



ENVIRONMENT  
AGENCY

**FIRST ANNUAL REVIEW**

**OF THE**

**SEATON, LOOE AND FOWEY**

**CATCHMENT MANAGEMENT PLAN**

**(1997)**



SW-2/97-0.3K-E-AXX1

**SEATON, LOOE AND FOWEY CATCHMENT MANAGEMENT  
PLAN**

**FIRST ANNUAL REVIEW: JANUARY - DECEMBER 1996**

**CORNWALL AREA ENVIRONMENT PLANNING  
FEBRUARY 1997**

Environment Agency  
Information Centre

ENVIRONMENT AGENCY



127196

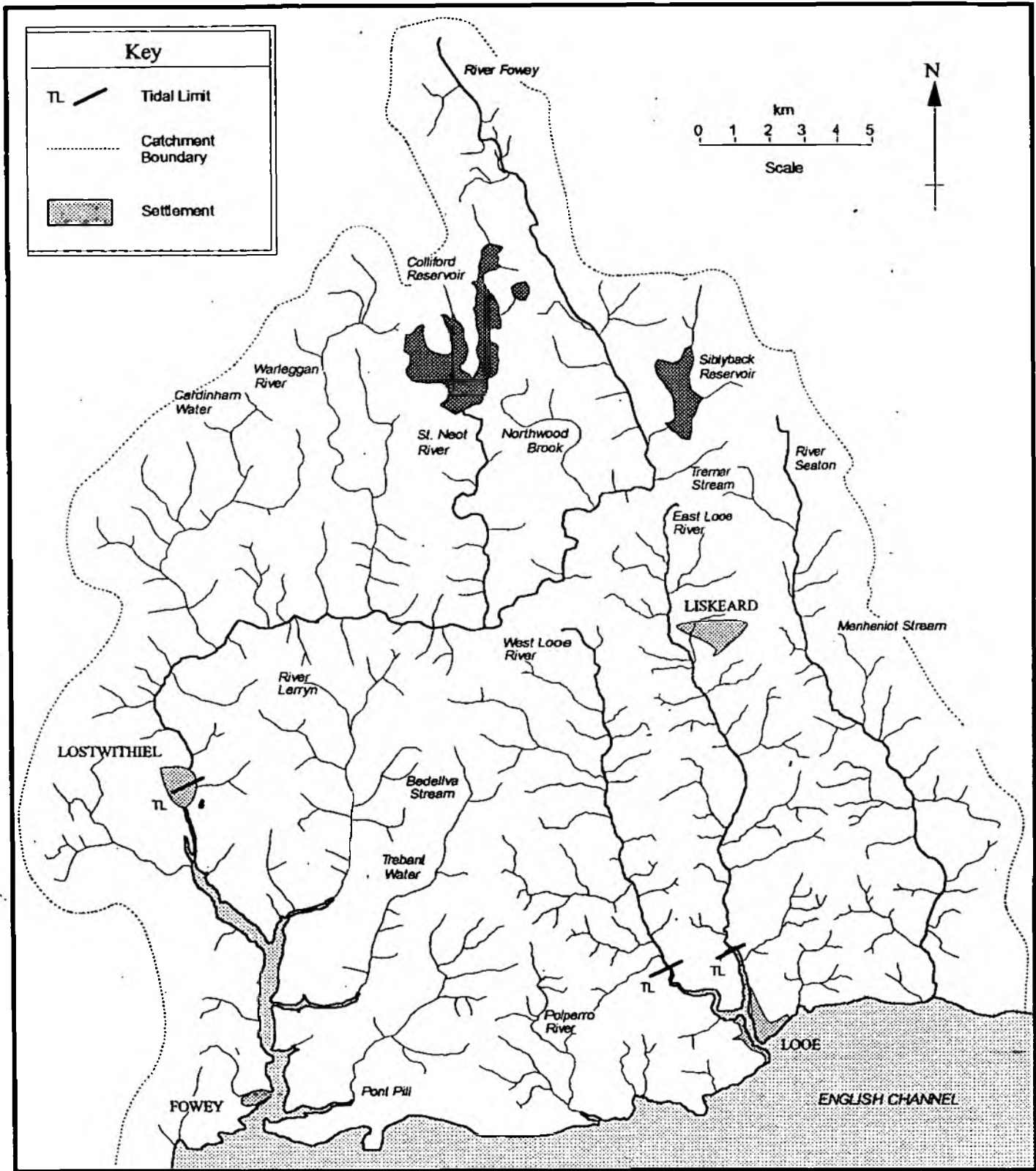
## CONTENTS

<b>VISION FOR THE CATCHMENT</b> .....	1
<b>1 INTRODUCTION</b> .....	2
1.1 The Environment Agency .....	2
1.2 The Environment Agency and Catchment Management Planning .....	3
<b>2 PURPOSE OF THE ANNUAL REVIEW</b> .....	3
<b>3 STEERING GROUP</b> .....	3
<b>4 SUMMARY OF PROGRESS</b> .....	3
The Effect of Abstractions and Water Supply .....	4
Restormel Fish Counter .....	4
Polperro Flood Alleviation Scheme .....	4
Future Flood Alleviation Schemes .....	4
Flood Warning .....	5
Pollution Prevention .....	5
Biodiversity .....	5
Development .....	5
Improvements to sewerage and sewage treatment works .....	6
Waste Management .....	6
Integrated Pollution Control (IPC) .....	6
<b>5 ACTION PLAN MONITORING REPORT</b> .....	6
<b>6 APPENDICES</b> .....	14
6.1 Integrated Pollution Control .....	14
6.2 Air Quality .....	14
6.3 Radioactive Substances .....	15
6.4 Waste Management .....	15
Water Quality Reports .....	17
References .....	17

### Environment Agency Copyright Waiver

This report is intended to be used widely and may be quoted, copied or reproduced in any way, provided that the extracts are not quoted out of context and that due acknowledgement is given to the Environment Agency.

