# local environment agency plan

## FAL AND ST AUSTELL STREAMS

### SECOND ANNUAL REVIEW

### JULY 2000


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

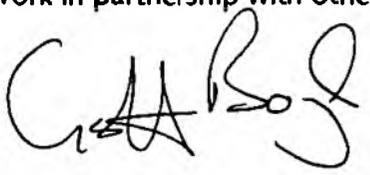
People's enjoyment and appreciation of the environment continuing to grow

Pressures from human wants being satisfied sustainably

## Foreword

This is the second annual review of the Fal and St.Austell Streams Action Plan, which was published in December 1997. It describes the progress that has been made since.

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



**GEOFF BOYD**
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# Contents

**Fal & St.Austell Streams - Second Annual Review**

**Foreword**

**Contents**

**1. Introduction**

**2. Overview**

**3. Protection through Partnership**

**4. Actions**

4.1 Quality of surface waters
4.2 Effects of discharges to surface waters
4.3 Water based recreation
4.4 Fisheries Management
4.5 Improving freshwater fisheries
4.6 Shellfish
4.7 Protection of habitats and wildlife
4.8 Farming
4.9 China Clay
4.10 Metalliferous mining
4.11 Sea level rise
4.12 Flood defence
4.13 Development pressures
4.14 Meeting current and future demand for water
4.15 Waste management
4.16 Effects of Tributyltin (TBT)
4.17 Air quality
4.18 Integrated Pollution Prevention and Control
4.19 The Eclipse

Appendix 1 Cornwall Biodiversity Action Plan
Appendix 2 Duties, Powers and Interests of the Environment Agency
Appendix 3 River Quality Objectives
Appendix 4 Acknowledgements

# 1. Introduction

## 1.1 What is the Environment Agency?

The Environment Agency is one of the largest and most powerful environmental protection agencies in Europe. Our primary aim is to protect and improve the environment throughout England and Wales and to contribute to sustainable development through the integrated management of air, land and water.

### Our Role

The work of the Agency touches the lives of almost everyone within the Fal & St Austell Streams area. We have a wide range of duties and powers relating to the environment. These include specific responsibilities for water resources, pollution prevention and control, flood defence, fisheries, conservation, recreation and navigation. We also act as statutory consultees on many aspects of the development planning process.

Our role is explained in more detail in appendix 2.

### This Annual Review of the Fal & St Austell Streams Action Plan

An important part of the Local Environment Agency Plans (LEAPs) process is to monitor the Action Plan to ensure that targets and actions are achieved and that the plan continues to address relevant and significant issues within the area. This Annual Review reports on the progress made since the publication of the Fal & St Austell Streams 1st Annual Review in April 1999 and details the progress of work shown in the activity tables as well as any additional actions required in light of changes in the area.

In February 2000 the Agency held an Annual Review Forum in Camborne. A large number of interested parties were invited to discuss key local environmental issues. Attendees were split into smaller groups to discuss wide-ranging subject matter. The aim of these discussions was to find new issues and new solutions, providing an interactive way forward. Feedback from the groups has been included within this document.

# 2. Overview

## 2.1 Overview

In the east of the area china clay extraction, the dominant activity, has a significant affect on the area. Historic mineral mining has left a legacy of old mines and adits, particularly in the Carnon Downs area. The remainder of the area is rural in character, ranging from moorland headwaters, to arable farmland, meadowland and extensive woodland in the lower reaches of the rivers.

The whole of the area is very heavily visited and tourism is an important part of the local economy. Falmouth is an important port for both recreational and commercial vessels as it is a deep water port and can refit ships of considerable size. Truro is the administrative capital for the county of Cornwall.

The Fal Estuary is known for its oyster beds. The area contains a variety of freshwater fisheries, with most watercourses supporting populations of fish including brown trout, and some supporting migratory sea trout and salmon. The estuaries and coastal waters contain a wide variety of fish and shellfish.

Agricultural land accounts for just over 93% of the catchment area of which the majority, approximately 73%, is grass. Dairying is the predominant farming activity, with mixed farming and rough grazing taking place on poorer land. Bulb growing is concentrated in a number of sites.

Much of this area has a high level of water-related recreational use, focused strongly on the coast and the sheltered waters of Carrick Roads. Activities such as surfing, snorkelling, water skiing, diving and windsurfing takes place along much of the coast. The beaches within the plan area are a valuable recreational and economic asset.

**Key Statistics for the Fal & St.Austell Streams**

| | |
|---|---|
| **Catchment Area** | 860 km$^2$ |
| **River:** | **Length (Km)** |
| Par | 15.3 |
| Crinnis | 6.5 |
| St Austell | 11 |
| Fal | 29 |
| Helford | 5.9 |
| Truro Rivers | 7.5 |
| Carnon | 9 |
| **Population** | 152,150(approx.) |
| **Main Urban Areas** | Truro, St Austell, Falmouth |
| **Average Annual Rainfall** | 1175 mm |
| **Industries** | Mineral extraction, agriculture, tourism, small and medium-sized enterprises |

# 3. Protection through Partnership

## 3.1 Working with others

The Agency influences many activities affecting the environment through the Environment Act 1995 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.

### Local Authorities

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.

### 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

Land use is the single most important influence on the environment, both positively and negatively. Government planning guidance highlights both the strong relationship between land use and environmental matters and stresses the importance of communication between local planning authorities and the Agency.

The control of land use change is primarily the responsibility of Local Planning Authorities (LPAs), through implementation of the Town and Country Planning Act. Local development plans provide a framework for land use change and are the key consideration in the determination of planning applications.

The Agency has produced guidance notes in its document "Liaison with Local Planning Authorities".

### 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). In May 1998, environmental improvements were proposed by the Agency to the DETR through the document 'A Price Worth Paying'. The water companies submitted their strategic business plans in April 1999 and OFWAT made their final determination on these in November 1999.

**South West Water (SWW)**

SWW's Water Resource Plan, which was submitted to the Agency in spring 1999, required 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. All water companies will be required to update these in 2000.

**Cornwall Waste Management Forum**

The Forum, which is made up from representatives of the waste collection authorities (district councils), the waste disposal authority, waste disposal contractor and the Agency, 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.

**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.

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

**Prevention is better than cure**

The Agency and its predecessor organisations have always been closely involved in pollution prevention and education. The Agency reaffirms its commitment to pollution prevention and working, in conjunction with industry and the public, to minimise or eliminate pollution at source. The aim is that, through the promotion of advisory literature, regular inspection and promotional talks or seminars, the Agency wishes to show it is not just a regulator.

**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.

In particular we are keen to develop projects that produce sustainable environmental improvements; through education or training. European Structure Funding (Objective 1) 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. An example of this is the recent 'Flooding Summit' where the Agency, local authorities and other organisations met to discuss ways to support the flood defence requirements of Cornwall and Devon. Key messages that came out of that summit identified changing land use and climate change as the major causes of the increased flood

problems. Finding solutions to these problems in an appropriate and sustainable way must require partnerships with industry, landowners and farmers, as well as requiring the Agency and others to work with the local communities to make it happen.

# 4. Actions

The following tables update the progress of each issue identified in the Action Plan. The issues and activities are not presented in any order of priority.

The following points should be noted:

- Our everyday work commits substantial resources to monitoring and managing the environment.
- 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 Environment Agency and the participating organisations have limited resources and powers, and some work may take longer than indicated owing to funding availability, government policy and more urgent priorities.
- Should more issues become apparent during the life of this Plan, further actions will be added at succeeding Annual Reviews.

## 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 (see Appendix 2).

Long term RQOs have been set for 5 stretches in the catchment. These are objectives we would like to achieve, but the actions required to achieve them are long term and are not achievable in the short term. We will use these long term RQOs as a basis for setting consents for new discharges and planning for future water quality improvements.

We 'set-aside' data where high concentrations of metals are caused by the natural geology of the catchment or historic mining activity. This allows us to protect good water quality shown by other determinands in the RE classification.

Our monitoring under various EC Directives and water quality objectives may identify problems where we do not know the cause, such as the marginal RQO failure for copper on the Lestraines River. In such cases we normally undertake investigations to identify the cause.

Porthcumick Beach was newly designated as a bathing water under the EC Bathing Waters Directive for the 1998 bathing season. The bathing water passed both mandatory (I) and guideline (G) standards for the 1998 bathing season. Two crude South West Water discharges (Portscatho 1 and 2) may affect water

quality at Porthcurnick bathing water. These discharges have been identified within AMP3 to receive primary treatment to meet the requirements of the Urban Waste Water Treatment Directive. These improvements are not being driven by the need to improve bathing water quality at Porthcurnick, but some improvement to bathing water quality may occur as a result.

## 4.2 Effects of discharges to surface waters

The Agency has identified a number of locations where discharges are causing an adverse environmental impact. In these locations we will be actively seeking improvements to the discharges. The discharges can be from many varied sources, improvements will normally form part of industry's business plans; for example many of the discharges are sewage related improvements and we recognise the need for improvements to be prioritised through SWW's expenditure programme.

**Sewage treatment improvement plans**
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, Transport and Regions and the water services companies and the Office of Water Services (OFWAT).

The Environment Agency has agreed with DETR which sewage discharges require improvement during AMP3. OFWAT has now completed a review of water prices which allows for this programme of environmental investment and enables the companies to make the environment improvements by 2005. Many of these schemes will be delivered before 2005.

**Falmouth Sewage Treatment Works.**
The interim scheme for the Falmouth STW is now operating; a tidally phased outfall off Black Rock discharges finely screened sewage. SWW are currently constructing the final scheme.

The completed scheme will include secondary treatment of sewage with additional treatment by sand filtration and UV disinfection and with continuous discharge from the existing outfall near Black Rock. The relevant discharge consent and the planning permission have been granted and we look to early completion of the scheme

**Fal Estuary**
The upper Fal Estuary which includes the Truro and Tresillian Estuaries from the A39 Road Bridge on the Truro River and from Tresillian on the Tresillian River to the top of Carrick Roads, has been designated a sensitive area under the UWWTD by the DETR. We are continuing to monitor the status of the Fal, Tresillian and

Truro Estuaries following their designation. We are investigating the status of the lower estuary in connection with drainage from Falmouth.

**Mevagissey**
The Agency has concerns that high freshwater infiltration in the winter causes problems at Mevagissey STW. This means that the frequency of intermittent discharges is not in line with agreed Agency policy. We are currently pursuing these concerns.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 1: Assess compliance with RQOs and LT RQOs and review authorisations as required** | | | | | | | | |
| **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 being carried out to Ponsanooth STW under AMP2 are complete. |
| **Issue 2: Assess compliance with EC Bathing waters Directive and carry out remedial work as required** | | | | | | | | |
| **2.1** Implement planned improvements to St Austell (Menagwins) STW. | SWW | U | * | * | * | | | Improvements have been carried out. However STW suffers from high freshwater infiltration in the winter reduces its ability to take flows from Mevagissey. The Agency has concerns whether the works can adequately cope with the flows of sewage and is pursuing these with SWW |
| **2.2** Undertake improvements to the outfalls and sewerage systems in the Falmouth area | SWW | U | * | * | * | | | The sewerage scheme is complete. The interim scheme is in place. Final construction is now underway. |
| **2.3** Improvements to be made to storm sewage discharges at Coverack | SWW | U | | | * | | | Complete |
| **2.4** Negotiations are underway to provide first time sewerage at Porthallow. Connection to individual properties is the responsibility of the householder. | House holders / SWW / Agency | U | | | | | | Scheme complete. Some connections still to be made to individual properties. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 3: Improve sewage discharges to meet the requirements of the UWWTD** | | | | | | | | |
| **3.1** Transfer of crude discharge from Mevagissey to St Austell (Menagwins) STW. Under the terms of UWWTD the entire flow needs to be transferred by 2005. | SWW | U | | * | | | | A major portion of the sewage from Mevagissey is now being transferred to St. Austell (Menagwins) for treatment. |
| **3.3** Secondary treatment to be installed on the Mullion sewage discharge, under terms of UWWTD | SWW | U | | | | | | Agency expects improvements at Mullion in AMP3 under the UWWTD |
| **Issue 4: Continue monitoring to determine trophic status of the Fal/Tresillian/Truro estuary** | | | | | | | | |
| **4.1** Continue monitoring to determine trophic status of the Fal/Tresillian/Truro estuary including lower Fal from 1999 | Agency | | | | * | * | | Monitoring will continue as part of our routine work. Investigations are underway into the status of the lower estuary. |
| **NEW ISSUE 5: Improvements to STWs in AMP3 (2000-2005)** | | | | | | | | |
| **5.1** Church Cove, Coverack, Malpas, Mullion, Portscatho1 - secondary treatment under UWWTD | SWW | | | | | | | |
| **5.2** Falmouth, Flushing, Ladock, Malpas, Mylor Waters, St Mawes, Truro (Newham)- UV disinfection to meet Shellfish Waters Directive | SWW | | | | | | | |
| **5.3** Mullion - UV disinfection to meet the Bathing Waters Directive | SWW | | | | | | | |
| **5.4** North Fal - improved secondary treatment to protect downstream water quality. | SWW | | | | | | | |
| **5.5** Polkerris - Secondary treatment or outfall relocation to meet Bathing Waters Directive | SWW | | | | | | | |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **5.6** Portlow - installation of fine screens at outfall under UWWTD | SWW | | | | | | | |
| **5.7** Portscatho 2 - primary treatment required under the UWWTD | SWW | | | | | | | |
| **5.8** Truro (Newham) - nutrient reduction under Habitats Directive and UWWTD. | SWW | | | | | | | |

## 4.3 Water based recreation

In order to manage recreational use, conservation, and commercial interests there is a need for a co-ordinated approach from a number of bodies. A more detailed review of multiple use in the Fal Estuary has been carried out in a report produced for the Falmouth Bay & Estuaries Initiative (FBEI).

