened up incident rooms and set up reporting procedures to deal with the daily reports of FMD.

We established links with Cornwall County Council who set up an incident room at County Hall in Truro. From here, co-ordination of licences, information and resource demands on the emergency services were controlled. We played an active part in this as well as dealing with Devon County Council, the Army and the District Councils.

Because of the infectious nature of the FMD virus the Agency stopped all normal work and supported other organisations. Staff involved in dealing with infected premises were isolated and subsequently not allowed to come into contact with other Agency staff in offices. The level of bio-security was kept at a very high level. As the incident has come under control some restrictions have been lifted and Agency work in parts of the area is returning to near normal, taking account of farmers wishes where we need to enter their land.

As the epidemic grew it became apparent that carcass disposal was one of the most important aspects in dealing with this incident. There were a number of options for disposing of carcasses, all of which could affect the environment in various ways. The Environment Agency was very involved at both National and Area level, working with DEFRA to ensure that adequate precautions were taken to protect ground and surface waters.

Cleansing and disinfection brought two areas of concern for the Agency. When animals were killed disinfectants were sprayed liberally over stock and vehicles with

little or no regard for surface water outlets. Animals at times had been slaughtered in high pollution risk areas. The second area of concern was the process of cleansing the farms. During this process large volumes of dilute disinfectants were used. The Agency accompanied DEFRA to sites to ensure that best practice was being followed and ensure that where ever possible pollution was avoided and risks reduced. This work is still ongoing.

We continue to investigate the impact of this incident on the environment and will make recommendations for actions as required.

Local Agenda 21 (LA21) "Think Globally - act locally"

We are in regular contact with Local Agenda 21 Officers across the county who are working on a number of sustainability projects in areas such as waste, biodiversity, energy, health, food and transport.

Land Use Planning and Environment Planning

Local authorities are responsible for controlling land use through the planning procedure. Long term changes in land use can raise opportunities through redevelopment to tackle the issues of urban runoff, contaminated land and the renewal of river corridors. In addition, the support of community groups, individual landowners and businesses will be needed to tackle issues such as litter, pollution, private sector investment and river corridor enhancement.

OFWAT

The Agency is responsible for the environmental regulation of the water companies of England and Wales whilst OFWAT (Office of Water Services) is responsible for the financial regulation. The Agency works with the water companies in order to ensure best possible use of available resources.

OFWAT has undertaken a review of water prices in order to develop a plan of improvements required for the period 2000-2005. This plan is 'Asset Management Plan3' (AMP3). The agreed programme of improvements is discussed in section 4.1.

South West Water (SWW)

SWW's Water Resource Plan requires them to produce demand forecasts and compare them with their available resources for the next 25 years. Potential demand or resource management options, including leakage reduction, have to be considered, and, if necessary, any resource development options which may be required to meet the forecast demand. South West Water submitted an annual review to the Agency in September 2000. The Agency audited this review and submitted to Government the document '*The First Annual Review of Water Company Water Resources Plans*' in March 2001.

Cornwall Waste Management Forum

The Forum is made up from representatives of the waste collection authorities (district councils), the waste disposal authority, waste disposal contractor and the Agency. It meets regularly to exchange views, examine new technology and best practice and to discuss an integrated waste strategy for Cornwall. This group recognises the need for a co-operative approach aimed at a more sustainable waste management system.

Flood Defence Task Force Groups

To help resolve flood defence issues in Cornwall and Devon, three flood defence task-forces are being set up by the Agency. The groups will look at effects of land use, funding for flood defence works and network links between bodies involved in flooding matters. Membership of the groups will consist of interested bodies such as district and parish councils.

Other Initiatives

There is a range of initiatives by various bodies, which at some level cover the area of this plan. These are both statutory and non-statutory in nature and cover a variety of topics from environmental to social and economic interests. It is important for all parties that where different interests overlap discussion occurs on those areas of common interest. In this way we can integrate action, be more efficient in our actions, avoid duplication (or conflict) and make the most of limited budgets.

We sit on the management groups for the Fal Estuary Management Group and the Loe Pool Forum. We work closely with the officers involved in these plans so that they and this plan are complementary.

The Agency welcomes opportunities to work in partnership with interested bodies for the protection and enhancement of the environment.

Partnerships

As an organisation we recognise that much of our work may be best achieved through working with private industry, the public and other environmental organisations, supporting their work and possibly opening the door to other funding sources.

Recent strategies put forward by the Regional Development Agency and ones in support of the European Structural Funds (Objective 1) have indicated the key role that sustainable development and the environment play in an economic regeneration programme. The Agency has been consulted in the development of these strategies and will look to influence the programmes to both protect and enhance the local environment.

In particular we are keen to develop projects that produce sustainable environmental improvements through education or training. European Structure Funding could act as a catalyst for opportunities to link public and private finance to draw down further European support, and we would welcome an approach from any organisation looking to pursue projects that result in environment protection or improvement.

Prevention is better than cure

The Agency and its predecessor organisations have always been closely involved in pollution prevention and education. In conjunction with industry and the public we work to minimise or eliminate pollution at source. The Agency is currently working in partnership on a number of waste minimisation initiatives.

We invite readers to contact us at any time to raise new issues or suggest new actions; this ensures the LEAP process is a live one, which constantly evolves to meet the changing needs of the local environment.

3. New Directions

An Environmental Vision

In January 2001 the Agency published *An Environmental Vision: The Environment Agency's Contribution to Sustainable Development* (the Vision). This sets out our long term, aspirational objectives for the environment, grouped under nine environmental goals:

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

To show the route the Agency proposes to take to achieve these goals, a series of *Frameworks for change* have been developed, one for each of the Vision's nine environmental themes. These frameworks are not only intended to make progress towards the environmental outcomes of the Vision, but also to improve the Agency's service delivery to Government, industry and the public. The objectives of this plan's vision, which were put together in partnership with our local stakeholders, intermesh with these aspirations for the whole country.

The Water Framework Directive

Over the past four years the Agency has played a leading role in the technical negotiations of what has become the most significant piece of European water legislation for the past 20 years: The Water Framework Directive (WFD). The WFD will rationalise and update existing water legislation and introduce an integrated and co-ordinated approach to water management in Europe based on the concept of river basin planning.

The WFD finally came into force with its publication in the Official Journal of the European Commission on 22nd December 2000. The UK now has three years to bring into force the necessary provisions to comply with the requirements of this significant piece of legislation. DEFRA is in the process of producing its first consultation paper on the implementation of the WFD, which will cover the principal obligations placed on the UK by the WFD. Key issues raised in the consultation are:

- identification of a Competent Authority
- identification of River Basin Districts
- definition of ecological status, environmental objectives and use of derogations
- characterisation of River Basin Districts
- economic analysis of water use
- production and use of River Basin Management Plans

The Agency is strongly supportive of the WFD and views it as a major opportunity to improve the management of the water environment. The WFD will assist the Agency in delivering its principle aim of sustainable development.

4. Actions

The following sections provide a summary of our progress to date on the issues identified in the action plans. They are not presented in any order of priority. The tables included in each section chart the progress we have made on specific actions. The sections also include any new issues that have become apparent since the action plan was developed.

Some actions will require feasibility studies and cost-benefit appraisal of options prior to work commencing. In some cases, depending on the outcome of these studies, further action may not be justified. The participating organisations may have limited resources and powers, consequently some work may take longer than indicated owing to funding availability, government policy and more urgent priorities.

In order for the Agency to make the best use of its available resources all work has to be prioritised. This may mean that lower priority work cannot be undertaken at a particular time. However, work identified in the plan can be reassessed should resources become available.

4.1 Quality of surface waters

We aim to maintain and, where appropriate, improve the quality of water for all those who use it. This is achieved by setting water quality targets for the catchment based on:

- Standards laid down in EC Directives
- River Quality Objectives (RQOs) to protect recognised uses.

Our monitoring under various EC Directives and river quality objectives may identify problems where we do not know the cause. In such cases we normally undertake investigations to identify the cause.

4.1.1 Effects of effluent discharges

Throughout the area there are sites where the Agency consents the discharge of effluent into surface waters (freshwaters, estuaries and coastal waters) and groundwater. Discharge consents only apply to point source discharges: specific, identifiable discharges of effluent from a known location.

Discharges, which have the greatest potential to affect the quality of the water environment, have numeric concentration limits attached to their consents. These limits may apply to individual substances or to groups of substances and are set at levels needed to protect the environment from harm and ensure compliance with RQOs, EC Directives and International Conventions.

Diffuse sources of pollution, such as agricultural runoff and urban or highway runoff, have to be tackled using other regulatory powers. Of note is Porthluney Bathing Beach, which is to be studied as part of a National Research Programme; looking at

the impacts of diffuse inputs from the agricultural industry on Bathing Water Quality. Extensive local effort has been put to improving Porthluney to meet the required standards after the previous failure.

Bathing Water Directive (76/160/EEC)

The Agency is required to sample and analyse bathing waters in accordance with the requirements of the Bathing Water Directive (76/160/EEC). The Agency reports the local results weekly to the Environmental Health Officers within the local district councils.

In the 2000 bathing season the water quality was tested 20 times at each one of the bathing waters identified under the European Commission Bathing Water Directive. The samples were analysed in the Agency's laboratory for a range of parameters including sewage indicator bacteria (total coliform and faecal coliform).

Results from the analysis are available on the Agency's website www.environment-agency.gov.uk or at the local Agency office. Results from last year's survey show 95.7% compliance nationally which is a substantial improvement on last year when 90.8% met the standards.

Schemes such as that at Porthleven West helped to increase the level of compliance. At Porthleven crude sewage used to discharge via a short sea outfall close to the beach and between 1990 and 1996 this bathing water failed the mandatory standards most years. An improvement scheme was completed for the start of the 1997 bathing season and sewage now receives UV disinfection. Since 1997 Porthleven West has complied with the more stringent guideline standards.

Further improvements are planned and the Agency expects higher compliance levels in future years. However, we are aware that the operation of storm overflows and land run-off, both of which are influenced by weather patterns, can affect the quality of bathing waters.

South West Water's Sewage Treatment Improvement Plans (AMP3)

A number of South West Water 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.

The Water Companies' investment programme for the period 2000-2005 is known as Asset Management Plan 3 (AMP3). AMP3 has been developed along the guidelines agreed between the Environment Agency, the Department of the Environment, Food and Rural Affairs, the water services companies and the Office of Water Services (OFWAT).

The Environment Agency has agreed with DEFRA which sewage discharges require improvement during AMP3. OFWAT has now completed a review of water prices, which allows for this programme of investment and enables the companies to make the sewage treatment improvements by 2005. The schemes involved and the improvements required are shown in table 1 following.

Management of private treatment works

Private sewage treatment plants, especially for sites that have seasonal fluctuations in populations, can have serious environmental impacts on their receiving environments. This is often due simply to a lack of understanding of the function of

the systems being used. Basic understanding and maintenance of these facilities could prevent such impacts and the potential for enforcement action from the Agency. A leaflet offering basic operational advice has been produced by the Agency and is available from your local office.

Table 1

Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
Issue 1: Improvements to sewage treatment works								
1.1 The Agency will seek improvements to Ponsanooth STW and will seek to include ammonia in the consent standards for St Austell North STW	Agency /SWW	U						Improvements to Ponsanooth STW were completed under AMP2 in 1998. Action complete. St Austell North was not prioritised under AMP3. The Agency will assess required improvements against criteria for AMP IV once these are known
1.2 Implement UV treatment at Perranporth STW	SWW	U		*				Completed and in use.
1.3 Implement planned improvements to St Austell (Menagwins) STW.	SWW	U		*				Completed under AMP2. Action complete.
1.4 Undertake improvements to the outfalls and sewerage systems in the Falmouth area.	SWW	U			*	*		Resewering and other construction works are in progress.
1.5 Negotiations are underway to provide first time sewerage at Porthallow. Connection to individual properties is the responsibility of the householders.	House holders /SWW/ Agency	U		*				Resewering and connection to individual properties to the SWW system is the responsibility of the householders. Action complete.
1.6 New investigations underway to assess effects of Luxylyan STW on Par Bathing Beach	Agency	U			*			Investigations underway
Issue 2: Improvements to sewage discharges								
2.1 Transfer of crude discharge from Mevagissey to St Austell (Menagwins) STW.	SWW	U		*				Action complete.

Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
2.2 Implement improvements planned at Tolvaddon and Reskadinnick CSOs.	SWW	U			*			Improvements are being undertaken as part of Camborne scheme.
Issue 3: Determine trophic status of the Fal/Tresillian/Truro estuary								
3.1 Continue monitoring to determine trophic status of the Fal/Tresillian/Truro estuary including lower Fal from 1999.	Agency			*				The Upper Estuary has been designated. No further monitoring will be carried out until the improvements at Truro STW are completed. Lower estuary monitoring continuing to provide data for potential future designation. The Lower Estuary will not be designated in the 2 nd round. Monitoring will continue until the Falmouth improvements are complete.
Issue 4: Improvements to sewage treatment works to be carried out in AMP3 (years 2000-2005)								
4.1 Church Cove (Lizard), Coverack, Mullion, Portscatho, - secondary treatment under UWWTD.	SWW	U					*	Church Cove due by March 2003. Coverack due by March 2003 Portscatho due by March 2003.
4.2 Mullion – UV disinfection to meet the Bathing Waters Directive	SWW	U				*		Mullion due by December 2002
4.3 Falmouth, Flushing, Ladock, Malpas, Mylor Waters, St Mawes,	SWW	U				*		Falmouth works have been commissioned. Flushing flows have been transferred to Falmouth Works. Ladock due by August 2002 Malpas due by August 2002 Mylor due by August 2002 St Mawes due by August 2002
4.4 Truro (Newham) - UV Disinfection to meet the Shellfish Waters Directive nutrient reduction under Habitats Directive and UWWTD	SWW	U				*		Newham due by August 2002
4.5 North Fal (St Stephens) - improved secondary treatment to protect downstream water quality	SWW	U				*		Work ongoing. Due to be complete March 2002.

Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
4.6 Polkerris - Secondary treatment or outfall relocation to meet Bathing Waters Directive	SWW	U			*			Identifying the best option for the improvements has proved difficult and completion now expected March 2003.
4.7 Portloe - installation of fine screens at outfall under the UWWTD	SWW	U				*		Due by March 2003
4.8 Hayle, Boscaswell/Pendeen, Perranporth, Porthcurno - secondary treatment to meet UWWTD	SWW	U						Construction has started at Hayle. Boscaswell/Pendeen due by Mar 2005. Perranporth due by March 2005. Porthcurno due by Mar 2005
4.9 Botallack, Porthgwarra - installation of fine screens on the outfall under UWWTD	SWW	U						Botallack due by March 2005 Porthgwarra due by March 2005
4.10 Cot Valley (St Just) - primary treatment under UWWTD. Though secondary treatment will be required to protect a non EC identified Bathing Water.	SWW	U				*		Due by December 2004.
4.13 Helston - phosphate reduction under UWWTD. Improved secondary treatment to protect downstream water quality	SWW	U				*		Due by March 2003.
4.14 Porthtowan - improved secondary treatment and UV disinfection. Directive and protect downstream water quality.	SWW	U			*	*		Due by March 2002.

4.1.2 Effects of Tributyltin (TBT)

Tributyltin, or TBT, is an anti-fouling agent used to prevent the accumulation of barnacles and other marine life on the hulls of ships. In 1987, in recognition of its highly toxic effects on the environment, its sale for use on vessels under 25 metres was prohibited. From 2003, the application of TBT on all vessels will be prohibited. This should mean that by 2007/8 all vessels will be free of TBT based antifouling agents. A leaflet has been produced promoting the safe use of antifouling paints for private boat owners. This is available from your local Agency Office.

Falmouth Docks carry out the maintenance of ships, which includes the application and removal of anti-fouling paints. Some of the anti-fouling paints contain TBT. These activities contribute to the exceedence of environmental quality standards for copper and tributyltin (TBT) in the Fal specified under the EC Dangerous Substances Directive. An improvement programme at Falmouth Docks, required by their IPC authorisation, started in September 1998. Treatment of the discharge to the Penryn River was introduced in January 1999. The company is currently looking at options for disposal of sandblasting waste to find a long-term environmentally sound solution.

The Agency has put in place a detailed monitoring programme in the Fal estuary that will look at long-term changes in TBT concentrations partly resulting from the IPC authorisation for Falmouth Docks. The first part of this programme was a baseline survey carried out during 1997.

Management of disposal of dredged material

Disposal of dredged material that is contaminated with TBT and other metals are an issue that affects not only the Fal estuary but also many other parts of the UK where there are ship repair docks. In conjunction with other interested bodies the Agency is working with other ports in Europe to secure funding for a research project to look at ways of treating and safely disposing of TBT contaminated sediment.

Table 2

Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
Issue 1: Investigate effects of estuary sediment contamination on water quality								
1.1 Carry out TBT baseline survey	Agency	U			*			Baseline survey completed. Further work scheduled during 2001 to assess local impacts.
Issue 2: Pollution prevention at Falmouth Oil Services (1994) Ltd								
2.1 Continue current remediation programme to clean groundwater and prevent percolation of oil contaminants to surface waters	Agency / company	U			*			Action complete

Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
Issue 3: Carry out improvement programme at Falmouth Docks								
3.1 Treatment of TBT releases to water by October 1999				*				Action complete

4.1.3 Unknown causes of poor water quality

We will prioritise investigations into the reasons for River Quality Objective non-compliance. We will investigate all significant failures and persistent marginal failures. Investigations into non-persistent marginal failures will be undertaken where resources allow.

We undertake chemical and biological monitoring using a number of classifications to determine whether water quality has an effect on river life. Where results indicate nutrient enrichment (eutrophication) we undertake investigations to identify the cause.

Table 3

Action	Lead Body	Cost (£)	Financial Years					Progress Year 2
			98	99	00	01	02	
Issue 1: Investigate causes of poor biological quality								
1.1 Investigate causes of poor invertebrate biology on Tregilliowe Stream, Chyandour Brook, Holywell Stream.	Agency	U						No investigations have yet been undertaken due to lack of resources.

4.1.4 Protecting Groundwaters

The Groundwater Regulations

The Groundwater Regulations were adopted on 1 April 1999 and are intended to protect the quality of groundwater by:

- Preventing the discharge to groundwater of substances prescribed in List I of the regulations
- Limiting the discharges to groundwater of substances prescribed in List II

The Regulations require written authorisation from the Agency for disposing of any listed substance through discharge to groundwaters.

This is particularly relevant for sheep farming, as the disposal of sheep dip will require an authorisation. The implementation of the regulations has been widely advertised and the Agency would advise potential applicants to make contact at the earliest possible opportunity. The Agency will give advice and guidance to anyone who may be affected.

Following the Government's farming summit, subsistence charges for agriculture groundwater applications for under 5m³ per day up to 30m³ per year have been dropped for the first four years of the authorisation.

We will continue to ensure that operators use good management practices and use existing codes to minimise the risk of pollution.

4.2 Farming

Agriculture covers the majority of the plan area, from moorland hill farms to mixed farms and dairying in the more sheltered areas towards the coasts. There are pockets of intensive cultivation throughout the plan area. In many instances the most suitable land is steeply sloping and subject to erosion during periods of wet weather. This can result in the blanketing of river gravels with mud making them unsuitable for fish spawning. In addition the erosion can cause the release of herbicides and pesticides from the land to the water environment.

We are concerned over the effects of silt on the fishery and the ecology of rivers. Silt can come from many sources including agricultural and forestry activities particularly bank and bed erosion and runoff. Other sources include mineral extraction, quarrying and highway drainage.

To assess the relative levels of siltation within spawning gravels, a national Agency study is deploying silt traps in all significant salmonid rivers in Cornwall. The assessment was compromised during the winter of 99/00 due to unusually high river flows but we will seek to continue the assessment when possible.

The Agency and FWAG are currently working together on a project to assess practical techniques to reduce the impacts of silt on watercourses for example, by the use of wetlands. To minimise future impact on the water environment, the Agency would like to encourage the use of permanent grassland swards to maintain soil stabilisation.

Habitat change

Semi-natural habitat is an indication of less intensive farming allowing more habitat for wildlife. The linking of habitats by corridors of semi-natural habitat allows movement of wildlife, as well as providing buffer zones between working agriculture and the river.

Changes in farming practices could erode the ecological quality of the river system. This could include the movement to more intensive agricultural practices that could result in increased sediment, nutrients and pollutants entering the rivers.

Irrigation

Seasonal spray irrigation of crops can lead to a heavy demand on water resources. This is usually met by water stored in irrigation reservoirs and flooded mine systems. We will promote the use of off-stream winter filled storage systems for irrigation reservoirs, particularly where sited in places where they can benefit wildlife.

We ensure through our licensing procedures that the development of irrigation ponds has minimum impact on the ecology and landscape of the area. Consent is required to cover construction of any excavations for irrigation use.

Best Farming Practices (BFP) Manual

The aim of this project was to develop guidance, based on information in the DEFRA Codes of Good Agricultural Practice, in a way that would captivate the interest of farmers by illustrating the cost benefits of adopting best practice. A set of best practice leaflets has been developed with the help of farmers and representative organisations. The leaflets provide

- the basis for an integrated approach to deal with diffuse pollution from agriculture;
- preventing soil erosion (and associated impacts such as flooding) and improving biodiversity;
- cost effective solutions and present examples of cost savings for farmers.

Table 4

Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
Issue 1: Continue to monitor the effects of pesticides and take appropriate action where necessary								
1.1 Carry out additional pesticide monitoring in order to keep abreast of the introduction of any new pesticides being used.	Agency	U			*			Sediment monitoring is scheduled for 2001. Sites will include: River Hayle – St Erth Gauging Station, River Hayle – Godolphin Bridge, Manaccan River – Manaccan Road Bridge, Varfell Stream – Longbrook Bypass, Percuil River – Trethem Mill
1.2 Advise on land management to prevent soil loss and pesticide runoff	Agency / DEFRA/ FWAG Local Authorities	U			*	*	*	Ongoing work. We promote good practice and The Soil Code through our day to day work.
Issue 2: Preserve semi-natural habitat								
2.1 Identify levels and causes of habitat change	CWT/ EN	U	*	*	*	*	*	The Biodiversity Audit has identified targets (see Appendix 1).

Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
Issue 3: Minimise potentially polluting agricultural activity								
3.1 Monitor and investigate potentially polluting agricultural activities	Agency	U	*	*	*	*	*	Ongoing as core work
Issue 4: Minimise the effects of land use on river ecology								
4.1 Update 'Forest and Water Guidelines'	Agency / FC	U			*			Action complete
4.2 Research into the effects of silt	Agency / FWAG/ WCRT/ Fowey Harbour Commissioners	U			*	*	*	Silt traps were located in key areas. Results are being analysed at present.
4.4 Promote methods of reducing sediments entering water courses	Agency / FWAG	U			*	*	*	Current project to assess techniques to reduce impact on water courses including use of wetlands.
4.5 Produce and distribute a leaflet explaining the Agency risks of ditching work.	Agency	U				*	*	A leaflet has been produced by the Agency highlighting the problems of ditching. The Cornwall Area Environment Group has also recently campaigned to raise the awareness of ditching practices.

4.3 Looking after wildlife and the historic environment

Biodiversity simply means variety of life. Conservation in its broad sense should be an integral part of all activities, and many of the issues and proposed actions within this document promote sustainable use of resources, or seek to make up for serious losses or impacts. A more targeted approach of specific conservation actions is being developed through various National, Regional and local Biodiversity Action Plans.

In today's landscape, rivers and wetlands provide refuge for many important communities and species. The conservation of the quality of rivers and wetlands is therefore vital in this catchment. Key habitats and species have been identified for protection and Biodiversity Action Plans (BAPs) will provide a framework for our targets in nature conservation.

Sharing information

The Agency provided a key co-ordinating role and acted as the main conservation contact during the Foot and Mouth Disease epidemic. After many years

development a Geographic Information system (GIS) has proved invaluable in helping the Agency meet its three hour response time to DEFRA.

Conservation bodies shared electronic map based data that was loaded onto a lap-top computer covering ecological data and designated landscape and historic sites. Sites for burial, burning, or disinfectant disposal could be assessed instantly 7 days a week and recommendations fed back to field officers on site. In this emergency this was the only route for all conservation advice. When sensitive sites were identified other bodies were consulted.

The Environmental Records Centre provides one of the main pillars of this database for Cornwall and the Isles of Scilly. The centre manages up-to-date digitised data ranging from field by field land-use to biodiversity and species information. The Agency is both a contributor to and a daily user of this data. The potential for using this database to understand the status and impact of human activities on the natural capital of Cornwall is enormous.

River Habitat Survey

In order to operate effectively organisations, such as the Agency, who are involved in the protection and management of rivers, need to characterise and classify the physical structure of rivers.

The quality of river habitat at a site is assessed by comparison with other similar sites, using criteria derived from known conservation value and from the occurrence of special features. This assessment is based on physical characteristics of the river channel and corridor features that are known to be of value to wildlife.

Table 5

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Carry out River Habitat Survey								
1.1 Continue to survey rivers to assist in the management and enhancement of the area	Agency	U		*	*	*	*	We aim to cover 25% of the total length of all streams and rivers in the SW over the next five years. This will produce a more statistically robust data set
1.2 Identify sites and carry out stream improvements from RHS	Agency	20k		*	*	*	*	Baseline information being gathered at present will let us identify priority sites.
Issue 2: Implement Biodiversity Action Plans								
2.1 Launch biodiversity action plans, Summer 98. Set targets. Feed into existing and proposed environmental schemes i.e. Countryside Stewardship	Cornwall Biodiversity Initiative partners	10k p.a.	*	*	*	*	*	Plans have been launched. Work is ongoing with the support of Cornwall Biodiversity Initiative Project Officer. Also working on activity with Otter Project Officer, part funded by the Agency.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
2.2 Promote new and repeat surveys for key species and habitats	Cornwall biodiversity initiative partners Agency	U	*	*	*	*	*	Agency survey work ongoing. New vegetation methodology being trialed at present. CWT has completed a water vole survey. Please see Appendix 1
2.3 Support Cornwall Biodiversity Initiative and Biodiversity Action Plans for Key species and habitats		U		*	*	*	*	
Issue 3. Carry out historic audit of Helford Estuary								
3.1 Carry out audit and produce report	HVMCA/ NT/ EA/ CCC/ CET/ CAU	12k		*	*			The audit and report has been completed. Research has shown that less than one third of the 380 archaeological features and historic structures had been discovered before the audit.

4.3.1 Protecting wildlife and their habitats

Habitat creation

Wetland

Wetland is a habitat that can be recreated and form a thriving community of wildlife within a few years. In conjunction with our partners in the Cornwall Biodiversity Initiative we are currently identifying sites where wetland creation could be beneficial.

There are partnership projects proposed in the Fal area to extend and consolidate wetland and heathland areas; one centred on Goss Moor and one around Breney Common, both of which build upon the existing 'Tomorrow's Heathland Heritage' project, centred on the clay country. Both these projects are in the planning stage.

Drift Reservoir is an important wetland site but has very little tall vegetation where bitterns and other birds can shelter. We have funded the creation of 1600 square metres of reedbed at Drift Reservoir.

Invasive Species

Japanese Knotweed

The Japanese Knotweed Control Forum for Cornwall continues to meet on a regular basis. Research is continuing into good practice for the use of herbicides. The web site has generated a lot of interest, and has stimulated knotweed control programmes throughout the UK. Our understanding of knotweed control and management is continually changing, and therefore the web site provides an ideal medium for providing information. The website address is: www.ex.ac.uk/knotweed.

A Japanese Knotweed leaflet: 'guidance for householders and landowners' has recently been produced by the Agency with assistance from members of the

Japanese Knotweed Control forum for Cornwall and Devon and Cornwall County Councils. Copies of the leaflet are available from the Devon and Cornwall Area offices.

The Geographical Information System survey, sponsored by the Agency has provided a good understanding of knotweed distribution throughout Cornwall. Maps are now available from the Planning Department at Cornwall County Council. There are at least 2800 known sites of knotweed in Cornwall. Continued recording is greatly welcomed and forms are available from your local Agency office.

