ENVIRONMENT AGENCY

Frome & Piddle

Catchment Management Plan

First Annual Review

February 1997

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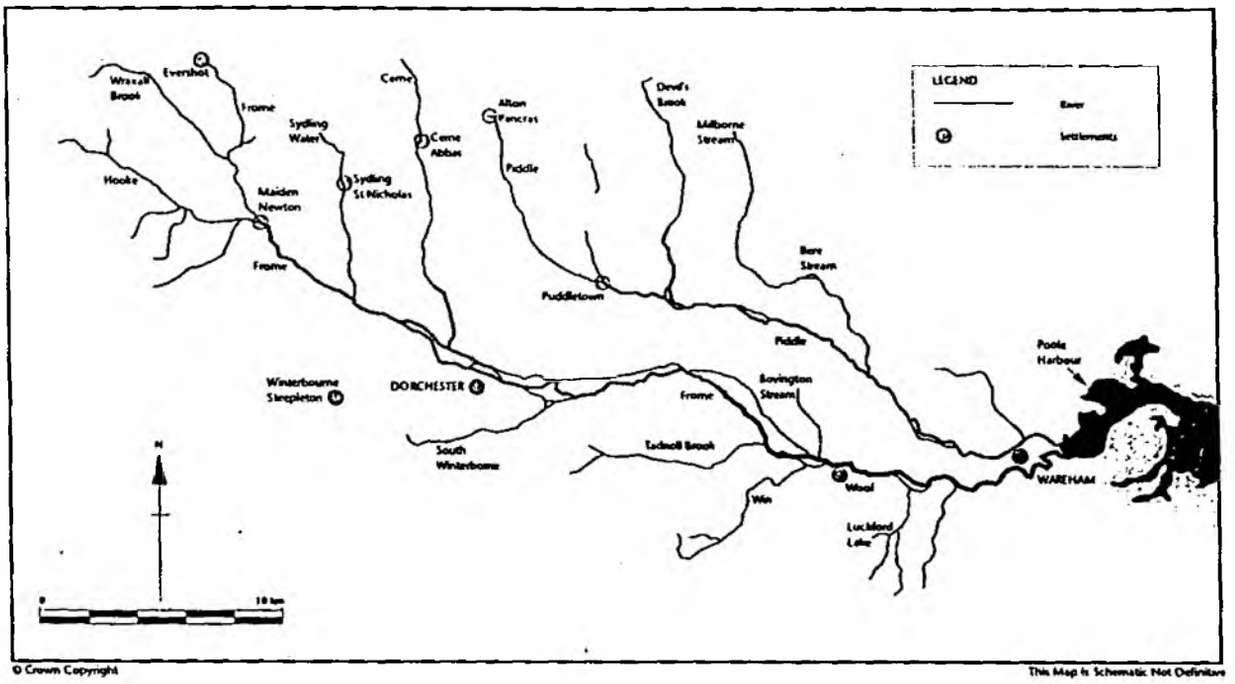
MAP 1: Frome & Piddle Catchment



VISION FOR THE CATCHMENT

The Frome & Piddle is a rural catchment of high amenity and ecological value. The upper part of the catchment lies within the Dorset Area of Outstanding Natural Beauty and is characterised by steep-sided valleys. The rivers change in character as they flow through lowland towards Poole Harbour where they drain into the English Channel. These rivers make an important contribution to the rural economy through tourism, agriculture and recreation.

The high quality water in the aquifer provides a source both for public water supply and for the rivers which support high quality salmonid fisheries. The protection of public health and the natural water environment therefore demands that our management of the catchment will ensure that:

- *the quality of water in aquifers is not compromised*
- *abstractions of water are in balance with the ecological needs of rivers and where flows are not environmentally acceptable then, where justifiable, sustainable solutions must be sought*

The rivers also allow us to disperse treated sewage effluents and we must ensure that using the cleansing capacity of the Frome and Piddle to purify effluents does not damage their considerable ecological, amenity and fishery potential.

In our management of flood defences and land drainage, we will seek to balance the needs of the environment by:

- *protecting people and property from flooding*
- *developing a strategy for agreed floodplain land use management, recognising the need to conserve and enhance the wetland wildlife interest of the catchment*

The realisation of this vision will involve the commitment of all who have an interest in the water environment, and we recognise the importance of establishing links with local communities and their representatives. It is important that local planning authorities include policies in their local plans which protect and enhance the water environment. We have a commitment to work with all relevant parties to implement the principles of sustainable development.

1. INTRODUCTION

This is the First Annual Review of the Frome & Piddle Action Plan which was published in February 1996. It introduces the Environment Agency, summarises progress made with Actions and introduces several new Actions. Previous publications relating to this catchment contain more background detail, and this Review should be read in conjunction with these publications:

- *Frome & Piddle Catchment Management Plan Consultation Report - March 1995*
- *Frome & Piddle Catchment Management Plan Action Plan - February 1996*

Related information about the lower catchment may also be found in the:

- *Poole Harbour & Purbeck Catchment Management Plan Consultation Report - November 1995*
- *Poole Harbour & Purbeck Catchment Management Plan Action Plan - March 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 openly 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 Frome & Piddle CMP. Issues relating to Integrated Pollution Control (IPC), Radioactive Substances (RAS), waste management and air quality will only be incorporated if necessary. Appendices 6.1 - 6.4 give a brief overview of our responsibilities in these areas.

