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ENVIRONMENT
AGENCY

Poole Harbour & Purbeck

Catchment Management Plan

First Annual Review

March 1997



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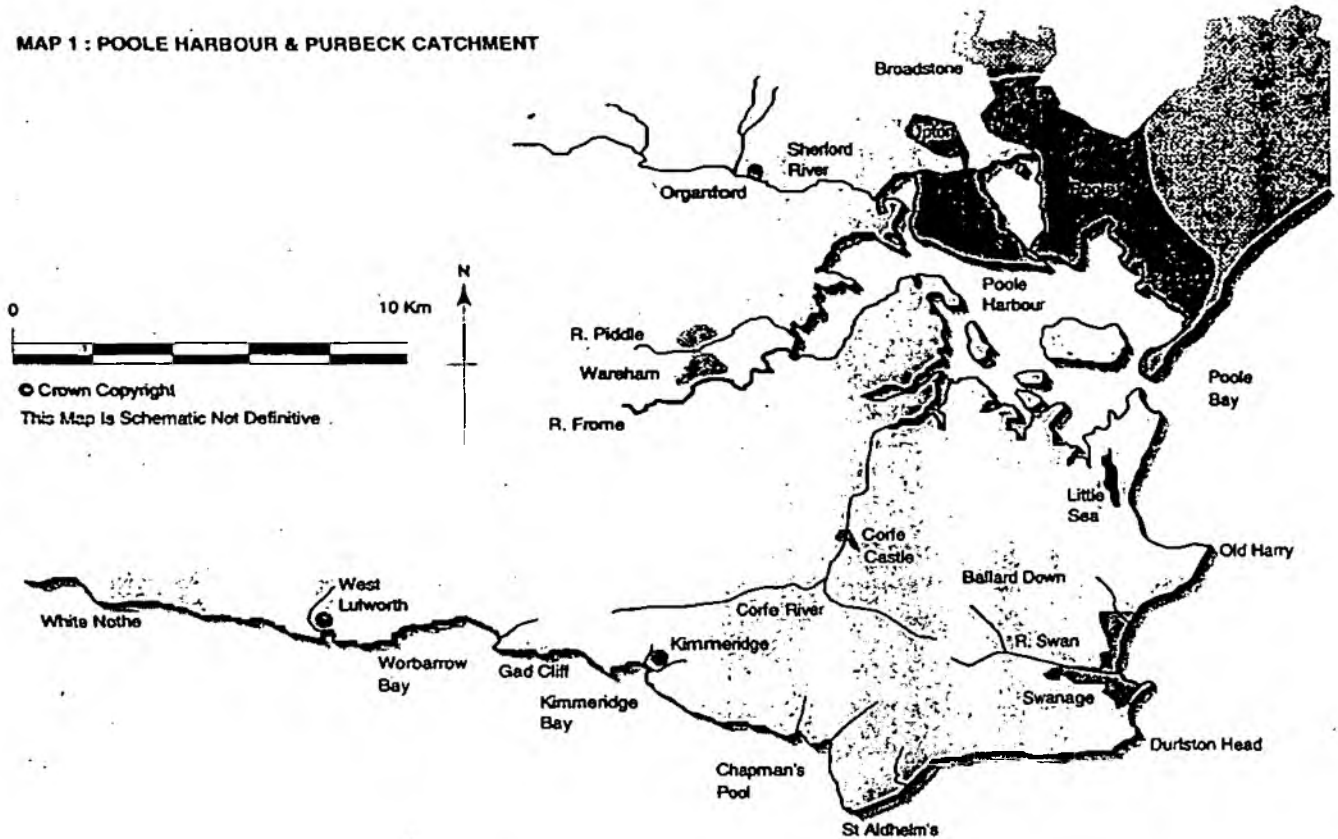
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MAP 1 : POOLE HARBOUR & PURBECK CATCHMENT



VISION FOR THE CATCHMENT

The Poole Harbour & Purbeck catchment is an area of high amenity and ecological importance, greatly valued by locals and visitors alike. The Harbour, with its variety of wetlands, and the Purbeck coast are protected by a number of conservation designations. The Harbour with its sheltered waters and the Purbeck coast with its exceptional bathing beaches make an important contribution to the local economy through recreation and tourism. Poole town is located on the northern shores of the Harbour, and includes the commercial port.