# Seaton, Looe and Fowey Catchment



## VISION FOR THE CATCHMENT

Our vision for the catchment was first published in the Seaton, Looe and Fowey Catchment Management Plan Consultation Report and ratified in the Action Plan.

Most societies want to achieve economic development to secure a better quality of life, now and in the future. They also seek to protect their environment now and for their children. Sustainable development tries to reconcile these two objectives - meeting the needs of the present without compromising the ability of future generations to meet their own needs. To achieve this judgements have to be made about the weight to be put on different factors in particular cases. Sometimes environmental costs have to be accepted as the price of economic development but on other occasions a site, or an ecosystem, or some other aspect of the environment has to be regarded as so valuable that it should be protected from exploitation.

The Seaton, Looe and Fowey Catchment is a high quality environment which has suffered relatively little harm from development. However one of the early industries which brought prosperity to the area - mining - has left a legacy of contaminated drainage which continues to affect rivers in the catchment.

The catchment is significant in regional terms for providing public water supply from Colliford and Sibleyback reservoirs and the River Fowey.

Today the Environment Agency's role is to recognise what environmental features are important in the catchment and ensure that developments do not cause unacceptable damage to them.

In practice we achieve environmental sustainability by setting limits of acceptable environmental change. Some of the activities which are described in the tables in this Action Plan outline our role in setting these limits - particularly in the field of water quality management.

The Agency's vision for the Seaton, Looe and Fowey Catchment is towards a future where:

- there is minimal compromise of water quality, quantity and physical structure of the water environment to facilitate development of the area
- the aquatic biodiversity of the catchment is maintained and extended
- improvements continue to be made to existing discharges, meeting appropriate standards
- an agricultural and forestry system develops which reduces the risk of diffuse pollution and improves the physical habitat of rivers and wetlands for wildlife
- peoples' enjoyment and appreciation of the river system continues to grow
- there is minimal risk to people and property from flooding
- development of public water supply is managed to minimise environmental impact.

Establishing strong Environment Agency involvement and links with local communities and their representatives is seen as essential so that local views are respected in future development decisions. It is important that local planning authorities include policies in their local plans which protect and enhance the needs of the environment.

## 1 INTRODUCTION

This is the First Annual Review of the Seaton, Looe and Fowey Action Plan which was published in 1996. It introduces the Environment Agency, summarises progress made with actions and introduces 5 new actions. Previous publications relating to this catchment contain more background detail, and this Review should be read in conjunction with these publications:

- Seaton, Looe & Fowey Catchment Management Plan Consultation Report - December 1994
- Seaton, Looe & Fowey Catchment Management Plan Action Plan - January 1996

### 1.1 The Environment Agency

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

We provide a comprehensive approach to the protection of the environment by combining the regulation of air, land and water into a single organisation. We cannot work in isolation, but seek to educate and influence individuals, groups and industries to promote best environmental practice, and develop a wider public awareness of environmental issues.

Our Vision is :

- *a better environment in England and Wales for present and future generations*

We will :

- *protect and improve the environment as a whole by effective regulation, by our own actions and by working with and influencing others*
- *operate and consult widely*
- *value our employees*
- *be efficient and businesslike in everything we do*

Our Aims are :

- *to achieve significant and continuous improvement in the quality of air, land and water, actively encouraging the conservation of natural resources, flora and fauna*
- *to maximise the benefits of integrated pollution control and integrated river basin management*
- *to provide effective defence and timely warning systems for people and property against flooding from rivers and the sea*
- *to achieve significant reductions in waste through minimisation, re-use and recycling and to improve standards of disposal*
- *to manage water resources to achieve the proper balance between the needs of the environment and those of abstractors and other water users*
- *to secure, with others, the remediation of contaminated land*
- *to improve and develop salmon and freshwater fisheries*
- *to conserve and enhance inland and coastal waters and their use for recreation*
- *to maintain and improve non-marine navigation*
- *to develop a better informed public through open debate, the provision of soundly based information and rigorous research*
- *to set priorities and propose solutions that do not impose excessive costs on society*

We do not cover all aspects of environmental legislation and service to the general public. Your local authority deals with all noise problems; litter; air pollution arising from vehicles, household areas, small businesses and small industries; planning permission (they will contact us when necessary); contaminated land issues (in liaison with ourselves); and environmental health issues.

## 1.2 The Environment Agency and Catchment Management Planning

Catchment Management Plans (CMPs) produced by the NRA will continue to be called CMPs, and subsequent reviews will focus mainly on water related issues. This will be the case with this First Annual Review of the Seaton, Looe and Fowey CMP.

Any actions previously attributed to the NRA have now been taken over by the Environment Agency.

New plans published after 1 April 1996 by the Agency will be known as *Local Environment Agency Plans* (LEAPs) and these will take account of all Agency responsibilities. All CMPs will be replaced by LEAPs by December 1999.