The first phase of the Japanese Knotweed biological control research programme has been completed. Field studies in Japan have proved highly successful, and a number of organisms with the potential to control knotweed in the UK have been identified. Work is now underway to identify sufficient funding to commence Phase 2 of the project in 2002. Phase 2 will cost approximately £500,000 and take at least four years to complete. Work will primarily be concerned with host specificity testing, to ensure any organism recommended for release poses no threat to native plants or crops. Host specificity testing involves exposing all UK native plants related to knotweed, and UK crop species, to the potential biocontrol agents. If the organisms attack native species or crops, they are no longer included within the research programme. The research should hopefully identify at least two organisms that can survive in the UK that are specific to Japanese Knotweed. The decision on whether to release the organisms will reside with the Government

Parrot's feather in Hayle Millpond

The Agency and Penwith district council joined forces to fight the spread of parrot's feather (*Myriophyllum aquaticum*) that has overrun the millpond at Hayle. The weed had formed a dense mat of vegetation choking the pond and crowding out native species. The infestation was so severe that total removal followed by a small scale programme of herbicide control is the only option to return the millpond to normal. The plant almost certainly originated from an ornamental garden pond.

The Agency can offer advice on which species to avoid and how to safely dispose of any unwanted alien plants.

Marazion Marsh

Marazion Marsh has recently been designated as a potential Special Protected Area under the Birds Directive 79/409/EEC. Designated also as a SSSI, the marsh contains the largest reedbed in Cornwall, as well as other wet habitats such as grazing marsh and willow carr. The area is a reserve, managed by the Royal Society for the Protection of Birds. It is an important site for bitterns. We are working with the RSPB over a number of issues in the marsh. We carried out a qualitative assessment of the fish species present within Marazion Marsh in December 2000, and part-funded the creation of new open water and reed-fringe habitat in 2000.

Goss Moor

Goss Moor is a key area for wildlife; much of it is a National Nature Reserve. This is predominantly a wetland site and so the Agency will continue to play a major role in its management. The production of the water level management plan for Goss Moor is ongoing.

In the Government's comprehensive spending review the proposal to dual the Goss Moor stretch of the A30 was re-instated. We will look to our role as a statutory

consultee and controls through our regulatory function to ensure the protection of this key wetland site.

Maenporth saline lagoon

The Agency is involved with a number of other organisations and individuals in discussion about the feasibility of enhancing the quality of the lagoon behind Maenporth. This is a saline lagoon, a rare habitat in the UK, which is in the need of remedial work due to problems with the regulation of seawater flows as a result of problems within the inlet/outflow culvert.

Gweek boatyard development

Kerrier District Council is considering planning issues in relation to the boatyard, and further regulatory issues are being investigated by DEFRA. The Agency is supporting this process, commissioning geomorphological studies on the creek and commenting on the planning application as a consultee. We will continue to support these organisations investigating the development at Gweek boatyard to ensure the minimum impact to the environment.

Bait-digging

Bait digging occurs on much of the foreshore in the plan area. However on part of the Hayle estuary an existing byelaw prohibits bait digging.

Table 6

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Encourage managed retreat and habitat creation								
1.1 Work with landowners to encourage managed retreat and habitat creation	Agency / landowners	4k		*	*	*	*	Managed retreat is being promoted by the Agency
Issue 2: Controlling invasive species								
2.1 Assess extent and impacts on Agency owned land and draw up appropriate programmes for treatment according to Agency policy and R&D.	Agency	U	*	*	*	*	*	Ongoing
2.2 Assess extent and impact of other species throughout the catchment and encourage riparian owners to take appropriate action.	Agency / EN/ Wildlife Trusts/ LPAs/ Land-owners	<10k	*	*	*	*	*	Japanese Knotweed eradication programme on main rivers is continuing

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
2.3 Promote eradication of invasive species, for example Japanese Knotweed	Agency / others	4k			*			New leaflet for householders and landowners. A Code of Practice has been adopted nationally by the Agency for the treatment of knotweed on developments sites, based on a leaflet produced by the Cornwall Japanese Knotweed Control Forum.
Issue 3: Recreate wetland habitat (including reedbeds) where appropriate								
3.1 Identify potential small sites (<20ha)	Agency / BAP partners	U		*	*	*	*	Promotion and advice of wetland creation is offered at routine site visits.
3.2 Organise training day for potential planners/developers on potential of wetland habitats	Agency / BAP partners	U			*	*		The Agency is planning the most appropriate format and content for the training days.
Issue 4: Produce water level management plan for Goss Moor								
4.1 Produce water level management plan for Goss Moor	Agency / English Nature / Tregothnan	U			*	*		Production is ongoing. Will assist in regulatory activities on site.
Issue 5: Investigate causes of decline in wading birds using the Fal Estuary and take appropriate actions where necessary								
5.1 Investigate causes of decline in wading birds using the Fal Estuary and take appropriate actions where necessary	CWT	10k	*	*	*			Investigation being run by Cornwall Wildlife Trust who own the reserve at Ruan.
Issue 6: Work with partnership bodies and landowners to enhance natural environment								
6.1 Undertake research into wet woodland to enable appropriate management – although the willow carr at Loe pool is receiving special attention	Agency / others	10 k			*	*		This is one of the key areas addressed by the Cornwall Biodiversity initiative.
6.2 Improve information on pond creation, through the Agency 'Pond Form', surveys, reviews, and best practice.	Agency / FWAG / CWT	2 k				*		Currently looking at producing leaflets on ponds and wetland creation and management.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 7: Development at Gweek boatyard								
7.1 Investigate the impacts of the development to minimise the environmental impact	Agency / Kerrier DC/ DEFRA	U			*			Investigations are ongoing
Issue 8: Fisheries survey of Marazion Marsh								
8.1 Qualitative survey of eels and other fish species in Marazion Marsh.	Agency	U			*			An eel survey was undertaken by the Agency in December 2000. The survey found no eels. Another survey was carried out by the RSPB in another part of the marsh; this found 10 eels.
Issue 9: Management of Bait Collection								
9.1 Investigate options for control and sustainable management of bait collection	Estuary project officers/ Devon SF/ EN/ SWFSA/ Agency	U		*	*	*		Looking to develop a regional strategy to avoid a piece-meal approach to management of this issue and subsequent knock-on effects of fishermen starting to use new estuaries and areas.

4.3.2 Safeguarding Special Areas of Conservation

The EU Birds Directive and the EU Habitats Directive place additional responsibilities on all competent authorities, including the Agency. The aim of the legislation is to protect and conserve certain species and habitats.

The first stage of achieving this is through the establishment of a network of nature conservation sites that will be known as the Natura 2000 Network. Natura 2000 sites are Special Protection Areas (SPAs) which are designated under the Birds Directive, and Special Areas of Conservation (SACs) which are designated under the Habitats Directive.

There are four areas designated as Special Areas of Conservation (SACs) under the EC Habitats and Species Directive 92/43/EEC (1992) in the plan area.

European Site Name	Interest Features
Lower Bostraze and Leswidden cSAC	Western rustwort
Marazion Marsh pSPA	Aquatic Warbler and Bittern
Tregonning Hill cSAC	Western rustwort
The Lizard cSAC	Mediterranean temporary ponds, hard oligo-mesotrophic waters with benthic vegetation of chara formations, vegetated sea cliffs of the Atlantic and Baltic coasts, dry coastal

European Site Name	Interest Features
	heaths with <i>Erica vagans</i> and <i>Ulex maritimus</i> , Northern Atlantic wet heaths with <i>Erica tetralix</i> , dry heaths (all subtypes)
Fal and Helford cSAC	Atlantic salt meadows, reefs, Shore dock, large shallow inlets and bays, estuarine, sandbanks which are slightly covered by sea water all the time
St Austell Clay Pits cSAC	Western rustwort
Breny Common and Goss and Tregoss Moors cSAC	Northern Atlantic wet heaths with <i>Erica tetralix</i> , dry heaths (all subtypes), Marsh fritillary
Carrine Common cSAC	Southern Atlantic wet heaths with <i>Erica ciliaris</i> and <i>Erica tetralix</i>
Penhale Dunes cSAC	Dunes with <i>salix arenaria</i> , Early gentian, shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes), Shore dock, fixed dunes with herbaceous vegetation (grey dunes), humid dune slacks, Petalwort
Godrevy Head to St Agnes cSAC	Early gentian

Review of Consents Process

This is a major area of work for the Agency. As part of these regulations the issues affecting each designated site are determined in Site Issues Briefings (SIBs). The Agency will have to review the consents over which it has control that relate to the issues in the SIBs. The key issues that have so far come from these SIBs are water quality and abstractions.

The tasks the Agency needed to undertake on each site to progress the review of consents need to be identified. The resources required to complete the tasks and national deadlines will then be determined.

Fal and Helford Special Area of Conservation (SAC)

Management schemes will be established on marine Special Areas of Conservation as a key measure in meeting the EU Habitats Directive. Each scheme will be prepared jointly by a group of relevant authorities having statutory powers over the SAC. As a framework, they will contain measures necessary to safeguard the important marine features and through which the authorities will carry out their duties. The Agency is a partner on the Fal/ Helford management group.

Table 7

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 7 : Identifying key requirements for Special Areas of Conservation (SAC)								
7.1 Review of consents, licences and operations against conservation objectives for the five SACs	Agency	4k			*	*	*	Identification of all authorisations (consents, abstractions and waste licences) has begun for the Fal estuary. Planned to be complete by 2004. The authorisations are being reviewed at present.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 8: Implement scheme of management for Fal and Helford candidate SAC								
8.1 Produce Nature Conservation Objectives by December 1998	Relevant authorities	U		*				Objectives published. Action complete.

Loe Pool

Loe Pool is Cornwall's largest natural lake. It has several unique features, is an important conservation and amenity site and has been designated a Site of Special Scientific Interest (SSSI). It has been affected by a number of activities in the past, such as mining, which have left a legacy of environmental damage. The restoration of the pool will be a long-term process, which will be steered by the Loe Pool Management Forum.

Water Level Management Plan

The River Restoration Centre was commissioned by the National Trust in 1999 to investigate management options for the River Cober below Porthleven Road Bridge. The objective was to minimise ecological effects whilst maintaining flood defence standards. We are currently discussing the recommendations with the National Trust. Monitoring last year and this will show how the situation develops. After this time any changes to maintenance within this context can be planned.

Flora Day litter management for Loe Pool and River Cober

Helston Flora Day is a very popular annual festival in Helston at the beginning of May. The influx of visitors to the town increases the amount of litter, most of which is cleared away from the streets by the council. However, a considerable amount of litter (apparently as much as the total amount for the rest of the year) enters the River Cober and travels down to Loe Pool, entangling itself around the plants and aquatic wildlife. This is damaging to the wildlife and is aesthetically unappealing.

In May 2000, the Agency carried out a pilot litter collection from the Cober. A net was placed across the river with the aim of collecting as much litter as possible before it reaches the Pool. The net was then be removed a couple of days after Flora. The pilot was a great success and will be an annual part of the festivities each year.

Table 8

Action	Lead Body	Cost (£)	Financial Years					Progress Year 2
			99	00	01	02	03	
Issue 1: Implement recommendations from the Water Level Management Plan								
1.1 Adjust the spill level of tunnel through Loe Pool bar.	Agency	U				*	*	Collection of further data to be carried out Spring 2000 to assist with design of adjustment.

Action	Lead Body	Cost (£)	Financial Years					Progress Year 2
			99	00	01	02	03	
Issue 2: Support Loe Pool Management Forum								
2.1 Produce catchment management plan for Loe Pool by September 1998 and carry out appropriate actions identified.	Loe Pool Forum	20k	*	*	*	*	*	The Catchment Management Plan was published in September 1998. We will report progress on the actions in this Annual Review
Issue 3 Support and report on actions identified through Loe Pool CMP								
3.1 Negotiate Countryside Stewardship Scheme Target Area status.	Agency	U		*				DEFRA accepted Target Area status. Five applications were accepted in 1999, others in 2000
3.2 Encourage farmers to enter land into Countryside Stewardship Schemes (CSS).	FWAG, NT	U		*	*	*	*	Several organisations are carrying out farm visits to promote CSS. DEFRA has doubled CSS funding. We would welcome enquiries from any interested landowners in the catchment. The Agency is currently seeking funding for a Project Officer to carry out this work proactively.
3.3 UWWTD monitoring and Helston STW. Following completion of 3-year survey into nutrient loadings, assess loadings from sources including Culdrose.	Agency / EN	U						Assessment of loading from RNAS Culdrose scheduled to be undertaken during 2001.
3.4 Evaluate nutrient inputs from Coronation Lake, septic tanks, fish farms and take actions where appropriate.	Agency	U	*	*				Leaflets on effective management of septic tanks are available from Agency or National Trust.
3.5 R & D into mesocosm following completion of works at Helston under UWWTD.	NT, EN, Agency	U						Will assess benefits to speed up restoration of Loe Pool after installation of improvements to Helston STW.
3.6 Investigate sources of sediment.	Cornwall College	U						A project looking into identifying sediment sources and the levels of loss is currently being put together by Cornwall College and Truro College.

Action	Lead Body	Cost (£)	Financial Years					Progress Year 2
			99	00	01	02	03	
3.7 Survey shoreline and marginal flora as part of the research needed for the Water Level Management Plan decision.	NT	U			*			Carried out Autumn 1999.
3.8 Develop River Cober floodplain scheme to reduce sediment input and to enhance quality of floodplain habitats through WLMP review	Agency, EN, NT	U			*			Initial assessment has been carried out by River Restoration Centre.
3.9 Monitor hydrology of willow carr to evaluate effects of implementation of Water Level Management Plan.	NT	U		*	*			Some water table measurements have been taken and will be continued.
3.10 Management of public use. Encourage public awareness of nature conservation value of lower reaches of River Cober.	EA/EN	U			*			Agency and English Nature met with Helston Town Council in September 1999 to discuss creation of a Nature Reserve in the lower Cober valley. This action is subject to land sale of the main part of the proposed site – action on hold.
3.11 Manage public use of lower River Cober paths to reduce disturbance to wetland flora and fauna.	NT	U			*			Public access matters will be addressed as part of this project.
3.12 Negotiate enforcement of Loe Pool angling regulations including submission of catch records.	NT	U			*			Implemented.