The ecological, recreational and commercial importance of the catchment means that the water environment is subject to considerable pressures. Our management of the catchment must recognise the needs of water users and the needs of the water environment itself, and seek to balance these needs.

Our vision for the catchment is towards a future where:

- *using the natural cleansing capacity of rivers and coastal waters to assimilate treated sewage effluents does not impair their considerable recreational and amenity value and potential*
- *abstractions of water are in balance with the ecological needs of rivers and wetlands*
- *there is minimal risk to people and property from flooding*
- *the abundance and diversity of wildlife in the catchment is maintained and increased*
- *people's enjoyment and appreciation of the rivers and coastal waters continues to grow*

The realisation of this vision will involve the commitment of all those who have an interest in the water environment, and we recognise the importance of establishing links with the local communities and their representatives. It is important that local 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 Poole Harbour & Purbeck Action Plan which was published in March 1996. It introduces the Environment Agency and summarises progress made with Actions. Previous publications relating to this catchment contain more background detail, and this Review should be read in conjunction with these publications:

- *Poole Harbour & Purbeck Catchment Management Plan Consultation Report - November 1995*
- *Poole Harbour & Purbeck Catchment Management Plan Final Report - March 1996*

Related information may also be found in the:

- *Frome & Piddle Catchment Management Plan Consultation Report - March 1995*
- *Frome & Piddle Catchment Management Plan Action Plan - February 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 Poole Harbour & Purbeck 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.

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

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 Poole Harbour & Purbeck CMP Action Plan in March 1996.

3. OVERVIEW OF THE CATCHMENT

Poole Harbour is centrally located on the south coast of England, and is one of the largest and shallowest natural harbours in the world. It has an area of approximately 38km² at high water spring tides, despite land having been reclaimed on the northern margins in both historic and recent times. Within the harbour there are three main channel systems, the Wareham and North Channel, the South Deep and the Wytch Channel. There are several islands in the Harbour, of which Brownsea is the largest.

Urban and industrial development in the catchment is largely centred on the north and east shores of the Harbour, with the town and port of Poole. There are also industrial estates on the north-western shores at Holton Heath, and major BP oil workings on the southern shores with well sites at Furzey Island and Goathorn, and the BP gathering station at Wytch Farm. There is also a small well site on the open coast at Kimmeridge.

The Harbour is of exceptional ecological value and is protected by a range of conservation designations. Central to the ecological value are the intertidal mudflats, sandflats and marshes (80% of the area at low water) and the diversity of shoreline ranging from reed and marsh to sand and shingle.

The main freshwater inputs to the Harbour are the Rivers Frome and Piddle, which enter at Swineham Point; these rivers are the subject of

a separate Catchment Management Plan which was published in November 1995. There are two other significant freshwater inputs, the Corfe and Sherford Rivers.

The Corfe rises north west of Kimmeridge and runs parallel to the Purbeck ridge to Corfe Castle. Here it turns north to flow across the heath, being joined by a number of streams, and drains into the Harbour through the Wytch Channel. The Sherford rises in the coniferous plantations of Wareham Forest and flows south-east to Organford, eventually draining to Lytchett Bay.

Few watercourses cross the remaining catchment area; the Swan flows across the Isle of Purbeck into Swanage Bay and several smaller streams drain to the southern coastal strip, including those at Lulworth and Kimmeridge.

In the west of the catchment, the Purbeck coast between White Nothe and Gad Cliff is characterised by vertical cliffs topped with open grassland. A softer coastline with extensive tidal ledges is found between Gad Cliff and Chapman's Pool. East of St. Aldhelm's Head, the remains of Purbeck limestone quarries can be seen in the cliff faces. Chalk re-emerges at Ballard Down, north of Swanage, terminating at the well-known landmark, Old Harry. From here the coast is lower-lying with bays and sandy beaches.

4. SUMMARY OF PROGRESS

4.1 Flood Defence

Since September 1, 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 regular updated information on flood warnings in force across England and Wales.

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.

