

local environment agency plan

DORSET STOUR

FIRST ANNUAL REVIEW

January 1998 - December 1998



ENVIRONMENT
AGENCY



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Vision for the catchment

The Dorset Stour catchment is a system of great diversity that is significantly influenced by land use along its length, including:

- the Poole, Bournemouth and Christchurch conurbation in the lower catchment
- mixed farming in the middle catchment
- intensive dairy farming in the upper catchment

The river and its tributaries make an important contribution to the rural economy through agriculture and an equally important contribution to the urban economy through public water supply, effluent disposal, waste disposal, recreation and tourism.

Our vision of the Dorset Stour is of a healthy and diverse catchment, managed in a sustainable way in which human economic and social needs are met in ways which will maintain high environmental quality standards.

We cannot realise this vision on our own and will seek to work in partnership with local authorities, industry, farmers, environmental groups and other interested organisations to turn this vision into reality.

We look forward to a future where there is:

- development of a sustainable agricultural, aquacultural and forestry system which reduces diffuse pollution and improves the physical habitat of the river system and wetlands for wildlife
- maintenance and, where appropriate, enhancement of biodiversity
- significant reduction in waste and improved standards of disposal and treatment
- achievement of environmentally sustainable use of water resources
- continuing improvement to existing discharges to meet the most appropriate standards
- minimal risk to people and property from flooding
- full development of potential for sustainable salmonid and freshwater fisheries
- increasing enjoyment and appreciation of the water environment
- improvement in the quality of air



Howard Davidson

Area Manager, South Wessex Area of the Environment Agency

1. Introduction

1.1 The Environment Agency

Our Vision is

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

Our aims

- to achieve major and continuous improvements in the quality of air, land and water
- to encourage the conservation of natural resources, animals and plants
- to make the most of pollution control and river-basin management
- to provide effective defence and warning systems to protect people and property against flooding from rivers and the sea
- to reduce the amount of waste by encouraging people to re-use and recycle their waste
- to improve standards of waste disposal
- to manage water resources to achieve the proper balance between the country's needs and the environment
- to work with other organisations to reclaim contaminated land
- to improve and develop salmon and freshwater fisheries
- to conserve and improve river navigation
- to tell people about environmental issues by educating and informing
- to set priorities and work out solutions that society can afford

We will do this by:

- *being open and consulting others about our work*
- *basing our decisions around sound science and research*
- *valuing and developing our employees*
- *being efficient and businesslike in all we do*

The Environment Agency has a wide range of interests relating to different aspects of environmental management. These duties are described in more detail in Appendix 6.1. While statutory duties and powers support many of these interests, much of the Agency's work is advisory, with the relevant powers resting with other bodies such as local planning authorities.

We are required and guided by Government to use our duties and powers in order to help achieve the objective of sustainable development. The Brundtland Commission defined sustainable development as *development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

At the heart of sustainable development is the integration of human needs and the environment within which we live. Indeed the creation of the Agency itself was in part recognition of the need to take a more integrated and longer-term view of environmental management at a national level. The Agency therefore has to reflect this in the way we work and in the decisions we make.

Taking a long-term perspective will require the Agency to anticipate risks and encourage precaution, particularly where impacts on the environment may have long-term effects, or when the effects are not reversible. The Agency must also develop its role to educate and inform society as a whole, as well as carrying out our prevention and enforcement activities, in order to ensure continuing protection and enhancement of the environment.

One of the key outcomes of the United Nations *Earth Summit* held in Rio de Janeiro in 1992 was agreement by governments that, in order to solve global environmental problems, local action is crucial: we must all therefore think globally but act locally.

1.2 Local Environment Agency Plans

For our part we are committed to a programme of Local Environment Agency Plans (LEAP) in order to produce a local agenda of integrated action for environmental improvement. LEAPs help us to identify, assess and solve local environmental issues related to our functions, taking into account the views of external organisations and the general public.

1.2.1 The Consultation Report

We published a Consultation Report for the Dorset Stour in January 1997 which gave an opportunity for external organisations and the public to comment on environmental problems and our work.

1.2.2 The Action Plan

We collated the responses to the Consultation Report and produced the Action Plan in January 1998.

Monitoring the Action Plan is an important part of this planning process, and ensures that targets and actions are achieved and that the Plan continues to address relevant and significant issues. This review summarises the progress made since the publication of the Dorset Stour Action Plan.

Previous publications relating to this area contain more background detail, and this review should be read in conjunction with these, which are still available free of charge:

- Dorset Stour Local Environment Agency Plan Consultation Report - January 1997 (*availability of this report is now limited*)
- Dorset Stour Local Environment Agency Plan Action Plan - January 1998

2. Overview of the catchment

The Stour rises on the Greensand at St Peters Pump in Stourhead Gardens and flows 96 km to the sea at Christchurch; the fall over its entire course is approximately 230 m. The catchment lies predominantly within the county of Dorset, with smaller areas in Somerset and Wiltshire. It covers a land area of 1,300 km² with a population of about 394,000.

The Stour catchment covers parts of many local planning authorities. The upper reaches lie within Salisbury, South Somerset, West Dorset and North Dorset District Councils, and the lower reaches include East Dorset and Purbeck District Councils and Poole, Bournemouth and Christchurch Borough Councils.