The Environment Agency has now taken over any actions previously attributed to the NRA.

New plans published after 1 April 1996 will be known as *Local Environment Agency Plans* (LEAPs) and these will take account of all our 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 Frome & Piddle CMP Action Plan in February 1996.

3. OVERVIEW OF THE CATCHMENT

The Frome rises on the North Dorset Downs near Evershot, and flows south to be joined near Cattistock by the Wraxall Brook, and at Maiden Newton by the Hooke. Two small streams, the Sydling Water and the Cerne, also join the Frome upstream of Dorchester. Below Dorchester, the Win, South Winterborne and Tadnoll Brook enter from the south, while the Frome itself meanders in an easterly direction to Poole Harbour.

The Piddle rises at four major springs near Alton Pancras, initially flowing south before turning east at Puddletown towards Poole Harbour. The Devil's Brook and Cheselbourne flow from the north and join the Piddle east of Puddletown. The Bere Stream flows south through Milborne St. Andrew and Bere Regis to join the Piddle at Warren.

In the upper reaches, the rivers are dependant on springs and groundwater levels for their flows. Many are winterbournes, where the stream ceases to flow during the summer, or perched, where the flow goes underground for part of its length.

The middle and lower reaches of both rivers have a braided network of channels; some are flood relief channels and others natural, but many are relics of historic water meadow systems. Most of these systems are now abandoned, but their locations are easily seen; some have been partially restored, on the Frome at Maiden Newton and on the Devil's Brook.

4. SUMMARY OF PROGRESS

4.1 Water Resources

4.1.1 Progress with River Piddle Low Flow Study

Considerable progress has been made since the Action Plan was published. The investigations into the impacts of abstraction from the three boreholes (Alton Pancras, Briantspuddle and Dewlish) in the Piddle catchment concluded that these were resulting in an unacceptable loss of flow to the river (Action 6.6). The investigations also showed that this reduction in flow, particularly at times of low river flow, was having a detrimental effect on the ecology and fisheries of the river. To redress the balance, new acceptable target flow regimes have been developed, and progress in implementing these is now under way.

Wessex Water Services (WWS) have agreed to reduce abstraction at Alton Pancras pumping station from the current licensed maximum of 4.5Mld to a new maximum of 1.5Mld during periods of low flow in the river to meet defined target flows. Up to 9Mld of the current licensed abstraction quantity from Briantspuddle borehole will be used by WWS for stream support rather than public water supply. This will occur as flows in the river fall to defined trigger flows. An additional 1Mld will be pumped into the Devil's Brook from the Dewlish borehole to increase the flow in Dewlish Village.

4.2 Flood Defence

4.2.1 Flood Warning

Since 1 September 1996 we have taken over the lead role from the Police in passing flood warnings to people who are at risk, so that they can take action to protect themselves and their properties. Where there is a known risk that flooding could occur from the main rivers or the sea, flood warnings will be issued for the area affected.

A leaflet, *Flood Warning for the West Dorset Rivers and Coast* is now available from our offices. The stretches and locations of river or coast for which flood warnings will be issued are listed, along with the types of warnings issued.

These warnings are issued 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 regularly updated information on flood warnings in force across England and Wales.

A record of current dissemination arrangements for the Frome & Piddle Catchment is now contained in the Dorset Flood Warning Plans, a copy of which is held at our Area and Regional offices.

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 or groundwater.

Over the next five years we will be improving the warning service so that more information reaches those who need it.

4.3 Conservation

4.3.1 Biodiversity

We are the contact point for six species (otter, water vole, white-clawed crayfish, southern damselfly, the pea mussel *Pisidium tenuilineatum*, and the depressed river *mussel Pseudanodonta complanata*), and one habitat (chalk rivers) in our Area, which have been defined by the UK Biodiversity Steering Group. Action Plans will be produced for these species and habitats, and we will be involved in drawing up these Plans.

More research is required to determine which of these species are present within the Frome & Piddle Catchment, although some data have already been collected. Information on the current distribution of native crayfish has been collated, and a leaflet is being produced identifying their distribution and the best conservation practice (Action 22.8).

The actions will be incorporated into LEAPs, although many will be covered by our standard 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 Frome & Piddle Catchment, and will be working collaboratively with other involved groups, e.g. English Nature, RSPB, Local Planning Authorities and the Dorset Wildlife Trust.

4.4 Fisheries

The causes of the current low salmon catches in the Frome and Piddle and other chalk streams are now being addressed by a project being carried out in part by the Institute of Freshwater Ecology at East Stoke (Action 16.6). Monitoring of the numbers of migrating fish in the Frome, both adults and smolt, is also taking place.

A Salmon Action Plan will be produced for the Frome in 1997 (Action 16.7) and any byelaw changes that are determined to be necessary will be derived at that time.