Action	Lead Body	Cost (£)	Financial Years					Progress Year 2
			99	00	01	02	03	
3.13 Negotiate production of NT whole farm plans. Promote project nationally to ensure best practice is received and to share experience.	NT/ FWAG	U			*			Detailed, field by field, advice on sediment run off risk and potential mitigation measures has been produced for all National trust tenant farms. It is hoped that the principles will be applied to other farms in the catchment, and that some of the measures can be incorporated into the Countryside Stewardship Schemes in the Cober catchment.
3.14 Investigate removal of Water Net from Loe Pool.		U						Funding unlikely at present.
3.15 Reduce pollution from street drainage in Helston Education campaign in Helston on pollution from street drainage and kennels.	Kerrier DC	U						Agency will support any initiatives with advice and leaflets as necessary.
3.16 Improve street cleaning and maintenance of drains.	Kerrier DC	U						Discussions have been taking place between Kerrier and Loe Pool Forum.
3.17 Assess feasibility of screening Helston road runoff.		U						
Issue 4: Fisheries investigation of Loe Pool								
4.1 Carry out qualitative fisheries surveys in Loe Pool.	Agency	U			*			1999 data processed. No further surveys planned. Action complete.
4.2 Investigate means of removing perch from pool to conserve trout population.	NT/ Agency	U			*			Survey showed an imbalance in fish populations. There is an overabundance of perch. A number of actions to correct this are recommended within the report.

4.3.5 Hayle Estuary

Hayle and the adjacent coastal habitat are heavily protected with conservation and historic designations as well as having as yet unrealised potential for redevelopment.

Hayle Harbour

Plans have been presented to the Agency and a planning application submitted to Penwith DC for the proposed regeneration of Hayle Harbour, providing a marina, hotels and leisure facilities. In addition to its unique conservation value, Hayle Harbour and Estuary has recognised potential for re-development.

Part of the recently proposed area for development falls within the Hayle Harbour and Carrack Gladden Site of Special Scientific Interest.

Sediments in the Hayle Estuary are contaminated by centuries of industrial activities including mining and power generation. The top layers of silt are likely to be less heavily contaminated by metals and other toxic substances than the layers further down. Before any redevelopment could take place the Agency would require an environmental assessment over the full suite of contaminants and over the full depth of works. Any work could carry a strong potential for contamination of the estuary.

The proposals will involve both a planning application and a change to the Harbour Revision Order. The planning application has been called in by Government Office for the South West. Concerns surround impacts on the designated conservation areas, the creation of a tidal sill and subsequent changes to the tidal regime and the potential for contamination in the silts, surrounding land and the harbour.

The Agency will continue to play a role as a consultee commenting on conservation issues, pollution risks and possible impacts on flows and flood protection while recognising the importance of the regeneration proposals to the economy of the area.

Wildlife

The Hayle Estuary is the most south-westerly estuary in Britain and lies on a major bird migration route. The Estuary provides feeding and roosting habitats for a wide variety of bird species including wildfowl and wading birds such as the Teal, Ringed Plover, Curlew and Dunlin. In recent years more than 242 bird species have been recorded in the estuary, including 90 wintering bird species with total numbers of over 18,000 and is managed by the RSPB as a reserve.

Hayle Towans exhibit a rich and diverse flora, plants of particular note that can be found in the area include Portland Spurge, Bulbous Meadow Grass and Mountain St. John's Wort which are nationally scarce. The unusual nature of the wildlife in the estuary includes the rare Gilthead bream, which has been recorded in Carnsew pool.

Historic audit

The Agency has commissioned a desk based historic audit of the Hayle Estuary, which has recently been published. Recommendations of the report and actions arising are currently being considered.

Table 9

Action	Lead Body	Cost (£)	Financial Years					Progress Year 2
			99	00	01	02	03	
Issue 1: Carry out Historic Audit of Hayle Estuary and appropriate actions arising from it								
1.1 Carry out Historic Audit of Hayle Estuary and appropriate actions arising from it.	Agency	1.2k	*					The audit has been completed. It was based principally on desk based sources and has highlighted a need for fieldwork to both verify the results of the audit and to enhance the record so far obtained.
Issue 2: Carry out assessment of fish populations within Carnsew Pool								
2.1 Undertake an assessment of fish populations within Carnsew Pool.	Agency	U			*			Currently in discussion with consultant working on behalf of Hayle Harbour development concerning a fisheries survey of Carnsew Pool

4.4 Fisheries management

Natural fisheries are important ecological assets and are also of commercial value for angling and netting. Fish are good indicators of the overall health of our rivers. We use information from our routine fish population surveys, fish counters and fishing catch returns to assess the diversity, abundance and health of fish populations.

Construction of instream structures

Whilst benefiting the river by creating deep-water habitat, instream structures may cause flooding, erosion and prevent spawning if placed in inappropriate locations. The Agency is currently undergoing a review of current legislation and procedures for handling applications, including any implications of the designation of Special Areas of Conservation (SACs).

Knowledge of fish populations

Fish species listed within the EC Species and Habitats Directive 1994, such as Atlantic salmon, shad, sea lamprey, river lamprey, brook lamprey and bullhead have all been recorded within the plan area. We will gather further information on the distribution and abundance of these key species during our routine fisheries surveys that are undertaken throughout the area.

Bass size limit

Currently there is a difference in the size limit between bass caught within and those caught outside the Hayle Estuary. Within the estuary the minimum landing size is 36 cm, outside the size is set at 37.5 cm. To resolve this anomaly we proposed an action developing proposals to send to DEFRA for permission to create a new byelaw to raise the minimum landing size limit to 37.5 cm. However, following discussions with our legal section, we must have good evidence that the existing size limit is

ineffective and is proving detrimental to stocks or that there are clear, well-reported instances where persons are suspected of breaking the law and the difference between the minimum size limits is the key factor hampering our ability to prosecute offenders. The mere fact that a size difference exists will not be enough to enable us to present a case for a new byelaw to be made.

Table 10

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Appropriate management of instream obstructions								
1.1 Survey obstructions to assess economically feasible actions	Agency/ WRT/ riparian owners	U		*	*	*	*	Ongoing work.
1.2 Review and draw up protocol of best practice for positioning and construction of croys.	Agency	U		*	*	*	*	Being reviewed nationally.
Issue 2: Survey for EC Directive species								
2.1 Done as part of routine surveys	Agency	6k			*	*	*	Ongoing work
Issue 3: Create byelaw to increase minimum bass size limit								
3.1 Create byelaw to increase minimum bass size limit	Agency							Not able to progress Action complete.
Issue 4: Improve knowledge of fish populations								
4.1 Carry out fish survey on: St Austell River Par River Percuil River	Agency	10 k	*					Surveys were carried out on St.Austell and Par rivers in 1998. Further surveys planned for 2001 will not proceed as a result of fisheries GIA funding being reduced.
4.2 Investigate causes of poor trout densities on: Portholland Stream Porthoustock Stream	Agency	U			*			The survey has been completed and identified low densities of Trout fry in the streams. No resources are available to complete this project.
Issue 5: Assess areas of potential fisheries improvement and carry out appropriate works								
5.1 Investigate suitability for fisheries repopulation following recent water quality improvements on: Gwindra Stream Hembal Stream Caerhayes Stream St Keverne Stream	Agency	U	*	*	*			Gwindra and Caerhays streams surveyed in 1998. Lack of resources for Hembal and St Keverne. Hopefully will be undertaken 2000/2001.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
5.2 Habitat improvements on Tywardreath Stream	Agency	U			*			Initial assessment in 1999. Lack of resources. No progress due to lack of resources.
5.3 Assess weirs at: Virginia Weir, River Fal Grampound Town Weir, River Fal Crump weir on River Kenwyn	Agency	U						Information collected on owner, weir type and environmental impact.
5.4 Investigate cause of decline in fish numbers on: River Cober at Vellanewson Boswarna Stream, Lamorna Stream, Penberth Stream	Agency	U						Investigation work will commence when resources allow.

4.4.2 Enforcement

Fisheries Enforcement

Salmon and sea trout are protected by extensive fisheries legislation mainly contained within the Salmon Act 1986, Salmon & Freshwater Fisheries Act 1975 and Regional and National Fisheries Byelaws.

These laws were created to protect freshwater fish from uncontrolled exploitation and the Agency enforces the legislation through its Fisheries Enforcement Officers. In main river tributaries, poaching of salmon and sea trout is still a problem. This activity often happens at night, and in many cases by lone individuals. Fisheries Enforcement Officers undertake many night patrols using night sights to enable them to 'see in the dark'. November to January is an important time for the Agency as salmon and sea trout have moved into shallow waters to spawn, making them an easy target for poachers. At this time of year, Agency patrols are increased particularly at susceptible sites.

The number of migratory salmonid entering the rivers is linked to the level of salmonid poaching with gill nets in the estuaries and adjacent coastal waters. Prior to the 1980s, large numbers of unlicensed nets were legally operated in the estuaries and along the coast ostensibly for the capture of sea fish. Changes in legislation have resulted in the creation of areas closed to netting, which, combined with the current level of enforcement has significantly reduced illegal captures in tidal waters.

Rigorous and high profile enforcement continues as a joint initiative between the Agency, DEFRA and CSFC. Rod licence income is essential for maintaining the protection of rivers and fish stocks. We will continue to run campaigns to publicise the need for rod licences and will enforce any breach of the rules.

Introductions and escapees

Within the catchment there are stillwater lakes containing a variety of coarse fish species, which are not native within the river system. We are concerned about the occurrence and impact of fish escapees on native species. Serious diseases can be spread to wild populations and predation. The Agency actively promotes the "Buyer Beware" policy to fishery owners in an attempt to limit the spread of fish parasites and disease.

Table 11

Table 11								
Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
Issue 1: Prevent poaching								
Maximise use of resources to prevent poaching including collaborative work with other parties.	Agency/ riparian owners/ general public	U	*	*	*	*	*	Working with other bodies.
Issue 2: Minimise effects of non-native fish species on the freshwater fishery								
2.1 Update database on distribution of non-native species within still water fisheries	Agency	U			*	*	*	A stillwater database has been prepared. Visits will enable further information to be collected to assess fishery status.
2.2 Regular inspections of still water fisheries	Agency	U			*	*	*	Ongoing
2.3 Monitoring of non-native escapees recorded during fisheries work	Agency	U				*	*	We carry out this work during our routine fishery surveys. We attempt to identify the source of all non-native fish and will take action to prevent any further escapees where we identify a source.
2.4 Publicise the effects of escapees, regulations and hazards of fish disease	Agency	U			*			Included in the 'Buyer Beware' campaign. Action complete
2.5 Advise on measures to prevent escapees.	Agency	U			*			We carry out this activity as part of our routine work. Action complete.
Issue 3: Promote the 'Buyer Beware' principle for fish stocking								
3.1 Carry out leaflet campaign	Agency	U		*				Leaflet campaign ongoing. Action complete.

Action	Lead Body	Cost (£)	Financial Year					Progress
			99	00	01	02	03	
Issue 4: Operation "Eyes & Ears"								
4.1 Operation "Eyes & Ears" to promote free-flow of information on poaching from general public.	Agency	U						High river flows reduced the need for extensive partnership working.
Issue 5: Advanced technology deployment to detect poaching activity								
5.1 Trialling of infra-red detection units to assist anti-poaching patrols	Agency	U						Trialed in Nov/Dec 1999 and Jan 2000. Action complete.
Issue 6: Legalise appropriate ebb netting practises								
6.1 Need to identify netsmen and investigate the legal situation.	Agency	2k			*	*	*	We have identified three ebb netters and will attempt to contact them to discuss the activity.

4.5 Shellfisheries

There are a number of shellfish beds within the Fal and Helford Estuaries, representing a valuable natural and economic resource. The Environment Agency monitors water quality under the EC Shellfish Waters Directive. Sampling under the EC Shellfish Hygiene Directive is undertaken by the Falmouth and Truro Port Health Authority (PHA) in conjunction with DEFRA to determine the bacteriological quality of shellfish flesh. DEFRA provide the classification from samples supplied by the Falmouth and Truro Port Health Authority.

As the Fal and Helford Estuaries are designated a candidate Special Area of Conservation there may be a requirement to review current fishery status/regulations to assess any impact on the conservation objectives. Under the Environment Act there is a mechanism to create Fisheries Byelaws for reasons of marine conservation. The current division of legislative responsibility for shellfishing is unclear. There is a requirement to clarify the legal situation and to establish the viability of current Agency bylaws.

Table 12

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Review current fishery status and regulations and rationalise where appropriate								
1.1 The designation of Fal and Helford Estuaries as a candidate SAC may require assessment of current status and its effects on conservation objectives arising from designation	English Nature/ Agency/ Harbour Commissioners/ Port Health Authority/ DEFRA/ Environmental Health Depts	5 k			*	*		Once the criteria for the protection of the specific designation has been clarified the Agency will assess which discharges will require consent reviews.
Issue 2: Proposed Cockle harvesting bye-law								
2.1 Investigate the introduction of a Cockle harvesting bye-law	Agency	U			*	*		Draft byelaw is currently with DEFRA for consultation.

4.6 Water based recreation

Many people spend their spare time enjoying our rivers and coasts. Where we can we try to improve facilities for these people, particularly if land is in our control, but we must always safeguard the environment from the damage that they might cause.

We have a general duty to promote the recreational use of water in England and Wales and we will support sensitive access initiatives that respect the interests of local people and local wildlife.

Several new initiatives for water based recreation are currently being considered within the plan area. These include consideration by South West Lakes Trust of extending the scope of water based recreation on the Argal reservoir following the ceasing of Trout fishing. In addition there is the proposed development of Hendra Pit by IMERYS Minerals Ltd, for an inland canoeing and sailing venue and re-development of Stithians Reservoir Watersports Centre.

Carnon Valley

The Agency owns a large tract of land in the Carnon Valley, purchased as part of the Wheal Jane project. The Agency intended to formalise a management plan for the valley during 1999 to ensure the maximum conservation and recreational benefit is achieved. There are a number of features of biological value that we will be looking to protect and possibly extend and also potential improvements to the recreational opportunities for the public. This work has been delayed as the Agency is awaiting Health and Safety advice for public sites that will be published in 2001.

Countryside and Rights of Way Act 2000

The Countryside and Rights of Way Act 2000 will create a new statutory right of access and modernise the rights of way system as well as giving greater protection to Sites of Special Scientific Interest, providing better management arrangements for Areas of Outstanding Natural Beauty and strengthening wildlife enforcement legislation. Making it work will involve a partnership approach between a range of statutory bodies, including the Agency, and landowners and land managers.

Footpaths, bridleways and cycleways

The sustainable transport organisation Sustrans has developed a series of traffic-free routes across Britain. We are supportive of new routes where they can be managed without adverse effects on the environment or other users, and will assist where appropriate. The Agency provides advice on the appropriate use of walks alongside rivers and canals.

Some of the heavily used recreational sites in the freshwater system could be managed by initiatives by other bodies. We will support where possible, suitable projects for sustainable recreation in the area.