## 2 PURPOSE OF THE ANNUAL REVIEW

An important part of the CMP 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 catchment. This report summarises the progress made since the publication of the Seaton, Looe and Fowey Action Plan in January 1996.

## 3 STEERING GROUP

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

	<i>Representing</i>
<i>Mr W H Eliot</i>	<i>Riparian owner</i>
<i>Mr S Gardiner</i>	<i>Fowey Riparian Owners Association, Salmon &amp; Trout Association, Agency Area Environment Group</i>
<i>Mr M R Gillbard</i>	<i>Cornwall County Councillor, Caradon District Councillor, Agency Regional Flood Defence Committee, Agency Area Environment Group</i>
<i>Mr O Gilbert</i>	<i>Liskeard &amp; District Angling Club</i>
<i>Mr I J Goodenough</i>	<i>Riparian owner, Bodmin Moor Preservation Society, NFU Hill Farmers, Bodmin Commoners Association</i>
<i>Mr A Hawken</i>	<i>English China Clay International</i>
<i>Mr J H Hooper</i>	<i>Lostwithiel Fishing Association</i>
<i>Mr A Lister</i>	<i>Cornwall County Councillor, Farmer</i>
<i>Mr N Maiklem</i>	<i>National Farmers Union</i>
<i>Mr G Roughton</i>	<i>Forward Planning, Caradon District Council</i>
<i>Mr A Spalding</i>	<i>Conservation</i>
<i>Capt M Sutherland</i>	<i>Fowey Harbour Commissioners</i>
<i>Mr R S Tabb</i>	<i>Fowey netsman</i>
<i>Mr C Underwood</i>	<i>South West Water</i>

## 4 SUMMARY OF PROGRESS

In addition to the specific actions that follow we carry out routine monitoring in the catchment and our day to day activities include determining consents and licenses and giving advice to all who request it.

A number of actions identified in the Action Plan concerned high levels of metals on various streams throughout the catchment due to the natural geology. Continued monitoring of these sites is part of our routine work and they are not shown in the following tables.



## **The Effect of Abstractions and Water Supply**

Three new issues and actions regarding public water supply are raised in this Annual Review. These replace the old actions under Issue 15. Actions have been brought forward as part of the Drought Management Plan for Colliford Reservoir, to be agreed between the Agency and South West Water (SWW). We aim to manage water resources to achieve the right balance between the needs of the environment and those of the abstractors. The Water Resources Development Strategy for the region : 'Tomorrow's Water' sets out the approach we will take prior to, and when faced with, water resources development in the future. Our Strategy follows the principles of sustainable development with proper safeguards for the environment.

Colliford and Siblyback reservoirs are used to store water for public supply to large areas of Cornwall. Water is released from the reservoirs for abstraction downstream at Restormel and Trekeivesteps on the River Fowey. The management of these reservoirs and other abstractions has an impact on the natural water environment. These impacts can be minimised by successful implementation of Operating Agreements. A review of the Colliford Reservoir Operating Agreement is underway. The new Operating Agreement will be in place during the first half of 1997.

Public water supply abstractions account for the largest consumptive use of water by volume in the catchment. The following table highlights issues and actions which address the need to meet future demand. There is not likely to be a shortfall in available resources, even given a moderate increase in demand, until after 2014. This shortfall should not occur any sooner providing demand is managed, SWW operate their sources efficiently and they reduce leakage to economic levels.

The catchment currently has a surplus of licensed resources and the 1995 drought has not altered our view that this is still the case. However the drought did identify the need for capital investment by SWW to maximise existing resources; for instance, by improving the distribution system and reducing the level of leakage in certain areas. Opportunities for improved conjunctive use are also being investigated which together would reduce the need for environmentally damaging Drought Orders during similar conditions as experienced in 1995.

### **Restormel Fishcounter**

When the Action Plan was published, it was identified that the fishcounter on the River Fowey at Restormel was not calibrated. This meant that, although the counter was counting fish movements, it was not possible to estimate proportions of salmon & sea trout. At the time, no resources were available to carry out this vital work. However, funds are now available. Therefore, the equipment is now being provided and a separate bid is being made to allow a member of staff to be retained during 1997/8 to carry out the validation work.

It is perceived by anglers and netmen that salmon stocks have declined in recent years. This has been highlighted in this Annual Review as a new issue. The fishcounter will be an important tool to enable us to monitor stocks.

### **Polperro Flood Alleviation Scheme**

Construction of Polperro Flood Defence Scheme has continued throughout the year. Completion is expected in summer 1997. Area flood defence staff have taken over responsibility for clearance of the weed screens.

### **Future Flood Alleviation Schemes**

Schemes at Fowey, Lerryn and Looe are included within the Medium Term Capital Programme. Before any of these schemes can be progressed each will have to be justifiable on cost/benefit grounds. Additionally the timing of the schemes will be dependant on funding provided via Cornwall County Council and MAFF, therefore the start dates included in the action tables should be considered the earliest opportunity for work to commence. Detailed consultation with affected landowners and interested bodies will take place well in advance of any work taking place.

## **Flood Warning**

Since 1 September 1996, we have undertaken the lead role in passing flood warnings to people who are at risk, so that they can take action to protect themselves and their properties. Flood warnings will be issued for areas where there is a known risk of flooding from main rivers.