Several new initiatives for water based recreation are currently being considered within the plan area. These include consideration by SWW 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.

### Canoe Access Agreement

The canoe access agreement is currently being finalised between the British Canoe Union and the relevant landowners. Other sites within the plan area have shown potential for a similar scheme but this will be undertaken with the full involvement of the relevant landowners.

### Fal Estuary Water-based Transport Initiative

A wide range of organisations including the National Trust, Cornwall County Council is 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. The Agency has registered its support for this, given our role to enhance water-based recreation.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 97 | 98 | 99 | 00 | 01 | |
| **Issue 6: Support and implement, where appropriate, the actions in the FBEI management plan** | | | | | | | | |
| **6.1** Support and implement, where appropriate, the actions in the FBEI management plan | FBEI / Agency / Recreational and Users | U | * | * | * | * | | The Agency will work in partnership with other interested bodies. |
| **Issue 7: Set up canoe access agreement** | | | | | | | | |
| **7.1** Set up canoe access agreement | BCU/ landowners | U | | * | * | * | | The canoe access agreement is close to completion. |

## 4.4 Fisheries Management

The River Fal, Tresillian and St Austell streams have historically been affected by industries such as mining, china clay extraction and agriculture. These impacts have degraded both water quality and habitat quality which in turn has affected the ability of the watercourses to contain and sustain viable salmonid fish populations (salmon, sea trout and brown trout) which were formerly native to these areas.

In recent years, improvements to water quality and fish passage (creation of fish leaps, pools and passes) have enabled brown trout, sea trout and a very low number of salmon to return to some of these rivers in greater numbers.

There are few known established amenity club fisheries (rod and line angling). Angling does however, take place on the rivers Fal and Tresillian, particularly for sea trout and probably brown trout in the higher reaches of both catchments. Although the Agency undertakes routine fisheries surveys, the frequency of sampling on the rivers Fal and Tresillian is relatively low due to limited resources. Because of this, the Agency needs anglers to return all information on catches, particularly for sea trout as it can use this information to gain greater understanding of the population structure, increasing stocks and the need for targeted fishery protection.

The discovery of low numbers of salmon parr in the River Fal and the increasing numbers of sea trout are both very encouraging signs. The Agency feel that both the rivers Fal and Tresillian have greater potential for fishery development and are continually seeking ways to improve water quality, habitat and fish passage.

### Status of fish stocks

The rivers and streams draining into the Fal estuary and St Austell streams were scientifically surveyed in 1998. During these surveys, a variety of fish species were found including brown trout, eels, sticklebacks, bullheads, sea trout and low numbers of salmon. The rivers form part of a rolling programme of fisheries

surveys with the next round timetabled to take place in 2004. Surveys are designed to assess the distribution of fish species in rivers as well as the numbers of fish species present. Surveys also seek to pinpoint those factors limiting the full development of fish populations as well as making recommendations for improvement.

**Construction of instream structures (croys)**
Fishery managers and angling clubs often seek to improve angling amenity in rivers by creating deeper pools for salmon and sea trout. This is often by the placing of short lines of rocks in the channel. These rocks are known as croys or deflectors. Although in some locations the installation of croys is acceptable, in other stretches sensitive shallow areas of river, used by young salmon and sea trout can be destroyed.

A joint protocol of best practice for the positioning and construction of croys is currently being developed in collaboration with South West Rivers Association. This will help to ensure a consistent and efficient approach in dealing with applications.

**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.

Fisheries enforcement activity occurs throughout the Fal and St Austell LEAP area. Of particular importance are the enforcement patrols and observations that take place using fast patrol boats in the Fal Estuary and surrounding coast. Salmon and sea trout enter the river systems from the sea and may get intercepted by illegal nets set in the estuary or on the coast. Fisheries patrols seize these nets and will prosecute those persons setting them. In a recovering fishery such as the Fal and Tresillian, it is vital for the low numbers of salmon and sea trout to gain unrestricted access to the rivers to spawn such that they can maximise population growth to become self-sustaining. Once in freshwater, fish can also be removed by poachers and those persons fishing without rod licences. Random enforcement foot patrols in this area take place in order to detect and prosecute these offenders.

In addition to the protection of freshwater fish, the Agency is also the statutory Sea Fisheries Authority within the estuaries. Some of the areas within the Fal Estuary are designated as bass nursery areas where it is illegal to set nets or fish for bass from boats at certain times of the year. These areas were designated to ensure that juvenile bass thrive and grow without exploitation that in turn maximises the number of fish in the commercial and sport fishery. The Agency plays an active role in enforcement of the legislation that protects this species.

On stillwater fisheries in the area, coarse fishing is an increasingly popular sport. Anglers participating in this branch of the sport require an Environment Agency national rod licence to ensure that they are fishing legally. Fisheries Enforcement

Officers undertake regular patrols of stillwater fisheries to check anglers for rod licences as well as attending site visits to provide advice and assistance on fishery management and development projects. Because the income from rod licences helps the Agency to provide a fisheries service, any person found fishing without a licence is prosecuted.

### Introduced and escaped fish

In recent years many Stillwater fisheries have been developed. These fisheries are usually stocked with coarse fish, the majority of which are not native to the rivers and streams of Cornwall. Some of the stillwater fisheries have overflows and outlets which flow directly to rivers and the Agency is concerned that it might be possible that non-native fish can escape and enter river systems where they could pose threats to native fish.

All persons wishing to stock coarse fish to stillwaters, ponds and lakes are required by law to apply to the Agency for permission before fish are stocked. The Agency will evaluate all applications and in many cases may visit a site before consent is given. In some cases the Agency may ask for the installation of screens to prevent fish escaping to rivers. Routine fisheries surveys on rivers will monitor for the presence and distribution of non-native fish.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 8: Create bylaw to increase minimum bass size limit** | | | | | | | | |
| **8.1** Create bylaw to increase minimum bass size limit | Agency | U | | | | | | This action has not been progressed due to a lack of resources and the relatively low priority of the action compared with other demands on staff time. |
| **Issue 9: Extension of bass nursery area** | | | | | | | | |
| **9.2** Extension of bass nursery area | MAFF | U | | | | | | New nursery area sites have been released by MAFF |
| **Issue 10: Legalise appropriate ebb netting practices** | | | | | | | | |
| **10.1** Need to identify netsmen and investigate the legal situation | Agency | 2 k | | | * | | | We have identified three ebb netters and will attempt to contact them to discuss the activity. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 11: Prevent introduction of non-native fish species into freshwater and the marine environment** | | | | | | | | |
| **11.1** Update database on distribution of non-native species | Agency | 5k | | | | | | Information on stillwater species and non-indigenous species like Wels Catfish is still being collected from fisheries. This information will be added to the database in 2000/01. |
| **11.2** Publicise regulations and hazards of fish disease | Agency | Core | | | | | | The Agency actively promotes the 'Buyer Beware' policy for fish introductions and will seek to prosecute those that introduce fish illegally. |

## 4.5 Improving freshwater fisheries

Natural fisheries are important natural assets and are also of commercial value for rod fisheries. Fish are also good indicators of the overall health of our rivers. Several rivers support self-sustaining populations of fish species given special protection by the European Union Species and Habitats Directive 1992 such as salmon, bullhead and brook lamprey. There needs to be protection and promotion of these fish species and their habitat.

There are several watercourses in the plan area where little or no data on fish populations is available. This limits our ability to set objectives to improve fisheries. We have carried out investigation on some of these rivers and intend to carry out investigative work to ascertain appropriate actions. The age of salmonids can be determined by scale readings. Data on sea trout age classes is only available for the Tresillian River. We would encourage anglers to send in scales and catch details of all rod caught fish to assist us in gathering information on stocks.

There are several watercourses that could support a larger fishery than at present. We are currently assessing identified sites, which will be followed by appropriate measures to improve the fishery.

### Obstructions

Trash dams on rivers occur when trees and large branches fall into a river and act as barriers to other sticks and leaves which come downstream. Over a period of time, small dams can form which can cause problems for salmon and sea trout trying to get upstream to spawn in the headwaters of the river. In addition, trash dams can cause scouring of the river bed and bank damage, or allow silt and mud to build up behind the dam, covering clean gravels in which fish need to lay eggs.

Within the plan area there are several obstructions that are considered to prevent the access of migratory fish. Surveys of these sites and assessment of the economic feasibility of taking actions to remedy the access problem now forms part of the Fisheries Habitats Improvement plan.

To ensure that fish passage along a river is possible at critical periods, the Agency seek to clear dams which are causing or are likely to cause problems to migrating fish. It is essential that trash dams are inspected before removal because some smaller collections of wood and sticks can be beneficial to fish fry and species like bullheads that may use the submerged branches for cover. Smaller accumulations of debris near the banks may be left intact.

Both the Tresillian River and River Fal suffer from trash dams and removal of the more significant dams may be required. River users are asked to report such obstructions to the Agency.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 12: Improve knowledge of fish populations** | | | | | | | | |
| **12.1** Carry out fish survey on:<br>St Austell River<br>Par River<br>Percuil River | Agency | 10 k | | * | | | | Surveys were carried out on St.Austell and Par rivers in 1998. The findings of this survey are now available. |
| **12.2** Investigate causes of poor trout densities on:<br>Porthofland Stream<br>Porthoustock Stream | Agency | U | | | * | | | The survey has been completed and identified low densities of Trout fry in the streams. Investigation into improvement measures will be undertaken in 2000. |
| **12.3** Send details of rod caught fish, including scales, for analysis | Agency | 1 k | | | | | | Difficulties have however still been experienced in identifying anglers who fish on the River Fal catchment. Some rod catch details have now been identified for Tresillian River. |
| **Issue 13: Assess areas of potential fisheries improvement and carry out appropriate works** | | | | | | | | |
| **13.1** Investigate suitability for fisheries repopulation following recent water quality improvements on:<br>Gwindra Stream<br>Hembal Stream<br>Caerhayes Stream<br>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 Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **13.2** Habitat improvements on Tywardreath Stream | Agency | U | | | * | | | Initial assessment in 1999. Lack of resources. |
| **13.3** Assess weirs at:<br>Virginia Weir, River Fal<br>Grampound Town Weir, River Fal<br>Crump weir on River Kenwyn | Agency | U | | | | * | | Initial assessment in 1999/2000. |
| **Issue 17: Carry out improvements to obstructions to the passage of migratory fish** | | | | | | | | |
| **17.1** Investigate efficiency of fish passes at flood alleviation scheme on River Allen | Agency | 5k | | | * | * | | Initial assessment in 1999/2000. |
| **17.2** Removal of trash dams where identified. | Agency | U | | | | | | Work to remove trash dams where appropriate is ongoing. |
| **Issue 18: Improve recording of rod catch data** | | | | | | | | |
| **18.1** Investigate feasibility of recording catches from individual rivers | Agency | U | | | | | | In discussion with National rod licence centre. |
| **18.2** Monitor salmon and sea trout catches from individual rivers | | | | | | | | Currently available but dependent upon anglers recording small catches from small river catchments. |

## 4.6 Shellfish

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 MAFF to determine the bacteriological quality of shellfish flesh. MAFF provide the classification from samples supplied by the Falmouth and Truro Port Health Authority.

Since the toxic bloom of *Alexandrium tamarense* that occurred in summer 1995 in the Fal Estuary, similar blooms have become an annual event. Studies have been undertaken to discover the trophic status of the estuary in relation to the Truro (Newham) waste water treatment works discharge. These studies indicate signs of eutrophication in the upper estuary and that Newham discharge has a major influence on nutrient levels during the summer months.

Improvements to Newham, including nutrient reduction will be completed by 2004.

Since the 1995 study, monitoring on behalf of MAFF by the Falmouth & Truro Port Health Authority has monitored bloom and toxin levels. This has resulted in the enforcement of prohibition notices on the collection of shellfish, crabs, lobsters and shrimps where there is a risk of poisoning to consumers. The Agency measures the impact on the algal community as part of studies of the Estuary and investigations will be going on this year.

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 Bylaws 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.

**EC Shellfish Waters Directive**
The Shellfish Waters Directive sets standards to protect shellfish from the discharge of the polluting substances and includes a guideline standard for bacteria in shellfish flesh, which is included to protect public health. Following a consultation exercise by DETR on whether waters, including new sites in the upper Fal estuary, Tresillian and Ruan Creeks should be designated under this Directive, the Government announced, on 8th July 1999, a revision of designated EC Shellfish Water.

This is in addition to the existing EC Shellfish Water sites on the Carrick Roads, Percuil Estuary and Helford Estuary.

The Agency is responsible for controlling discharges to ensure the requirements of the Directive are achieved. This action by the Government ensures that the Shellfish Hygiene Directive and the Shellfish Water Directive are now running in parallel, and their key aims of consumer protection and environmental protection will now complement and reinforce each other.

In order to comply with the Directive we expect UV disinfection at the following locations in AMP3: Flushing, Ladock and Malpas.