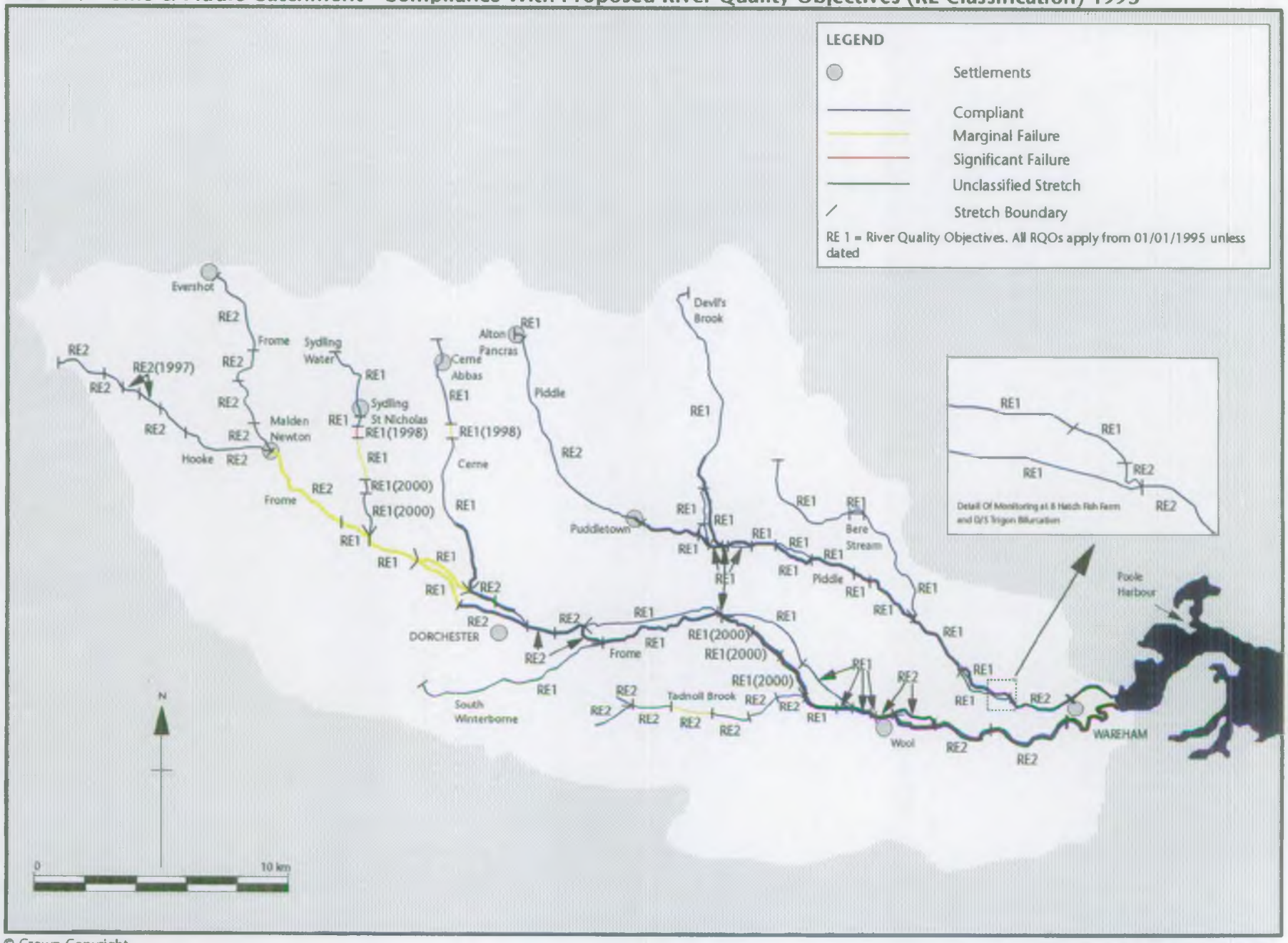
Owners and fishery interests have become involved in gravel cleaning prior to spawning using equipment provided by the Agency (Action 16.5). We are also conducting an investigation of the sources of silt on the Tadnoll with a view to their control, and a further report will be produced in 1997 (Action 24.3).

We have also had significant impact in the derivation of a proposed flow regime for the middle Piddle, and will be involved in its evaluation.

4.5 Water Quality

We monitor 208.1km in the Frome & Piddle catchment. In 1995, over 97% of the monitored length was of *good* or *very good* chemical quality, less than 2% *fairly good*, and less than 1% *poor*. In biological terms, 97% was of *good* or *very good* quality, and 3% *fairly good*. Between 1990 and 1995, there was an overall improvement in chemical quality in over 34% of the monitored river length, while biological water quality improved in nearly 45%.

MAP 2 : Frome & Piddle Catchment - Compliance With Proposed River Quality Objectives (RE Classification) 1995



Frome & Piddle CMP 1st Annual Review - Feb 1997

This Map Is Schematic Not Definitive
The Environment Agency South West Region

4.5.1 River Quality Objectives

During 1995-96, we reviewed the river quality objectives (RQOs) published in the Action Plan. Map 2 shows the proposed RQOs and compliance with them. Where stretches are non-compliant we are currently assessing the reason and the action required to ensure compliance.

4.5.2 Tolpuddle/Puddletown Bypass

Construction of the Tolpuddle/Puddletown bypass has recently commenced, and the route crosses important fisheries and a major aquifer close to water supply sources. The work is programmed to continue until 1999.

We recognise the importance of working with the consortium building the road to prevent pollution during the construction and after completion. There is also potential to enhance the conservation interest of the area through the construction process.

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 Frome & Piddle CMP Action Plan for the period February 1996 to January 1997. The tables also report on several new Actions identified since publication of the Action Plan.