A leaflet, *Flood Warning Information for the East Cornwall Rivers* is now available from the Agency; the stretches and locations of river or coast for which flood warnings will be issued are listed along with the types of warnings issued.

We issue warnings to the Police, local authorities, and in places directly to those at risk via a recorded telephone message. Flood warnings will also be broadcast by most local radio stations, and information on the general situation will be available on Teletext. Additionally our Floodcall telephone service (0645 88 11 88) provides regular updated information on flood warnings in force across England and Wales. Over the next five years the Agency will be improving the warning service so that more information reaches those who need it.

Flood warning is not an exact science; we use the best information available to predict the possibility of flooding, but no warning system can cover every eventuality. It is the responsibility of those who live in flood prone areas to be aware of any risk and to know what action they should take to protect themselves if flooding occurs.

Warnings are issued for flooding from most major rivers and the sea. There are other types of flooding for which a warning service cannot be provided, for example, road flooding caused by blocked drains.

## **Pollution Prevention**

In partnership with SWW, we are carrying out a risk assessment investigation on the freshwater Fowey Catchment above the water intake at Restormel. Field visits were made in Autumn 1996 to the highest risk sites in the catchment, including industrial premises, sewage treatment works and farms. Cooperation by the owners of the sites has resulted in measures being put into place to reduce risks to the intake and contingency plans have been formulated. We will follow up with a re-assessment in 1997.

The Agency has worked with a developer to design a reedbed for a discharge in the River Fowey floodplain. In addition to its pollution prevention role as a polisher, the reedbed will also become a conservation feature.

## **Biodiversity**

The Agency is the contact point nationally for 12 species and habitats which have been defined by the UK Biodiversity Steering Group. Two of these are known to occur in Cornwall. Action plans will be produced for these species and habitats, and the Agency will be involved in drawing up these plans. More research is required to determine which of these species are present within the catchment, although some data has already been collected. The actions will be incorporated into Action Plans, although many of the actions will be covered by standard Agency duties. We will also be taking an active role in helping maintain and improve other habitats and species for which we are not the contact point.

We are committed to maintaining and improving the biodiversity of the Seaton, Looe and Fowey catchment and will be working collaboratively with other involved groups, eg English Nature, RSPB, Local Planning Authorities and the Cornwall Wildlife Trust.

## **Development**

Through planning legislation the Agency aims to protect and enhance the environment so as to make a positive contribution towards sustainable development. We work closely with local Planning Authorities to seek sympathetic development with the environment. However, in certain situations, such as deficient sewerage and/or sewage treatment services or severe flood risk, the Agency will recommend formal development restraints.

Sustainable development does not mean environmental protection at all costs. It involves finding ways to encourage environmentally compatible economic activity and discouraging or controlling environmentally damaging activities.

### **Improvements to sewerage and sewage treatment works**

Throughout the year SWW have carried out improvements to the infrastructure at various works. Complaints about raw sewage at Looe have been investigated and the pumping station has been upgraded. A major investigation by the Agency of the effects of discharges into the Looe estuaries is underway and will continue through 1997.

### **Waste Management**

Since the publication of the Action Plan the Agency has taken over responsibilities for the enforcement of waste regulation in the UK. Appendix 6.4 gives a brief overview of our work in this area. No waste management issues and actions have been identified in this catchment except licensing and enforcement which is part of our routine work.

### **Integrated Pollution Control (IPC)**

In April 1996 the Agency became the statutory authority in England and Wales for regulating the largest and most complex industrial processes which discharge potentially harmful substances to air, water and land. To do this we use a system known as Integrated Pollution Control (IPC). Appendix 6.1 gives an overview of our responsibilities. No IPC issues and actions have been identified in this catchment area except ongoing routine enforcement of authorisations.

## **5 ACTION PLAN MONITORING REPORT**

The Action Plan is the means by which the vision of the catchment is turned into reality and outlines detailed proposals for resolving the issues identified. The following tables update the progress with each issue identified in the Seaton, Looe and Fowey Catchment Management Plan Action Plan for the period January 1996 to December 1996. The tables also report on five new issues raised since publication of the Final Report.

Issues & Actions	By	Cost	96	97	98	99	00	Fut ure	Progress Year One
<b>HCH (Iindane) at Looe Sewage Treatment Works</b>									
2.1. Set maximum discharge level through a revised discharge consent	Agency, SWW				o				A review of the consent will be undertaken. Investigations work currently taking place in the estuary may highlight other issues that can be resolved by a consent review. We are currently monitoring HCH in the effluent from Looe STW to complement data from the receiving waters.
<b>EC Bathing Water Directive standards exceeded at:</b>									
5.1. Seaton Beach and Downderry Beach. New sewage treatment works to be built at Seaton as part of SWW capital programme.	SWW	not known		o	o				SWW have applied for a consent to discharge seasonally disinfected effluent into the River Seaton. Ultraviolet disinfection is required to protect bathing waters including the river where it crosses the beach. The scheme will be delayed due to problems with the planning application for the sewage treatment works site.
5.2. Millendreath Beach. Review consent at holiday village.	Agency,	<2k	o	o					Improvements have been agreed with the discharger to be completed by the 1997 bathing season. A consent has been issued describing discharge from extended outfall - coming into force 1 May 1997.
5.3. Negotiate extension of outfall at Millendreath Beach with owners.	Owners	not known							
5.4 Investigate bacterial loads in Millendreath Stream.	Agency	5.6k	o	o					An investigation of the bacterial loads in Millendreath Stream has been completed and summarised in a NRA report (Ref. - page 17). Two problem areas were identified in the report and actions carried out. A repeat survey is scheduled to be carried out in 1997 to assess impact of actions.
5.5 East Looe. Upgrade sewage treatment works Investigate other sources	SWW Agency	not known	o o	o o	o				SWW have programmed improvements to Looe STW by 1998. There are other sources of bacteria in the area which may also contribute to failures to meet EC Bathing Water Directive standards. The Agency has started investigations into Combined Sewer Overflows which are possibly contributing to bathing water non-compliance and will continue investigations into other sources in 1997.
5.6: Investigate bacterial loadings in East and West Looe rivers.	Agency	10.5k	o	o					Survey work has concentrated on the estuary. Initial investigations indicated that the East Looe River may be a significant source. Investigations are continuing into 1997, extending further into the freshwater system. See also 5.5.
5.7. Improve sewerage system in Looe.	SWW	not known	o						Pumping station has been upgraded. Action complete -no further reporting.