Additionally it is expected that a number of combined sewer overflows (intermittent discharges) suspected of impacting on Shellfish Waters in the Fal catchment will be improved in AMP3 in order to comply with the Directive.

**Cockle harvesting bye-law**
The Agency is investigating the option of introducing a bye-law to control the harvesting of Cockles. Consultation will take place at present with relevant authorities and interest groups.

Agency staff visited the three main sites on the Helford River on Good Friday 1999, during the traditional 'trigging' for cockles. Questionnaires and leaflets were distributed and the initial response from those involved was favourable to the protection of this resource from over exploitation. All the responses are

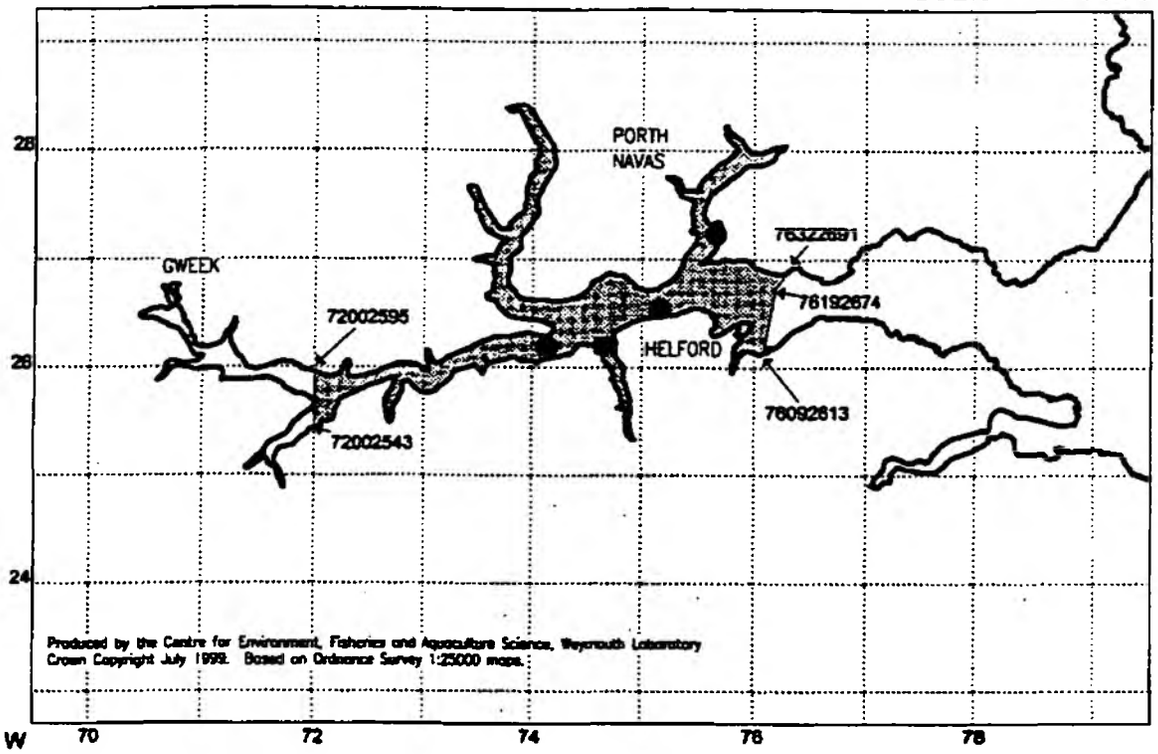
presently being analysed and the results from this process will form part of the bylaw consultation.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 16: Investigate possible causes of downgrading of sites under EC Shellfish Hygiene Directive** | | | | | | | | |
| **16.1** Two surveys in 1996 to identify the cause of reported unusually high counts of coliforms in shellfish were inconclusive. | Agency | | | | | | | The discharge at Newham has been identified for ultraviolet treatment, which will contribute to improved bacterial quality. |
| **Issue 17: Review current fishery status and regulations and rationalise where appropriate** | | | | | | | | |
| **17.1** 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/ MAFF/ 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 18: Assess effects of bait-digging** | | | | | | | | |
| **18.1** Identify relevant interest groups to set up working group<br>Map current areas of digging and quantify crop<br>Research effects | Foreshore owners/ Bait gatherers/ EN/ Agency / others | | | | | | | Working group looking at results of work carried out on Tamar Estuaries. |
| **Issue 19: Proposed Cockle harvesting bye-law** | | | | | | | | |
| **19.1** Investigate the introduction of a Cockle harvesting bye-law | Agency | U | | | * | | | Draft byelaw is currently with MAFF for consultation. |

The Surface Waters (Shellfish) (Classification) Regulations 1997

Helford River

Scale - 1:60000

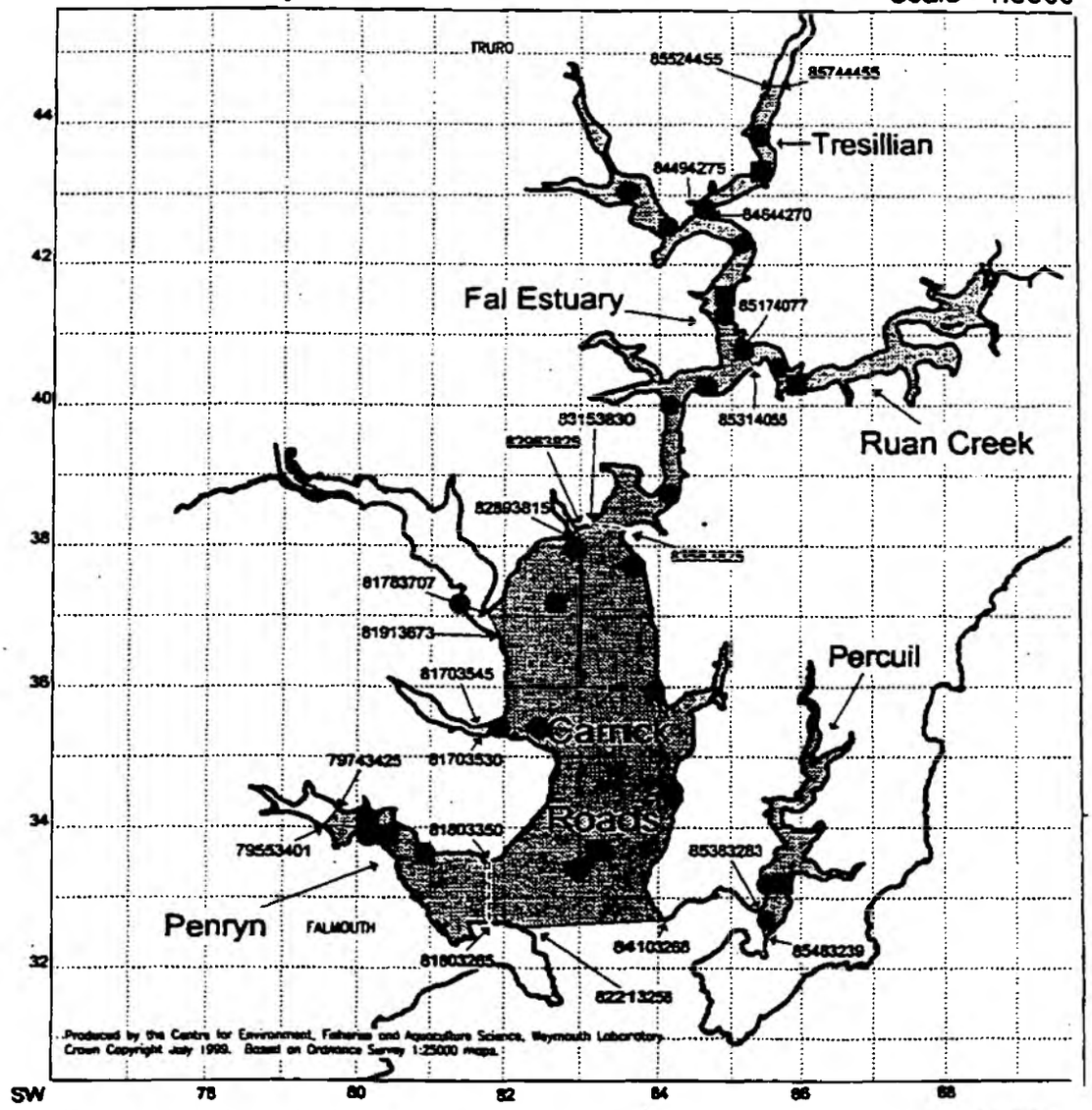



This area includes waters designated as Helford River prior to July 1999.

The Surface Waters (Shellfish) (Classification) Regulations 1997

Tresillian, Fal Estuary, Ruan Creek, Carrick Roads
Percuil and Penryn

Scale - 1:8000




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

Fal Estuary and Carrick Roads contain waters designated as Tumaware Bar prior to July 1999.

Percuil contains waters designated as Percuil River prior to July 1999.

## 4.7 Protection of habitats and wildlife

Conservation in its broadest sense should be an integral part of all activities, and many of the actions within this plan promote sustainability, or seek to make up for serious losses or impacts. However, additional, specific conservation actions are required at certain sites or for certain species.

**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. There are arguments both in favour and opposed to this scheme, including a recent document produced by Cornwall area Friends of the Earth "The case against dualling". However, the recent Highways Agency booklet on road schemes, states their desire to prevent damage to Site of Special Scientific Interest. 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.

**Fal and Helford Special Area of Conservation**
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 sits on the management group.

There are a number of licensed discharges within the catchment. As part of the SAC designation we are required to review those which are likely to impact on the SAC and the timetable for these reviews is being prepared at present. The Agency seeks to ensure that through its activities, licences and authorisations it maintains and contributes to achieving favourable conservation status. One means of achieving this will be through the agreement of a Strategy and Consenting Protocol with English Nature.

**Gweek boatyard development**
The Agency and Kerrier District Council are investigating the development at Gweek boatyard to ensure the minimum impact to the environment.

**Cornwall Biodiversity Action Plan**
Following the publication of The Cornwall Bio-diversity action plan in July 1998, The Agency as one of the lead partners in this initiative has agreed to undertake a large number of actions covering habitats and species in Cornwall. The list of actions for which the Agency is a lead organisation or one of the leading partners, specific to this catchment, can be found in Appendix 1. The full list of actions for all the partners can be found in the Cornwall Biodiversity action plan.

**Japanese Knotweed**
The Japanese Knotweed Control Forum for Cornwall continues to meet on a regular basis. Research is continuing with regards to 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 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.

**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.

| **Action** | **Lead Body** | **Cost (£)** | **Financial years** | | | | | **Progress Year 2** |
|---|---|---|---|---|---|---|---|---|
| | | | **98** | **99** | **99** | **00** | **01** | |
| **Issue 20: Produce water level management plan for Goss Moor** | | | | | | | | |
| **20.1** Produce water level management plan for Goss Moor | Agency / English Nature / Treothnan | U | | | | | | Production is ongoing, Plymouth University is now a partner. In addition, a draft of English Nature's Advice under Reg 33 (2) of the Conservation (Natural Habitats) Regs '94 is currently being circulated. Will assist in regulatory activities on site. |
| **Issue 21: Implement scheme of management for Fal and Helford candidate SAC** | | | | | | | | |
| **21.1** Produce Nature Conservation Objectives by December 1998 | Relevant authorities | U | | | | | | The second draft of the objectives is being circulated for comments to the relevant bodies. |
| **Issue 22: Review consents, licences and operations that impact on SAC** | | | | | | | | |
| **22.1** Review consents, licences and operations that impact on SAC | English Nature | U | | | | | | Timetable for reviews being completed at present. |
| **Issue 23: Investigate causes of decline in wading birds using the Fal Estuary and take appropriate actions where necessary** | | | | | | | | |
| **23.1** Investigate causes of decline in wading birds using the Fal Estuary and take | RSPB/ CBWPS/ English | 2 k | * | * | * | | | CWT have obtained funding to carry out this project and the scope of the |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 99 | 00 | 01 | |
| appropriate actions where necessary | Nature/ Seabird and water Focus group/ landowners | | | | | | | study is being decided. |
| **Issue 24: Support Cornwall Biodiversity Initiative and Biodiversity Action Plans for Key species and habitats** | | | | | | | | |
| **24.1** Support Cornwall Biodiversity Initiative and Biodiversity Action Plans for Key species and habitats | Agency | | | | | | | Please see Appendix 1 |
| **Issue 25: Work with partnership bodies and landowners to enhance natural environment** | | | | | | | | |
| **25.1** Undertake research into wet woodland to enable appropriate management | Agency / others | 10 K | | | | | | This is one of the key areas addressed by the Cornwall Biodiversity initiative. |
| **25.2** Improve information on pond creation, through the Agency 'Pond Form', surveys, reviews, best practice | Agency / FWAG / CWT | 2 K | | | | | | A trial form will be used over the next year in Cornwall, if successful this will form the basis for a pond information booklet for regional and National use. |
| **Issue 26: Development at Gweek boatyard** | | | | | | | | |
| **26.1** Investigate the impacts of the development to minimise the environmental impact, | Agency / Kerrier DC | U | | | * | | | Investigations are on going. |

## 4.8 Farming

The area is widely used for the production of early potatoes, brassicas and daffodils. 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.

There is a declining trend in the numbers and severity of pollution incidents relating to farming. This has probably resulted from the extensive, proactive pollution prevention work carried out in the past, and the subsequent positive response from the farming community. However, farming, along with other

sources, continues to have an impact on water quality within the catchment through diffuse pollution.