	Issues and Actions	By	Cost	95	96	97	98	99	Progress Year One
1.	**Trophic status of the Frome is uncertain**								
1.1	Collect and analyse chemical and biological data to investigate potential nomination of the Frome d/s Dorchester STW as a sensitive water under UWWTD. *Successful designation would provide the legal requirement to install nutrient removal facilities at Dorchester STW*	Agency	£5.3k	•	•	•			We have undertaken extensive collection and analysis of chemical & biological data (1994-96). The Agency is considering putting forward a case for designation of the Frome as a *Sensitive Area (Eutrophication)* to the DoE
1.2	Promote land use practices which reduce runoff of nutrients e.g. buffer zones	See 24.5							
2.	**Control of cress farm discharges**								
2.1	Issue discharge consents for all cress farm discharges by March 1996	Agency	£3k	•					*Action completed. No further reporting in future plans required*
2.2	Install settlement facilities where necessary	Growers		→					
2.3	Joint R&D project to produce watercress strains with improved resistance to crook root fungus and water cress yellow spot virus in order to reduce the need to treat with zinc	Agency Cress Growers Assoc.	£24k	•	•	•			This project is due to report in March 1997. We are hoping to start a new research project on codes of good cress growing practice, methods of zinc application, or possibly genetic engineering of cress, depending on the outcome of the existing project and the availability of funding
2.4	Monitor impact of discharges where there is use of off-label pesticides and zinc	Agency	£25k	•	•	•	•	•	Biological and chemical monitoring of the discharges is being undertaken
2.5	Review discharge consents if there is adverse impact from the use of off-label pesticides and zinc	Agency						•	Awaiting results of 2.4
2.6	NEW ACTION A review of all cress farms may take place in the near future to take account of spring flows and storage release in the maximum rate of discharge from cress farms	Agency Cress Growers Assoc				•			We are currently holding meetings with the Cress Growers Assoc. to come to an adequate resolution to the situation

	Issues and Actions	By	Cost	95	96	97	98	99	Progress Year One
3.	**Significant non-compliance with River Quality Objective targets**								
	Investigate cause of non-compliance on the following reaches:	Agency	£25k	→					
3.1	Frome d/s Golden Springs Fish Farm to Moreton, Moreton to confluence with Tadnoll. *These were marginal failures in 1993 and significant failures in 1994*								Investigations were carried out but no specific cause was discovered; the stretch was compliant in 1995
3.2	Hooke from Hooke to Higher Kingcombe, Higher Kingcombe to Kingcombe. *These were significant failures in 1993 and compliant in 1994. Changes in sampling sites mean that these stretches will be reassessed using 1995 data*								Investigations were carried out but no specific cause was discovered; the stretch was compliant in 1995, but further investigations will be carried out in 1997
3.3	Sydling d/s Huish Fish Farm to d/s Sydling STW, Cerne u/s Nether Cerne Fish Farm to d/s Nether Cerne Fish Farm. *These sampling sites will be relocated to ensure that they are representative*								The Sydling reach was a significant failure in 1995, and the Cerne a marginal failure. The sampling sites were not relocated during 1995, but new sites have now been set up
4.	**Marginal non-compliance with River Quality Objective targets.** *The investigation of EC Directive failures and significant RQO failures are afforded a higher priority than marginal failures*								
	Investigate cause of non-compliance on the following reaches:	Agency	£25k	→					
4.1	Frome from Frampton to confluence with Sydling, confluence with Sydling to u/s Dorchester bifurcation, u/s Dorchester bifurcation to confluence with Cerne, u/s Dorchester bifurcation to Poundbury. *These were identified as compliant in 1993 and marginal failures in 1994*								These were marginal failures again in 1995; investigations are continuing but we have not yet identified a specific cause for the failure
4.2	Frome d/s Pallington to d/s Golden Springs Fish Farm. *This was identified as a marginal failure in 1993, but a new site in 1994 showed it to be compliant*								Investigations were carried out but no specific cause was discovered; the stretch was compliant in 1995
4.3	Tadnoll Ryclose to Moigne Combe. *This was identified as compliant in 1993 and a marginal failure in 1994. The failure is caused by zinc which is thought to have originated from the cress beds; this will be consented by 1996*								Marginal failure 1995. A consent was issued in March 1996, and monitoring will continue
4.4	NEW ACTION Marginal failure in the Sydling from d/s Sydling STW to Lower Magiston				•	•			This reach was not classified separately in 1994. We will investigate the causes
5.	**Sewerage in the Piddle Valley and elsewhere**								
5.1	Improve sewerage system in the Piddle valley to reduce infiltration. *These have been given high priority under AMP2 programme, but top priority schemes are to be completed first so there is no agreed timescale, but the work is likely to go ahead*	WWS Agency							WWS have identified options and discussions are continuing to determine priorities. No funding has been identified at present