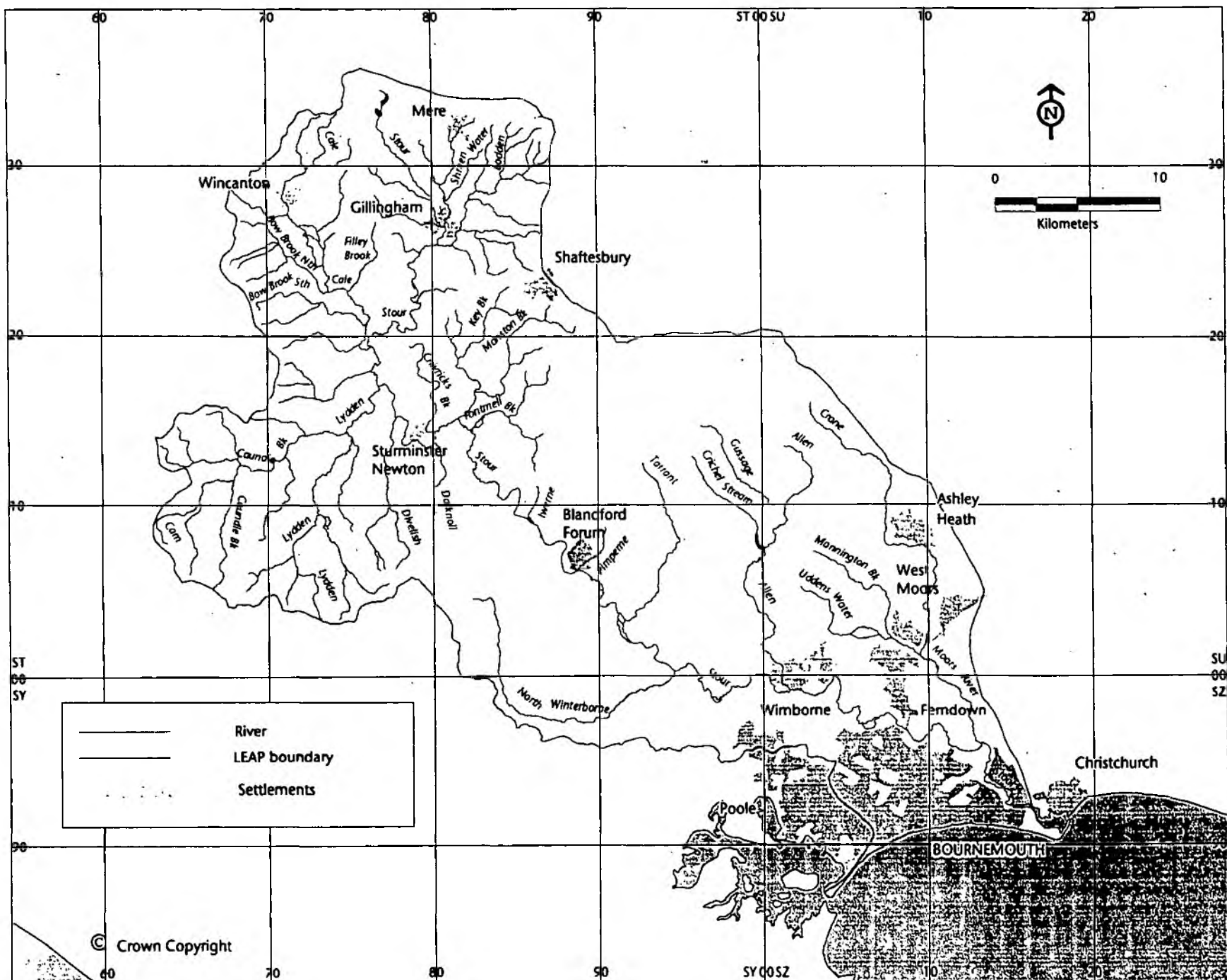
Above Sturminster Newton, the catchment comprises a dense network of tributaries which drain predominantly clay soils. This is a domestic farmed landscape of pastures, scattered villages, hedgerows and small woodlands forming an irregular patchwork. The nature of the geology makes it particularly responsive to rainfall.

Below Sturminster Newton, the Stour flows towards Blandford Forum through a narrower valley with chalk hills on either side. The land use is mainly arable on the gentle slopes towards the edge of the floodplain and pasture on the flat valley floor. Settlements and roads either hug the foot of the chalk escarpment or are concentrated on the valley floor, and there are fewer tributaries.

At Wimborne Minster, the Stour crosses onto the tertiary sand and gravel deposits and flows towards Bournemouth across a landscape of typically large open fields, predominantly pasture with arable and settlements along the outer margins of the valley floor.

The Allen flows over chalk for almost all of its length until it joins the Stour at Wimborne. Its valley landscape is much more intimate than the surrounding countryside, with former water meadows on either side of the river contrasting with adjacent arable fields. Copses and riverside trees are frequent; development is rare, though historic bridges are a feature.

Map 1: The Dorset Stour LEAP area



The Crane rises on the chalk, but is known as the Moors River after it enters the tertiary deposits; it is joined by the Uddens Water at Ferndown, and joins the Stour at Hurn. It flows through a landscape of low rolling hills with an irregular and enclosed patchwork of pasture, woodland including coniferous plantations, hedgerows and heathland on acid soils.

In Bournemouth, the watercourses are an important part of the townscape, as narrow, wooded corridors. The coastal fringe is heavily populated with the main centres of Bournemouth, Poole and Christchurch. This coastal area, with its bathing beaches and potential for recreational activities, is popular with tourists during the summer season.

Towards the coast, the floodplain widens to form extensive level pastures, marsh and mudflats, meeting the Hampshire Avon to form Christchurch Harbour. This consists mainly of intertidal fine muddy sand with small areas of salt marsh that have a particularly rich flora, and it is very popular for recreation.

3. Key points

3.1 Water Resources

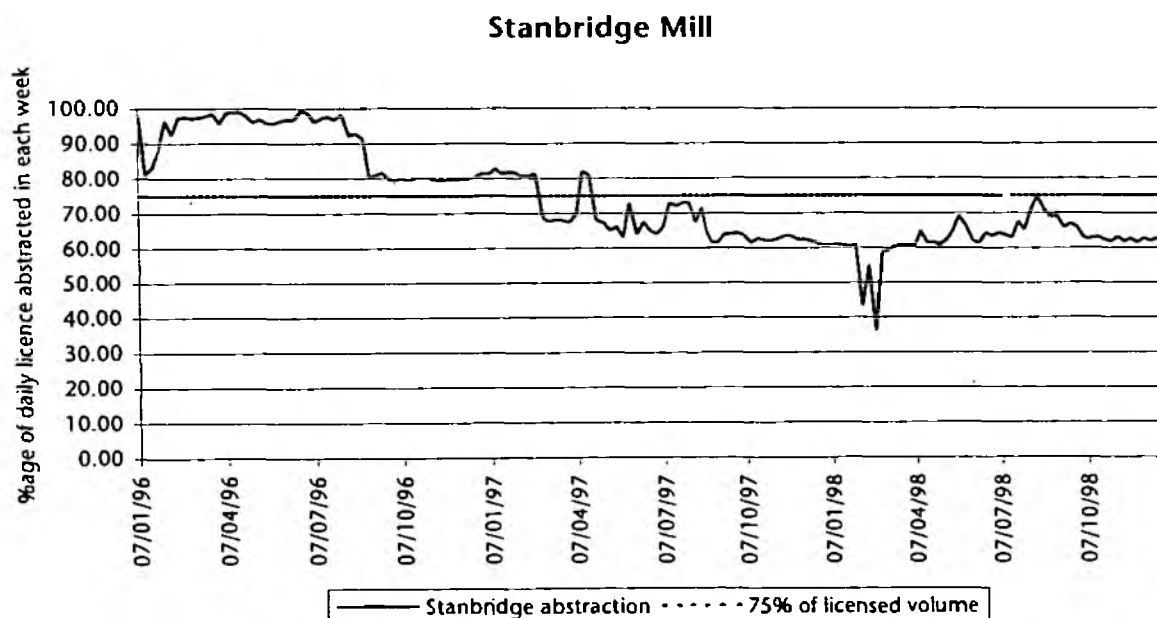
3.1.1 Hydrological summary (January 1998 to December 1998)

The rainfall total for the South Wessex area for 1998 was 940 mm. This represents 113% of the 1961–1990 long-term average and provided welcome relief following the cumulative effect of a particularly dry interlude commencing in March 1995 and only terminating in November 1997. Only two months, February and August, were significantly dry whilst January, April, June, September and October, delivered a healthy surplus of rainfall maintaining above average groundwater levels in most locations. This encouraged the earliest onset of autumn recharge observed in the South Wessex area for five years.