**Effects of land use on fish**
We are concerned that salmon and sea trout stocks are being limited by siltation of the riverbed. The impacts of siltation include smothering of eggs in spawning gravel beds, a reduction in physical habitat for juvenile fish, and a reduction in food availability. Silt can come from many sources including agricultural and forestry activities that cause 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 a few key locations. We have obtained a large number of additional traps and intend to assess all significant salmonid rivers in Cornwall. The assessment may be compromised during the winter of 1999/2000 due to unusually high river flows but we seek to continue when river levels return to a normal flow.

In parallel to assessing the extent of the problem, we are seeking ways to reduce sediments from entering the watercourse. We will look to extend recent successful collaborative fencing and land management schemes to prevent erosion of riverbanks and to reduce run-off from the land. We particularly wish to promote good management of moorland/heath areas to prevent damage from overgrazing and ditching work, and to encourage landowners to involve the Agency in discussing any proposed works.

We will hold discussions with potential partners with a view to carrying out appropriate land management and fencing work where appropriate. The Soil Code for the protection of soil is available from MAFF and the Agency would promote the use of practices within this document in preventing such sedimentation from runoff.

**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.

Certain controlled wastes may be spread on land where an agricultural benefit or ecological improvement can be demonstrated. These wastes can be spread under exemption from waste management licensing provided that the applicant can demonstrate that the activity will not cause harm to the environment or present: -

1 Risk to water, air, soil, plants or animals; or
2 Cause nuisance through noise or odour; or
3 Adversely affect the countryside or places of special interest.

The Agency is currently reviewing its internal guidance and the Government is consulting on legislative change on the processing of land spreading applications to ensure that potential pollution effects or habitat loss do not occur.

The Groundwater Regulations
The Groundwater Regulations became fully 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 (see Appendix 3, EC Dangerous Substances Directive)
- Limiting the discharges to groundwater of substances prescribed in List II

The regulation requires written authorisation from the Agency to tip for the purposes of disposal of any listed substance.

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 any one who may be affected.

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

| **Action** | **Lead Body** | **Cost (£)** | **Financial years** | | | | | **Progress Year 2** |
|---|---|---|---|---|---|---|---|---|
| | | | **98** | **99** | **00** | **01** | **01 2** | |
| **Issue 27: Investigate effects of bulb growing and take actions as appropriate** | | | | | | | | |
| **27.1** Carry out survey | Agency | | | | | | | Long term monitoring programme has been carried out. Report produced and issued. |
| **NEW ACTION: 27.2** Carry out additional pesticide monitoring in order to keep abreast of the introduction of any new pesticides being used. | Agency | | | | | | | Agency will look to carry out surveys where appropriate to promote new practices from Research and Development. |
| **NEW ACTION: 27.3** Advise on land management to prevent soil loss and pesticide runoff | | | | | | | | This issue is being dealt with as part of routine work. |
| **Issue 28: Review of waste spreading to land operations** | | | | | | | | |
| **28.1** Review of waste spreading to land operations | Agency / landowners spreaders/ MAFF | | | | | | | This issue needs reviewing in a comprehensive and integrated way to ensure that the activity does not cause undue impact. The review will involve all interested parties. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **NEW ACTION: 28.2** Encourage protection of semi-natural habitat from waste disposal activities | MAFF/ Agency /Landowners | | | | | | | Action on this issue will follow publication of guidelines. |
| **Issue 29: Promotion of The Soil Code** | | | | | | | | |
| **29.1** Promote good practice through day to day work, to work towards RQO compliance | FWAG/ Agency | U | | | * | * | * | Ongoing promotion during visits. |
| **29.2** Promotion of the Soil Code, particularly in conjunction with changes of land use and crop patterns | MAFF/ Agency | U | | | | * | * | |

## 4.9 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 joint initiative was undertaken by the Agency and the china clay companies to reduce the risk of pollution. The initiative has proved very successful and improvement works have been carried out at a number of sites.

A Code of Practice relating to water quality is being 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.

Reports on 12 china clay sites where there are exceedences of the EC Dangerous Substances Directive have been completed. The reports contained actions to improve water quality. Monitoring sites have been reviewed and some have already been incorporated into our routine monitoring programme.

**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 a small amounts of natural woodland.

It is important that the various agencies involved in the restoration schemes such as English Nature, IMERYS Minerals Ltd, Cornwall County Council and the Agency liase closely and co-ordinate their input into the restoration schemes. For example, the Cornwall County Councils' Tipping and Restoration Strategy should provide the overall framework for the work, along with Tomorrow's Heathland Heritage within which individual Mineral Permission reviews can be discussed and decided.

Within the Cornwall Biodiversity Action Plan, the restoration of the china clay area will be essential in the delivery of the plans heathland and wetland targets. The restoration work will also be significant in fulfilling the targets for the regional and national action plans.

| **Action** | **Lead Body** | **Cost (£)** | **Financial years** | | | | | **Progress Year 2** |
|---|---|---|---|---|---|---|---|---|
| | | | **98** | **99** | **00** | **01** | **02** | |
| **Issue 30: Produce Water Quality Code of Practice** | | | | | | | | |
| **30.1** Produce Code of Practice | Agency / China Clay industry | 1 K | | | | | | The production of the code of practice is ongoing. |
| **Issue 31: Support and implement the County Council/ China clay industry's Tipping and Restoration Strategy** | | | | | | | | |
| **31.1** Support and implement the County Council/ China clay industry's Tipping and Restoration Strategy | CCC / China Clay industry | U | | | | | | This action is ongoing. |
| **Issue 32: Improve water quality where china clay activities contribute to exceedences of EC Dangerous Substances Directive and non-compliance with RQOs/Long Term RQOs** | | | | | | | | |
| **32.1** A report on 12 sites is currently being prepared. Site specific actions will follow production of reports | Agency / Imerys Minerals Ltd | U | | | | | | The reports have been produced and actions arising from them are being finalised. |
| **32.2** Routine monitoring will be amended as recommended in reports | Agency | U | | * | * | * | * | Sampling regime is in progress as recommended. Action complete. |

## 4.10 Metalliferous mining

Historically, the catchment 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.

### 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 long term treatment options report was completed in July 1998 and recommended the installation and operation of a long-term treatment plant to continue to treat the water from Wheal Jane. The recommendations of the report have been accepted by the Agency and approved by the DETR. A contract for the design, construction and operation of the new treatment plant has been awarded to Hyder Industrial Ltd.

The proposed long-term minewater treatment plant will continue to treat upto a maximum of 330 litres/ second of minewater. The construction commenced in March 2000 and will be completed by 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

### Carnon Valley

The Agency owns a large tract of land in the Carnon Valley, purchased as part of the Wheal Jane project. The Agency intends 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.

### 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 is 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.

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 as part of our core work. Cornwall County Council, in its draft waste local plan, encourages disposal based on our advice.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 33: Handling of metalliferous waste arisings to minimise environmental impact** | | | | | | | | |
| **33.1** Promote policy to be included in forthcoming Cornwall Waste Local Plan | Agency | U | | | | | | In May 2000 Section 57 of The Environmental 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 34: Future management of Wheal Jane minewater** | | | | | | | | |
| **34.1** Develop long term solution for Wheal Jane (3 year consultancy study) | Agency / DETR | | | | | | | Final report prepared and approved by main Agency board DETR. |
| **34.2** Long term solution for minewater implemented | Agency / DETR | | | | * | * | * | Planning approval gained in April 1999 for a long term minewater treatment plant. |
| **Issue 35: Future maintenance of County Adit** | | | | | | | | |
| **35.1** Maintenance of adits | Local Authorities / National government/ mineral owners | | | | | | | 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. |
| **40.2** Investigation into options of management of surface water ingress such as the promotion of surface water sewerage in Redruth. Any management options needs to balance with amount of development likely and its effects on the system | | | | | | | | The Wheal Jane output suggests there are minimal opportunities to improve the quality of water within the adit network. |

## 4.9 Contaminated Land

Section 57 of the Environment Act 1995 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.

The legislation comprises statutory guidance and regulations, which together provide significant detail on the enforcement of the regime, including a statutory definition of contaminated land, guidance on how to interpret this (particularly for threats to human health), and guidance on what may be required by way of remediation.

Local Authorities have the sole responsibility for the identification of land that meets the statutory definition, although the Agency has a duty to provide information and a power to provide advice in connection with pollution of controlled waters. The Agency's primary role is as enforcing authority for those sites categorised by the regulations as "Special Sites". These are currently categories of land which, provided the statutory definition is met, are considered by Government most appropriately regulated by the Agency. This could be because we already regulate those sites through other pollution control legislation (e.g. nuclear sites), or because our historical background means that we have the most appropriate experience (e.g. sites with significant water pollution), or for other particular reasons (such as MoD land).

| **Responsibilities under Part IIA Environmental Protection Act 1990** | |
|---|---|
| **Local Authorities:** | **Environment Agency:** |
| • Inspect their area to identify contaminated land.<br>• Consult the Agency on pollution of controlled waters.<br>• Ensure remediation of land identified as contaminated land.<br>• Transfer "special sites" to the Agency.<br>• Maintain remediation registers | • Provide information to local authorities on contaminated land.<br>• Ensure remediation of "special sites"<br>• Maintain a register of special sites' remediation.<br>• Prepare a national report on the state of contaminated land.<br>• Provide advice on quality of controlled waters. |

## 4.11 Sea level rise

**Flood defence schemes**
Flood defence schemes are designed to accommodate future sea level rises. Information regarding the predicted rise in sea level produced by the Intergovernmental Panel 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.

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. A further 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.

**Shoreline Management Plan**
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 the Rame Head to Lizard Point Shoreline Management plan. This group comprises the County Council and all maritime authorities. Local authorities have now adopted the plan. SMPs are reviewed every 5 years based on studies undertaken in the interim. The potential impact of works at one location on the regime at other remote locations is considered in these plans.

We have designed our flood defence schemes to allow for a rise in sea levels. An annual review of the condition of existing sea defences is undertaken.
Appraisal of strategic coastal defence options has lead to the preferred options of the coast in this area, these are shown in the table below. The sections, referred to as management units, are stretches with coherent characteristics in terms of both natural coastal processes and land use. The preferred options are currently being consulted on

| Management Unit | Preferred Option |
|---|---|
| Polkerris | Long term hold the line of existing defences, particularly the harbour arm to prevent flooding and erosion of backing properties and beach. |
| Par Sands (including sand dunes along the back of Par Beach) | Short term do nothing with monitoring of dune evolution to establish long term need for intervention with either do nothing or retreat, dependent on monitoring results. |
| Par Harbour | Hold the line strategy to prevent failure of harbour structures and associated threat to undefended frontage. Maintenance dredging activities should not impact on adjacent nature conservation sites. |
| Charlestown | Hold existing defence in Charlestown harbour, with monitoring of adjacent cliffs to establish long term erosion risks to undefended cliff top properties to east. A do nothing strategy is preferred for the undeveloped cliffs at Appletree Point to maintain sediment input to the area. |

| | |
|---|---|
| Duporth (extending from the end of developments at Charlestown to Carrickowel Point, in the south) | Do nothing with cliff stability monitoring in the short term at Duporth to determine acceptability of long term or retreat policies. |
| Porthpean | Do nothing strategy with no intervention for undeveloped lengths either side of Porthpean beach. Hold the line strategy long term for Porthpean frontage to ensure continued beach access and protection of coastal developments. |
| Pentewan (majority of Pentewan Beach, from north of the harbour to near Sconhoe Rock) | Do nothing strategy short term, for the harbour, with possible reconstruction of harbour arm and walls if reopened in the future. Hold the line along Winnick frontage through maintenance of existing embankment, to protect caravan and camping park. Retreat of the land backing St Austell River mouth, and protection of seaward training structure to maintain river alignment. |
| Mevagissey and Portmellon (from Polstreath to the end of developments south of Portmellon) | Hold the line strategy is preferred through maintenance of existing defence structures for the developed frontages of Mevagissey and Portmellon. Do nothing strategy along undefended frontages short term with cliff stability monitoring to gauge acceptability of long term hold the line policy. |
| Gorran Haven | Short term do nothing strategy with cliff stability monitoring for undefended cliff lengths, to assess risks to properties and methods of maintaining geological exposures. A hold the line strategy is preferred, to protect developments, around Gorran Haven beach. |
| Hemick | Hold the line is preferred at Hemmick, to protect the backing road, provided there are no impacts on adjacent important geological exposures. |
| Porthluney Cove | Do nothing strategy with no intervention to maintain geological exposures and fed material from cliffs along undeveloped frontages with a hold the existing defence line strategy along the currently defended frontage. |
| Portholland | Hold the existing defence line is preferred short term to protect road and other assets along the coastal frontage. Retreat of defences is considered as a long term option over the lesser developed lengths. This strategy would have no impact on the geological value of the fronting beach. |
| Portloe | Hold the existing defence line strategy to ensure protection of built assets with possible provision of cliff top stabilisation structures where necessary, subject to assessment of impacts on geological conservation. |
| Came and Pendower | Do nothing on the undefended frontages to preserve geological and ecological interest and maintain the current feed of material to fronting beaches. Hold the line to protect the road and properties with limited slope activity to maintain important shore dock habitats. |
| Portscatho | Hold the existing defence line to ensure continuation of harbour structures and provision of amenity beach along the developed frontage. Do nothing long term along the undefended, undeveloped lengths, with cliff stability monitoring to determine long term trends. |
| St Mawes (inc. the village frontage, to Polvarth Point on the Percuil River) | Hold the line of existing defences along developed frontage to maintain character and economic assets, with monitoring of undefended areas to assess long term erosion trend and determine acceptability of either long term or retreat policy. |
| St Just in Roseland | Hold the existing defence line to protect assets with possible establishment of new defences along undefended frontages where required, subject to impact on subtidal habitats of cSAC. |
| Feock to Restronguet Point | Hold the existing defence line to protect assets at risk, with do nothing along undefended frontages that are not at risk. |
| Mylor (developed frontage of Mylor Churchtown) | Hold the existing defence line to maintain quays and properties, and protect frontage for commercial and recreational use. |
| Flushing (includes the developed frontage up to Town Quay on the Penryn River) | Hold the existing defence line to maintain the character and economic assets of the frontage, with monitoring of undefended areas to assess the long term erosion trend and determine policy in the long term. |