Fal Estuary Management Plan

Most of the issues arising from recreational pressure in the Fal Estuary area are dealt with in the Fal Estuary Management Plan. The Agency support projects where appropriate and is represented on the steering group for the plan.

Fal Estuary Water-based Park and Float Initiative

A wide range of organisations (including the National Trust and Cornwall County Council) are working on a project to enhance opportunities for exploring the Fal Estuary by water. This would build on the existing services - such as Enterprise boat trips - by expanding the number of sites and services available. The intention is to try to encourage less car use in the area, and open up places such as Trelissick Gardens and the National Maritime Museum from the water. A fundamental part of the project will be a 'park and float service to ease car pressure in Falmouth Town Centre.

Table 13

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Support and implement, where appropriate, the actions in the FBEl management plan								
1.1 Support and implement where appropriate, the actions in the FBEl management plan.	FBEl / Agency / Recreational Users	U	*	*	*	*		The Agency works in partnership with other interested bodies.

4.6 Canoeing

Canoe Access Agreement

A canoe access agreement has been finalised between the British Canoe Union and the relevant landowners on the Fal. The Agency is supporting the BCU with a planning application to improve health and safety at entry/exit points and along the route by carrying out work to trees. This work is very important as children and beginners primarily use the river.

Table 14

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Set up canoe access agreement on the River Fal								
1.1 Set up canoe access agreement	BCU/landowners	U		*	*	*		The canoe access agreement is complete. Action complete.
Issue 2: Promote responsible canoeing								
2.1 Promote The River Call information service - which gives the levels of certain rivers.	Agency	U	*	*	*	*	*	Promotion of the Rivercall line is ongoing as part of core work.

4.5 Meeting current and future demand for water

We have a duty to secure the proper use of water resources. In March 2001 we published a water resources strategy for the South West Region. The strategy looks 25 years ahead and considers the needs for water, both for the environment and for society, and examines the uncertainties about future water demand and its availability.

The strategy identifies demand management and water resource development options that are able to help ensure adequate supplies of water across all sectors and shows that we can manage water resources over the next 25 years in a way that will allow an improvement to present levels of environmental protection.

The strategy recommends 30 actions, which will involve the assistance of many other organisations to deliver them. Where actions are to be carried out at a catchment level, we will include them the relevant LEAP.

Trehear Gauging Station

Within the financial year 2001/2001 the Agency may be upgrading the Trehear Gauging Station (Grid Reference: SW6757 3113) that is used to measure the flow in the River Cober below the SWW Public Water Supply abstraction at Wendron. This will include improved accuracy of the structure, remote data access via telemetry, and improved Health and Safety for site maintenance.

Table 15

Table 15		Lead Body	Cost (£)	Financial Year					Progress
Action				99	00	01	02	03	
Issue 1: Ensure efficient use of water by Water Companies through demand management									
1.1 Audit South West Water's final Water Resources Plan to be submitted to the Agency by 31 March 1999	Agency / SWW	U	*	*	*	*	*	Ongoing monitoring and consultation Annual review was submitted to Agency in September 2000	
Issue 2: Encourage consumers to undertake water saving measures									
2.1 Ongoing advice and publicity	Agency /SWW/ PDC/ KDC/ CDC/ RDC	U	*	*	*	*	*	Agency and SWW give advice on water saving measures. Local councils also provide advice to householders on water saving techniques.	
2.2 Disseminate information on demand management and water saving measures in conjunction with the National Waste Survey	Agency	U			*			Analysing results of the national waste survey. West Cornwall Waste club, running throughout 2000, looks at water saving measures alongside waste minimisation and energy saving measures.	
Issue 3: Revise the Regional Water Resources Development Strategy									
3.1 Publish updated Water Resources Strategy	Agency	U			*			Agency national strategy was published in December 2000 and the Regional strategy will be published in March 2001.	

4.7.2 Catchment Abstraction Management Strategy

Objectives of a Catchment Abstraction Management Strategy (CAMS) are:

- to make more information publicly available on water resources allocation and licensing within a catchment;
- to provide a consistent and structured approach to water resources management;
- to provide the opportunity for greater public involvement in the process of managing abstraction at a catchment level;
- to provide a framework for the management of time-limited licences;
- to facilitate licence trading;
- to achieve sustainable management of water resources.

The process for each CAMS Area will take two to three years. The Fal and St Austell Streams CAMS will begin in April 2003 and end in April 2005; the West Cornwall CAMS will start in April 2006 and end in April 2008.

4.8 Mining and Quarrying

Historically, the area was one of the most important and extensively mined areas in the South West, principally for tin and copper. Underground workings have altered groundwater flows and intercepted surface water drainage, discharging via mine workings rather than flowing back into rivers and streams. Water quality, particularly in the Carnon River subcatchment, has been affected by mine drainage over hundreds of years.

Widespread contamination of ground has occurred from the former operation of metalliferous mine workings in the area. During any work on spoil heaps or contaminated sites any soil containing metalliferous mining waste exported off site must be handled in an appropriate manner. We advise on suitable methods on a site-specific basis. Cornwall County Council, in its draft waste local plan, encourages disposal based on our advice.

Wheal Jane

The Agency has continued to actively pump and treat the majority of the water to prevent the discharge of untreated minewater from Wheal Jane. The proposed long-term minewater treatment plant treating up to a maximum of 330 litres/ second of minewater was completed in October 2000. The new plant will give better control over the quality of the effluent discharged to the Carnon River and allow a restoration plan for the Clemows Valley Tailings Dam to be instigated.

Work has been carried out to seal off a potential leakage of water from County Adit into Wheal Jane mine. The aim of the work was to prevent some water entering the mine and thereby eliminate the need to pump and treat extra volume of water in the new plant.

South Crofty

In August 1997 South Crofty Plc informed the Agency of their intention to close the South Crofty tin mine during 1998. This allowed the Agency to consider the environmental effects of the closure and as a result a report on the effects of the closure was prepared. The report concluded that once pumping ceased, the water level in the mine would take approximately 3 to 5 years to overflow depending on rainfall.

Mine water began overflowing in early November 2000. There was some limited red colouration in the river but ecological damage is not thought to have occurred. Monitoring continues. BaseResult have purchased the mine with a view to recommence mining. The Agency is in touch with the company to discuss environmental requirements arising from the proposed working practices.

Archaeological remains

Many historic mining sites are of national and international value in terms of their industrial heritage and some have national biological value particularly bryophytes. The central mining district around Camborne and Redruth and the coastal remains around St Just are amongst sites currently being submitted as a World Heritage Site for Cornish mining.

The Derelict Land Reclamation Strategy for Cornwall was launched by English Partnerships. Amongst the actions included in the strategy, is the preparation of site management plans for conservation management of former mine sites and audits of

archaeological remains. Cornwall Wildlife Trust is soon to publish a manual of best practice for protecting all the interests of the metalliferous mine sites.

Red River (Redruth)

The Red River has been the centre of mining processes for hundreds of years and much metalliferous waste has accumulated in the valley. Proposals that involve disturbing this ground can cause further environmental impacts.

Management of the Red River valley needs to balance the needs of the variety of different interests, including archaeology, conservation, recreation and flood defence. Kerrier District Council is currently leading a project to investigate the feasibility of enhancing part of the flood plain, and to designate their ownership as a local Nature Reserve. Any work in the flood plain must comply with flood plain policy.

Table 16

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Minimise disturbance of former mining sites								
1.1 Control or minimise disturbance of former mining sites via planning procedures.	Cornwall County Council	U	*	*	*	*	*	Review of mineral planning permissions is underway. Agency is a statutory consultee in this process
Issue 2: Handling of metalliferous waste arisings to minimise environmental impact								
2.1 Promote policy to be included in forthcoming Cornwall Waste Local Plan	Agency	U			*	*	*	In May 2000 Section 57 of The Environmental Protection Act 1990 will be implemented, whereby the Environment Agency and the Local Authorities will identify and compile a register of contaminated sites. The Agency and the Local Authorities will then have the statutory powers to bring about the remediation of contaminated land.
Issue 3: Future management of Wheal Jane minewater								
3.1 Long term solution for minewater implemented	Agency / DEFRA	U			*			Long term minewater treatment plant constructed in 2000. Action complete.
Issue 4: Future maintenance of County Adit								
4.1 Maintenance of adits	Local Authorities / National government/mineral owners	U		*				Work on a small part of County Adit was carried out last year to seal off a potential leakage point of water from the adit into Wheal Jane Mine.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 5: Work with all involved to ensure that any closure of South Crofty has minimum adverse environmental effects								
5.1 Review quality, quantity and location of minewater overflow predictions using recent monitoring data.	Agency /CCC/ Kerrier DC	U	*	*	*	*	*	Reviews currently underway following overflow.
5.2 Review contingency plan.	Agency	U	*	*	*	*	*	See above.
5.3 Instigate contingency plan with other bodies involved.	Agency /CCC/ Kerrier DC	U						On hold due to possibility of mine reopening
NEW ACTION: 5.4 Monitor rising water levels.	Agency	U			*	*	*	Overflow has taken place with minimal impact on receiving waters.
Issue 6: Promotion of methods to prevent or minimise waste from contaminated ground								
6.1 Give advice on Best Practice options to treat metalliferous waste arisings if necessary.	Agency / CWT	U						Cornwall Wildlife Trust is soon to publish a manual of best practice for protecting all the interests of metalliferous mine sites.
Issue 7: Long term management of Red River Valley								
7.1 Partnership project to manage the Red River Valley.	Kerrier/ CWT/ Agency	U						Kerrier is leading a partnership project to manage the Red River valley and is considering designating it as a Local Nature Reserve.

4.8.1 China Clay

The extraction and processing of china clay dominates the landscape and economy of the St Austell area, as it has for the past 100 years. China clay production generates large quantities of waste and affects water quality, water resources and air quality.

There is general recognition of the huge potential for this industry to alter the landscape. We work with the industry and the Mineral Planning Authority to ensure impact is minimised.

A Code of Practice relating to water quality has been developed by the Environment Agency and china clay industry to promote good practice and eliminate some of the impacts and risks through management of sites. Liaison meetings are held between the industry and the Environment Agency to promote better understanding of the industry and regulatory requirements.

Restoration

Much of the area affected by the China Clay industry was formerly heathland and this will form a key factor in the overall restoration of these sites. Within the restoration schemes there will be the opportunity for wetland re-creation in areas such as valley bottoms and areas of compaction. There will also be scope for the establishment of small pastures, with restored hedges and the creation of small amounts of woodland.

Table 17

Action	Lead Body	Cost (£)	Financial years					Progress Year 2
			99	00	01	02	03	
Issue 1: Produce Water Quality Code of Practice								
1.1 Produce Code of Practice	Agency / China Clay industry	1 k		*				The code of practice was published in September 2000. Action complete.
1.2 Assess efficiency of plan.	Agency/ SWW/ EN				*	*	*	Working together to explore Heathland Restoration techniques.
Issue 2: Managing the effects of the china clay industry								
NEW ACTION 2.1 Implement the code of Practice	Agency/ IMERYS	U				*	*	The Code of Practice has been published. The Agency will work with IMERYS through the implementation
NEW ACTION 2.2 carry out baseline survey of freshwater invertebrates as indicators of the health of the ecosystem as part of the Code of Practice.	Agency	U				*		The baseline survey will be carried out in 2001.
Issue 3: Support and implement the County Council/ China clay Industry's Tipping and Restoration Strategy								
3.1 Support and implement the County Council/ China clay industry's Tipping and Restoration Strategy.	CCC / China Clay industry	U			*	*	*	Ongoing action as the Agency is consulted on review of Mineral Plans. We are also working with IMERYS to support environmental improvements in their operations.

4.9 Contaminated Land

Section 57 of the Environment Act 1995, which enacts Part IIA of the Environmental Protection Act (1990), came into force on 1st April 2000. This allows for the identification of land that poses a threat of significant harm to human health or the environment, or of pollution of controlled waters, under existing conditions. It also provides for the enforcing authority (the local authority or the Agency) to ensure that appropriate and cost-effective remediation is carried out to deal with the problem, either voluntarily or by way of a remediation notice. It therefore provides a

mechanism to deal with those sites which are causing concern now because of the presence of contaminants, and which would not otherwise be dealt with through other pollution control legislation, or under the planning system. Contaminated sites, which are to be redeveloped, continue to be dealt with through planning and development controls.

Local authorities have to produce a contaminated land inspection strategy which sets out how the local authority will go about inspecting land within its area to identify 'contaminated land' as defined in Part IIA of the Environmental Protection Act 1990. These strategies should be published by July 2001. The Agency has a duty to review the strategies to assess the following:

- The assistance the Agency can provide through its particular expertise and knowledge;
- Whether the strategy appears to fundamentally depart from the statutory requirements.

In spring 2001 the Agency organised a seminar for local authorities to discuss issues surrounding the new legislation.

Nancecuke

The former Chemical Defence Establishment Nancecuke, now RAF Portreath is being investigated by the MoD as part of their Land Quality Assessment Programme. The Environment Agency is working closely with the MoD in discharging its duties to Kerrier District Council (KDC) within the framework of the new Contaminated Land Regime. The Agency is responsible for 'inspecting' the Nancecuke site that is part of the process to ascertain whether or not the site constitutes 'contaminated land' under Part IIA Environmental Protection Act 1990.

The investigation is now complete and the Agency is reviewing the associated reports to ascertain if there is sufficient information to decide whether or not the site meets the criteria for it to be determined as contaminated land by Kerrier District Council.

Responsibilities under Part IIA Environmental Protection Act 1990	
Local Authorities: <ul style="list-style-type: none"> • Inspect their area to identify contaminated land. • Consult the Agency on pollution of controlled waters. • Ensure remediation of land identified as contaminated land. • Transfer "special sites" to the Agency. • Maintain remediation registers 	Environment Agency: <ul style="list-style-type: none"> • Provide information to local authorities on contaminated land. • Ensure remediation of "special sites" • Maintain a register of special sites' remediation. • Prepare a national report on the state of contaminated land. • Provide advice on quality of controlled waters.

4.10 Climate Change

The Agency sees climate change as one of the most serious problems facing the environment in the future. We are identifying ways we as an organisation need to work to respond and adapt to this change. At a national level we continue to work with inter-disciplinary panels advising the government, whilst locally tighter regulation, greater influence and education will reduce emissions. In our own work we design structures to meet the expected changes and conduct our business with a view to reducing our impact on greenhouse gas emissions.