River levels largely reflected the healthy groundwater situation with flows in the Dorset Stour near the long-term average for most of the year. In the Allen catchment flows required augmentation from the end of July to late October. Whilst the winterbourne section of the River Tarrant above Tarrant Monkton dried out in the summer, flows downstream were relatively healthy compared to previous years.

3.1.2 Progress towards resolving the low flow problems on the River Allen

The proposed solution to the River Allen low flow scheme was recently approved by the Secretary of State for the Environment, Transport and the Regions. This means that Bournemouth & West Hampshire Water now have an obligation to implement this by 2003; they have however been committed to this target for some time now. Work is ongoing on a number of different aspects of the solution including modelling work and collecting and analysing both macrophyte and macroinvertebrate data. The graph



shows the progress that the company have made with their voluntary reduction at Stanbridge Mill (see Actions 10a-10e).

3.1.3 Additional water resource investigations

Regular monitoring of river flows, groundwater levels and rainfall in the Tarrant catchment intensified following the severe low flows experienced in 1995. We provided data for an independent hydrological study of the Tarrant, commissioned by North Dorset District Council and the River Tarrant Protection Society, which was completed in 1998.

The study proved inconclusive in identifying causes of the low flows. We have however implemented the recommendations in the report that more groundwater level data be gathered by drilling a number of new boreholes in the lower Tarrant valley and commencing regular level monitoring. These will be used to try and assess the impact of groundwater abstractions for public water supply at Shapwick, on surface water flows.

A review of this data is due to be carried out in 1999, and consideration will then be given to the need for the construction of a continuous river flow monitoring facility (see Actions 12a-12g and 13l).

Concern has also been expressed regarding perceived low flows in the vicinity of Mere. Particularly apparent is the migration of the headwaters in late summer in the Shreen, and its tributary the Ashfield Water. It is our intention to carry out ecological and flow monitoring in both watercourses during 1999 (see Action 19a).

The North Winterborne, a natural winterbourne, is prone to drying up in periods of low rainfall, but is maintained by the operation of a fish farm at Winterborne Houghton. The water gradually *leaks* through the bed of the stream as groundwater levels progressively fall. This loss may well be exacerbated by the retention of higher water levels caused by the volume of vegetation in the channel upstream of Winterborne Stickland and the possibility of sink holes in the same vicinity. We have carried out periodic flow measurement and will continue to do so in order to establish baseline data.

Salmon breeding on the North Winterborne used to be very significant but is now virtually non-existent; this may be due to more than just natural winterbourne characteristics. This issue will be addressed more fully by the Stour Salmon Action Plan, which is currently being prepared (see Action 13f).

3.2 Flood defence

Shoreline Management Plans set out the coastal defence strategy for lengths of coast, taking into account natural coastal processes, human and other environmental influences and needs. They are promoted by coastal defence authorities such as the Agency, and District and Borough Councils, and used in local authority development plans and coastal zone management. The objectives of these plans are to improve our understanding of coastal processes, develop sustainable coastal defence policies, and set out arrangements for continued consultation with interested parties.

Shoreline Management Plans are part of an initiative on the future planning of our coastline, backed by the Ministry of Agriculture, Fisheries and Food, the Association of District Councils, English Nature and ourselves. There is one plan in preparation for the coastal zone in this area; the Poole and Christchurch Bays Shoreline Management Plan (covers the coast from Durlston Head eastwards to Hurst Spit), Bournemouth Borough Council are the lead agency. The completed strategy and consultation documents were produced at the end of April for external consultation, the closure date for comments is 30th June. Any comments will be considered and the final plan should be available for adoption by operating authorities soon after (see Action 9a).

There has been steady progress to review our routine maintenance, and complete the water level management plan on the Moors River. The cessation of a routine weed cut, and the implementation of improved water management on one area of the river in 1999-2000 should bring benefits particularly to the invertebrate fauna, including dragonflies for which the Moors River is well-known (see Actions 7f, 7g, 7h and 7k).

3.3 Asset Management Plan

The water companies' improvement plan for the period 1995-2000 is known as Asset Management Plan (AMP) 2. AMP2 was developed in 1994 along guidelines agreed between the former National Rivers Authority and Department of the Environment, the water services companies and the Government through the Office of Water Services (OFWAT).

OFWAT is undertaking a review of water prices that will result in a review of improvements required for the period 2000-2005; the outcome of this will be AMP3. The Agency's proposals for the National Environment Programme for water companies 2000 - 2005 was submitted to Government in May 1998 in the document *A Price Worth Paying*.

Following consultation with the Agency and OFWAT the Department of the Environment, Transport and the Regions published guidance in September 1998 to OFWAT for the environmental and quality objectives to be achieved by the water industry in the period 2000 - 2005 in the report *Raising Quality*. This guidance has now been translated into detailed environmental obligations which have been agreed by the Secretary of State for each water company.

The proposed environmental improvements for the Stour catchment are primarily concerned with the protection of water quality in Christchurch Harbour and the lower Stour. We will investigate the impact of the discharges from Holdenhurst, Palmersford, Kinson and Wimborne sewage treatment works on the bacterial water quality of Christchurch Harbour and compliance with the EC Bathing Waters Directive. Depending on the outcome of these investigations, disinfection using ultra-violet treatment maybe required at Palmersford, Kinson and Wimborne (see Action 3h). The discharge at Holdenhurst will receive ultra-violet treatment by 2001 (see Actions 3b and 3h).

Other improvements will protect river quality downstream of Iwerne Minster and Edmonsham sewage treatment works; improved secondary treatment is required at these works (see Actions 3d and 3i).

In all cases we will apply appropriate consent standards to these works to ensure the protection of the water environment. With Wessex Water Services Ltd we will also agree the prioritisation of a number of intermittent discharges to be improved by the company during the AMP3 period. While 2005 is technically the latest date by which improvements must be completed, we are seeking to agree earlier end dates for many schemes. Wessex Water are currently developing their Strategic Business Plan which will confirm the delivery dates of these schemes.

A Price Worth Paying also highlighted where investigation and investment is required to protect rivers and wetlands from the effects of abstraction. Within the LEAP area the Allen scheme (see Section 3.1.2) has been supported and investigations on the River Tarrant have been approved (see Section 3.1.3.).