	Issues and Actions	By	Cost	95	96	97	98	99	Progress Year One
6.	**Public water supply abstraction on the Piddle**								
6.1	Publish a report on the identified impacts and preferred solutions for the upper and middle Piddle by 31 March 1996	Agency	£3k	•					*Action completed. No further reporting in future plans required*
6.2	Recommend flow for fisheries using the PHABSIM methodology	Agency	£10k	•					*Action completed in 1995. No further reporting in future plans required*
6.3	Negotiate temporary and permanent stream augmentation at Dewlish and at Briantspuddle from existing boreholes	Agency WWS		•	•	•			Permanent stream support arrangements agreed with WWS, construction and draft operating rules to be completed by 1997. Discussions ongoing regarding Dewlish site
6.4	Cooperate with WWS in trials for augmentation of the upper Piddle as an immediate partial mitigation measure	WWS Agency		•	•	•			Ongoing. Successful trials undertaken in Summer 1996, further trials programmed for summer 1997
6.5	Negotiate the full terms of an unambiguous strategy for remedy of low flows to satisfy reasonable needs	Agency WWS		•	•				*Action completed. No further reporting in future plans required*
6.6	NEW ACTION Design and construct gauging stations at Dewlish Village and Alton Pancras	Agency	£70k		•	•	•		This is required to monitor the target flow regimes agreed with WWS
6.7	NEW ACTION Collect appropriate data to enable an impact assessment of proposals for remedying low flows	Agency	£3k		•	•			A contract has been let for an ecological survey of the river corridor & associated wetlands, and an historic desk study of wetland birds
6.8	NEW ACTION Collect information to establish whether important habitats, including wetland SSSIs, are at risk	Agency EN				•	•		We have agreed to look at a site at Frome St Quinton in detail with EN
7.	**Funding of low flow alleviation**								
7.1	Assess the costs and benefits of alleviating the impacts of abstractions by 31 September 1996	Agency	£90k	•	•				*Action completed. No further reporting in future plans required*
7.2	Establish funding mechanisms for low flow remedies and timing of permanent schemes	Agency			•	•			Ongoing
8.	**Manage future development of water resources by implementing South Western Region Water Resources Development Strategy (RWRDS)**								
8.1	Seek information to enable us to effectively review and update the RWRDS	Agency		•	•	•			Information collection and analysis ongoing
8.2	Publish a revised RWRDS document by May 1998	Agency	£20k				•	•	Ongoing but to a revised timetable of 1999 in conformity with WWS business plans
8.3	Implement local licensing policy. *This was 6.3 in the Consultation Report*	Agency		→					This work is now regarded as a routine commitment. *No further reporting in future plans required*
9.	**Impact of diurnal flow fluctuations on the Hooke**								
9.1	Investigate cause	Agency	£1k		•	•			Investigations into the frequency of the fluctuations have commenced. Further investigations scheduled for January
9.2	Assess results and decide course of action	Agency				•			Awaiting outcome of 9.1
10.	**Improved identification of flood risk areas**								
10.1	Carry out S105 surveys in 1996-97. Further detailed surveys are proposed for 1999-00	Agency LPAs	£30k £20k		•			•	Ongoing. Meeting held with LPA officers. Forming plans for 1997-00
11.	**The management of assets and the future control of water levels**								
11.1	Survey of assets. *This was completed in 1995*	Agency	£40k	•					Operational procedures now being compiled
12.	**Review the efficiency and effectiveness of Flood Defence maintenance operations**								
12.1	Apply Flood Defence Management System to catchment. *National initiative; local costs are not available*	Agency		→					Hardware being purchased for 1997 implementation
12.2	Revise Standards of Service methodology	Agency	£3k	•	•	•	•		Flood data now being collected