| | |
|---|---|
| Falmouth Harbour (inc. the developed frontage of Falmouth, within the Fal Estuary from Greenbank Quay to Pendennis Point) | Hold the existing defence line to ensure continued commercial operation of the port and industrial assets of the town. Do nothing short term along undefended length at Castle Drive, with cliff stability monitoring to assess acceptability of either a long term hold or retreat policy. |
| Falmouth Open Coast (inc. the main tourist frontage of Falmouth, on the south side of the town facing Falmouth Bay) | Hold the existing defence line along developed frontage. Do nothing short term around Pendennis Point with cliff stability monitoring to assess acceptability to either a long term hold or retreat policy. Do nothing west of Gyllynvase to promote terrestrial feed to beach, with realignment of footpath. |
| Swanpool (inc. brackish lagoon of nature conservation importance | Hold the existing defence line along adjacent undefended cliffs to maintain feed of material to beach. |
| Maenporth | Hold the existing defence line along this low lying frontage to maintain recreational amenities and access to the frontage, and protect the built and environmental assets backing the beach. |
| Durgan | The hamlet, on the north bank of the Helford River, has a number of closely grouped houses all within National Trust ownership. Strategic hold the line to maintain fronting walls and prevent flooding. |
| Helford Passage | Strategic hold the line of existing defences with possible future maintenance of slipway access provided there are no negative impacts on the natural environment. |
| Helford Creek (based around Helford Creek, on the south side of the Helford River) | Hold the existing defence line, with possible future intervention along currently undefended frontages to protect properties and assets, subject to assessment of impacts on c SAC habitats. |
| Gillan Creek. Within the creek are the hamlets of St-Anthony-in-Meneage, Gillan and Flushing. | Hold the line long term to protect built assets where threatened, with a do nothing strategy for the remaining undefended lengths. Any threats to roads should be addressed provided there are no negative impacts on the natural environment |
| Porthallow | This unit includes the developments along the back of the cove, and the entire beach frontage. Hold the line (through intervention if necessary), due to the long term threat of sea level rise and related impacts on assets backing onto the beach. |
| Porthoustock (covers the beach, to and including the jetties on the north and south sides of the cove) | Do nothing strategy preferred as no assets should be at risk, although long term intervention under a managed retreat strategy would also be acceptable. |
| Coverack (includes the entire developed frontage of Coverack (Conservation Area), including both Coverack and Perprean Coves) | Hold the existing defence line strategy along developed frontage to protect access roads and properties. Do nothing short term along undefended lengths with cliff stability monitoring to determine acceptability of long term hold or retreat policies. |
| Kennack Sands | Long term retreat at west beach through removal of tank defences for habitat creation. Hold the existing line of defences fronting the café, car park and access road. Monitoring to assess threats to road along cliff top to the east, with possible long term relocation of road further inland to maintain important geological exposures in cliff. |

| | |
|---|---|
| Cadgwith (comprises two coves that make up the frontage of Cadgwith) | This unit Hold the existing defence line along the Cadgwith frontage, with possible long term relocation of road further inland to maintain important geological exposures in cliff. |
| Lizard | A general do nothing strategy over the frontage from Church Cove to Lizard Point as there is little erosion risk and the biological and scenic interest of the area should be maintained. There should however be continued maintenance of the existing structures within coves over this length. |

**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.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 36: Prepare Rame Head to Lizard Point Shoreline Management Plan** | | | | | | | | |
| **36.1** Stage 2 contract awarded | CCC/ LPAs,/ Agency Lead - Kerrier | 38 k Total | * | * | | | | The Contract has been awarded. Action complete. |
| **36.2** Stage 3 Consultation and adoption | CCC/L PAs,/ Agency Lead - Kerrier | U | | | * | | | External consultation on this plan took place in 1999. Formal adoption by the Agency and other operating authorities took place at the end of 1999. The SMP will be updated every 5 years based on data and information collected in the intervening years. |

## 4.12 Flood defence

River flows vary widely and are affected by the weather, geology and land use. We manage flood risk from rivers and the sea using Flood Defence and Land Drainage powers. 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.

Funding for capital improvement schemes is currently under pressure. Central government grant aid is now distributed according to national rather than regional priority. Alternative funding streams are being investigated for flood defence works. When we design new flood defence work we fully consult conservation bodies. All options are explored when designing new schemes including flood storage in wetlands if possible.

Leaflets are available showing the main rivers and coasts where a flood warning service is provided.

**Bye Report/Easter 98 Flood Actions and Agriculture Select Committee**
The severe flooding which affected large areas of central and eastern England and parts of Wales over the Easter weekend 1998 called for the Agency to take urgent action and to learn the wider lessons from this extreme event.

To help achieve this the Agency called for an independent investigation that would lay out plainly the facts about the floods and the Agency's handling of them. This investigation was carried out by Peter Bye and his technical advisor Dr Michael Horner and the report is known as the Bye Report. In a parliamentary Statement on 20th October 1998 on the Bye Report by the Minister, Elliot Morley, the Agency was given clear targets to achieve a seamless and integrated service of flood forecasting, warning and response by April 2000. To achieve this the Agency has completed a thorough review of the whole system during 1999 to ensure it is focused to deliver the required service, that management arrangements make this possible and that there are clear lines of accountability and responsibility.

The Agency, having considered the Bye Report, taken due regard of the Minister's statement, compared the needs of the Reports with the findings of the Agriculture Select Committee on Flood and Coastal Defence 30th July 1998 and comments from MAFF, has been progressing a comprehensive action plan.

The plan includes the following:

- Review of flood warning dissemination plans - **completed**
- Review current supervisory duties and develop a working approach to their use - **ongoing**
- Review and publish consistent flood risk maps - **completed September 1999**
- Review emergency response arrangements with local authorities and carry out joint exercises using new arrangements. This must include clear understanding of the roles of all organisations involved - **ongoing**
- Introduce improvements in the Agency network of telemetered river flow monitoring - **ongoing**
- Carry out a complete visual survey of all flood defences including main river, ordinary watercourses, tidal and sea defences and in future carry out regular updates - **ongoing**
- Revise the Agency's National Flood Warning Strategy and establish a national flood warning centre - **strategy completed and issued,**

- Review ways of warning the public, improve provision of data from telemetry systems and its use in giving warnings - **national flood warning centre being set up**
- Target flood warning communications at vulnerable temporary locations such as caravan and camping sites - **ongoing**
- Work with Government to review research into the impact of climate change on flood frequency - **ongoing**

The South West Region is progressing work on target, however, a very large workload remains to meet these actions.

**Major Incident Plans**
We also have a lead role in the Major Incident Plans for areas where there are large numbers of properties at risk from flooding. These plans are drawn together by the Agency with input from County Emergency Planning Officers, the Police, Fire Service, Local Authorities and other relevant bodies.

**Flood Warning Level of Service Study (FWLOSS)**
The FWLOSS for the Cornwall Area commenced in April 1999 and has been completed. The results from this study identify locations where a flood service can be introduced or improved. Any improvements that are identified will be assigned priority taking into account the needs of the whole region and the requirements of the Bye Report.

Flooding
Local planning authorities and ourselves are required by the DETR (in circular 30/92- Development and Flood Risk) to liaise closely on flooding and surface water runoff matters. Under the recommendations from the Bye Report the Agency has updated a series of flood risk maps for each area.

**Maintenance**
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 £200,000 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.

**MAFF High Level Targets and Elaboration of the Agency's Supervisory Duty**
Triggered by the Easter Floods 98, MAFF have produced further guidance on high level targets and elaboration of the Agency's Supervisory Duty. The High Level Target builds on actions already being progressed within the Easter Flood Actions (issue 17) and covers the following activities:

- Provision of flood warning
- Emergency exercises and emergency plans
- Development of National Flood and Coastal Defence Database
- Flood defence inspections and assessment of flood risk

- Completion and updating of Shoreline Management Plans
- Losses and gains of habitats covered by Biodiversity Diversity Action Plans
- Progress on Coastal Habitat Management Plans
- Report on Development in areas at risk of flooding and coastal erosion

The timescale for delivery of individual actions within this list vary from April 2000 to April 2002.

The elaboration of the Supervisory Duty is based upon the spirit of the legislative framework that currently exists, where the Environment Act 1995 sets the scope of the Supervisory Duty as "all matters relating to flood defence".

These wide ranging duties can be divided into the following sections:

- Condition of the flood and coastal defences and critical ordinary watercourses, to include the use of a national flood and coastal defence asset database
- Assessment of flood risk
- Achievement of high level targets
- Emergency response to flooding incidents
- Awareness of flood risk in the community
- Future development proposals that have potential impact on flood risk
- Regulation of others
- Application of conservation duty and environmental impact

The above targets and duties will significantly increase the workload of the Agency.

| **Action** | **Lead Body** | **Cost (£)** | **Financial years** | | | | | **Progress Year 2** |
|---|---|---|---|---|---|---|---|---|
| | | | **98** | **99** | **00** | **01** | **02** | |
| **Issue 37: Construct flood alleviation schemes at:**<br>**Pentewan**<br>**Mevagissey** | | | | | | | | |
| **37.1** These schemes are currently in the capital programme. Their timing and implementation is subject to their viability and the availability of funds from MAFF, the Agency and any contributors. Cost estimates for these works will be developed during the feasibility and appraisal stages of the promotion of each scheme | Agency | Mevagissey 1500k<br><br>Pentewan £1m | | | | * | | Pentewan: Options being assessed |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 38: Complete Flood Warning Levels of Service Study (FWLOSS)** | | | | | | | | |
| **38.1** Improvements will be identified following completion of study | Agency | | | | | | | FWLOSS commenced in February 1998 across the South West region and is due to be completed by August 1999. The Cornwall area is programmed to commence in March 1999. |

## 4.13 Development pressures

**Development pressures**

The Agency is a statutory consultee on development plans and certain categories of planning application. This allows the Agency's views to be considered by the council prior to a planning application being decided or policies in a development plan being approved. For example, a proposed scheme to develop near a watercourse would be assessed by the Agency to ensure that it did not increase flood risk. If it was acceptable we might then seek to retain and enhance the area of the watercourse, improving the aesthetic, amenity and ecological qualities of the location.

The control of land use is primarily the responsibility of LPAs, through implementation of 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.

**Flood Risk**

All planning authorities were provided with an updated flood risk data survey in September 1999. These show flood plain information on all main rivers and on key ordinary watercourses in the area. These surveys will be updated annually.

**Sustainable Drainage**

The Agency is encouraging the adoption of source control; 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, however their use must be site dependent. A video on source control 'Nature's Way' has been produced by the Agency and is available to planning authorities and other interested groups.

**Environmental Impacts on watercourses from increased development**

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.

When commenting on applications, the Agency will normally request that a marginal strip of land of approximately 7 metres width is retained either side of

any watercourse, or wetland habitat within or alongside a development site. This measure seeks to retain functioning river wildlife corridors and wetland habitats, which have significant ecological, amenity and aesthetic value.

Foreshore Development
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 MAFF FEPA licence as well.

Pressures on water resources
The availability of water resources is an increasingly important issue across England and Wales. Whilst the Government has said that it does not expect water resources to be a reason for development proposals being rejected, the provision of adequate water supplies could have an influence on the timing of developments. The Agency comments on all county and district plans, and any individual planning applications that will have significant water use, with respect to water resources and water efficiency. However we can only comment on water resources in general as the specifics depend on which sources the relevant Water Company would plan to use to supply the development. In light of this we would wish to see water companies added to the consultation list.