AMP3 also required the water companies to revise their water demand forecasts, review their resource availability and consider any potential resource options to meet forecasted deficits within the planning horizon. In parallel with this we required the water companies to complete draft water resource plans by March 1999. These have been received and a report to the Department of the Environment, Transport and the Regions was published in the spring of 1999, giving a brief synopsis of the plans, our view of them and details of the main changes we would wish to see incorporated in the revisions of the plans. The companies will be expected to update these plans on an annual basis.

The water resource plans require water companies to produce demand forecasts and compare them with their available resources for up to the next 25 years. Potential demand or resource-management options, including leakage reduction, have to be considered, and, if necessary, any resource-development options which may be required to meet the forecast demand.

3.4 Sustainable waste management

The Government is currently working on a new waste strategy for England and Wales. When complete it will replace the current waste strategy set out in the White Paper, *Making Waste Work*, published in December 1995. The Government has published a consultation paper, *Less Waste More Value*, prior to the new White Paper to be published in 1999, which will set out the National Waste Management Strategy.

We have a formal role to play in providing advice on the Government's waste strategy. We are carrying out the first national survey of commercial and industrial waste arisings and facilities. The information collected will inform the Government's waste strategy and will also be supplied to waste planning authorities.

Waste minimisation is the reduction of waste at source. The Government in its strategy recognises that the best way to reduce the impact of waste on the environment can be simply to avoid producing it. The South Wessex Waste Minimisation Group was set up in December 1996 in order to develop and promote the use of best practical techniques for the profitable and economic minimisation of all waste arising from South Wessex businesses. The group is a partnership involving some 100 local businesses as well as local authorities, Local Agenda 21 groups, Business Link and an Environmental Trust (see Actions 6a-6g).

The *Producer Responsibility Obligations (Packaging Waste) Regulations* are designed to implement the recovery and recycling targets in the EC Directive on Packaging and Packaging Waste. The regulations require businesses to recover and recycle specified tonnage of packaging waste on the amount of packaging they handle. We have been charged with implementing, monitoring and enforcing this legislation (see Actions 6h and 6j).

We are also responsible for the accreditation of reprocessors; it is felt that it will assist businesses if they are able to show that their obligations have been discharged, by obtaining evidence of recovery and recycling to support their certificate of compliance from accredited UK reprocessors (see Action 6i).

3.5 Contaminated land

The Environment Act 1995 contains new provisions for dealing with contaminated land which should be enacted in July 1999. Local authorities are the key regulators under the Act and will carry out surveys to identify contaminated land, and will then, in collaboration with the polluters and/or landowners, ensure that works are carried out to remove the identified risks. We will act as a consultee and advisor, although some sites will be designated as *special sites* for which we will take responsibility. The Special Site Regulations categorise land under a number of headings by the type of process/activity which might lead to special site status e.g. former MoD land and nuclear establishments.

Most contaminated sites are improved during redevelopment, with the cost of the work paid for by the development and the details of the clean-up controlled through planning permission. This is the best means of achieving re-use and will continue wherever possible. Larger or more heavily contaminated sites require preliminary work before developers take over, this may be undertaken by national owners or Government-sponsored bodies such as Development Agencies or English Partnerships (see Actions 5d-5f).

3.6 Fisheries

Fish habitat enhancement works carried out in 1998 include five summer level, block stone groynes built at a number of locations; these provide fish refuge during times of high winter flow, as well as improving localised diversity of summer flows. This helps create a variety of new habitats in a previously *uniform* area. Other work included the strategic installation of two gravel shoals designed to attract fish for spawning purposes. In addition one project has initiated a new era of advanced methodology in the creation of diverse marginal habitats for fish using *soft* brushwood material. This work is likely to pave the way for habitat improvement works in the future (see Actions 13b-13c).

3.7 *Make a Difference* environmental improvements

We have created a small fund to finance a few low to medium cost environmental improvement projects each year. Where possible we seek partners to match funding. The list below highlights those *Make a Difference* projects being undertaken in the LEAP area:

- support for the Dorset Otter and Vole surveys and construction of otter holts at Gillingham, Shillingstone and Durweston
- contribution to fencing at the Mildown Nature Reserve, Blandford

- Great Crested Newt survey as part of the Blackmore Vale project
- provision of interpretation boards for the Blackmore Vale project and the River Allen
- production of a species action plan for crayfish
- river rehabilitation work, to improve the riverine habitat at Shapwick, Langton Long, Nutsford and Spetisbury

3.8 Conservation and recreation

There has been significant progress in a number of key areas of work within the LEAP area, many as a result of successful collaborative projects. The Dorset Otter and Vole project has successfully trained a team of volunteer surveyors, achieved a baseline survey of these species, constructed many otter holts and produced interpretative material and a high profile for both species. The otter enhancement work along 14 km of the Stour on National Trust land at Kingston Lacey was completed, with many trees and shrubs planted, holts constructed and protective fencing to guide access.

The Otter Strategy predicted site occupation of the Stour to be around 40%; the target is to reach 60% occupation by 2010. Work will be undertaken to monitor populations and encourage recolonisation; detailed recommendations are now included in the Project Officer's, and our, work plans. There has been an increase in corpses of otters from this area, a sad statistic, but possibly indicating an increase in populations. Road crossings are clearly a critical focus for investigation, and work is planned for 1999-2000 (see Actions 15c, 15f, 15g and 15n).

The pilot project reviewing the water meadow archaeology of the Allen and Frome was a successful partnership between us, County Archaeologists and landowners. It has created a useful database for routine screening, indicates options for potential restoration and/or enhancements, and increases our knowledge of the floodplain resource generally. The project stimulated considerable interest from professionals and landowners, and a seminar held in the County Museum attracted more than 100 people. The project is currently on hold due to lack of resources; future work could include enhancement work on the ground and/or extension to other areas (see Action 16a).

The Gillingham riverside enhancement scheme, a collaborative venture between North Dorset District Council, the local community and the Agency has been successful in identifying community desires for the river corridors through the town. This can hopefully be built into the planning process (see Action 4f).

The survey programme has been targeted towards key biodiversity habitats and species; these include surveys of chalk streams, including winterbournes and the headwaters of the Stour (see Appendix 6.3 for further information). The EC Habitats Directive and EC Birds Directive places additional responsibilities upon us (see Action 15a); Appendix 6.4 gives further information.

3.9 Common Ground

As part of a partnership scheme to engage community groups with issues in the Stour catchment the Agency is supporting the *Confluence Project* by Common Ground. This awareness raising campaign is using music and theatre to celebrate the special nature of the River Stour. In doing so it will also illustrate the interrelated issues in the catchment from Stourhead to Christchurch.

Work started in the headwaters in 1999 and will run for three years throughout the catchment and numerous community projects are planned. Through support for the *Confluence Project* the Agency expects the profile of the Stour catchment to be raised.