	Issues and Actions	By	Cost	95	96	97	98	99	Progress Year One
13.	**Investigate, justify and, if appropriate, implement Flood Defence schemes**								
13.1	Liaise with planning authorities	Agency LPAs MAFF		→					Liaison is carried out through the Avon & Dorset Local Flood Defence Committee. This work is now regarded as a routine commitment. *No further reporting in future plans required*
13.2	Maiden Newton Flood Alleviation Scheme: Appraisal in 1996-97, construction in 1997-98. *Pre-feasibility study completed, and project confirmed in Capital Programme*	Agency MAFF	£185k			•	•	•	Delayed due to a reduction in MAFF funds. Construction now due 1998-99
13.3	Investigate the justification for the proposed Swineham tidal flood embankments FAS. *Post 2000. This scheme would cost £257K and is currently low priority*	Agency MAFF							Linked to Water Level Management Plan. See Issue 26
13.4	Investigate the justification for the proposed Arne tidal flood embankments FAS. *Post 2000. This scheme would cost £161K and is currently low priority*	Agency MAFF							Linked to Water Level Management Plan. See Issue 26
14.	**Ensure the adequate provision of flood warning in the catchment.** *Part of a Regional project to improve flood warning. The total cost of the project is approximately £150K*								
14.1	Review flood risk areas in the catchment	Agency		•	•				Flood Warning Dissemination Project implemented successfully from 1 September 1996. *Action completed. No further reporting in future plans required*
14.2	Review existing provisions of flood warning with respect to Emergency Response Levels of Service	Agency	£5k	•	•				
14.3	Recommend improvements and produce a costed programme of future work	Agency		•	•				
15.	**The impact of an SSSI designation on Agency river operations**								
15.1	Agree operational and maintenance plan if the SSSI designation is extended beyond existing sites on the Frome. *We have signed a Memorandum of Understanding with EN regarding the protection and management of rivers notified as SSSIs which will result in on agreed conservation strategy and consenting protocol*	Agency EN	£5k	•	•	•			The conservation strategy and consenting protocol must be produced in 1997 before notification of the river proceeds. National guidance is awaited
16.	**Management of salmon stocks**								
16.1	Scoping study for a proposed National R&D Project to study the decline in salmon stocks and catches in chalk streams	Agency	£25k	•	•	•			Scoping study took place in 1996 followed by Phase 2 research in 1996-97
16.2	National studies on the decline in large spring-running fish. *Initial study on the genetic aspects of spring-running fish has been completed*	Agency							Further studies about to commence
16.3	Review the revised salmon angling byelaws	Agency	£0.5k			•			Will now take place as part of the Salmon Action Plan in 1997
16.4	Use of PHABSIM to determine flow requirements and demonstrate impact of low flows. *Work carried out at Briantspuddle*	Agency	£10k	•					*Action completed. No further reporting in future plans required*
16.5	Restore and protect spawning and nursery areas. *When appropriate, gravel raking takes place following river maintenance for flood defence. Further work may be required if stocks do not recover*	Agency	£2.5k pa	→					Increasing amount of gravel cleaning being carried out by owners. See also 24.3
16.6	Monitor migrating smolts on the Frome. *A similar sum is being contributed to this project by IFE*	Agency IFE	£33k	•	•	•			Ongoing - smolt run has been assessed in 1995 and 1996. Further funding has been provided for IFE to continue this project in 1997
16.7	Prepare a Salmon Action Plan for each river. *Salmon Action Plans will be prepared every 5 years*	Agency				•	•		Frome SAP scheduled for 1997, Piddle SAP for 1998
16.8	Undertake genetic studies to characterise Frome and Piddle salmon stocks	Agency	£2k	•					*Completed in 1995. No further reporting in future plans required*
16.9	Monitor juvenile salmonid stocks. *Done annually 1988-95*	Agency	£7k pa	→					The Frome has been changed to once every 3 years due to cuts in funding; the Piddle will continue annually because of its ALF status

	Issues and Actions	By	Cost	95	96	97	98	99	Progress Year One
17.	**Management of the brown trout fishery**								
17.1	Flow management policies should attempt to meet the proven requirements of wild trout populations	See 6.2 and 16.4							Flow management should commence at Briantspuddle in 1997 (see 6.3)
17.2	Promote local brown trout habitat improvement. *Use of measures like fencing to keep cattle out, and small in-channel structures such as groynes and weirs*	GCT WWS Owners		→					Being promoted and evaluated by GCT
17.3	Restore and protect spawning and nursery areas. *Extensive gravel cleaning was carried out on the Piddle in 1993*	See 16.5							No work on Piddle since 1993. Some raking done on Frome as part of FD maintenance. Some done by owners using Agency equipment
17.4	Control the restocking of brown trout through Section 30 Consents. *We will support the use of marked fish and selective cropping, or better still sterile triploid stock, to reduce the risk of genetic dilution*	Owners Agency		→					Ongoing
17.5	Catch and return is being encouraged by Frome, Piddle and West Dorset Fisheries Association	Owners		→					Ongoing
17.6	Assess benefit of pike removal on brown trout populations	GCT WWS		→					Being promoted and evaluated by GCT
17.7	Investigate the impact of cormorants and other fish-eating birds. *This is port of a National R&D Project looking at the impact and control of fish-eating birds*	Agency DoE MAFF	£1M	•	•	•			
17.8	The Agency will support licensed killing only when serious damage to fisheries by cormorants has been established and alternative non-destructive methods of preventing damage have been tried	Owners Agency		→					
17.9	Carry out strategic stock surveys. *This is a regular 5 yearly survey*	Agency	£12k					•	Next survey 1999
18.	**Management of coarse fish stocks**								
18.1	We propose no direct action on this issue at present. *Action to raise water levels or introduce more sympathetic weedcutting is likely to help coarse fish. Their requirements will be considered when a conservation strategy is developed for the proposed SSSI*	See 15.1							
19.	**Assess the scope for improved public access to rivers and associated land for informal recreation**								
19.1	Examine scope for improved access, particularly for disabled and educational use. *Subject to funding*	Agency Owners LPAs	£5k		•	•			There has been no progress on this Action
19.2	Investigate the potential for collaborative projects to improve footpaths, including those at South Quay Wareham and North Walls, Wareham.	Agency Local authorities Owners	£10k ?		•	•			Improvements to the footpath at South Quay are being developed alongside proposed dredging, together with the District, County and Town Councils. Work will be completed during February 1997
19.3	Restoration of water meadows at Maiden Newton	See 26.3							
20.	**The impact of recreational boat use on the tidal Frome**								
20.1	We will continue to monitor water quality in the tidal waters and investigate any pollution problems	Agency		→					This work is now regarded as a routine commitment. *No further reporting in future plans required*
20.2	We will continue to enforce the speed limits set to protect the tidal defences and other river interests	Agency		→					This work is now regarded as a routine commitment. *No further reporting in future plans required*