Where private water supplies are likely to be required for a development they will be subject to the Agency's abstraction licensing procedure.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 39: Identification of flood risk areas through Section 105 surveys** | | | | | | | | |
| **39.1** Schedule of locations to be established | Agency | U | | | * | | | The 1999/2000 S105 contract is nearing completion. This has added more indicative floodplains on non-main rivers to our floodplain records. The flood incident locations map is currently being updated. |
| **Issue 40: Review areas which are vulnerable to increased development** | | | | | | | | |
| **40.1** Produce annual consultation guides for district councils. | Agency | Core | * | * | * | * | * | Agency specialists work with Local Authorities and the water companies to review vulnerable areas. |
| **40.2** Present revised consultation guides to planning committees and explain reasons for the need for development constraint. | Agency /LPAs | U | * | * | * | * | * | The Carrick and Restormal consultation guides were published in March 1998. The plans are currently being reviewed. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 41: Promotion of sustainable drainage** | | | | | | | | |
| **41.1** Agency is developing national policy on source control and will promote it for inclusion in planning policy. | Agency | | | | * | * | * | Continuing to inform developers and planners of concepts through provision of advice and information. Including good practice guides on sustainable drainage. |
| **Issue 42: Reduce pollution risk to Penryn No 4 reservoir from road drainage runoff** | | | | | | | | |
| **42.1** 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 | SWW | 4k | | | | | | SWW have agreed to undertake risk assessment to quantify the issue. The Agency will continue to encourage appropriate course of action. |
| **42.2** Following recommendations of study, carry out works | SWW / CCC | 100 k | | | | | | Awaiting results of study. |

## 4.14 Meeting current and future demand for water

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

The Agency is not responsible for the supply of water to households and industry but has a central role in water resources planning in England and Wales. We look at how water is used in the home and at work and the water that is available for these uses without damaging the environment; this may involve correcting any imbalances or over abstraction. We compare future demands for water with water availability, and consider how to balance the two in an environmentally sustainable manner. To achieve this we work closely with the water companies and require them to submit detailed Water Resource Plans.

As a result of the last drought the Secretary of State tasked the water companies with providing drought contingency plans. The Agency issued National Guidance during 1999 and the deadline for the first published plan from each company is April 2000.

**Meeting Current Demand**
To manage water resources, the Agency issues abstraction licences for specific volumes of water from identified sites for specific uses. The abstraction licence may include conditions to control abstraction where environmental damage is likely. The abstraction licensing system for England and Wales was reviewed during 1997/98 and a number of changes were proposed and consulted on. *Taking Water Responsibly*, a paper detailing the Government decisions following consultation, was published in March 1999 and is available from the Department of the Environment, Transport and the Regions (DETR). The full nature and impact of changes will not be confirmed until the legislation is approved by Parliament. We will need to implement any changes that arise from this process and amend licensing policies as appropriate.

**Meeting Future Demand**
Water resource planning is carried out over large geographic areas often extending over several LEAP boundaries. This makes it difficult to predict the precise impact of new development on water resources in the plan area. Before any new resources can be developed or existing resources developed further, the Agency must be satisfied that water companies have looked in detail at a range of appropriate options. These include:

- Encouraging people to use water more efficiently (**demand management**),
- Increasing the efficient use of sources (**resource management**)
- Reducing leakage towards an acceptable level (**distribution management**).

Water Companies have a duty to promote efficient use of water and the Agency expects that they should pursue this duty with imagination and vigour. SWW has published a water efficiency plan, which contains strategies to deliver water savings by the customer. It includes advice on how to save water in the home and garden and explains what the company is doing to encourage other bodies, such as the local council and builders, to help the customer save water. Water efficiency advice is also available to business customers. SWW has a free educational resource pack, *Running Water*, which provides National Curriculum support for 8 to 13 year olds.

**Catchment Abstraction Management Strategies (CAMS)**
Nearly everyone who needs to abstract water from rivers, canals, reservoirs, lakes or from groundwater sources requires a licence from the Environment Agency. There are about 48,000 licensed abstractions in England and Wales.

The present system for control of water resources was introduced in 1965. Since then demand for water has increased throughout England and Wales. In addition to increased demand, environmental uncertainties and expectations are growing and commercial practices have changed. The existing system no longer reflects the best way of managing water for the future.

After the drought in the mid 1990's and increasing public awareness that some licensed abstractions are contributing to environmental damage, the Government undertook a review of the abstraction licensing system. Its final decisions published in March 1999 in the document *Taking Water Responsibly* will

result in major changes to the system. These will affect all licence holders and other parties with an interest in the management and control of water resources.

The major initiative of CAMS will provide the opportunity, at a local level, for groups and individuals to contribute to the development of the strategy to be adopted for the catchment. CAMS will provide information on:

- The availability of water in a catchment;
- Licensing practice in dealing with new applications;
- Changes needed to the abstraction regime in the catchment to achieve the sustainable long-term use of water resources;
- A transparent basis for planning by abstractors, the Agency and all other interested parties.

**Demand Management**

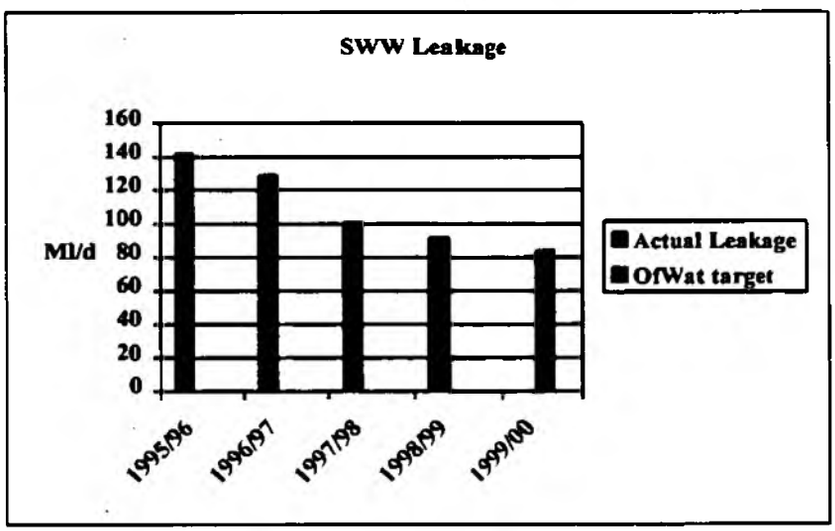
Demand Management involves a number of different initiatives including metering. Meters are installed in all new domestic properties connected to the water company supply and South West Water (SWW) domestic customers have the option to have a meter fitted at a subsidised price. After this they will be able to have a meter fitted free of charge. People who have a garden sprinkler are asked to register it with the company on the understanding that they may be metered at a later date.

**Resource Management**

Water companies use areas known as Resource Zones in order to help manage the way in which they supply water. Colliford Resource Zone is fed primarily by Colliford Reservoir and supplies most of Cornwall. The zone also uses a number of other smaller sources.

**Distribution Management**

Extra resources can be obtained from making savings through reducing leakage. SWW's leakage figures are shown below.



**What everyone can do to help**

The average family uses approximately 146 cubic meters (32,000 gallons) of water per year and within the home there are many opportunities to help reduce this figure, for example...

- turn taps off, take showers rather than baths
- replace washers, repair leaks quickly
- use low flush toilets, don't use power showers, use water efficient washing machines and dishwashers
- save water for the garden in water butts, use trigger switches on hose pipe nozzles, plant drought resistant garden plants, mulch flower beds to retain moisture and restrict weed growth

Our workplaces offer many opportunities to reduce water use (and save money). Some of the measures outlined above may be suitable, together with process/site specific measures. Examples of these and other water efficiency measures are detailed in the document *Saving Water on the right tracks 2* which can be obtained from the Agency.

Rainwater collected from roofs and recycled household waste wash water (greywater) can be used for toilet flushing and garden watering. It offers potential for large water savings but, to encourage more use of suitable systems, there is a need for water quality standards to be established. A series of fact sheets on water conservation measures is available from your Local Agency Office.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 44: Modelling of Colliford Strategic Supply Zone to determine the yield, best use of available resources and future developments** | | | | | | | | |
| **44.1** Agency to audit SWW reassessment of yields for all sources within the Colliford supply zone | Agency | 40 k | | | | | | This action has been completed. The last drought contingency plan was submitted and accepted by the Agency in 1999. |
| **44.2** Prepare water resources plans in conjunction with SWW and publish a revised regional water resources development strategy | Agency / SWW | 19K | | | | | | SWW's water resources plan was submitted in 1999 and accepted by the Agency. The plan will be reviewed on an annual basis. |

## 4.15 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.

### The Community

We all produce a great deal of waste and we all have a "Duty of Care". The "Duty of Care" is a law that applies to anyone who produces, keeps, transports or disposes of waste. It says that we must take reasonable steps to keep waste safe, and if we give the waste to anyone else we must be sure that they are authorised to take it and can dispose of it safely.

We can also help by reducing the amount of waste that we each produce, by re-using items, by supporting facilities and initiatives such as composting or recycling schemes. While local authorities and the Agency can give advice on managing waste, we all have a part to play in helping to reduce the waste problems in Cornwall.

### The Waste Hierarchy

One of the European directives,' The Framework Directive on Waste' introduced the idea of a 'waste hierarchy' which forms the basis for waste planning today. The waste hierarchy is a list of waste management options based on the sustainability and environmental costs of each option. The best solution is to avoid producing any waste in the first place i.e. reduction of waste, while landfill is the option with the most environmental impact. The waste hierarchy sets out a framework to allow a move away from the current reliance on disposal of waste to landfill to more sustainable methods of waste management. This will allow the best practicable environmental option (BPEO) for the disposal waste to be achieved.

Waste Hierarchy

1. Reduction of waste
2. Re-use of waste
3. Recovery of waste, including incineration with energy recovery, composting and recycling
4. Landfill and/or incineration with no energy recovery

The waste hierarchy is only a guide to waste management options. The best practicable environmental option will depend on the waste, and the availability of different types of waste management facilities close to where waste is generated. Therefore solutions to waste management need to be decided locally.

### Cornwall Waste Management Forum

The Forum, which is made up from representatives of the waste collection authorities (district councils), the waste disposal authority, waste disposal contractor and the Agency, 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.

## Organisations responsible for Waste Management

There are a number of bodies responsible for the planning and regulation of waste collection, management and disposal

### The Environment Agency

The Agency has a wide range of responsibilities relating to waste management both locally and at a national level.

- We regulate and advise organisations and individuals that are involved in the transportation, handling, treatment and disposal of controlled wastes. We also carry out monitoring and enforcement activities to ensure that waste management licence conditions are met.
- We play an active role in the development of the national waste strategy, for example, in carrying out the national waste production survey, and in supporting waste minimisation schemes.
- We advise both county and district councils on waste matters. We also work in partnership with local authorities to control fly tipping.
- We work with government on the development of policy.
- We provide information to the public and interested bodies through the public registers, technical guidance documents, and LEAPs
- We carry out R&D to ensure that our activities are based on a sound scientific basis

### Central Government

The government is responsible for the development of a Statutory National Waste Strategy for England and Wales, which is due for completion in early 2000, to address the following:

- Ensure waste is managed without endangering human health or the environment.
- Establish a network of adequate waste disposal facilities taking account of best available technologies.
- Encourage the prevention or reduction of waste production.
- Encourage the recycling, reuse, reclamation and use of waste as a source of energy.

### County Councils

Cornwall County Council is the waste planning authority and the waste disposal authority. As waste planning authority it is responsible for developing a countywide waste strategy, the Waste Local Plan. It also has the responsibility for determining planning applications relating to waste management activities. As the waste disposal authority it is responsible for arranging for the disposal of household and commercial waste and the provision of civic amenity sites.

### District Councils

As the waste collection authority, district councils have the responsibility for the collection and management of household waste. Kerrier District Council has had a huge success with their kerbside collection scheme. The scheme covers approximately 20,000 households and on average is diverting 120 tonnes of waste from landfill every month.

### Waste Contractors

There are a large number of waste contractors operating within Cornwall. The principle operator for the disposal of household waste is County Environmental Services Ltd (CES) who are wholly owned by Cornwall County Council. CES manage four landfill sites and a transfer station in the county, and are contracted to take all household waste produced in Cornwall.

### The Current Position in Cornwall

The following list shows the various types of waste that is currently produced in Cornwall;

- Household
- Commercial/Industrial
- Construction/Demolition waste
- Special/Hazardous Waste
- Clinical Waste
- Sewage sludge
- Scrap Metals
- Agricultural Wastes
- Mines and Quarries Wastes
- Dredged spoils

Cornwall produces approximately 30 million tonnes of waste each year, of which approximately 22 million tonnes arise from mining and quarrying and 6 million tonnes from agriculture. Approximately 1.28 million tonnes of commercial, industrial and household waste are produced each year, of which 217,000 tonnes comes from household collections. The amount of waste produced in Cornwall is increasing each year. (Source - Cornwall Waste Local Plan, Consultation Draft). Cornwall currently recycles approximately 6% of domestic waste, compared to 7.5% nationally (1996/97), with the rest going to landfill.

There are three operational landfill sites in Cornwall (Holwood Quarry, Connon Bridge, United Mines) that accept household, commercial and industrial waste, but these have limited life span. Detailed estimates of the remaining life expectancy of these sites are available in the Cornwall Waste Local Plan, consultation draft. Holwood Quarry is closed as a landfill but still operates a civic amenity site. The current site at United Mines, which receives approximately 57 % of the commercial, industrial and household wastes from Cornwall, will be exhausted in 2002. At current rates of waste disposal Connon Bridge will close during 2008, however, if no alternative to United Mines is found, Connon Bridge will be full by 2004.

### Waste Survey

In April 1999 the Environment Agency neared completion of its National Waste Production Survey. Agency staff and consultants have visited or telephoned many thousands of businesses. Information on the types and quantities of wastes being generated and how they are being managed is being entered onto the National Waste Database. After a period of detailed analysis the information will be used to inform the Government's Statutory National Waste Strategy. Local Authorities and the waste management industry will be able to use the statistics

to assist their policy decisions on the provision of future waste facilities. It is believed that the Survey is the largest investigation ever into waste production.