Issues & Actions	By	Cost	96	97	98	99	00	Future	Progress Year One
<b>EC Bathing Water Directive standards exceeded at: (continued)</b>									
5.8. Readymoney Cove Provide a sewage collection and treatment scheme in Fowey.	SWW	not known	o	o					The scheme infrastructure is now complete. Infiltration problems prevent full treatment (at present there is preliminary treatment only). SWW are attending to the problems. New completion date spring 1997.
<b>Possible eutrophication in the Fowey estuary</b>									
6.1 Investigate trophic status of the estuary 6.1.1 Collect data 6.1.2 Report results	Agency	27k	o						Data collection programme was completed at end of 1996. Following a review of the data investigations are not being taken forward at this stage as the data from the estuary did not fulfill the requirements of Urban Waste Water Treatment Directive sensitive area designation. Further work may be done in future rounds of the UWWTD.
<b>Urban Waste Water Treatment Directive compliance</b>									
39. Improvements to meet the appropriate treatment requirements of the directive have been identified for: Polperro, Bodinnick and Golant STWs and various private discharges into the Fowey and Looe estuaries	Agency SWW Owners	not known						o	Statutory completion date for all schemes is 2005. There are no works programmed for the short term.
<b>Elevated ammonia levels in the Connon Stream</b>									
9.1: Cut new culvert around site.	County Council	500k	o						The new culvert provides a long term solution to the problem of tip leachate entering the culverted stream. Action complete - no further reporting.
<b>Organic enrichment of the Bedellva Stream</b>									
11.1 Monitoring to ensure that improvement to water quality is achieved and sustained.	Agency Owners	2k	o						Investigations are completed and actions taken. Bedellva Stream monitoring point has been returned to the monitoring programme. Routine monitoring has shown no further problems. Routine action - no further reporting.
<b>Annex 1A substances in the River Fowey</b>									
7.1 Actions to reduce certain Annex 1A substances may be required	Agency								Nationally significant loads of copper and zinc have been recorded at Restormel. This is due to old mine workings and abandoned mines. No action can be taken to reduce inputs. No further reporting.

Issues & Actions	By	Cost	96	97	98	99	00	Fut ure	Progress Year One
<b>Untreated sewage entering the River Fowey at Lostwithiel</b>									
14.1. Locate source of sewage and rectify cause	Restormel Borough Council	not known	o						Cross-connections have been found and have now been rectified. Action complete -no further reporting.
<b>The Influence of reservoirs on the Fowey system</b>									
15.1, 15.3 Review relevent data on the impact of reservoirs and additional abstraction requirements.	Agency								see new Water Resources actions
15.2 Fishery survey of the Fowey system	Agency	10k		o					Programmed for 1997.
<b>Lack of knowledge of wildlife flow requirements</b>									
16.1 Consider R&D results when available and apply as appropriate.	Agency	not known							The R&D report concludes that further work needs to be done before recommendations can be put into practice.
<b>NEW ISSUE: Management and Operation of public water supply within the Colliford Strategic Supply Area</b>									
Model the Colliford Strategic Supply Area	Agency, SWW	20k	o	o	o				Brought forward as a requirement of the Drought Management Plan.
Review and revise accordingly the Colliford Reservoir Operating Agreement	Agency, SWW	10k	o	o					
<b>NEW ISSUE: Review of Regional Water Resources Strategy</b>									
.1 Agree and audit the methods and assumptions used in the third periodic review of SWW's Asset Management Plan (AMP). .2 Revise and review the Regional Water Resources Strategy	SWW, Agency	5k	o	o	o			o	The Agency will subsequently comment to OFWAT on the AMP submissions and revise the Regional Water Resources Strategy accordingly.
<b>NEW ISSUE: Current forecast deficits in public water supply</b>									
Manage Demand	SWW, Agency	5k	o	o	o	o	o		Demand management involves a number of options including metering and efficient water use. We encourage metering of all new domestic properties and selective metering of properties where resources are under stress. Results of the above actions will help establish the extent of any lack of resources in Cornwall.