	Issues and Actions	By	Cost	95	96	97	98	99	Progress Year One
21.	**Improve the conservation status of the catchment**								
21.1	Encourage and cooperate with the setting of standards for wetland habitat and species conservation based on the recommendations of the UK Biodiversity Action Plan and other initiatives. *Agency will be setting interim targets once the UK Plan is published in December 1995*	Agency EN	£1.5k	→					Support to Purbeck LBAP - a pilot project to set local targets for key habitats/species. Draft plans for southern damselfly & medicinal leech. Further work on reedbeds, flood plain grassland & water voles
21.2	Agree objectives and sources of finance for river corridor improvements in discussion with other bodies once targets are set. *This follows from 21.1*	Agency Others		→					
21.3	Jointly agree and produce a consenting protocol and conservation strategy for the Frome proposed SSSI	See 15.1							
21.4	Develop River Habitat Survey to a stage where it can guide our protection and rehabilitation efforts. *The National cost of this project is £224K. The Frome and Piddle are both pilot rivers*	Agency tFE		•	•				The pilot data base is now held at the Area office. Further development of RHS methodology at Regional level has not yet been decided
21.5	Survey aquatic plants around Dorchester STW under UWWTD. *There is concern from EN about the impact of phosphates on the plant community in the river*	See 1.1							Report completed (see Action 1.1). *No further reporting in future plans required*
22.	**Conservation of important species**								
22.1	Investigate rare species in winterbournes, and their vulnerability. *Subject to funding*	Agency					•	•	
22.2	Investigate pesticide levels in eels, the major food source of otters	Agency	£1.2k	•					Report due January 1997. *No further reporting in future plans required*
22.3	Carry out bioassays and post mortems on dead otters. *Contact our Blandford office should a dead otter be found*	Agency		→					A corpse from the Frome was sent for analysis in December 1996
22.4	Increase protection for native crayfish by pursuing a no-go area designation for the Piddle catchment. *The Piddle is probably the only river in South Wessex Area which still has a viable population of native white-clawed crayfish*	Agency			•	•			Action still needed, further survey may be required
22.5	We intend to introduce a Fisheries byelaw to prevent the use of crayfish as live-baits in the Piddle	Agency			•				Practice not occurring in this catchment. *No further reporting in future plans required*
22.6	Collate information on the present distribution of crayfish, and assess the need for future work. *This is a Regional desk study*	Agency	£5k		•			•	The Area input to this Action has been completed. Survey will be repeated in the future
22.7	Investigate the impact of fisheries improvement work on native crayfish	GCT WWS		→					
22.8	NEW ACTION Produce regional leaflet on crayfish	Agency	£2k		•	•			To show current distribution and best practice for conservation of native crayfish
23.	**The protection of features of archaeological interest**								
23.1	Screen Agency works and planning applications for possible impact on known archaeological features	Agency		→					This work is now regarded as a routine commitment. *No further reporting in future plans required*
23.2	Investigate the possibility of a scoping project to identify opportunities for increasing our knowledge of archaeology within river valleys. *Subject to funding; collaborative work with local authorities is envisaged*	Agency	£3k ?		•	•			Initial discussions have taken place. Funding for a pilot project on the Frome is being investigated

Issues and Actions	By	Cost	95	96	97	98	99	Progress Year One
24. The increased silt load in the rivers								
24.1 Piddle Valley Soil Erosion Project. *To establish the cause of soil erosion and produce a plan to reduce soil runoff*	Agency Owners Tenants	£4k	→					A consultant has identified potential problems on a number of farms. We shall be meeting with up to 8 farmers and negotiating with them for voluntary measures to minimise the effect of solid runoff from locations identified
24.2 Proposed National R&D Project on decline of salmon stocks in chalk streams. *This will consider the role of siltation in the control of salmon populations*	See 16.1							
24.3 Conduct a survey to investigate the origin and quantities of silt inputs to the Tadnoll. *Annual surveys have identified a deterioration in salmon spawning conditions*	Agency	£1k		•				A low-flow survey was conducted in summer 1996 and reported. A further high-flow visit will be made when conditions are appropriate
24.4 Where siltation causes a problem in terms of channel capacity and hence water levels, we would carry out an appraisal for appropriate works which could include dredging	Agency							The North Channel of the Frome has been surveyed and dredging carried out where required
24.5 Promote the establishment of buffer zones and other best-management practices to reduce silt and nutrient inputs. *R&D projects are in hand that cover a range of land use issues. Outcomes will include: best management practice advice, promoting awareness, and developing a strategy to influence land management*	Agency Owners Tenants	£25k	→					The National R&D project on Best Land Management Practices has now finished and we are currently looking at ways to implement the findings. Action 24.1 has been one local outcome.
24.6 Monitor discharges at Bovington over winter 1995-96 to assess the effect of MoD improvements. *This will be the first winter since MoD have implemented new precautions on Bovington tank ranges - reseeding, restricted areas and all-weather surfaces*	Agency	£5k	•					The continuous monitoring project was completed and failed to identify any excessive discharges from the ranges. Routine sampling will continue. *No further reporting in future plans required*
24.7 NEW ACTION We have developed techniques for mapping soil erosion vulnerability on the upper Avon, and will apply them to produce a map for the upper Piddle as soon as resources permit	Agency							
25. Review the objectives, efficiency and effectiveness of weedcutting operations								
25.1 Review the Weedcutting Code of Practice and Policy (see also 15.1). *Incorporated in SSSI consultations. Biennial meeting with fishery and farming representatives to review weedcutting strategy*	Agency Owners	£4k		•		•		The biennial meeting will take place in February 1997
25.2 Remove weed from moorings on the Frome when necessary and appropriate	Agency		•	•	•	•	•	This work is now regarded as a routine commitment. *No further reporting in future plans required*
26. The management of water levels in the catchment								
26.1 Draw up a Water Level Management Plan for the tidal waters	Agency EN	£9k	•	•	•	•		Public consultation is currently taking place on a Draft Plan. Progress has been made on the full plan
26.2 Discuss a Water Level Management Plan for non-tidal waters with EN. *In conjunction with the Memorandum of Understanding, see 15.1*	Agency EN		•	•	•	•		Postponed until 1997-98
26.3 A collaborative project has been proposed, subject to funding, to assist with the restoration of the water meadow system at Maiden Newton. *If the Maiden Newton FAS goes ahead there may be some benefit from proposed restoration of control structures*	Agency DCC	£12k		•	•			The FAS has not identified any scope for work in the water meadows. We will part-fund an invertebrate survey and fully fund a levels survey of the water meadow area