4.2 Water Quality

During 1995-96, we reviewed the River Quality Objectives (RQOs) for the Sherford and Corfe Rivers published in the Action Plan. All sites complied with their RQO of RE2 (see 6.5). There are ten sites within this catchment that have been identified under the EC Bathing Waters Directive, all of which complied during this period.

Progress has been made into the impact of the Swanage outfall on water quality. Wessex Water (WWS) are carrying out Comprehensive Studies into dispersion from the outfall (Action 1.2). If these studies demonstrate that primary treatment would result in no greater environmental harm than secondary treatment, the lesser treatment level would be acceptable to us. However WWS have agreed to install secondary treatment and disinfection of the discharge.

Results from the National R&D investigation into the relationship between levels of bacteria in shellfish and water quality have shown a correlation with faecal streptococci (Action 3.3). A bid has been made to continue this

project and it seems probable that it will be successful, given the proposed new Framework Directive which will replace the current EC Shellfish Directive.

4.3 Conservation

We are the contact point for six species (otter, water vole, native 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.

Support has been given to the Purbeck Local Biodiversity Action Plan (Action 22.1) and further assistance will be given to County initiatives. More research is required to determine which of these species are present within the Poole Harbour & Purbeck catchment, although some data have already been collected. Draft plans for chalk rivers, the southern damselfly and the medicinal leech have been prepared. The actions will be incorporated into LEAPs, although many of the actions 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 Poole Harbour & Purbeck catchment and will be working collaboratively with other involved groups, e.g. English Nature, RSPB, local planning authorities and the County Wildlife Trust.

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 Poole Harbour & Purbeck Catchment Management Action Plan for the period March 1996 to February 1997.

Issues and Actions		By	Cost	96	97	98	99	00	Progress Year One
1 Non-compliance with EC Bathing Water Directive at Swanage									
1.1	Carry out improvements to 15 Combined Sewer Overflows (CSOs) in the Swanage sewerage system	WWS	£4M	•					An appraisal of the options has been undertaken by WWS; at present they have identified 11 unsatisfactory CSOs to be abandoned and 4 to be upgraded. A tunnel and pumping station which are in construction will eliminate most of these CSOs
1.2	Investigate the impact of Swanage outfall on water quality at the Swanage Bathing Water site	Agency	£5k	•	•				WWS are carrying out Comprehensive Studies on dispersion for the outfall, but have agreed secondary treatment and disinfection of the sewage discharge
1.3	Continue to monitor non-identified bathing water sites, the River Swan and Uwell Stream, for two seasons. <i>This will help us to assess whether the improvements to the CSOs have been successful</i>	Agency	£2k	•	•	•			Weekly monitoring during bathing season will continue
2 Non-compliance with EC Bathing Water Directive at Kimmeridge									
2.1	Progress improvements to sewerage system at Gaulter Cottages and Toilets and eliminate discharges to Kimmeridge Stream	Agency Smedmore Estate		•	•				Smedmore Estate have applied for permission to install a treatment plant for Gaulter Cottages
2.2	Progress improvements to Kimmeridge Village sewerage system and eliminate discharges to Kimmeridge Stream	Agency Smedmore Estate		•	•	•			Discussions are still ongoing
2.3	Monitor non-identified bathing water sites until the end of this project	Agency	£1k	•	•	•			Weekly monitoring during bathing season will continue
3 Non-compliance with EC Shellfish Waters Directive									
3.1	Extensive sampling of water and sediments as part of a general Poole Harbour Survey. <i>This should provide information on water column and sediment contaminant levels</i>	Agency	£1k	•					Sampling has been completed. Analysis to commence in early 1997, with the report due summer 1997
3.2	Bioaccumulation Programme	See 7							
3.3	Contribute through our National R&D programme to a project to investigate the relationship between levels of bacteria in shellfish and water quality. <i>This may help in the understanding of water quality requirements for the EC Shellfish Hygiene Directive</i>	SNIFFER Agency	£15k	•					Results have shown a correlation between faecal streptococci concentrations in seawater and shellfish flesh. A bid has been made for funding to continue this work
4 Determine whether Poole Harbour is a Sensitive Area under UWWTD									
4.1	Investigate whether Poole Harbour is eutrophic; this will include nutrients and dissolved oxygen in the water, phytoplankton, and aerial surveys of macro-algae. Identify the principal sources of nutrients. <i>If DoE were to designate the Harbour as a sensitive area in 1997, WWS would be required to install appropriate nutrient removal at relevant STWs</i>	Agency	£15k	•					We have undertaken extensive collection and analysis of chemical & biological data (1994-96). The Agency is considering putting forward a case for designation of Poole Harbour as a Sensitive Area (Eutrophication) to the DoE
5 Establish level of treatment needed at Swanage under UWWTD									
5.1	Install primary treatment of sewage at Swanage	WWS	£12M	•	•				Primary treatment will be installed by 2000 unless the Comprehensive Study (Action 5.2) indicates a greater environmental need. WWS have announced that they intend to install secondary treatment and disinfection to all discharges to recreational and bathing waters by 2005
5.2	Undertake a Comprehensive Study to determine whether there is an environmental need under the UWWTD for secondary treatment in addition to the proposed primary treatment. <i>The area around Swanage is proposed as a High Natural Dispersion Area (HNDA). We must check if the lower level of treatment for discharges in these areas is acceptable</i>	WWS	£50k	•					Comprehensive Study still to be completed, but see Action 5.1
5.3	Audit the findings of the Comprehensive Study	Agency	£5k	•					Delayed until we receive the results