Issues & Actions	By	Cost	96	97	98	99	00	Fut ure	Progress Year One
<b>NEW ISSUE: Current forecast deficits in public water supply (continued)</b>									
Reduce and maintain leakage to economic levels	SWW, Agency	5k	o	o	o	o	o		Before considering any applications for additional public water supplies the Agency expects SWW to set and achieve economic leakage targets. These must be auditable and ultimately allow for the environmental impacts of developing new resources.
<b>Canoeing on the River Fowey</b>									
21.1 Promote access agreement	BCU	n/a	o						Access agreement has been signed and information boards and access steps have been constructed on the River Fowey at Halfway House and Newbridge. Action complete -no further reporting.
<b>Recreational pressure and the need for alternative sites/ access routes</b>									
37.1 Complete NRA water based recreational survey	Agency	1.5k	o						NRA survey done. The results of the survey were inconclusive and it will not be repeated. Action complete -no further reporting.
<b>Understanding and improving the salmonid fishery</b>									
24.1 Develop fishery classification - a national project	Agency	not known	o	o	o				Fishery classification national project still in development stage. Software and hardware are due in Cornwall Area early in 1997. Output for the catchment will be produced following programmed survey, see 15.2.
24.2 Set target level for fish populations	Agency	not known			o				Seaton, Looe and Fowey catchments will be classified when routine programme sites on these catchments are completed in 1997.
24.3 Annual gravel cleaning where siltation is limiting spawning in Draynes Valley	Agency, fishery interests	7.5k	o						Annual gravel cleaning has continued to be successful and further sites on the Warleggan have been identified. However the work is under threat due to insufficient numbers of volunteers.
24.4 Assess concretion of gravels in Connon Stream	Agency	2k		o					Assessment in progress.
24.5 Minimise illegal exploitation of fish	Agency	Core Work	o	o	o	o	o		Ongoing high profile and covert intensive patrols were carried out throughout the catchment and coast. Six nets were seized in 1996 as a result of targeted patrols (all of the nets were in excess of 500 metres in length). All offenders caught were successfully prosecuted.
24.6 Validate the fish counter at Restormel on the River Fowey	Agency	59k		o					Funding now approved. Equipment due for delivery in early 1997. Should be operational by early summer 1997 if manpower bid is successful.

Issues & Actions	By	Cost	96	97	98	99	00	Future	Progress Year One
<b>Establishment of hemlock water dropwort</b>									
25.1 Monitor the spread of hemlock water dropwort and remove it when it occurs on spawning gravels	Agency	n/a	o	o	o	o	o		Clearance work is undertaken in the Draynes Valley annually, particularly targetting likely spawning areas (see 24.3)
<b>Protection of bass nursery areas within the estuaries</b>									
42.1 We will continue to enforce Bass nursery area legislation as part of our ongoing work (see 24.5)	Agency	Core Work	o	o	o	o	o		Action part of 24.5. No individual reporting.
42.3 Consider proposal to designate Looe Estuary as a bass nursery area	MAFF	not known							MAFF proposals to include Looe Estuary. Still no decision from MAFF
<b>NEW ISSUE: Perceived decline in salmon catches in 1995 and 1996.</b>									
Monitor stocks	Agency	n/a		o	o	o	o		The fish counter at Restormel will enable the Agency to carry out this important monitoring. (see 24.6)
<b>Lack of information on the status of riparian habitats throughout the catchment</b>									
26.1 Carry out River Habitat Survey	Agency	1k	o	o					Four sites have been surveyed in 1996: 1 on the Upper Fowey, 2 on the West Looe and 1 on the East Looe as part of the National baseline survey. 4500 sites have been surveyed throughout the country during the past 3 years. The baseline survey will enable sites to be put into a national context. Early indications show geology and altitude are the dominant factors. More sites are planned for survey this year to fill in gaps in the baseline data.
26.2 Aerial photography of the catchment and mapping of land use change.	EC Life Project	not known	o	o					Aerial photography was re-run in 1995. Comparative habitat information is being produced at present by Cornwall Wildlife Trust and details should be available in early-mid 1997.
<b>Protecting and restoring wetlands</b>									
29.1 Identify and map wetlands	EC Life Project	not known		o	o	o	o		Undertaken as part of 26.2
30.1 Identify target species and wetlands for restoration in accordance with UK and European initiatives	CWT other bodies	not known							



Issues & Actions	By	Cost	96	97	98	99	00	Future	Progress Year One
<b>Voluntary Marine Conservation Area off Looe</b>									
38.1 Promote designation and development of management plan	Project Explore	not known	o						Looe VMCA has been designated. The Agency part-funds the production of promotional leaflets.
<b>Production of an estuary management plan for the Fowey Estuary</b>									
40.1 Produce plan	Fowey Harbour Commission	not known	o	o	o				Draft report has been produced for consultation in early 1997. Final Plan to be produced by April 1997. Several sub-reports have been produced as part of the process including a review of available information. The Agency sits on the steering group and has provided information and finance for the plan.
<b>Flooding problems</b>									
18.1 Build scheme at Polperro	Agency	4m	o	o					The main tunnel has now been broken out at the cliff face in Swallow Cove. This is an important step in the completion of this scheme. However, significant work is still outstanding. This includes lining the tunnel and tunneling the side spur tunnel to the Langreek Stream. Completion expected summer 1997.
18.2 .1 Pre-feasibility study of tidal flooding at Fowey	Agency	2.5k	o						Pre-feasibility study completed and report prepared.
18.2.2 Carry out scheme		162k				o	o		Works planned to start 1999/2000
18.3 Build flood alleviation scheme at Hessenford	Caradon DC	not known	o						Works complete. Action complete -no further reporting.
18.4 Tidal flooding at Lerryn Looe Targetted for a study of their long term needs	Agency								o Current proposed start dates for these flood alleviation schemes is 2001/2002
<b>Threat of increased flooding downstream of Liskeard</b>									
19.1 Plan and regulate development	Caradon DC	Core Work	o	o	o	o	o		We advise planning authorities on ways of managing flood risk as part of our ongoing regular work.
19.2 Improvements to bridge at Courtneys Mill to cope with higher flows	Caradon DC	not known							Works to be funded by developers contributions. Timing of works unknown.
<b>Construction of inappropriate structures in the river channel</b>									
22.1 Prepare a guidance policy on the design and placement of croys	Agency	3k		o	o				A review of current legislation and procedures for handling applications has been undertaken. We are looking to produce guidelines in 1997/98.