Issues and Actions	By	Cost	95	96	97	98	99	Progress Year One
27. Impact of development, including road schemes and minerals and waste developments								
27.1 Incorporate flood protection measures in all new developments, as necessary	Agency DoT LPAs Developers		→					This work is now regarded as a routine commitment. *No further reporting in future plans required*
27.2 Incorporate pollution control measures in all new developments, as necessary								
27.3 Ensure the wildlife and landscape of river corridors are protected and enhanced in all new developments, as necessary								
27.4 Implement Agency Policy and Practice for the Protection of Groundwater	Agency		→					

6. APPENDICES

6.1 Integrated Pollution Control

We are 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 us, and operators of these controlled processes are required to have an authorisation. Authorisations also cover plant design and operation. We are 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 us on behalf of the Secretary of State for the Environment.

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.

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

Our work 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. We 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.

6.3 Radioactive Substances

We are 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.

We regulate 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 our responsibility to enforce the majority of UK waste legislation which governs the management of waste generated from household, commercial or industrial sources to ensure protection of the environment, prevent harm to human health and detriment to local amenities. This is done by controlling the transport, storage, treatment and disposal of waste.

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

Sites are principally controlled by issuing waste management licences. The licence contains conditions on the construction, maintenance and operation of sites, and stipulates 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 licensing 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 Licensing 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 we are satisfied that the site does not represent a risk to the environment.

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 a mixture 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.

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*

6.5 River Quality Objectives

We manage water quality by setting River Quality Objectives (RQOs) which are intended to protect current water quality and future use; and we use them as a basis for setting consents for new discharges and planning future water quality improvements. We have proposed our RQOs using a classification scheme known as River Ecosystem (RE) which was introduced by the National Rivers Authority, following public consultation, in 1994.

The RQOs we set must be achievable and sustainable; we must be able to identify what needs to be done to meet the RQO, and to ensure as far as practicable that water quality can be maintained at this level in the future.

Where we are unable to identify solutions or resources to resolve current water quality problems, we can also set a visionary or Long Term RQO; we will use this target as a basis for setting consents for new discharges. This will ensure that future developments will not hinder our efforts to improve water quality.

RQO RE Use Class	DO % sat 10%ile	BOD (ATU) mg/l 90%ile	Total Ammonia mgN/l 90%ile	Un-ionised Ammonia mgN/l 95%ile	pH 5%ile & 95%ile	Hardness mg/l $CaCO_3$	Dissolved Copper µg/l 95%ile	Total Zinc µg/l 95%ile	Class Description
1	80	2.5	0.25	0.021	6.0-9.0	≤10 >10 and ≤50 >50 and ≤100 >100	5 22 40 112	30 200 300 500	Water of very good quality suitable for all fish species
2	70	4.0	0.6	0.021	6.0-9.0	≤10 >10 and ≤50 >50 and ≤100 >100	5 22 40 112	30 200 300 500	Water of good quality suitable for all fish species
3	60	6.0	1.3	0.021	6.0-9.0	≤10 >10 and ≤50 >50 and ≤100 >100	5 22 40 112	300 700 1,000 2,000	Water of fair quality suitable for high class coarse fish populations
4	50	8.0	2.5		6.0-9.0	≤10 >10 and ≤50 >50 and ≤100 >100	15 22 40 112	300 700 1,000 2,000	Water of fair quality suitable for coarse fish populations
5	20	15.0	9.0						Water of poor quality which is likely to limit coarse fish populations

6.6 Glossary of Terms

CMP	Catchment Management Plan
DCC	Dorset County Council
DoE	Department of the Environment
DoT	Department of Transport
EC	European Community
EN	English Nature
FAS	Flood Alleviation Scheme
GCT	Game Conservancy Trust
GQA	General Quality Assessment
LPA	Local Planning Authority
MAFF	Ministry of Agriculture, Fisheries and Food
NRA	National Rivers Authority
pa	per annum
RE	River Ecosystem
RQO	River Quality Objective
RSPB	Royal Society for the Protection of Birds
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
UWWTD	Urban Waste Water Treatment Directive
WWS	Wessex Water Services Ltd

6.7 Units

Mld	megalitres per day (1 megalitre = 1,000,000 litres)
mg/l	milligrams per litre
µg/l	micrograms per litre

6.8 References

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