Issues and Actions		By	Cost	96	97	98	99	00	Progress Year One
6 Annex 1A Reduction Programme									
6.1	DoE to determine the appeal against revised consent standards for Poole STW. <i>We have set revised consent standards to help meet this international commitment</i>	DoE							We are still awaiting determination of the appeal by DoE
7 Bioaccumulation									
7.1	Extend the existing coastal bioaccumulation programme to include a number of additional sites around Poole Harbour	Agency	£2k	•					Bioaccumulation monitoring and sampling carried out during 1996. The samples are awaiting analysis
8 Environmental impact of sea outfalls									
8.1	Repeat environmental impact survey of Holes Bay following extensions to Poole STW. <i>This will compare macroinvertebrate distributions and sedimentary contaminants</i>	Agency	£4k		•	•			Sampling completed during 1996. Analysis to commence in 1997, report to be produced summer 1997
8.2	Swanage	See 1 & 5							
8.3	Repeat benthic diver survey at Lutworth following installation of screens. <i>This will assess whether there has been an improvement in the biological communities close to the outfall in addition to an improvement in aesthetics</i>	Agency	£5k	•					The diver survey was completed during autumn 1996, but the screens were not satisfactory. WWS are investigating better methods of screening
9 Impact of development of water resources at Bulbury and Lytchett									
9.1	Determine the scale of further assessment needed at these sites and undertake groundwater modelling to predict likely impacts	Agency WWS		•	•				The groundwater and geochemical studies commissioned by WWS have been completed, and results suggest that limitations in natural groundwater recharge affect the choice of water resource development options at these sites
9.2	NEW ACTION. WWS are promoting an assessment of Aquifer Storage and Recovery at these sites. <i>This involves injecting freshwater into the aquifer when spare resources are available, and abstracting it again when needed</i>	WWS Agency							Studies are likely to be undertaken in conjunction with the Agency to assess the potential of this method and its likely impacts, probably as part of the AMP3 business plan discussions
10 Review the efficiency and effectiveness of Flood Defence maintenance operations									
10.1	Apply Flood Defence Management System to this catchment. <i>This is a National initiative; local costs are not available</i>	Agency		•					Delivery of system delayed until early 1997
10.2	Review sea defence survey	Agency		•					Actions completed, no further reporting in future plans required
10.3	Review tidal defence survey								
11 Improved identification of flood risk areas									
11.1	Carry out flood risk survey under Section 105 of the Water Resources Act (S105 Survey)	Agency	£25k	•	•				The surveys of main and tidal rivers are due for completion by April 1997, with the reports to follow. Coastal waters and non-main rivers will be surveyed to the same level on a rolling programme over the next 4 years. Identified hotspots will be looked at based on the returns supplied by the local authorities