### Composting on mineral waste sites.

Some derelict mining sites may be capable of being remediated by means of spreading a layer of composted plant matter (greenwaste) over their surface. This would achieve the dual benefits of land reclamation with waste recovery. Final land use is likely to be of a recreational or amenity nature. Site selection and planning of such projects would have to take account of the proximity and quantity of suitable wastes, access for deliveries, conservation and heritage issues, future land use, etc. Such schemes are hardly likely to be undertaken on a commercial basis but the Agency would seek to encourage partnerships between land owners, local authorities, funding bodies and community groups who may be able to combine to set up sustainable projects. Manpower and machinery resources would be required. Not all-derelict mining sites would lend themselves to such treatment and full consultation with relevant bodies would be necessary.

### 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. There is a growing realisation that energy from waste schemes may represent the Best Practicable Environmental Option for wastes arising in Cornwall.

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. A number of possible sites 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.

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. This method of waste management is undergoing something of a revival in the UK.

### 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. Material specific projects will be identified and established. 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.

County Environmental Services has established a working group to examine the issues in detail with a view to initiating a market development programme for Cornwall.

**United Mines**
County Environmental Services Ltd (CES) applied for planning permission to extend the United Mines Landfill site for the disposal of household, commercial, industrial and construction waste. The proposed extension would have provided an additional 10 years of disposal capacity for waste in West Cornwall. The Environment Agency was a statutory consultee on the planning application for the extension to the site. The Agency, after very detailed consideration of the planning application raised no objections in principle to the proposed extension. However, there were a number of issues that the Agency raised in the planning application that would be addressed through the waste licensing process.

On 21 October 1998 the Planning Committee of Cornwall County Council recommended refusal of the application. Following this decision, CES decided to close the United Mines site to commercial waste with effect from 9 November 1998 to prolong the lifetime of the landfill site. On 2 December 1998, the County Planning Committee confirmed their decision to refuse the application.

The Agency is concerned that the reduction in waste disposal facilities causes difficulties for businesses in Cornwall in finding suitable disposal routes, and is increasing environmental releases from vehicles as well as transportation costs. It could also lead to an increase in fly tipping, use of illegal tip sites or illegal burning of waste.

**The future**
The way waste is managed in Cornwall will be affected by national, county and local initiatives.

The previous Government's white paper "Making Waste Work", published in 1995, set out targets for achieving more sustainable management of waste, as follows:

- To reduce landfill from 70% to 60% of controlled wastes by 2005, and
- To increase recycling and recovery so that they dealt with 40% of municipal waste by 2005

There were also a number of subsidiary targets including one of recycling and composting 25% of household waste by 2000.

The present Government is reviewing those targets following its publication of its consultation on the waste strategy for England and Wales "Away With Waste". This will be a statutory strategy and will be published in spring 2000.

Various legal requirements are also place increasing emphasis on the recovery and recycling of wastes, particularly within industrial sectors, as follows:

- Producer Responsibility Obligations (Packaging Waste) Regulations 1997. This legislation places targets on businesses in the packaging chain to recycle or recover certain volumes of packaging waste, dependant upon the volume

they handle. The aim of the regulations is to divert wastes away from landfill and to encourage changes in packaging design.

- Landfill Tax. The operators of landfill sites pay this tax for every tonne of taxable waste taken to the site. From 1 April 1999 the tax rates are £2 for every tonne of inert waste and £10 for every tonne of putrescible wastes. The aim of the tax is to encourage other routes for recovering or re-using waste rather than landfill.

- Landfill Directive. This directive requires that reductions are made in the volumes of biodegradable wastes going to landfill. The directive also requires the treatment of certain types of waste prior to disposal and the banning of other waste from landfill, such as explosive, clinical, and liquid waste or tyres.

Through consultation on this LEAP the waste management industry has indicated that it requires a stable market place to encourage investment in alternative waste management initiatives. The costs of setting up new waste management facilities are high. The legal requirements are constantly changing and the market is fluctuating. In a business environment where investment-planning horizons are set at 10 or 20 years, it is difficult to secure investment when the waste industry can only make forecasts for the next 5 years. These concerns have been reflected in the Agency's response to "Away With Waste".

### Camborne School of Mines Waste Research Project

Camborne School of Mines (CSM) has successfully completed a feasibility study into the viability of a dedicated Waste Test and Research Centre in Cornwall. The aim is to utilise CSM's expertise in mineral processing separation technology for the benefit of recovery of secondary raw material from industrial waste streams, the remediation of contaminated soil and dredgings, and reduction in waste volume for disposal. CSM has recently won a grant under Objective 5b, supported by the University of Exeter, RCES (UK) Ltd and CSMA Consultants Ltd, to develop and implement five waste processing or recycling research initiatives by September 2001, based on partnerships with industry in Cornwall. CSM will also develop postgraduate training in waste separation technology within the University of Exeter CPD Award Scheme.

### Falmouth Docks Recovered Oil Plant

Utilising oil recovered partly from shipping activities around the docks, this new power plant will replace an existing boiler currently in use at Falmouth Docks. The new plant will provide electricity and heat at an efficiency of around 90%, and is controlled under an Integrated Pollution Control Authorisation from the Agency. This authorisation requires the development to comply with stringent standards for air and water quality, waste disposal and noise levels. The proposal represents an efficient use of waste oil and a considerable improvement over the previous disposal. The Agency continues to work with the planning authorities, English Nature and the developers to ensure that this plant is constructed and operated in a way that protects the environment.

### Carnsew Quarry

Cornwall County Council is currently considering an application to utilise part of the Carnsew Quarry near Mabe as a landfill site. The Agency has indicated in its response to both the planning authority and to local residents that it has

concerns about the proposal as submitted. If planning permission is granted the applicants will then have to obtain a waste management licence from the Agency to operate the site.

While acknowledging that Cornwall has a need for more capacity for disposal of its waste, we will continue to work within both the planning process and the waste management licensing process to protect the environment.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 44: Carry out waste arisings survey** | | | | | | | | |
| **44.1** Carry out waste arisings survey | Agency | U | | * | * | | | The National Waste Production Survey was completed in 1999. The results are being analysed. |
| **Issue 45: Reduce waste production** | | | | | | | | |
| **45.1** Reduce waste production | Agency | | | * | * | * | * | Waste minimisation advice is offered to businesses during routine visits and more especially as part of waste survey interviews. |
| **Issue 46: Reduce waste requiring disposal by encouraging and developing recycling initiatives** | | | | | | | | |
| **46.1** The Agency will develop campaigns and partnerships with businesses and other organisations | Agency | | | * | * | * | * | Agency staff have been sending copies of the Agency Waste Minimisation and Commercial Waste recycling Group to local businesses. |
| **Issue 47: Identify criteria for waste disposal sites** | | | | | | | | |
| **47.1** Identify criteria for waste disposal sites | CCC/ Agency | | | * | * | * | * | The Agency has been consulted on the County Waste Local Plan. We will consider any proposals for sites as and when they are put forward |
| **Issue 48: Draw up strategies for sustainable waste management** | | | | | | | | |
| **48.1** Draw up strategies for sustainable waste management | Agency | | | | * | * | * | An Agency representative gives waste strategy advice at meetings of the Cornwall Waste Management Forum, which comprises officers, and members of the County and District Councils. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **48.2** Preparation of a county-wide Local Authorities Integrated Waste Management and Recycling Plan for 1999 to 2005 | District councils, Agency | | | | * | | | The Agency supported the Cornwall waste management Forum in the staging of a seminar in March 1999 on 'The great Cornish waste debate'<br><br>DETR requested district councils to review their recycling plans. The Agency is a consultee to the development of the updated Recycling plan |
| **Issue 49: Working together to manage our waste** | | | | | | | | |
| **49.1** Encourage and educate communities and individuals in waste management | District councils, Agency | | | * | * | * | * | The Agency seeks to promote and encourage education of communities into the use of facilities for sustainable waste management. |
| **49.2** Use facilities and support campaigns such as recycling, composting schemes etc | All | | | * | * | * | * | |

## 4.16 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 25m was prohibited. However, its use is still permitted on vessels greater than 25m in length. The International Maritime Organisation has recently recommended that the application of TBT paints to any vessels should be banned from 1 January 2003, and that TBT paints should be removed from all vessels by 1 January 2008.

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 is an issue that affects not only the Fal estuary but many other parts of the UK where there are ship repair docks. Disposal of dredged material is regulated by the Agency if it is disposed of on land and by MAFF if it is disposed of at sea. The Agency, MAFF, harbour authorities and dock operators at Falmouth have met in the past to discuss the problems. To date it has not been possible to identify a long-term solution for the disposal of heavily contaminated dredged materials.

**TBT survey of Cornish Coast**
As well as carrying out detailed monitoring of TBT concentrations in the Fal estuary, the Agency has been studying populations of dogwhelks, *Nucella lapillus*, which are particularly sensitive to TBT. Levels as low as 1ng/l have been shown to induce imposex (sex-change effects in female dogwhelks). Chronic exposure to TBT eventually leads to sterility in dogwhelk populations.

The baseline survey of TBT in the Fal Estuary carried out during 1997 showed that levels of TBT in the sediments and water column are very high in certain locations in the Fal estuary. This survey also showed that there has been a major impact on dogwhelk populations in the vicinity of the Fal Estuary. The study was extended during 1998 to survey for evidence of TBT contamination around the Cornish coast.

**Falmouth Oil Services**
A remediation programme at Falmouth Oil Services (1994) Ltd is currently underway.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 50: Investigate effects of estuary sediment contamination on water quality** | | | | | | | | |
| **50.1** Carry out TBT baseline survey | Agency | U | | | | | | The survey work has been completed and a report is being drafted. Further survey work will be carried out in 2004. |
| **50.2** Future baseline surveys required for other contaminants | | | | | | | | Copper has been assessed. No other parameters identified. Completed. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 51: Pollution prevention at Falmouth Oil Services (1994) Ltd** | | | | | | | | |
| **51.1** Continue current remediation programme to clean groundwater and prevent percolation of oil contaminants to surface waters | Agency / company | | * | * | | | | This is in progress at present |

## 4.17 Air quality

The Cornwall Air Quality Forum has been formed as one of 14 pilot areas nation-wide. It is led by Carrick District Council, and has representation from all local authorities in the county and the Agency. We do not cover all aspects of air pollution but work closely with other regulatory bodies such as local authorities. Local authorities are currently assessing the air quality and identifying possible problems for their districts. The Agency acts as an information provider and advisor on the industries we regulate.

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Issue 52: Draw up strategy** | | | | | | | | |
| **52.1** Conference arranged to plan future work. | Cornwall Air Quality Forum | U | | | | | | The Conference was convened and the CAQF is now co-ordinating the Local Authorities response to the National Air Quality Strategy. The Agency is represented on the Forum. |

## 4.18 Integrated Pollution Prevention and Control (IPPC)

The IPPC Directive is designed to prevent, reduce and eliminate pollution at source through the prudent use of natural resources. It is intended to help industrial operators move towards greater environmental sustainability.

The Pollution Prevention Control Act 1999 provides for the implementation of EC Directive 96/61 on Integrated Pollution Prevention and Control and consequently the introduction of a single pollution control regime for England and Wales.

Under the regulations, the Agency will have an essential role in regulating specified types of activity and installation. These include current integrated pollution control sites, landfills and discharge activities already licensed by the Agency as well as a number of new activities such as intensive pig and poultry farming and the food and drink industry.

**What will be required of operators?**
Operators will need to show that they will run their installations in a way that prevents emissions to the land, air and water or where that is not practicable, reduces them to a minimum.

Operations must apply the following general principles:

- Use Best Available Techniques in controlling discharges to air, soil and water and addressing other issues such as odour, noise and vibration.
- Minimise waste and recycle it where they can
- Conserve energy
- Prevent accidents and limit their environmental consequences
- Return the site to a satisfactory state after the operation cease

## 4.19 The Eclipse

The Agency, along with other authorities, had made contingency plans for the Eclipse in August 1999. In the event, the large predicted crowds did not materialise and no major problems were encountered.