4. Environmental Strategy

Since the publication of the Action Plan, nationally, we have set out in *An Environmental Strategy for the Millennium and Beyond* our principal and immediate concerns that need to be addressed by the Agency working alone, and in collaboration with others:

- Theme 1 - addressing climate change
- Theme 2 - improving air quality
- Theme 3 - managing water resources
- Theme 4 - enhancing biodiversity
- Theme 5 - managing our freshwater fisheries
- Theme 6 - delivering integrated river-basin management
- Theme 7 - conserving the land
- Theme 8 - managing waste
- Theme 9 - regulating major industry

The Action Plan identified a number of key issues and associated actions to help achieve local environmental improvements. These actions have now been cross referenced to the strategy (see Section 5), to show how at the local level we intend to address the principal and immediate concerns listed above.

Further information on the strategy can be found in *An Environmental Strategy for the Millennium and Beyond* available from local Agency offices or on our Internet site at <http://www.environment-agency.gov.uk>.

5. Action Plan monitoring report

The following table updates the progress with each issue identified in the Dorset Stour LEAP Action Plan for the period January 1998 to December 1998 inclusive. The table also reports on several new issues and actions raised during this period. The following information is shown:

- organisations which will implement the proposed activity
- a timetable for each activity
- an estimate of the cost to us, where available, or an indication of how the work will be funded; *tbd* indicates costs have yet to be determined
- the financial years (April-March) in which the work will be done. A dot indicates in which financial year or over which period of financial years work is planned to be undertaken. For example '99 is the financial year April 1999 to March 2000 inclusive
- which of the nine themes from the Environmental Strategy (see Section 4) are addressed by a particular action

Please refer to the Glossary (see Section 7) for the definition of acronyms and abbreviations.

The following points should also be noted:

- our everyday work commits substantial resources to monitoring and managing the environment
- some actions will require feasibility studies and cost-benefit appraisals prior to work commencing. In some cases, depending on the outcome of these studies, further action may not be justified
- both ourselves and other participating organisations have limited resources and powers; some work may take longer than indicated owing to funding availability, Government policy, or more urgent priorities

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
The setting and maintenance of water quality targets (see Appendix 6.2 for further information)										
1a	Investigate cause of River Quality Objective failures on the following reaches. In 1996 there were 5 significant failures (Stour Durweston-Tarrant, Uddens Ameysford-Crane, Iwerne upstream fish farm-Ranston, Lydden Cannings Court-Lydden House, Lydden Hazlebury Bryan-Lydden House), and 11 marginal failures (Stour Shreen-Gillingham, Stour Tarrant-North Winterborne, Stour North Winterborne-Allen, Stour Allen-A348 road, Allen Gussage-Hinton Parva East, Allen Hinton Parva-Stour, North Winterborne Winterborne Kingston-Stour, Divilish Kitford-Stour, Lydden Caundle-Stour, Caundle Bishops Coundle-Lydden, Cole Wincanton-Bow Brook). The investigation of EC Directive failures and significant River Quality Objective failure is afforded a higher priority than marginal failures	6	Agency	£20k	•	•	•	•	•	<p>Significant failures Stour Durweston-Tarrant: this stretch was a marginal failure in 1997 and is now compliant in 1998. No further action is planned Uddens Ameysford-Crane: this stretch was compliant with its RQO in 1997 and 1998 but continues to fail its LTRQO. Continuous monitoring has highlighted low DO levels during June-September which are highly correlated with low flows. From the analysis to date it appears unlikely that the stretch will achieve its LTRQO of 1. Revision of the RQO will have to be addressed Iwerne upstream fish farm-Ranston: this stretch is now only a marginal failure (1998) (DO) and it appears limited data were available for the 1996 compliance assessment. It is thought this may be a low flow induced problem, further investigation is planned for summer 1999 Lydden Cannings Court-Lydden House: the stretch met its RQO in 1998 but continues to significantly fail its LTRQO. Ongoing farm campaigns are targeted for this area (see Action 2a) and we will also have to identify whether the LTRQO is achievable Lydden Hazlebury Bryan-Lydden House: this stretch is consistent in marginally failing its RQO and LTRQO for BOD. The significant failure in 1996 was due to high pH. For actions associated with this stretch see above and Action 2a</p> <p>Marginal failures Of the 11 marginal failures, the majority are now compliant. The rest continue to be marginal failures on BOD and DO. It is likely that the reasons are either low flow or algal related. Correlation of algal and BOD will need to be undertaken so decisions on set aside can be made (see Appendix 6.2)</p>

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
1b	Investigate causes of Long Term River Quality Objective failures in the lower Stour, Allen, Divilish and Mannington. <i>These investigations will determine the action required to meet Long Term River Quality Objectives</i>	6	Agency	£30k		•	•	•	•	<p><i>Divilish:</i> during April and October-November there are significant increases in BOD levels which may be related to land use practices. If resources allow additional sampling will be targeted at these times</p> <p><i>Mannington:</i> investigation carried out for the Moors River during July-September 1998. Flow appears to be a major factor in the explanation of low DOs</p> <p><i>Allen:</i> significant failures have been associated with DO. Additional samples have been taken over the last three years to assist in ascertaining the cause of failure. It is likely that low flows are the determining factor and it is hoped modelling of the catchment will confirm this</p> <p><i>Lower Stour:</i> as with the marginal failures, there are a number of stretches which are failing on BOD which maybe related to algal levels. Chlorophyll-a samples (see Action 1c) have been collected routinely with BOD samples over the last three years. Correlation of algal and BOD will need to be undertaken so decisions on set aside can be made (see Appendix 6.2)</p>
1c	Undertake chlorophyll monitoring at 25 additional sites in the catchment. <i>This will provide additional information on the duration of algal blooms and will assist in determining the reasons for some River Quality Objective failures</i>		Agency	£10k	•	•	•	•	•	See Action 1b
Impact of agriculture on water quality										
2a	Farm campaigns and the provision of pollution prevention advice to ensure that point source pollution from all farm activities is minimised	6, 7, 4	Agency	tbd	•	•	•	•	•	A farm survey along the River Lodden has been completed and the upper stretches of the Lydden and the Key Brook will be surveyed during 1999 - 2000
2b	Facilitate the use of Fertiliser Management Plans by farms surrounding the Wessex Water Services supply source at Black Lane, Blandford. <i>Rising levels of nitrates at Black Lane and the Hall & Woodhouse borehole have occasionally exceeded the EC Groundwater Directive standards</i>	6, 7	Agency Farmers WWSL	£20k	•	•				This has now been completed; long term monitoring and partnership with farmers are proposed to continue the sustained decrease in levels
2c	Dealing with Diffuse Pollution Phase 1. Feasibility study to examine the possibility of reducing the impact of landspreading on watercourses and groundwater through farm waste brokerage	6, 7	Agency Farmers AD&AS Agric Contractors WWSL BWHWC MAFF FRCA				•			Nationally, a Research & Development project has been completed. The National Rural Landuse Group are currently deciding what action should now be taken following this report. In the meantime we are helping to fund a European Research & Development project, being undertaken by the Water Research Council, looking at co-operative agreements with the farming community. This may include research into the effectiveness of waste brokerage schemes
2d	Dealing with Diffuse Pollution Phase 2. This may involve implementing farm waste brokerage in pilot areas; part of the Stour catchment may be a pilot catchment	6, 7		tbd			•	•	•	This will depend on the outcome of Action 2c