Issues and Actions		By	Cost	96	97	98	99	00	Progress Year One
12 Investigate, justify and, if appropriate, implement Flood Defence schemes									
12.1	Liaise with planning authorities	Agency LPAs		→					Liaison is carried out through the Avon & Dorset Local Flood Defence Committee. This work is now regarded as a routine commitment. <i>No further reporting in future plans required</i>
12.2	Undertake a pre-feasibility study for Town Quay Sea Defence Scheme, Poole	Agency		•					<i>Action completed, no further reporting in future plans required</i>
12.3	Town Quay Sea Defence Scheme is included in the Medium Term Programme	Agency	£435k		•				A recent public meeting indicated a high level of public support for the Town Quay Scheme, which will link into the Green Gardens Scheme. Designs are being finalised, and planning applications should be made by May 1997
12.4	Investigate the justification for the proposed Swineham tidal defences (also included in Frome & Piddle CMP). Post 2001. <i>This scheme would cost £275k and is currently low priority</i>	Agency MAFF							A management strategy for these areas will emerge from the Water Level Management Plan (see Action 22.9)
12.5	Investigate the justification for the proposed Arne tidal defences (also included in Frome & Piddle CMP). Post 2001. <i>This scheme would cost £161k and is currently low priority</i>	Agency MAFF							
12.6	Produce Water Level Management Plan for Keyworth Marshes	See 22.9							
12.7	Investigate the justification for continuing maintenance work for tidal defences	Agency						•	
12.8									
13 The adoption of Swanage FAS									
13.1	Investigate the proposed adoption of this scheme and the associated resource needs. <i>The scheme will have to be operated for 24 months by PDC before we will decide whether to adopt it or not</i>	Agency PDC				•			Awaiting formal application from PDC
13.2	Improve telemetry for operation purposes within 2 years of handover. <i>Some telemetry is expected to be provided by PDC</i>	Agency	£5k			•	•		
13.3	Establish flood warning rules in draft within 12 months of handover	Agency	£5k			•			
13.4	Implement Operation & Maintenance manual recommendations immediately. <i>Cost to be agreed with PDC</i>	Agency PDC				•			
13.5	Agree operational training and response times within 12 months of handover					•			
14 Ensure the adequate provision of flood warning in the catchment									
14.1	Review flood warning procedures in the catchment. <i>Discussions are being undertaken with PHC and PBC. The extent of flood warning equipment is dependent on extending the existing Green Gardens Scheme</i>	Agency		•	•				Provisional procedures are being developed following a meeting with PHC. Proposed extensions to the Green Gardens Scheme are documented in 12.3
15 Operation and manning of Green Gardens FAS									
15.1	No further action is proposed. <i>The present operational response is considered sufficient</i>								
16 Development of an integrated coastal defence strategy									
16.1	Two Shoreline Management Plans are proceeding within the catchment: Durlston-Hurst Spit, and Durlston-Portland Bill. <i>Scoping studies are programmed for 1996, with completion of Plans by 1998</i>	Weymouth & Portland C, Bourne mouth BC, Agency	£48k	•	•				Scoping study contracts for both plans are under way. Stage 1 - Data Collation and Objective Setting was completed in November 1996
17 Knowledge of populations of non-salmonid migratory fish									
17.1	Improve eel fishery statistics by taking samples for length frequency and age each year	Agency	£0.5k pa	•	•				Samples were taken during 1996
17.2	Collect estuarine fish species data during checks of eel fyke nets	Agency	£0.2k pa	•	•				Carried out in 1996