## Appendix 1 Cornwall Biodiversity Action Plan

The following are a list of actions from the Cornwall Biodiversity Initiative and the 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 Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **Actions for individual species and habitats arising from the Biodiversity Action Plan** | | | | | | | | |
| Produce an Action Plan for Wetlands by September 1998<br>Target: To ensure no further loss of wetland habitats<br>Target: To identify and restore natural drainage regime to one degraded wetland site by 2000 | Agency CWT | U | | | | | | The action plan was published in July 1998. |
| Produce an Action plan for Heathlands by June 1998<br>Target: To ensure no further loss of heathland habitat | EN | U | | | | | | Ongoing |
| Produce an Action Plan for boundary features, particularly hedgerows and field margins by June 1998 | CWT | U | | | | | | Actions are now ongoing following publication of the plan. |
| Produce a Farmland Species Action Plan by June 1998 | RSPB | U | | | | | | The action plan was published in July 1998 as part of the Cornwall Biodiversity Action Plan. |
| Produce a generic Seabirds and Wader Action Plan by June 1998 | RSPB | U | | | | | | The action plan was published in July 1998 as part of the Cornwall Biodiversity Action Plan. |
| Produce biodiversity targets for Metalliferous mine sites in the catchment | EN / Agency / CWT | U | | | | | | The action plan was published in July 1998 as part of the Cornwall Biodiversity Action Plan. |
| Produce a management plan for the Carnon Valley to ensure that its biodiversity potential is maximised by September 1998 | Agency | U | | | | | | Completion of the plan is due in 2000. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| Produce biodiversity targets for Fal and Helford Estuaries | EN / Agency / CWT | U | | | | | | The action plan was published in July 1998 as part of the Cornwall Bio-diversity Action Plan. Action complete. |
| Produce biodiversity targets for coastal zone Target:Identify and restore two degraded coastal sites by 2002 | EN / Agency / CWT | U | | | | | | Completion of the targets is due in 2000. |
| Produce biodiversity targets for the china clay district Produce biodiversity target statement for inclusion within IMERYS Minerals Ltd Code of Practice | EN / Agency / CWT | 10 K | | | | | | Feeds into ROMPS 'Process and tipping - a restoration strategy'. |
| Produce Species Action Plans by 2003 Status of a number of species within the catchment need clarifying | EN /CWT | 5 K | | | | | | Work towards the completion of the plan is ongoing. |
| Utilise LIFE data to identify sites where existing blocks of priority habitat can be linked | Agency /EN/ CWT | 30 K | | | | | | Ongoing, but habitat re creations are largely opportunistic and dependent on landowners willingness |
| **New Actions arising from the Biodiversity Action Plan** | | | | | | | | |
| **Shore dock** | | | | | | | | |
| Establish monitoring and research programme of hydrological conditions at dune slack sites including identifying standards that will maintain shore dock populations | Agency / others | U | | | | | | We are undertaking monitoring at Penhale dunes. |
| **Pink sea fan** | | | | | | | | |
| Promote research into the effects of reduced water quality and fisheries activity on pink seafan populations with the aim of identifying the most important factors | Agency / others | U | | | | | | Research is being scheduled at present. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| **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. |
| **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. | Agency / others | U | | | | | | Officer has been appointed in spring 1999. Work is ongoing. There will be an updated National Otter survey in 2000. |
| **Farmland habitats and species** | | | | | | | | |
| Achieve more flexibility in allowing field exchanges within IACS where there would be conservation benefits | Agency / others | U | | | | | | MAFF are currently being lobbied on this issue. |
| Lobby as appropriate in order to ensure improvements in air quality as technology arises and its application is practicable. | | | | | | | | The Agency is sits on the Cornwall Air Quality forum. |
| **Boundary features – Japanese Knotweed** | | | | | | | | |
| 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 | Agency / | U | | | | | | The Agency distributes a leaflet explaining how to |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| landowners on knotweed control, now and in future, as best practice is clarified | others | | | | | | | 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. |
| 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. |
| **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 (eg) reedbed, 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 | | | | | | The work is scheduled to begin. We are considering putting together a strategic programme to tackle our approach to wetland conservation in the area. In the past actions have been on an opportunistic basis. |
| **Estuaries** | | | | | | | | |
| Ensure proper examination of the system through which bye-laws are created, given the difficulty of creating environmental bye-laws. By 2000 | Agency / others | U | | | | | | The Agency is involved in the production of a Cockle Harvesting Bye-law. |

| Action | Lead Body | Cost (£) | Financial years | | | | | Progress Year 2 |
|---|---|---|---|---|---|---|---|---|
| | | | 98 | 99 | 00 | 01 | 02 | |
| 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. |
| **Coastal zones** | | | | | | | | |
| Maintain awareness of all sports within the coastal zone, and their possible impact on biodiversity. It is difficult to focus on particular sports as they change all the time. Sport England only covers formal sports, so gaps exist | Agency | U | | | | | | The Agency has recently appointed a regional recreation officer to co-ordinate water based recreation in the South West area. |
| Promote research on the use of biological indicators to detect pollution at an early stage, and the provision of the resulting information to the public, through, for example, LA21 | Agency / BAP Partners | U | | | | | | A number of organisations are currently researching the use of indicators, including biological ones, to reflect changing conditions within the environment. |

## 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 | The more efficient use of water by water companies, developers, industry, agriculture and the public and the introduction of water-efficiency measures and suitable design and layout of the infrastructure.. | The Agency 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- |

| Agency Duty : | The Agency has powers to: | The Agency has an interest (but no direct powers) in: | Partnership : |
|---|---|---|---|
| | 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. | Protecting the water environment from any adverse impact due to proposed major developments | 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 environments. |
| **Flood Defence** The Agency has a duty to exercise general supervision over all matters relating to flood defence throughout each catchment. | Control, through Land Drainage consents, 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. | 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 | 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 |

| Agency Duty : | The Agency has powers to: | The Agency has an interest (but no direct powers) in: | Partnership : |
|---|---|---|---|
| | 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. | Installation of surface water source control measures e.g. flood attenuation structures. Supervising the maintenance of ordinary watercourses which is a local authority remit, but may impact on main rivers. Installation of buffer zones which reduce flood risk and have significant environmental benefits. Urban and rural land use and measures that can reduce flood risk or the need for watercourse maintenance. | environment. The Agency works with the civil authorities to prepare flood-warning dissemination plans and supports their endeavours to protect communities at risk. |
| **Water Quality** The Agency has a duty to monitor, protect, manage and, where possible, enhance the quality of all controlled waters including rivers, groundwaters, lakes, canals, estuaries and coastal waters through the prevention and control of pollution. | Issue discharge consents to control pollution loads in controlled waters. Regulate discharges to controlled waters 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. | 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. | 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. |

| Agency Duty : | The Agency has powers to: | The Agency has an interest (but no direct powers) in: | Partnership : |
|---|---|---|---|
| **Fisheries**<br>The Agency has a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries. | Prosecute offenders who use illegal methods to take fish and can seek forfeiture of all associated equipment.<br>Regulate fisheries by a system of licensing.<br>Make and enforce fisheries byelaws to prevent illegal fishing.<br>Promote the free passage of fish and consent fish passes.<br>Monitor fisheries and enforce measures to prevent fish-entrapment in abstractions.<br>Promote its fisheries duty by means of land-drainage consents, water abstraction applications and discharge applications.<br>Regulate the introduction of fish species to rivers and lakes. | The determination of planning applications which could affect fisheries. | Many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and local authorities to protect fisheries. |
| **Air Quality**<br>The Agency has a duty to implement Part 1 of the Environment Protection Act 1990. | Regulate the largest technically complex and potentially most polluting prescribed industrial processes such as refineries, chemical works and power stations including enforcement of, and guidance on, BATNEEC and BPEO.<br>Have regard to the govemment's | The vast number of smaller industrial processes which are controlled by local authorities.<br>Control over vehicular emissions and transport planning. | The Agency provides data on IPC processes and advice on planning applications to local authorities. The Agency is willing to offer its technical experience to local authorities on the control of air pollution<br>The Agency wishes to liaise with local authorities in the production of their Air Quality Management Plans. |

| Agency Duty : | The Agency has powers to: | The Agency has an interest (but no direct powers) in: | Partnership : |
|---|---|---|---|
| | National Air Quality Strategy when setting standards for the releases to air from industrial processes. | | The Agency will advise and contribute to the government's National Air Quality Strategy |
| **Radioactive Substances** The Agency has a duty under the Radioactive Substances Act 1993 to regulate the use of radioactive materials and the disposal of radioactive waste. | To issue certificates to users of radioactive materials and disposers of radioactive waste, with an overall objective of protecting members of the public. | The health effects of radiation. | The Agency will work with users of the radioactive materials to ensure that radioactive wastes are not unnecessarily created, and that they are safely and appropriately disposed of. The Agency will work with MAFF to ensure that the disposal of radioactive waste creates no unacceptable effects on the food chain. The Agency will work with the Nuclear Installations Inspectorate to ensure adequate protection of workers and the public at nuclear sites. The Agency will work with the HSE on worker-protection issues at non-nuclear sites. |
| **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 | Vary waste management licence conditions. Suspend and revoke licences. Investigate and prosecute illegal waste management operations | The siting and granting of planning permission for waste management facilities. This is conducted by the waste industry and local planning authorities. The Agency, as a statutory consultee on planning | 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. |

| Agency Duty : | The Agency has powers to: | The Agency has an interest (but no direct powers) in: | Partnership : |
|---|---|---|---|
| detriment to local amenities. | | applications, can advise on such matters. | |
| **Contaminated Land** The Agency has a duty to develop an integrated approach to the prevention and control of land contamination ensuring that remediation is proportionate to risks and cost-effective in terms of the economy and environment. | Regulate the remediation of contaminated land designated as special sites. Prevent future land contamination by means of its IPC, Water Quality and other statutory powers. Report on the state of contaminated land. | Securing with others, including local authorities, landowners and developers, the safe remediation of contaminated land. | The Agency supports land remediation and will promote this with developers and local authorities and other stakeholders. |
| **Conservation** The Agency will further conservation, wherever possible, when carrying out water-management functions; have regard to conservation when carrying out pollution-control functions; and promote the conservation of flora and fauna which are dependent on an aquatic environment. | The Agency has no direct conservation powers, but uses its powers with regard to water management and pollution control to exploit opportunities for furthering and promoting conservation. | The conservation impacts of new development. These are controlled by local planning authorities. Protection of specific sites or species, which is a function of English Nature. The Agency does, however, provide advice to local authorities and developers to protect the integrity of such sites or species. Implementation of the UK Biodiversity Plan for which it is the contact point for 12 species and one habitat. | The Agency supports action to sustain or improve natural and man-made assets so that they are made available for the benefit of present and future generations. Many development schemes have significant implications for conservation. The Agency will work with developers, local authorities, conservation bodies and landowners to conserve and enhance biodiversity. |

| | | | |
|---|---|---|---|
| **Landscape**<br>The Agency will further landscape conservation and enhancement when carrying out water-management functions; have regard to the landscape when carrying out pollution-control functions; and promote the conservation and enhancement of the natural beauty of rivers and associated land. | The Agency must further the conservation and enhancement of natural beauty when exercising its water-management powers and have regard to the landscape in exercising its pollution-control powers. | The landscape impact of new development, particularly within river corridors. This is controlled by local planning authorities. | The Agency produces 'River Landscape Assessments and Design Guidelines' which it uses when working with Local Authorities and developers to conserve and enhance diverse river landscapes. |
| **Archaeology**<br>The Agency has a duty to consider the impact of all of its regulatory, operational and advising activities upon archaeology and heritage, and implement mitigation and enhancement measures where appropriate. | The Agency must promote its archaeological objectives though the exercise of its water-management and pollution-control powers and duties. | Direct protection or management of sites or archaeological or heritage interest. This is carried out by local planning authorities, County Archaeologists and English Heritage. | The Agency will liaise with those organisations, which have direct control over archaeological and heritage issues to assist in the conservation and enhancement of these interests. |
| **Recreation**<br>The Agency has a duty to promote rivers and water space for recreational use. | The Agency contributes towards its recreation duty through the exercise of its statutory powers and duties in water management. | Promotion of water sports. This is carried out by the English Sports Council and other sports bodies. | The Agency will work with the Countryside Commission, the Sports Council, British Waterways and other recreational and amenity organisations to optimise recreational use of the water environment. |

## Appendix 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 determinant 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 Bathing Waters Directive**
The EC Directive *concerning the quality of bathing water* (76/160/EEC) seeks to protect public health and the amenity value of popular bathing waters by reducing pollution. The Directive contains standards for nineteen microbiological, physical and chemical parameters to assess bathing water quality. Compliance is assessed mainly by testing against standards for faecal indicator bacteria.

We are responsible for monitoring the quality of identified, popular bathing waters and providing the results to DETR who decide whether the standards in the Directive have been met. Where identified bathing waters fail to meet the Directive, we are responsible for identifying sources of pollution that are causing failures, 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 DETR 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 DETR 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.

# Appendix 3: Acknowledgements

An important part of the Local Environment Agency Plans (LEAPs) process is to monitor the Action Plan to ensure that targets and actions are achieved and that the plan continues to address relevant and significant issues within the area. Part of the review process was a forum to look at the progress over the past year and to update the plan where necessary to take account of new and changing issues. Invitations to the forum were sent to the steering group and local bodies with responsibilities for and interests in the environment. This Annual Review reports on the progress made since the publication of the Action Plan and details the progress of work shown in the activity tables as well as additional actions required in light of changes in the area

We would like to thank all those who have given valuable contributions to this report about activities during the past year, particularly those who attended the forum.

**Fal & St Austell Streams Steering Group**

| Name | Representing |
|---|---|
| Mr PR Burnett | Wadebridge and District Angling |
| Mr KH Hitchens | Fishing Interests, Recreation |
| Mr T Mutton | Salmon and Trout Association |
| Mr WL Collins | Helford VMCA |
| Mr A Martin | National Farmers Union |
| Mr NJ Jeans | Tregothnan Estate Office |
| Mr R Nunn | Goonvean Ltd |
| Mr R Brooke | Roche Angling Club |
| Miss DJ Clark | Regional Flood Defence Committee |
| Mr T Edwards | Cornwall Wildlife Trust |
| Mr A Hopson | Truro Port Health Authority |
| Mr T Grove-White | Carrick District Council |
| Mr R Reid | County Environmental Services Ltd |
| Mr R McCawley | South West Water Ltd |
| Dr M J Pemberton | Local interests, china clay |
| Mr S Field | Restormal Borough Council |
| Mr P Dyke | The National Trust |

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**Map 1 - The Fal and St Austell Streams Catchment**






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