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
2e	Collect data to support the case for designation as a Nitrate Vulnerable Zone under the EC Nitrates Directive. <i>Successful designation under the EC Nitrates Directive would provide the legal requirement to limit inputs of nitrates from agricultural sources</i>	6, 7	Agency BWHWC MAFF	£15k pa	•	•	•	•	•	The latest assessment using the furthest downstream sampling point shows the Stour still complies with the Directive. Christchurch Harbour is also a candidate Polluted Water (Eutrophic) under the EC Nitrates Directive. The proposal was not ratified by our National Panel and hence was not forwarded to the DETR for approval. Further nutrient data will be collected during 1999 – 2000, with a view to resubmission for the 2001 review of Candidate Polluted Waters (Eutrophic)
2f	Undertake chlorophyll monitoring at 25 additional sites in the catchment	see Action 1c								
2g	Participate in and implement actions from Blackmore Vale Restoration Project	see Action 14c								
Impact of sewage and sewerage on water quality										
3a	Negotiate improvements in Wessex Water Services discharges from Holdenhurst and Christchurch sewage treatment works	6	Agency WWSL OFWAT		•					See action 3b.
3b	Carry out agreed programme of improvements at Holdenhurst and Christchurch sewage treatment works	6	WWSL		•	•	•	•	•	Ultra-violet disinfection treatment has been installed at Christchurch STW and WWSL have applied for planning permission to construct storm tanks at Holdenhurst STW (these will provide further storm attenuation capacity and will be funded under AMP2, see Section 3.3). Further work is expected at Holdenhurst under AMP3, including installation of ultra-violet treatment by 2001
3c	Carry out improvements to Boscombe Pier combined sewer overflow	6	WWSL		•					Improvements to Boscombe combined sewer overflow have been completed. However there are still problems with foul contamination of one surface water outfall. A report has been passed to WWSL requesting a sewer survey to identify causes of contamination.
3d	Upgrading of Iwerne Minster sewage treatment works	6	WWSL				•	•	•	This is included in the AMP3 programme
3e	Data collection to support the case for designation of the lower Stour and Christchurch Harbour under the EC Urban Waste Water Treatment Directive. <i>Successful designation under the EC Urban Waste Water Treatment Directive would provide the legal requirement to install appropriate nutrient removal at relevant sewage treatment works</i>	6, 7	Agency	£10k pa		•	•	•	•	Christchurch Harbour is a candidate Sensitive Area (Eutrophic) under the EC Urban Waste Water Treatment Directive. The proposal was not ratified by our National Panel and hence was not forwarded to the DETR for approval. Further nutrient data will be collected during 1999 – 2000, with a view to resubmission for the 2001 review of Candidate Sensitive Areas (Eutrophic)
3f	We will provide information regarding the installation of first time sewerage as required	6	Agency		•	•	•	•	•	Our role is to provide supporting information to the applicant and sewerage undertaker on the environmental impact of existing facilities and to act as an arbitrator in any dispute
3a	Actions on Bourne Stream	see Action 4a								

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
3h	NEW: Investigate impact of Holdenhurst, Palmersford, Kinson and Wimborne STWs on the lower Stour and Christchurch Harbour and compliance with the EC Bathing Waters Directive	6	Agency WWSL	tbd			•	•	•	Ultra-violet disinfection will be required at these works depending on the outcome of this investigation. This is included in the AMP3 programme. Ultra-violet treatment will be installed at Holdenhurst by 2001 (see Action 3b) A spore tracer survey is planned for September–November 1999 to assess the impacts of Holdenhurst STW. A feasibility study is also to be carried out by the Centre for Research into Environment and Health to assess bathing water compliance related to point and diffuse sources of pollution on the lower Stour
3i	NEW: Upgrading of Edmonsham STWs	6	WWSL				•	•	•	This is included in the AMP3 programme
3j	NEW: Agree with WWSL prioritised intermittent discharge programme	6	WWSL				•	•	•	WWSL to carry out improvements identified
Impact of urban runoff on rivers										
4a	Proposed scoping study to identify sources of diffuse pollution in the Bourne Stream and opportunities to reduce this by the installation of pollution prevention systems. <i>We would aim to reduce the potential impact on Bournemouth Pier Bathing Beach from the Bourne Stream.</i>	6, 7	Agency LAs WWSL	£10k			•	•		Using <i>Make a Difference</i> funding (see Section 3.7), a feasibility study to see if source control techniques can be retrofitted within the Bourne catchment has been undertaken by consultants. The report is due April 1999 and any recommendations will be discussed with Bournemouth BC, the Borough of Poole and WWSL to see if progress can be made in reducing bacterial contamination of the stream. The Bourne is also part of the Dorset Heaths cSAC (see Appendix 6.4) and pollution has been raised by EN as impacting on the conservation interest
4b	Phase 2 would be the installation of pollution prevention systems and assessment of benefits	6, 7	LAs Agency	tbd			•	•	•	Depends on the outcome of Action 4a
4c	Consider setting a River Quality Objective for the Bourne Stream	6	Agency	£1k			•	•	•	This is currently being investigated
4d	Survey of the Moors River to target farm drainage and industrial estate problems and reduce the risk of pollution incidents. <i>This survey will initially target the Woolsbridge Industrial Estate area</i>	6, 7	Agency	£10k			•			A survey of Woolsbridge Industrial estate is planned for April–May 1999
4e	Ensure that development in the catchment incorporates appropriate pollution prevention and attenuation measures. <i>In addition to ensuring that facilities are provided, we will seek ongoing maintenance agreements so that they continue to operate as designed</i>	6, 7	Agency Developer LAs			•	•	•	•	This work continues through our role as a statutory consultee to the development planning process
4f	Develop plans for management in key river corridors through urban areas via planning process	6, 4	Agency LAs DWT Local Pop*	£2.5k			•	•		The riverside enhancement scheme in Gillingham has been developed in partnership with other organisations and the local community. A report has been produced and a leaflet and enhancement projects are planned for 1999–2000. Urban watercourses in the lower area conurbation are also a key target in 1999–2000
Contaminated land										
5a	Identify contaminated land sites in the catchment	7	LAs Agency				•	•	•	This has now been replaced by actions 5d–5f