Issues and Actions		By	Cost	96	97	98	99	00	Progress Year One
18 Licence requirements for eel fishery									
18.1	Implement findings of eel licence review. We have applied to MAFF for an excusal for rod and line fishing for eels in tidal waters seaward of the White Posts on the Frome and Piddle estuary	Agency		•	•				Implemented July 1996. Action completed, no further reporting in future plans required
19 Improve public access									
19.1	Assess the scope for improved physical access, especially for disabled and educational use. Subject to funding	Agency User - groups Owners, EN, LPAs, PHC	£5k			•	•		
19.2	Review canoeing activity in the catchment. This is a Regional initiative	Agency BCU		•					We have been unable to progress this project to date
19.3	Promote opportunities for green tourism initiatives which improve recreation and benefit the environment. Subject to funding	Agency LPAs Owners				•	•		Improvements to the footpath at South Quay, Wareham are being developed alongside proposed dredging, together with the District, County and Town Councils. Work will be completed during February 1997
19.4	Review proposals to extend cycleway, SW Coastal Path, and Purbeck Sustrans route.	LPAs Owners Agency		→					We will participate in these reviews, if appropriate, when they are submitted
20 The impact of recreational provision									
20.1	Participate fully in the work of the Poole Harbour Steering Group (PHSG). The £3k is our contribution to the costs of PHSG. Future work will include a review of Harbour management policies	Agency, PHC, LPAs EN, SSFDC, RSPB	£3k	→					The work to review the Harbour management policies is underway
20.2	Promote and monitor the Poole Harbour Aquatic Management Plan	PHSG		→					Interpretative signs have been designed and sited at access points to promote the AMP
20.3	Screen all development proposals for potential impact, and explore scope for improving recreation provision	Agency, LPAs, Owners		→					This work is now regarded as a routine commitment. No further reporting in future plans required
21 Impact of boat use on water quality									
21.1	Investigate impact of boat use on water quality and take appropriate action. The scope of this work has yet to be determined. A collaborative study with PHC and PHSG is anticipated	Agency PHC							No progress has been made with this Action
21.2	NEW ACTION. Provision of appropriate waste management facilities	PHC			→				The policy of Poole Harbour Commissioners is to ensure that sufficient facilities are available to receive all waste materials from vessels using the Harbour and to dispose of the waste in the correct manner. The Commissioners have produced a Poole Harbour Waste Management Plan that covers the port area including arrangements for the Town Quay recreational berthing area, Fisherman's Dock area, yacht clubs, marinas and boatyards

Issues and Actions		By	Cost	96	97	98	99	00	Progress Year One
22 Biodiversity Targets									
22.1	Work with other agencies to establish Local Biodiversity Action Plans for habitats and species with a high dependency on the aquatic environment. <i>Actions, once identified, can be implemented in future years</i>	Agency, EN, DWT, RSPB, LPAs, etc	£6k pa	•	•	•			£1.5k support to Purbeck Local BAP pilot; further assistance to County is anticipated as Biodiversity develops
22.2	Investigate pesticide levels in eels, the major food source of otters	Agency	£1k	•					A draft report has been produced, but the final document has been delayed to incorporate further samples from Poole Harbour
22.3	Repeat otter population survey and make initial survey of selected non-main river tributaries. <i>Subject to funding</i>	Agency	£15k			•			It is anticipated that this Regional project will take place in 1998
22.4	Continue enforcement action for otter guards on fyke nets	Agency		→					Spot checks were carried out in 1996; all the licensed nets inspected had guards in place
22.5	Advise on otter underpasses on appropriate bridge improvements to limit accidental killing	See also 25.3							No problem sites were identified in this catchment. <i>No further reporting in future plans required</i>
22.6	Carry out bioassays and post mortems on dead otters. <i>Contact our Blandford office should a dead otter be found</i>	Agency		→					No corpses located in 1996
22.7	Regional survey to investigate existing range of water voles	Agency	£2.5k	•	•				Support to County initiative provided through a project pack, and a Project Officer on Dorset voles and otters for 6 months from March 1997
22.8	Prepare Local Action Plans for aquatic species for which we have a lead responsibility. <i>May include white clawed crayfish, salmon, lampreys, twaite shad, Zostera, etc</i>	Agency Others		•	•	•			Draft plans have been prepared for chalk rivers, southern damselfly and medicinal leech; further plans will follow
22.9	Produce a Water Level Management Plan for the tidal Frome & Piddle and adjacent areas of Poole Harbour, and advise responsibilities for other areas of floodplain grazing marsh in the Harbour. <i>WLMP will recommend action over the next 10 years; other targets will emerge from this</i>	Agency, EN, RSPB, MAFF		•	•				We have employed consultants to carry out a public consultation which is currently taking place. The first plan is programmed for April 1997
22.10	Promote schemes that support Action Plans for the management of target habitats	Agency, MAFF, EN		→					
22.11	NEW ACTION. We will partly fund a sluice on the tidal Frome at Bestwall	Agency RSPB			•				This will help us to manage water levels to achieve the aims set in the WLMP
23 Impact of EC Birds Directive and EC Habitats Directive									
23.1	Produce conservation strategy and consenting protocol for relevant SACs, Ramsar sites and SPAs. <i>We need to agree which sites would benefit from this process. The implementation phase will follow</i>	EN Agency			•	•			Establish priority programme for review
23.2	Establish management and standards for the aquatic environment which are appropriate for maintaining habitats and species at favourable conservation status in designated areas	Agency Others		→					