4.10.1 Sea Level Rise

Flood defence schemes are designed to accommodate future sea level rises. The Intergovernmental Panel produces information regarding the predicted rise in sea level for Climate Change. The net sea level rise estimates are used to establish the anticipated effects over the life of a flood defence scheme. The approach is to design the works so that as sea level rise occurs the defences can be raised without having to rebuild the whole structure. Future flood defences will have allowances for sea level rise included.

Raising the level of defences above that necessary today can only be justified where evidence of actual sea level rise supports the need. The current allowances for the South West Region of the Agency are a rise of 5mm/year until the year 2030 and 7.5mm/year thereafter.

Sea Defence Survey

The Agency updates the Sea Defence Survey annually. The adequacy and condition of defences is considered, as are future improvement works. The Agency liaises with maritime local authorities over their plans for defences for which they have responsibility. Allowances for sea level rise are considered on an individual basis for each site.

4.10.2 Shoreline Management Plans

Shoreline Management Plans (SMPs)

A Shoreline Management Plan sets out sustainable coastal defence policies and objectives for the future management of the coast.

The Agency is a member of the coastal group that has prepared SMPs. This group comprises the County Council, English Nature and all maritime local authorities. The plans covering the area are Rame Head to Lizard Point, Lizard Point to Lands End and North Cornwall Coast. These were consulted upon and adopted in 1999 and contain the agreed management option for each section of the coast.

Ecological Impacts

Intertidal habitats may be lost, unless they are re-created naturally or through human intervention. Any intervention could have knock-on effects for other fringing habitats. Assessment of the potential for preservation or re-creation at different locations, and the consequences of each, needs to be carried out.

Sand dunes can give effective and efficient coast protection measures especially within a county like Cornwall that possesses over 20km of dune frontage, including Hayle Towans, and Penhale. Further research will be undertaken into the effectiveness of sand dunes as natural flood defence resources.

Table 18

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Make recommendations for the management of defences through the SMP process.								
1.1 Compile SMPs for north and south Cornwall coast	Coastal Group	4k	*	*				The SMPs are complete and have been adopted. Action complete.
Issue 2: Identify sites vulnerable to habitat loss through SMP process								
2.1 Identify and assess potential of sites.	Agency /Local Authorities/DE FRA	U	*	*	*			Sites have been identified throughout the SMPs

4.10.3 Erosion and coastal changes

Rivers and coastline change as the forces of water shape the land. We operate to the presumption that natural river or coastal processes should not be disrupted, except where people or important natural or manmade assets are at risk.

A potential effect of global warming is that of increased storminess, which could lead to increased wave action and annual rainfall, resulting in greater flood risk. The increasing intensity of downpours is likely to lead to more surface-water flooding as the volume of water overwhelms existing drainage systems. Where possible we have designed our new flood defence schemes to allow for this change.

Riparian owners have the right in common law, to repair their banks and protect land from the effects of erosion, as long as this is accomplished without injury to the property of others and does not cause obstruction to flow. They require consent from the Agency to carry out such work and we will seek to ensure that appropriate methods and material are used. Previous works have sometimes had significant detrimental effects on the river morphology, wildlife and landscape.

Where erosion control is necessary we will encourage early control by landowners, using traditional methods and materials where possible, to avoid the need for extensive and more environmentally damaging techniques. We will also encourage the reinstatement of areas where insensitive practices have been used. We will only use public funds to control erosion if the watercourse is 'main river' and if certain criteria are satisfied.

4.11 Flood Defence

River flows vary widely and are affected by the weather, geology and land use. We manage flood defences and land drainage to balance the needs of all river users with the needs of the environment. Our duties and powers with regard to flood defence are described in Appendix 2.

Our statutory flood defence committees make decisions on flood defence. All rivers are classified as either 'main rivers' or 'ordinary watercourses' (sometimes referred to as 'non-main rivers'). We control work (through consents) and supervise flood defence matters on all watercourses, but have special powers to carry out work on main rivers including both new and capital improvement schemes and maintenance.

Delivery of Flood Defence.

Flooding has occurred nearly everywhere in the Country during the last three years. The South West Region has suffered several serious floods. A booklet, 'Floods in the South West – the story of Winter 2000', is available from the local Agency office.

The result of this flooding has been far greater political interest and many reports, studies and new policies. Each of these initiatives has influenced a rapid period of change in the delivery of all activities relating to the delivery and regulation of flood defence activities across the country. Priorities have had to be carefully considered by the South West Regional Flood Defence Committee at a time of tight budgets.

The top priorities at present are as follows:

Complete emergency and urgent repairs to existing flood defences

Continue to carry out maintenance of main rivers

Regular maintenance is essential if the river system and sea defences are to operate properly at times of flood. Such maintenance works include vegetation control, repairs to earth embankments and other floodwalls, obstruction and blockage removal, dredging and up keep of flood defence gates and sluices.

The cost of maintenance varies each year depending on need; it is generally in the order of £375,000 for the plan area. Meetings are held as necessary to outline our maintenance programme to external conservation bodies. Each year within this programme some conservation and recreational improvements are carried out.

Carry out Asset Inspections of all flood defences to review their efficiency and state of repair.

Main river defences have been inspected every six months for the last eighteen months this frequency will be revised based on risk. Hence the frequency will in future vary from six monthly to five years plus special inspections following significant floods

Assess where communities are at risk and carry out studies into why flooding occurs.

Several communities suffered badly in one or both recent floods.

Where we can justify capital investment we will include locations in our Medium Term Plan which is submitted to DEFRA. If such schemes are justifiable DEFRA will

provide Grant Aid. Before any work starts full consideration of the environmental effects is carried out.

Identify Critical Ordinary Watercourses and check District Council maintain these watercourses.

Each year we are required as one of the new DEFRA High Level Targets to report on their condition.

Develop a Generic Major Incident Plans for communities at risk

We will be discussing with partners the need for and use of generic plans to deal with major flooding anywhere in the catchment.

Improve our existing Emergency Response Procedures based on lessons learned

As a result of climate change it appears that flooding is becoming more frequent and occurring quicker. We are revising our procedures to cope with this and in particular strengthening our ability to call on extra staff during major flood events.

Continue to improve and update our Flood plain Maps

These maps are vital for use in identifying who needs flood warnings and to enable us to comment on development proposals (see section 4.12). We are continuing to update these maps annually and looking to improve the accuracy of the information wherever is possible.

Develop and introduce the National Flood and Coastal Defence Database

This database is being developed to establish the condition of flood defences across the whole country. It will detail where the defences are, who owns the defence and its current condition. It is our intention to report on relevant statistics in future years.

4.11.2 Flood alleviation schemes

Flood alleviation schemes

Schemes at Pentewan, Mevagissey, Stennack River, St Ives and Portreath are included within the Medium Term Capital Programme. Before these schemes can be progressed each will have to be justifiable on cost-benefit grounds. The timing of the schemes will also be dependent on funding provided via Cornwall County Council and DEFRA; therefore the start dates included in the action tables should be considered the earliest opportunity for work to commence. Detailed consultation with affected landowners and interested bodies will take place well in advance of any work taking place.

Following flooding this autumn/winter the Agency is undertaking a study to review the options and justification for including Ladock within its capital programme. The findings of this study are expected in the summer.

The Agency is also progressing the establishment of task forces of interested parties and Local Authorities to look at funding capital work that does not currently attract grant from DEFRA.

Penryn Flood Scheme

In October 2000, the Agency officially opened the Penryn Flood Scheme. Works on the Praze Stream included making the river channel wider, constructing a bypass tunnel to carry floodwater away from the town and replacing the culvert that runs through Trelawney Park to Tresooth Lane.

Hayle Tidal Defence

Work to replace the tidal flood barrier at Hayle is underway with installation of a new tidal barrier to protect homes and businesses at St Erth from flooding at high tides. The River Hayle flows through the village of St Erth in a raised channel and when it reaches the estuary it is culverted under a main road.

Four wooden flaps are fixed on the seaward side of the culverts they shut automatically at high tide to prevent the tide backing up the river and threatening the low lying surrounding land. These flaps had been in place for over fifty years and are now beyond any further repair. The Agency's current project involves removing the old flaps and installing brand new replacements. The new flap valves will be fixed on the St Erth side of the culvert to give better access for Agency staff to perform any maintenance work.

Other works to be carried out include; a new screen to prevent debris blocking a culvert, a fish pass to allow fish to travel through even when the flaps are in use and improvements to equipment used to monitor river levels, vital to the Agency's flood warning service.

Table 19

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Reduce Flood Risk through construction of grant in aid flood alleviation schemes								
1.1 Construct scheme at River Hayle Tidal Barrier	Agency	400k			*	*		Construction started in January 2001.
1.2 Construct scheme at Pentewan	Agency	1m			*	*		Detailed design to commence shortly and providing funding is available, construction planned to start Autumn 2001
1.3 Construct scheme at Mevagissey	Agency	1.5m			*	*		Currently in capital programme. Their timing and implementation is subject to their viability and the availability of funds from DEFRA, the Agency and any contributors
1.4 Consider scheme for Stennack River St Ives.	Penwith/Agency	U				*		On hold awaiting funding

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
1.5 Consider scheme for Portreath	Kerrier/Agency	405k						On hold awaiting funding. Provisionally in the medium term programme for 2007/8

4.1.2 Flood Warning

Encouraging people to take action to protect themselves and their property from the worst effects of flooding was the focus of Flood Action Week held in September 2000. The event also launched the new system of flood warning.

The new flood warning system is in four stages from Flood Watch to Flood Warning to Severe Flood Warning and finally All Clear. The Agency has spent two years developing the new codes and preparing for their introduction with the involvement of the public, emergency services, local authorities and others involved in flooding response.

Transfer issues of flood warnings from Region to Area Office

The transfer of responsibility for issuing flooding warning to the Area office in Bodmin is underway and due for completion in September 2001. One of the main aims of this is to improve local delivery of this service to the community. In addition, a Research and Development Study into 'Community Involvement in Flood Warning' is being carried out in the Cornwall Area. This is looking at how best flood warning can be provided to rural communities and has included sending out of questionnaire to residents.

Table 20

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Determine future flood warning strategy and programme								
1.1 Complete flood warning levels of service study and take appropriate action	Agency	10k		*	*			Study completed
1.2 Carry out appraisal of Flood Warning telemetry sites as required in the Bye Report Actions	Agency	10k			*	*		In progress
1.3 Implement improvements to flood warning network as regional priority list	Agency	U				*	*	To be progressed as finance allows

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
1.4 Complete Tidal Flood Warning Level of Service Study	Agency	U				*	*	In progress

4.12 Development Pressures

The control of land use is primarily the responsibility of Local Planning Authorities (LPAs) through statutory responsibilities under the Town and Country Planning Acts. Local development plans provide a framework for land use change and are the key consideration in the determination of planning applications. Our duties and powers with regard to development are described further in Appendix 2.

Flooding

Local planning authorities and ourselves are required by DEFRA (in circular 30/92- Development and Flood Risk) to liaise closely on flooding and surface water runoff matters.

Planning Policy Guidance Note 25 (PPG25) explains how flood risk should be considered at all stages of the planning and development process in order to reduce future damage to property and loss of life. It sets out the importance the Government attaches to the management and reduction of flood risk in the land-use planning process, to acting on a precautionary basis and to taking account of climate change.

The planning system should ensure that new development is safe and not exposed unnecessarily to flooding by considering flood risk on a catchment-wide basis and, where necessary, across administrative boundaries. It should seek where possible to reduce and certainly not to increase flood risk. It should help ensure that flood plains are used for their natural purposes, continue to function effectively and are protected from inappropriate development. The guidance also outlines how flood risk issues should be addressed in regional planning guidance, development plans and in the consideration of planning applications.

Sustainable drainage

The Agency is encouraging the adoption of Sustainable Urban Drainage Systems; the selective use of structures such as soakaways as part of a development to promote infiltration. These would help to replenish groundwater as well as reduce the erosion potential in watercourses and provide ecological and aesthetic benefits, however their use must be site dependent and carefully planned design.

In January 2001 we presented a seminar to Restormel Borough Council on flood risks, SUDS and culverting. A new video on source control 'Designs that hold water' has been produced by the Agency and is available to planning authorities and other interested groups. In addition recent publications include 'An Introduction to Sustainable Urban Drainage Systems' available from the Agency and a design manual

produced and available from DEFRA and the Construction Industry Research and Information Association (CIRIA).

Highways drainage

The Agency is proactively trying to encourage the uptake of Sustainable Drainage Systems into all developments, including (where appropriate) road and highway construction. In addition we are encouraging the use of these systems during updating and maintenance of drainage systems for existing development. In Cornwall area we have been trying to improve the discharges from the A30 by using such sustainable methods of drainage. Discussions are ongoing with the Highways Agency and Cornwall County Council to investigate opportunities for improvements where there are currently direct discharges to watercourses from the road.

Environmental impact consultation guides

There are a number of locations where consented sewage treatment discharges are having an environmental impact where we recommend development constraint. These are listed in our regularly updated consultation guides.

Brownfield sites

Increasing demand for development land is expanding the urban centres and requiring the increased use of 'brown field' sites, potentially contaminated from their historic use. On both urban and 'green field' sites there are a number of large-scale development proposals that may present risks of environmental damage or enhanced flood risk within the catchment. The Agency would wish to influence these proposals through involvement both before and during the planning application procedure.

Waterfront development and infilling

The Agency normally objects to the infilling of intertidal areas to protect them as a wildlife habitat. The foreshore can also include archaeological features and contributes to landscape value. In addition to the individual loss of wildlife and other features, the intertidal areas are part of a complex of physical and ecological interactions that are interrupted with the cumulative piecemeal loss of the intertidal area for land gain.

When a development proposal includes infilling parts of the foreshore we assess the ecological, archaeological and landscape impact and whether there are suitable alternatives to the proposed development. Such development always requires a DEFRA FEPA licence as well.