Issues & Actions	By	Cost	96	97	98	99	00	Future	Progress Year One
<b>Removal of trash dams and trimming of overhanging trees</b>									
23.1 Prepare a guidance policy for best practice	Agency	3k		o	o				Preparation not yet started.
23.2 Removal of serious obstructions	Agency/ landowners	not known	o	o	o	o	o		Identification of obstructions is ongoing. Removal of major trash dam at Ashford Bridge on the River Fowey. Clearance on the West Looe River from Sowdens Bridge to Church Bridge and Draynes Valley on the River Fowey.
<b>The re-development of the Lower Seaton Valley Floodplain</b>									
31.1 Control developments to minimise impact on the water environment	Caradon DC								Caradon District Council have purchased the Seaton Valley with the view to making it into a recreational resource. A planning application has been submitted for paths and other amenity items throughout the valley. The Agency has requested a joint site meeting to discuss details and has commented on the planning brief.
31.2 Restore floodplain and the river corridor	Caradon DC								SWW are proposing to restore the floodplain and enhance wetlands as part of their mitigation proposals against impacts of the proposed sewage treatment works (see Action 5.1)
<b>Coastal defence</b>									
41.1 Prepare Shoreline Management Plan Part I: Scoping study Part II: Detailed study	lead-Kerrier DC	not known	o	o	o				The plan covers the area from Rame Head to the Lizard. The scoping study has been prepared by Halcrow Consulting Engineers. All consortium members are currently assessing the content. Part 2 of the detailed study will commence in 1997/98.
<b>NEW ISSUE: Need to protect and enhance the biodiversity of the catchment</b>									
Draw up and implement Biodiversity Action Plans. Encourage and cooperate with the setting of targets for key wetland habitats and species based on the recommendation of the UK Biodiversity Action Plan.	Agency, EN, CWT, RSPB, Others	not known		o	o	o	o	o	The Cornwall local Biodiversity Initiative, being drawn together at the moment by a number of partners will, in conjunction with the 'Life' project, enable us to set targets for the protection and restoration of species and habitats in a structured, cost-effective way. This is likely to be started in summer 1997
Protection of key species such as otters.	Agency, Others	Core work							We have constructed 2 otter crossing points on the A30 with fencing in partnership with BTCV and Highways Agency.

## 6 APPENDICES

### 6.1 Integrated Pollution Control

The Agency is the statutory authority in England and Wales for regulating the largest and most complex industrial processes which discharge potentially harmful substances to air, water and land. To do this we use a system known as *Integrated Pollution Control (IPC)*.

Two lists of processes have been prescribed by regulations made under the Environmental Protection Act (1990)(Part I): Part A processes are controlled under IPC by the Agency, and operators of these controlled processes are required to have an authorisation. Authorisations also cover plant design and operation. The Agency is required to ensure that the *best available techniques not entailing excessive cost (BATNEEC)* are used to prevent release of particular substances into the environment or where not practicable to minimise their release and render them harmless. Where a process is likely to involve releases into more than one medium, we ensure that the BATNEEC principle is used to ensure that the *best practicable environmental option (BPEO)* is adopted. Consideration of BATNEEC and BPEO are, primarily, site specific.

Part B processes are controlled at a local level under a system of Local Authority Air Pollution Control (LAAPC).

Under the Water Industry Act 1991, referrals of special category effluent for discharge to sewer from processes which are not subject to IPC are managed by the Agency on behalf of the Secretary of State for the Environment.

There is one Part A processes in the catchment, Fowey Harbour Commissioners Ship Repair Yard. An Authorisation has been issued by the Agency for operations relating to the removal and application of both organotin and non-organotin antifouling coatings.

### 6.2 Air Quality

Air quality is an indicator of environmental quality; poor air quality can damage flora and fauna and buildings, and have significant effects on soils and water. Some pollutants, such as acidic gases, can also cause serious problems for those with asthma, bronchitis and other respiratory diseases.

Air pollution may be in the form of gas or particulate matter with its dispersion and dilution depending on climatic conditions. Its impact may be local, especially with regard to particulate matter which will often settle on nearby land or water, or may be global, for example, some refrigerant gases depleting the upper ozone layer, or affecting concentrations of greenhouse gases such as carbon dioxide.

The Agency will need to work closely with others if improvements are to be achieved. This is particularly important with regard to local air quality where the Agency is only one of a number of regulatory bodies, with a role in helping to achieve the governments air quality strategy.

The work of the Agency also involves authorising and regulating emissions to air from certain prescribed processes (Part A processes) under Part I of the Environmental Protection Act (1990), and regulating landfill sites and in particular landfill gas. This gas is principally a mixture of methane and carbon dioxide.