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
5b	Cogdean Elms Phase 1. Further site investigation to assess the extent of contamination and to determine the appropriate treatment method. <i>Funded by the DETR</i>	7	Agency		•					This has now been completed
5c	Cogdean Elms Phase 2. Carry out appropriate treatment to remediate the contamination	7	Agency			•	•	•	•	An application for funding, in the order of £600k, has been made to the DETR. There are two elements to the work; surface capping and soil vapour extraction to be carried out in 1999-2000 and a passive barrier will be installed in 2000-2001
5d	NEW: Contribute to the development planning process to ensure effective improvement of contaminated sites proposed for development. <i>This will be undertaken through our role as a statutory consultee to the development planning process</i>	7	Agency		•	•	•	•	•	
5e	NEW: Assist local authorities to implement their responsibilities under the new regime for the improvement of contaminated land. <i>The resources required will depend on the number of sites identified</i>	7	LA's Agency	tbd			•	•	•	
5f	NEW: In consultation with local authorities manage contaminated land sites identified as special under the new regime. <i>The resources required will depend on the number of sites identified</i>	7	Agency LA's	tbd			•	•	•	
Developing strategies for sustainable waste management										
6a	Promote and support the work of the South Wessex Waste Minimisation Group	8	Agency	£5k pa	•	•	•	•	•	We continue to promote and support relevant waste minimisation initiatives including support for the South Wessex WMC
6b	Publication of a <i>Don't Waste Away Profits</i> Leaflet	8	South Wessex WMC Agency	£1k	•					<i>Don't Waste Away Profits</i> leaflet was produced in 1997 and is available from local Agency offices
6c	Set up a Waste Exchange Scheme	8	Canford ET		•	•				<i>Waste Exchange-Rubbish or Resource</i> leaflet produced in December 1998 and is available from local Agency offices. We are involved along with the South Wessex WMC
6d	Publication of a Regional Recycling Directory. This will be updated annually	8	Agency	£3.5k	•	•	•	•	•	An area recycling directory was produced in March 1998 and is available from local Agency offices. The regional directory will be produced by the end of 1999
6e	Publish a Waste Minimisation Success Story booklet	8	Agency		•					We are no longer planning to produce this booklet (see Action 6f)
6f	NEW: Publish Industry Specific Environmental Best Practice guide (for Dorset). Planned as part of the South Wessex WMC project <i>pride</i> with Bournemouth University	8	South Wessex WMC Partners				•	•	•	
6g	NEW: Provide advice to commerce and industry on waste minimisation. <i>This includes promotion of the South Wessex Industrial and Commercial Waste Minimisation and Recycling Directory; includes contacts for the re-use and recovery of wastes, and waste minimisation and recycling information</i>	8	Agency	tbd		•	•	•	•	

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
6h	NEW: Monitor compliance with Producer Responsibility Regulations and ensure companies who are affected by the regulations are registered. <i>Certificates of compliance are required for registered schemes and businesses from 31/1/99. Each company/scheme will be visited once every three years</i>	8	Agency	tbd		•	•	•	•	
6i	NEW: Continue accreditation of reproprocessors. Accredited reproprocessors to be re-accredited every year. <i>Accreditation to continue as and when a reproprocessor applies to the Environment Agency</i>	8	Agency	tbd		•	•	•	•	
6j	NEW: Raise business awareness of the Producer Responsibility Regulations through telephone calls, visits and seminars. <i>Businesses affected must handle more than 50 tonnes of packaging material per year and have a turnover of more than £5 million. The turnover threshold drops to £1 million from the year 2000</i>	8	Agency	tbd		•	•	•	•	
Maintaining our rivers and flood defences										
7a	Revise our programme of works to favour reaches where we are currently providing service below the target Standard of Service	6, 7	Agency Land-owners	tbd	•	•	•	•	•	As a result of the implementation of the Flood Defence Maintenance Manual in 1998 works in the annual maintenance programme are prioritised on the basis of Standards of Service benefits. This is an on-going process. Where Dorset Stour works score more highly than works in other areas they are included
7b	Carry out further surveys of assets	6, 7	Agency	£30k pa for area	•	•	•	•	•	A flood defence asset survey for the LEAP area has been completed as part of the region wide project A project to determine flood risk and flood defence effectiveness of assets in Cillingham is to be undertaken in 1999
7c	Assess priorities in light of asset survey	6, 7	Agency	£1M pa for area	•	•	•	•	•	As a result of the Easter Floods and the subsequent Bye Report an asset inspection engineer will be appointed to determine the condition of assets and the position of subsequent works in the annual works programme. This is an on-going process
7d	Carry out necessary refurbishment and replacement works									
7e	Make initial enquiries to local authorities about dealing with surface water flooding behind our Flood Alleviation Schemes. <i>Local authorities would have to determine, fund and carry out such works</i>	6, 7	Agency		•	•				Sewerage undertakers have implemented localised improvements. No further action
7f	Prepare and implement a review of weedcutting on the Moors River	4, 6	Agency EN	£1k	•	•				This has been undertaken and weedcutting as a routine operation has now ceased
7g	Update Moors River Operational & Maintenance Plan to incorporate our work on the Uddens	4, 6	Agency EN				•			Deferred, will now be linked to the conservation strategy. See Action 7h
7h	Prepare conservation strategy and consenting protocol for Moors River to include the Crane-Moors River proposed Site of Special Scientific Interest extension	4, 6	Agency EN	£2k			•			We are still awaiting notification of the Crane as a SSSI before continuing with this action
7i	Review routine maintenance and identify opportunities for enhancement	4, 6	Agency LAS	£1k	•					Maintenance work on several rivers has been reviewed to protect water voles and provide enhancement