Table 21

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Promote sustainable drainage through policies and increased awareness								
1.1 Agency is developing National Policy on sustainable urban drainage and will promote it for inclusion	Agency /DEFRA / CIRIA	U	*	*	*	*	*	We presented a seminar to Restormel Borough Council in January 2001. The promotion of sustainable drainage techniques for surface

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
in planning policy in relation to and with individual planning applications.								water is a continuous ongoing process when dealing with development enquiries
Issue 2: Plan development to prevent increased risk of flooding								
2.1 Produce Section 105 survey to identify flood risk in the catchment.	Agency	U	*	*	*	*	*	Maps have now been sent to planning authorities. Currently a project is underway which will add additional non-main river indicative floodplains to maps. We discuss site specific problems with planning authorities and other interested parties at pre-planning stage.
Issue 3: Develop first time sewerage								
3.1 Local authorities highlight areas of concern regarding effects of unsewered areas.	Local Authorities/SW W	U	*	*	*	*	*	The Agency provides data and has an arbitration role for either side in matters relating to first-time sewerage applications.
Issue 4: Preserve semi-natural habitat and protected species								
4.1 Resist any development that results in loss of semi-natural habitat and protected species as opportunity arises.	Agency	U			*	*	*	Ongoing as part of core work.
4.2 Recreate habitat where loss is unavoidable as opportunity arises.	Agency	U			*	*	*	Ongoing as part of core work
Issue 5: Review areas that are vulnerable to increased development								
5.1 Produce annual consultation guides for District Councils	Agency	U			*	*		Consultation guides were produced for Restormel BC, Carrick, Kerrier and Penwith DCs in 1998. They are planned to be updated this year
Issue 6: Promote the adoption of development restraint areas								
6.1 Present revised consultation guides to planning committees and explain reasons for the need for development constraint	Cornwall County Council District Councils	U						Restormel BC, Carrick, Kerrier and Penwith DCs have adopted the existing consultation guides. Action complete.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 7: Reduce pollution risk to Penryn No 4 reservoir from road drainage runoff								
7.1 Undertake study into risks and options to reduce risk from runoff. This will identify the best course of action to reduce risk to the reservoir without compromising the effectiveness of the College Brook flood alleviation scheme at Penryn	Agency	4k			*	*		SWW have agreed to undertake risk assessment to quantify the issue. The Agency will continue to encourage appropriate course of action.
7.2 Following recommendations of study, carry out works	Agency	100 k						Awaiting results of study.

4.13 Waste management

The management of waste is regulated through a series of European directives and UK legislation. This legislation sets out not only the Environment Agency's regulatory powers but also puts responsibilities on all parties involved in the management of waste.

Personal Responsibility and Partnerships

The Agency is one of the partners that look to help the local authorities in achieving their targets for waste minimisation. The Agency has no statutory responsibility within this remit but looks to provide advice and funding where possible for specific campaigns.

Recent projects that the Agency has contributed towards are described in table 22. The Agency is also on the advisory panel set up by Cornwall County Council to look at raising awareness of reusable nappies. Currently, disposable nappies form 4% of British Household waste. Cornwall County Council is looking to reduce this figure by encouraging more people to use reusable nappies.

Waste Strategy 2000

The strategy sets statutory targets for migration of wastes from reliance on landfill towards recycling and recovery initiatives. The current 9% recycling rate being achieved is to be extended in order to:

- Recycle or compost at least 25% of household wastes by 2005
- Recycle or compost at least 30% of household wastes by 2010
- Recycle or compost at least 33% of household wastes by 2015.

The strategy recognises the need for development of recyclable markets and the direction of landfill tax funding towards green initiatives. It will also introduce tradable permits restricting waste volumes that local authorities can send to landfill.

Flytipping

The Environment Agency, Kerrier District Council and the Police are working on a special joint crackdown on flytipping in West Cornwall. Shortages of landfill capacity in the county and increased disposal costs are thought to be the key causes of increased flytipping, particularly of green waste, hedge trimmings and tree loppings. Clearing away flytipped material is costly. £15,000 has already been spent at one site alone with 500 tonnes of illegally dumped waste being cleared up and removed from the Carn Brea area.

The new partnership will see the district council and the Agency joining forces to trace the flytippers and prosecute them. Vehicles seen carrying waste will be stopped and checked by the police and a close eye will be kept on flytip blackspots in the bid to catch the offenders.

ReMaDe Initiative

The aim of this initiative is to develop local markets for recyclable materials in Cornwall. The challenge is to move from landfill dominated waste management towards solutions based on recycling i.e. more sustainable waste management. The project is capable of being extended to other materials and expanded to adjoining local authority areas.

The principles of developing local markets are to find higher value and new uses for recycled materials within industries outside those that produced the material. The benefits of local re-manufacture and use include adding value to recyclables, creating local employment, eliminating transport to more distant markets and protecting recycling programmes from price fluctuations.

Table 22

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Issue 1: Management of wastes								
1.1 Encourage the development of necessary facilities, particularly those which recover value from wastes	Agency, local authorities	U	*	*	*	*	*	Ongoing
1.2 Identify criteria for waste disposal sites in our response to the Waste Local Plan	Agency	U	*	*				Agency has made detailed comments to Deposit Draft of local waste plan that was published July 2000. Action complete.
Issue 2: Draw up strategies for sustainable waste management								
2.1 Liaison with Cornwall Waste Management Forum, Payback and other initiatives	Agency/ Cornwall Waste Working Group	U	*	*	*	*	*	An Agency representative gives waste strategy advice at meetings of the Cornwall Waste Management Forum.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
2.2 Implement relevant Waste Regulations	Agency/Las	U	*	*	*	*	*	Ongoing
2.3 Carry out waste arisings survey	Agency	U			*			Strategic Waste Management Assessment (SWMA) published in December 2000 – results of survey incorporated in the assessment.
Issue 3: Promote waste minimisation								
3.1 Seek to ensure Agency interests are considered in Local Authority promotions	Agency	U	*	*	*	*	*	In March 2001 we sponsored Kerrier District Council's Green Business Award. The financial award was granted to the company showing greatest environmental improvements, with the award being used for further environmental improvements.
3.2 Promote waste minimisation via distribution of commercial waste recycling directory to 250 businesses	Agency	U	*	*	*	*	*	Agency has sponsored Cornwall County Council's 'Message on a Bottle' recycling competition to raise awareness and encourage householders to recycle waste.
3.3 Promote waste minimisation by offering advice	Agency/ Payback / Cornwall College / Kerrier DC	U				*		A regional directory to cover the whole South West is being prepared following the success of the Cornwall-wide directory that was published in 1998. Waste minimisation advice offered to businesses through a second waste club that has run through 2000. We have funded a 'Green Compass' scheme to assist micro-businesses to identify the environmental and legislative issues that affect their business and how to gain benefit from energy reduction and waste minimisation.
3.4 Reduce waste requiring disposal by encouraging and developing recycling initiatives		U			*			Funding towards a quarterly newsletter providing environmental information for sme and micro businesses produced by Cornwall College

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
								<p>Agency funded Recycling Works' waste interchange – a project aimed at reusing waste in Camborne/Redruth area.</p> <p>We now compost putrescible office waste at Agency premises in the county</p>
Issue 4: Reduce flytipping								
4.1 Enforcements against flytipping working in partnership with other bodies, particularly in Carn Brea area	Agency/district councils	U		*	*	*		<p>Local co-ordinated action by Agency with Kerrier DC, Cornwall CC, police and landowners to clear and prevent further flytipping in Carn Brea area. Case files submitted following flytipping near Beacon and Formal Cautions given to offenders.</p>
4.2 Carry out campaigns where opportunities arise	Agency/district councils	U				*		<p>Campaign to identify 'green waste' contractors has been carried out to ensure proper methods of disposal are adopted.</p> <p>Local action with Imerys, Restormel District Council and the Police to prevent the tipping of used tyres Imerys owned land.</p> <p>Letterdrops centred around three local flytipping blackspots to ensure householders are aware that flytipping of garden waste is an offence and advice given on disposal facilities available.</p>

4.13.1 Waste Spreading to land

The practice of spreading certain controlled wastes to land has the potential to cause pollution of controlled waters and possible loss of conservation value if not managed appropriately.

The Government is currently revising legislative change on the processing of land spreading applications to ensure that potential pollution effects or habitat loss do not occur.

Table 23

Table 23									
Action	Lead Body	Cost (£)	Financial years					Progress	
			99	00	01	02	03		
Issue 1: Managing waste spreading to land									
1.1 Review of waste to land practices	Agency / landowners/ spreaders/DEFRA	U	*	*	*	*	*	Part of wider DEFRA review of waste exemptions. Ongoing	
Issue 2: Encourage protection of semi-natural habitat from waste disposal activities									
2.1 Encourage protection of semi-natural habitat from waste disposal activities	Agency /Landowners	U						DEFRA is undertaking a review of waste spreading to land legislation.	

4.13.2 Energy from waste**Energy from waste**

Existing landfill sites are reaching capacity and new sites are becoming increasingly difficult to set up. Many recycling options face logistical, economic and sustainability barriers. Cornwall County Council Waste Local Plan Deposit Draft recognises that energy from waste schemes may represent the Best Practicable Environmental Option for wastes arising in Cornwall and refers to energy from waste in its strategy.

Incinerators that comply with the latest emission control requirements are much improved from the previous generation dating from the 60's and 70's. Public concern has to be answered with accurate information and open discussion.

County Environmental Services Ltd. has announced its intention to seek planning consent for an 'energy from waste' plant. This is essentially a power station fuelled by waste. Possible sites at Truro, Roche and Indian Queens are being assessed against selection criteria that have been agreed between the Company, County planners and the Environment Agency. From site selection to the operational stage for such a major development is likely to take a period of years.

4.14 Air Quality

We do not cover all aspects of air pollution but work closely with other regulatory bodies such as local authorities (see appendix 2 for details of our responsibilities). The Cornwall Air Quality Forum has been formed as one of 14 pilot areas nationwide. It is led by Carrick District Council, and has representation from all local authorities in the county and the Agency.

Table 24

Action	Lead Body	Cost (£)	Financial years					Progress
			98	99	00	01	02	
Issue 1: Co-ordinate the actions of local authorities in Cornwall with regard to the National Air Quality Strategy								
1.1 Hold regular co-ordination meetings	Cornwall Air Quality Forum	U		*	*	*	*	Monitoring of PM-10s, Nox and ozone has been carried out at various locations. Local authorities have completed stage 1 air quality assessments.

4.15 Pollution prevention and contingency planning

The Agency and its predecessor organisations have always been closely involved in pollution prevention and education. We can help minimise or eliminate pollution at source. The aim is that, through the provision of practical advice and guidance, the promotion of advisory literature, regular inspection and promotional talks or seminars working in conjunction with industry and the public.

4.15.1 Integrated Pollution Prevention and Control

Prevention is better than cure

The Agency in the Cornwall Area has recently set up pollution, prevention and control (PPC) campaign group which will be looking to undertake pollution prevention work in areas which we have identified as existing or potential problem areas. A number of campaigns on a variety of topics including composting, sustainable construction, tyres and green tourism are being investigated for this coming year.

4.15.2 Oil Spill Contingency Planning

The Agency has been consulted on the oil spill contingency plans for Fal and Helford estuaries.

Sensitivity mapping of features requiring protection will be produced and booming points agreed upon. Principal areas for future development include:

- Sensitivity mapping
- Agreeing clean-up methods - highlighting areas vulnerable to oil spills and proposing appropriate clean-up methods
- Agreeing on the location of booming points and planning a booming exercise to test these
- Contingency planning - setting out agreed courses of action under different circumstances and as appropriate, to be drawn up after booming exercise.

Regular exercises take place as part of the OPRC Regulations (Oil Pollution Preparedness, Response and Co-operation Convention 1990).

Table 25

Action	Lead Body	Cost (£)	Financial years					Progress
			98	99	00	01	02	
Issue 1: Develop contingency plans for oil spill emergency action								
1.1 Carry out booming exercise	Harbour authorities, district councils, Agency,	U			*			The Agency contributed to a multi agency exercise 'Exercise Kernow'. This involved the collision of MV Scillonian III and an oil tanker off Penzance. The exercise included booming on the Helford River
1.2 Establish suitable clean up methodology	As above	U			*	*	*	In progress
1.3 Ongoing programme of training and testing	As above	U				*	*	Future development
1.4 NEW ACTION: Liaise with Cornwall County Council regarding suitable sites for the short term storage of oiled sand and beached oil.	Agency/ CCC	U				*	*	In progress

Action	Lead Body	Cost (£)	Financial years					Progress
			98	99	00	01	02	
Issue 2: Ensure that important areas for wildlife, including seabirds, receive appropriate protection in management initiatives, contingency planning etc								
2.1 Identify oil sensitive sites to enable appropriate location of booming points in conjunction with Cornwall County emergency services	English Nature/ Agency/ BAP Partners	U				*	*	Ongoing. Will feed into contingency plans.
Issue 3: Promote pollution prevention measures								
3.1 Run promotion and education campaigns to highlight measures that can be taken throughout industry and at home.	Agency/ FEP/ FHC	U			*			An Oil Care campaign has been run in conjunction with oil suppliers to send leaflets to all households using fuel oil.

APPENDIX 1: CORNWALL BIODIVERSITY ACTION PLAN

The following is a list of actions from the Cornwall Biodiversity Initiatives - Biodiversity Action Plan.