Issues and Actions		By	Cost	96	97	98	99	00	Progress Year One
24 Integrated management of the coastal zone									
24.1	Participate fully in Dorset Coast Forum. <i>The Forum consists of Local Authorities, environmental agencies, central Government departments, business and other user groups</i>	Agency	£10k		•	•	•		The Dorset Coast Forum has recently been successful in a bid for EU LIFE funds to participate in the EU Demonstration Programme on integrated coastal zone management. The total project cost is £300k and the Coast Forum will employ two project officers to assist in the development of a coastal strategy for Dorset
24.2	Participate fully in Shoreline Management Plans	See 16.1		→					
24.3	Participate fully in Poole Harbour Steering Group	See 20.1		→					
24.4	Take a lead role in organising the Poole Harbour Oil Pollution Response. <i>The group is clarifying responsibilities and actions for response to oil-related pollution in Poole Harbour</i>	Agency PHC, DCC, BP			•				No progress to date
25 Impact of development, including road schemes and minerals and waste developments									
25:1	Incorporate flood protection measures in all new developments, as necessary	Agency DoT		→					This work is now regarded as a routine commitment. <i>No further reporting in future plans required</i>
25.2	Incorporate pollution control measures in all new developments, as necessary	LPAs Developers							
25.3	Ensure the wildlife and landscape of river corridors are protected and enhanced in all new developments, as necessary								
25.4	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 a risk of an explosion. 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.

Key roles in waste will be provided by:

- *the Government in drawing up the National Waste Strategy, using data on current and future waste arisings and disposal facilities, and advice from the Environment Agency*
- *the Waste Planning Authorities (County Councils and the new Unitary Councils) who are required through land use policies and proposals to make provision for sufficient 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/ 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

AMP	Asset Management Plan
BC	Borough Council
BCU	British Canoe Union
BOD	Biochemical Oxygen Demand
BP	British Petroleum
CMP	Catchment Management Plan
CSO	Combined Sewer Overflow
DCC	Dorset County Council
DO	Dissolved Oxygen
DoE	Department of the Environment
DoT	Department of Transport
DWT	Dorset Wildlife Trust
EC	European Community
EN	English Nature
EU	European Union
FAS	Flood Alleviation Scheme
HNDA	High Natural Dispersion Area
IPC	Integrated Pollution Control
LEAP	Local Environment Agency Plan
LPA	Local Planning Authority
MAFF	Ministry of Agriculture, Fisheries and Food
NRA	National Rivers Authority
pa	per annum
PBC	Poole Borough Council
PDC	Purbeck District Council
PHC	Poole Harbour Commissioners
PHSG	Poole Harbour Steering Group
R&D	Research and Development
Ramsar	Sites identified by the UK Government under the Convention on Wetlands of International Importance
RE	River Ecosystem
RQO	River Quality Objective
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation (EC Habitat Directive)
SNIFFER	Scottish & Northern Ireland Forum for Environmental Research
SPA	Special Protection Area (EC Birds Directive)
SSFDC	Southern Sea Fisheries District Committee
STW	Sewage Treatment Works
UWWTD	Urban Waste Water Treatment Directive
WLMP	Water Level Management Plan
WWS	Wessex Water Services Ltd

6.7 Units

MI/d	megalitres per day (1 megalitre = 1,000,000 litres)
mg/l	milligrams per litre
µg/l	micrograms per litre
km	kilometre
km ²	square kilometre
£k	thousands of pounds
£M	millions of pounds

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