Under Part 4 of the Environment Act 1995, the Government is required to publish a national strategy for air quality including :

- *a framework of standards and objectives for the pollutants of most concern*
- *a timetable for achieving objectives*
- *the steps the Government is taking and the measures it expects others to take to see that objectives are met*

The strategy was published for consultation in the summer of 1996. The Agency will work closely with local authorities to help achieve the objectives of the National Air Quality Strategy.

In due course, air quality standards may be prescribed in regulations made by the Government and obligations placed on local authorities regarding the establishment and operation of local air quality management areas. Local authorities will have to carry out periodic reviews of air quality in their areas. Where standards are not being met or are not likely to be met an air quality management area should be declared, known as a *Designated Area*, and an action plan produced to improve air quality.

## **Cornwall Air Quality Forum**

The Cornwall Air Quality Forum has been formed as one of 14 pilot study areas nationwide. It is lead by Carick District Council and has representation from all local authorities in the county and the Agency. The Forum has been funded by the government to

- review and assess government guidance on air quality strategy, its appropriateness, requirements and applicability. They intend to do this through producing a strategy
- carry out assessment of monitoring techniques for PM10s (dust) at a china clay quarry site.

A contract has been let to complete this work by September 1997.

## **6.3 Radioactive Substances**

The Agency is the principal regulator in England and Wales under the Radioactive Substances Act 1993. This statute is concerned with the storage, use and disposal of radioactive substances, and in particular, the regulation of radioactive waste.

The Agency regulates the accumulation, keeping and use of radioactive materials, and the disposal of radioactive material, including that from licensed nuclear sites. *Certificates of registration* are issued for keeping and using radioactive materials and *certificates of authorisation* for the accumulation and disposal of radioactive waste.

## **6.4 Waste Management**

It is the responsibility of the Agency to enforce the majority of UK waste legislation which governs the management of waste generated from household, commercial or industrial sources. Where this waste is regarded as particularly hazardous it is categorised as *special* waste and becomes the subject of a strict tracking procedure, under the Special Waste Regulations 1996, to ensure that it is disposed of at an appropriate site.

Waste from agricultural premises and wastes arising from mines and quarries is not classed as controlled waste at present and is therefore not the subject of regulation by the Agency. Consideration is currently being given by the DoE into bringing these wastes within the definition of controlled wastes and therefore under the scope of Agency control.

The aquatic environment may be affected by surface water becoming contaminated as it flows over or near a site. Alternatively the ground within the site may become contaminated by the waste management activities and in turn any water percolating through the ground or the waste may pick up contaminants producing leachate.

Biodegradable wastes breaking down under anaerobic conditions will produce landfill gas, which is made up of a combination of methane and carbon dioxide with trace amounts of other organic gases and vapours. In enclosed spaces it may be an asphyxiant and poses an explosive risk. Additionally, because of its methane content it is a strong greenhouse gas.

There is a potential problem from odours or the escape of wastes from waste management sites, for example litter or fumes. A site may also cause nuisance from noise or dust. Local Environmental Health Departments have powers to control this nuisance and we liaise closely with them on these issues.

It is our duty to prevent pollution of the environment, harm to human health or serious detriment to the amenities of the locality from waste management activities. Sites are principally controlled by issuing waste management licences. The licence contains conditions on the construction, maintenance and operation of sites, and stipulate monitoring requirements where we deem it necessary. The environment is protected by appropriate conditions which are agreed internally and circulated to external bodies as a consultation exercise prior to the issue of a licence.

Certain activities are now afforded exemptions from waste management licencing by the regulations. In general they are activities with less potential for pollution, and certain waste storage and recycling processes including the spreading of certain wastes on agricultural land for benefit. Exemptions are only granted if they will not give rise to the risk of pollution.

In the past waste management licences only related to the operational phases of any site and planning permission was the only means by which control could be exercised over closed sites. The introduction of the Waste Management Licencing Regulations (1994) under the Environmental Protection Act (1990) has changed this situation. Licences can now control the monitoring and aftercare of closed sites. Licences cannot be surrendered until the Agency is satisfied that the site does not represent a risk to the environment.

Planning for waste management is undertaken by the :

- *Environment Agency who review current and future waste generation and from this the size and types of management facilities which are required*
- *County Councils and Local Planning Authorities who are required to make provision for sufficient and adequate facilities*

### **Water Quality Reports**

An investigation into the environmental impact on Connon Bridge landfill. NRA, 1994. IU/94/001 .

River Seaton - an investigation to identify likely bacteriological inputs. NRA, 1995.

Millendreath Stream EC Bathing Waters bacterial contamination investigation 1995. NRA, 1996. COR/96/001

Parkway timber treatment plant risk assessment to Restormel river abstraction. EA, 1996. COR/96/007

### **References**

Environment Act 1995, HMSO

Environmental Protection Act 1990, HMSO

Seaton, Looe and Fowey Catchment Management Plan Consultation Report, NRA South-Western Region, December 1994

Seaton, Looe and Fowey Catchment Management Plan Final Report, NRA South Western Region, January 1996

Radioactive Substances Act 1993, HMSO

Tomorrow's Water, Water Resources Development Strategy, NRA South Western Region, April 1995, SW-4/95-1k-B-ANOQ

Waste Management Licencing Regulations 1994, HMSO

Water Industry Act 1991, HMSO