The full list of actions for all organisations and partners can be found in the Cornwall Biodiversity Action Plan.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Actions for individual species and habitats arising from the Biodiversity Action Plan								
Continue support of the Cornwall Biodiversity Initiative to produce actions specific to this LEAP Area	CWT/ EN/ Agency	15k		*	*	*	*	The biodiversity Action Plan was published in July 1998.
Investigate extent of current and potential flood plain wetlands using Section 105 surveys.	Agency	U	*	*		*	*	Our Section 105 surveys provide digitised floodplain information.
Continue production and updating of wildlife inventories.	EN/ RSPB/ CWT/ DWT/ Agency	U	*	*	*	*	*	Survey of aquatic mammals and birds carried out as part of the Electro fishing survey.
Little egret								
Ensure that little egret is taken into account in estuary management plans, candidate SACs and related single schemes of management.	Agency / others	U			*	*	*	Work on this topic is ongoing.
Sea Birds and Waders of the Hard Coast								
Inform contingency planning (e.g. disaster planning, shipping route management) exercises of important areas for seabirds / hard coast birds.	Agency / others	U			*	*	*	Taken into account in contingency planning.
European otter								
Appointment of an Otter and River project officer, funded jointly by the Agency and Cornwall Wildlife Trust. The officer will be responsible for looking after the interest of the otter population throughout the County and developing other wetland projects.	Agency / others	U			*	*	*	The officer was appointed in March 1999 for 3 years.
Continue to mitigate against accidental killing or injury.	Agency / others	U			*	*	*	

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Farmland habitats and species								
Achieve more flexibility in allowing field exchanges within IACS where there would be conservation benefits	Agency / others	U			*	*		DEFRA are currently being lobbied on this issue.
Highlight the value of whole farm management plans and promote their adoption as a requirement of grant in aid in all catchments, so as to reduce pollution.	Agency /others	U			*	*	*	
Wetland								
Recreate reedbed habitat on small sites (< 20ha)	Agency / others	U				*	*	This is a Cornwall wide initiative and sites are being identified at present.
Organise training day for planners/ developers on potential for inclusion of wetland habitat in new developments	Agency / others	U				*	*	This is a Cornwall wide initiative.
Create a register of sites, including a set of maps, in order to: identify existing wetland sites, and appropriate management for them; identify the potential for the extension of existing sites; identify suitable sites for restoration, taking account of the requirements of Cornwall priority species.	Agency / others	U				*	*	
Provide information on the suitability of sites for pond creation and promote where appropriate, as well as advising on best practice for pond creation, to farmers and smaller landowners.	Agency /others	U				*	*	Geographical Information System being installed to assist data management. Three site-specific projects being developed at the moment.
Promote creation of buffer strips to protect watercourses, in order to prevent ongoing agricultural run-off and reduce the impact of specific pollution incidents.	Agency /others	U				*	*	RLUG guidance. This is an Agency core activity – promoting stewardship for whole farms at the same time

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Coastal zone								
Consider appropriate measures to limit damage to nesting birds and other wildlife through the activity of recreational motorised craft. Maintain awareness of all sports within the coastal zone, and their possible impact on biodiversity.						*	*	The Agency has recently appointed a regional recreation officer who will advise on the impact of recreation in the South West region.
Estuaries								
Ensure proper examination of the system through which bylaws are created, given the difficulty of creating environmental bylaws. By 2000	Agency / others	U				*	*	The Agency is involved in the production of a Cockle Harvesting Byelaw.
Produce interpretative material which may be used in isolation, such as leaflet for each estuary, or integrated within existing publications	Agency / others	U				*	*	Work on producing and disseminating information is ongoing. Helford VMCA now has an Educational Ranger in place for two years, which is funded by Heritage Lottery.
Boundary features								
Identify vulnerable sites at risk of invasion by Japanese knotweed and promote eradication.	Agency / others	U				*	*	This action is an integral part of the countywide survey, being complied by the Botanical Society of the British Isles.
Ensure that the recently convened 'Japanese knotweed control forum for Cornwall' continues to develop, discuss and disseminate information on, and methods for the control of, Japanese knotweed	Agency / others	U						This is an ongoing action.
Promote best practice and make information available to landowners on knotweed control, now and in future, as best practice is clarified	Agency / others	U						The Agency distributes a leaflet explaining how to prevent the spread of Knotweed. Best practice for control of Knotweed has been adopted by our Flood Defence maintenance teams.
Evaluate the status of Japanese knotweed and produce an inventory of sites (possibly on GIS).	Agency / others	U						The results of the survey are being compiled by the Botanical society.

Action	Lead Body	Cost (£)	Financial years					Progress
			99	00	01	02	03	
Collate information and if necessary, instigate research on knotweed control.	Agency / others	U						The agency is involved with the National trust in trialing in the White river area methods of eradication. The results of the trials will be known in spring 1999.
Encourage favourable management of boundary features, especially hedges, verges and ditches, through, in particular, favourable cutting practices	Agency /others	U						
Sea cliffs								
Maintain current habitats including c SAC	Agency / others							Ongoing action

APPENDIX 2: DUTIES, POWERS AND INTERESTS OF THE ENVIRONMENT AGENCY

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 our work is advisory, with the relevant powers resting with other bodies such as local planning authorities. For example, we are not responsible for:

Noise problems (except if it is to do with our work)

Litter (unless it is restricting the flow of a river)

Air pollution arising from vehicles, household areas, small businesses and small industry

Collecting waste in your local area

Planning permission

Environmental health

Food hygiene

These are all dealt with by your Local Planning Authority who will contact us if necessary.

We are not responsible for the quality or supply of drinking water at the tap or for treating sewage waste, although we regulate discharges from sewers and sewage treatment works.

The following table summarises our 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 direct 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 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 for other uses - with the aim of achieving an equal balance between the competing demand. 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. Protecting the water environment from any adverse impact due to proposed major developments.	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. The Agency seeks to influence planning decisions for new development by encouraging the inclusion of water-conservation measures in new properties, particularly in areas where water resources are under stress, and by ensuring that planning authorities allow for the lead time for resource development. The Agency uses its position of statutory consultee to the planning authorities to secure conditions and agreements to protect the water. The Agency will work closely with developers and industry in an effort to encourage and secure protection and good management of water resources.

Agency Duty :	The Agency has powers to:	The Agency has an interest (but no direct powers) in:	Partnership :
<p>Flood Defence The Agency has a duty to exercise general supervision over all matters relating to flood defence throughout each catchment.</p>	<p>Control, through Land Drainage consents, the development or construction of a structure that would affect the flow of an ordinary watercourse (Water Resources Act, 1991 Section 109, 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 workings within 16 metres of main rivers.</p>	<p>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. Installations of buffer zones that 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.</p>	<p>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.</p>
<p>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.</p> <p>Fisheries The Agency has a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries.</p>	<p>Issue discharge consents to control pollution loads in controlled waters. Regulate discharges to controlled waters and into or onto land in respect of water quality through the issue and enforcement of discharge consents. Prosecute polluters and recover the costs of clean-up operations.</p> <p>Prosecute offenders who use illegal methods to take fish and can seek forfeiture of all associated equipment. Regulate fisheries by a system of licensing. Make and enforce</p>	<p>The control of runoff from roads and highways. This is a Highway Agency duty. The greater use of source-control measures to reduce pollution by surface-water runoff. Prevention and education campaigns to reduce pollution incidents.</p> <p>The determination of planning applications which could affect fisheries.</p>	<p>The Agency will liaise with local authorities, developers, the Highways authorities, 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.</p> <p>Many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and local authorities to protect fisheries.</p>

Agency Duty :	The Agency has powers to:	The Agency has an interest (but no direct powers) in:	Partnership :
	<p>fisheries byelaws to prevent illegal fishing.</p> <p>Promote the free passage of fish and consent fish passes.</p> <p>Monitor fisheries and enforce measures to prevent fish-entrapment in abstractions.</p> <p>Promote its fisheries duty by means of land-drainage consents, water abstraction applications and discharge applications.</p> <p>Regulate the introduction of fish species to rivers and lakes.</p>		
<p>Air Quality</p> <p>The Agency has a duty to implement Part 1 of the Environment Protection Act 1990.</p>	<p>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.</p> <p>Have regard to the government's National Air Quality Strategy when setting standards for the releases to air from industrial processes.</p>	<p>The vast number of smaller industrial processes which are controlled by local authorities.</p> <p>Control over vehicular emissions and transport planning.</p>	<p>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</p> <p>The Agency wishes to liaise with local authorities in the production of their Air Quality Management Plans.</p> <p>The Agency will advise and contribute to the government's National Air Quality Strategy</p>
<p>Radioactive Substances</p> <p>The Agency has a duty under the Radioactive Substances Act 1993 to regulate the use of radioactive materials and the disposal of radioactive waste.</p>	<p>To issue certificates to users of radioactive materials and disposers of radioactive waste, with an overall objective of protecting members of the public.</p>	<p>The health effects of radiation.</p>	<p>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.</p> <p>The Agency will work with DEFRA to ensure that the disposal of radioactive waste creates no unacceptable effects on the food chain.</p> <p>The Agency will work with the Nuclear Installations Inspectorate to ensure adequate protection of workers and the public at nuclear sites.</p> <p>The Agency will work with the HSE on worker-protection issues at non-nuclear sites.</p>

Agency Duty :	The Agency has powers to:	The Agency has an interest (but no direct powers) in:	Partnership :
<p>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.</p>	<p>Vary waste management licence conditions. Suspend and revoke licences. Investigate and prosecute illegal waste management operations</p>	<p>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.</p>	<p>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.</p>
<p>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.</p>	<p>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.</p>	<p>Securing with others, including local authorities, landowners and developers, the safe remediation of contaminated land.</p>	<p>The Agency supports land remediation and will promote this with developers and local authorities and other stakeholders.</p>
<p>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.</p>	<p>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.</p>	<p>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 it is the contact point for 12 species and one habitat.</p>	<p>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.</p>

Agency Duty :	The Agency has powers to:	The Agency has an interest (but no direct powers) in:	Partnership :
<p>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.</p>	<p>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.</p>	<p>The landscape impact of new development, particularly within river corridors. This is controlled by local planning authorities.</p>	<p>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.</p>
<p>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.</p> <p>Recreation The Agency has a duty to promote rivers and water space for recreational use.</p>	<p>The Agency must promote its archaeological objectives through the exercise of its water-management and pollution-control powers and duties.</p> <p>The Agency contributes towards its recreation duty through the exercise of its statutory powers and duties in water management.</p>	<p>Direct protection or management of sites or archaeological or heritage interest. This is carried out by local planning authorities, County Archaeologists and English Heritage.</p> <p>Promotion of water sports. This is carried out by Sport England and other sports bodies.</p>	<p>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.</p> <p>The Agency will work with the Countryside Agency, Sport England, British Waterways and other recreational and amenity organisations to optimise recreational use of the water environment.</p>

APPENDIX 3: THE QUALITY OF SURFACE WATERS**River Quality Objectives**

The water quality targets that we use for managing water quality are known as River Quality Objectives (RQOs); these are based on the River Ecosystem (RE) classification scheme. The RE classification comprises five hierarchical classes as summarised below:

RQO (RE Class)	Class Description
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

Where immediate solutions or resources are unavailable to resolve current water quality problems, we may also have set a long term RQO (LT RQOs). We measure compliance against RQOs but use LT RQOs as a basis for setting consents for new discharges. This will ensure that future developments will not prevent us from achieving our long-term objectives.

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 when we assess compliance with an RQO. We will 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 in the RE classification.

EC Directives

We also manage water quality by applying standards set in EC directives and other international commitments.

EC Freshwater Fish Directive

The EC Directive on *the quality of waters needing protection or improvement in order to support fish life* (78/659/EEC) ensures that water quality in designated stretches of water is suitable for supporting certain types of fish.

This Directive contains two sets of quality standards. One set of standards protects cyprinid or coarse fish populations for example roach and chub. The other set of standards, that are stricter, protects salmonid or game fish populations for example, salmon and trout.

We are responsible for monitoring the quality of identified fisheries and reporting the results to the DEFRA who decide whether the standards in the Directive have been met. Where the requirements of this Directive are not met, we are responsible for identifying sources of pollution and making sure that improvements are made.

EC Surface Water Abstraction Directive

The EC Directive *concerning the quality required of surface water intended for the abstraction of drinking water in the Member States* (75/440/EEC) protects the quality of surface water used for public supply. This Directive ensures that water abstracted for public supply meets certain quality standards and is given adequate treatment before entering public water supplies.

The Directive sets out standards that must be achieved, for water for public supply, which is to be given different levels of treatment.

We are responsible for monitoring the quality of designated surface water abstractions and reporting the results to the DEFRA who decide whether the standards in the Directive have been met. Where standards are not met, we are responsible for identifying sources of pollution and making sure that improvements are made.

EC Dangerous Substances Directive

The EC Directive on *pollution caused by certain substances discharged in the aquatic environment of the community* (76/464/EEC) protects the water environment by controlling discharges to rivers, estuaries and coastal waters.

This Directive describes two lists of compounds. List I contains substances regarded as particularly dangerous because they are toxic, they persist in the environment and they bioaccumulate. Discharges

containing List I substances must be controlled by Environmental Quality Standards (EQSs) issued through Daughter Directives. List II contains substances which are considered to be less dangerous but which can still have a harmful effect on the water environment. Discharges of List II substances are controlled by EQSs set by the individual Member States.

We are responsible for authorising, limiting and monitoring dangerous substances in discharges. We are also responsible for monitoring the quality of waters receiving discharges, which contain dangerous substances, and reporting the results to the DEFRA who decide whether the standards in the Directive have been met. Where the requirements of this Directive are not met, we are responsible for identifying sources of pollution and making sure that improvements are made.

EC Urban Waste Water Treatment Directive

The EC Directive *concerning urban wastewater treatment* (91/271/EEC) specifies minimum standards for sewage treatment and sewage collection systems.

This Directive specifies that secondary treatment must be provided for all discharges serving population equivalents greater than 2,000 to inland waters and estuaries, and greater than 10,000 to coastal waters. Discharges below these population equivalents receive appropriate treatment as defined in the AMP2 guidance note. We are responsible for making sure that discharges receive the level of treatment specified in this Directive.

This Directive also requires higher standards of treatment for discharges to *sensitive* areas. Sensitive areas are those waters that receive discharges from population equivalents of greater than 10,000, and are, or may become, eutrophic in the future.

The DEFRA decide if a watercourse is sensitive, based on monitoring information provided to them by the Environment Agency. We also ensure that discharges to sensitive areas receive a higher level of treatment. We are responsible for auditing the results of these studies.

EC Bathing Waters Directive

The two main aims of the EC Bathing Waters Directive (76/160/EEC) are to improve, or maintain, the quality of designated bathing waters for amenity reasons and to protect public health. The Environment Agency is required to sample and analyse bathing waters in accordance with the requirements of the Directive and report the results to the Department of Transport, Environment and Regions (DEFRA). The DEFRA uses the results to assess compliance of individual bathing waters and reports the results to the European Commission on an annual basis. Although the Environment Agency implements the sampling and analysis in response to the Directive, it does not have any responsibilities for public health.

The Environment Agency seeks to improve the degree of compliance with the Directive by ensuring that discharges to, or in the vicinity of, bathing waters are of adequate quality. The required improvements are included in the AMP programmes of the relevant Waters Companies.

Water Quality data relating to this Directive are made available on the Public Register and are published on the Agency's internet web pages.

APPENDIX 5: ACKNOWLEDGEMENTS

The Steering Group represents a range of commercial, local authority and environmental interests who endorsed the Consultation Report and Actions Plan prior to public release. They monitor the implementation of the Action Plan and provide the Agency with specific advice on the importance of issues within the catchment. They act as a communication link between the local community, the Agency and its committees and will help to promote and develop initiative of benefit to the environment within this LEAP area. The Steering Group meets once a year during the life of this plan.

APPENDIX 5: USEFUL REFERENCES

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**ENVIRONMENT
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West and Mid Cornwall Catchments



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