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
7j	Prepare Operational & Maintenance Plan for Piddles Wood	4, 6	Agency		•					No longer required following the review (Action 7i)
7k	Produce a Water Level Management Plan for the Moors River	4, 6	Agency EN Land-owners	£5k	•	•				Draft plan prepared and one trial site implemented (Leaden Stour)
7l	NEW – Prepare a hydraulic model for Gillingham. <i>The model is required to more accurately determine the effects of regeneration of the town centre. The total cost of the project is £40k</i>	6	Agency NDDC	£20k			•	•		
The provision of flood warning and emergency response										
8a	Construct new level monitoring station at Iford Bridge	6, 7	Agency	£15k	•	•				Completed and operational
8b	Develop new warning criteria for tidal reaches	6, 7	Agency	£3k	•	•				Criteria have been reviewed and improvements made
Potential effects of climate change on the environment										
9a	NEW – Participate in the development and adoption of the Christchurch and Poole Bay Shoreline Management Plan	1, 6	Agency LAS	£15k		•	•			The Shoreline Management Plan has been drafted and is currently out for external consultation until 30 th June 1999
Impact of public water supply abstractions on the Allen										
10a	Produce a business case for the downward variation of the Stanbridge borehole licence by 50% of its current value, within the timetable for the OFWAT Periodic Review and incorporating the benefit values now established	3	Agency	£2k	•					The summary business case is complete and was forwarded to DETR in November 1998. A full business case was prepared but DETR approved the scheme on the basis of the summary
10b	Incorporate in our Water Resources Development Strategy a review of a downward marking of the yield of Stanbridge borehole in order to make evident the future change in balances of Bournemouth & West Hampshire Water resources	3	Agency				•	•		Reducing the Stanbridge licence will be incorporated in the review of the South West Region Water Resources Strategy which is due to be published in December 2000
10c	Encourage Bournemouth & West Hampshire Water to make a greater impact with its interim voluntary reductions	3	Agency		•	•	•	•		Substantial improvements in Bournemouth & West Hampshire Waters voluntary reductions have been made over the last year. Throughout 1998 the majority of abstractions were around 65% of the full authorised quantity (see Section 3.1.2)
10d	Conduct bi-annual surveys of flow accretion in Cussage and investigate bed-lining maintenance	3, 4	Agency	£0.5k pa			•	•		Flow survey to indicate the effectiveness of augmentation will be carried out in 1999. Bank and in-channel maintenance have become more flexible to accommodate environmental concerns
10e	General review of existing stream augmentation control rules to maximise potential benefits.		Agency	£25k				•	•	To be included in the overall solution to the low flow problem
Potential impact of water supply abstractions at Longham										
11a	Investigate the potential for changes to the Bournemouth & West Hampshire Water abstraction from the Stour at Longham to make good the resources lost at Stanbridge. <i>This investigation will consider potential impacts on water quality, fisheries and conservation</i>	3	BWHW Agency	£50k+			•	•		Initial meetings are taking place between the Agency and the company in order to progress this action

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
11b	Investigate other options for Bournemouth & West Hampshire Water to compensate for the loss of authorised quantities at Stanbridge in combination with embryonic Longham storage reservoirs or any other conjunctive use measures or demand management options	3	BWHW Agency	£5k			•	•		A suite of options have been considered in the company's Water Resource Plan; the preferred option at this stage is for the licence at Longham to be increased but this will be considered further during the studies related to Action 11a
11c	Publish a revised Water Resources Development Strategy with reference to the implications of changes at Longham and for use as the basis of a development plan to be agreed with Bournemouth & West Hampshire Water	3	Agency	tbd			•	•		Any potential changes will be incorporated in the review of the South West Region Water Resources Strategy which is due to be published in December 2000
Impact of public water supply abstractions on the Tarrant										
12a	Continue monitoring groundwater levels and river flows utilising the existing expanded network of locations	3	Agency	tbd		•	•	•	•	This will continue and is now considered routine work and includes the three new boreholes drilled (see Action 12b)
12b	Drill new boreholes and monitor water levels between the Tarrant, Stour and Shapwick pumping station in order to determine the impact of groundwater abstraction on surface flows	3	Agency	£20k		•				Three boreholes were drilled in the winter of 1997-1998 and continuous logging of water levels commenced in February 1998 (see Actions 12a and 12c)
12c	Review results of above when sufficient data have been gathered. <i>Liaise with North Dorset District Council Local Agenda 21 Group regarding their proposed hydrological and environmental study of the Tarrant valley</i>	3	Agency	tbd			•	•		The study commissioned by NDDC proved inconclusive in assessing the impact of groundwater abstraction on surface flows. The first 12 months data will be reviewed during 1999 to see if there is any evidence of impact as a result of groundwater abstractions at Shapwick
12d	Consider construction of a gauging station in the vicinity of Tarrant Crawford	3	Agency	tbd			•	•	•	This will depend on the outcome of action 12c
12e	Establish baseline data for the river against which to assess future impacts. <i>Need River Corridor Survey, River Habitat Survey, invertebrate and macrophyte data</i>	4, 6	Agency	£1.8k			•			The data collected will be used to undertake action 12g
12f	Explore the potential to optimise channel morphology for fish survival in low flow	see Action 13f								
12g	NEW: Undertake enhancements on the Tarrant to maximise ecological and landscape interest	4, 6	Agency RTPS	£2k			•			Will be done in conjunction with action 13f following action 12e
NEW: Potential impact of public water supply abstractions on the Shreen Water										
19a	NEW: Carry out ecological and flow monitoring on the Shreen and Ashfield Water in the vicinity of Mere. <i>This is in order to assess concerns over low flows</i>	3, 4	Agency	tbd			•	•		
Constraints on fish populations										
13a	Hurn Weir has been rebuilt to facilitate passage of fish, but we still have to carry out monitoring of fish migration at appropriate times of year	5	Agency	tbd		•		•	•	Video surveillance of the fish pass during autumn 1998 has shown that even small fish can now reach the crest of the weir and are likely to ascend successfully. The fish populations upstream of Hurn Weir will be resurveyed in Spring 2000
13b	Coarse fish habitat improvement at Nutford Farm	4, 5	Agency	£6k			•			This work has been successfully completed and included creating refuge habitat for coarse fish and habitat improvement for otters
13c	Coarse fish habitat improvement at Bryanston School	4, 5	Agency	£8k		•	•			This work has been successfully completed; a gravel shoal was added

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
13d	Coarse fish habitat improvement at Langton Long	4, 5	Agency	£9k		•				This work has been successfully completed; three boulder groynes were constructed
13e	Further coarse fish habitat improvement projects at other locations (e.g. Kingsmill) as funding allows	4, 5	Agency	£5k pa	•	•	•	•	•	The project at Kingsmill was completed in 1997. Works completed in 1998 include a stone weir at Shapwick, a gravel bed at Highbridge (Gillingham) and marginal brushwood berms at Crawford Bridge. Bids have been made to continue this work through 1999-2000
13f	Produce Stour Salmon Action Plan	5	Agency	£4k			•			The Salmon Action Plan will be produced in 1999 and will provide a clear plan of action and targets to work to
13g	Investigate migration conditions for sea trout on the Crane and Mannington	5	Agency	£5k	•					Dr David Solomon produced a report on migration conditions in 1998. Recommendations were made for improvements at a number of sites. These will be undertaken as and when funding and priorities allow. The biggest issue is the control structures at Cranebrook Fishery which are causing an obstruction to sea trout migration. The site has been examined by engineering consultants who have indicated that improvements are likely to cost about £15k. The resources to undertake this work are not currently available
13h	Carry out a review of existing data on the Crane to investigate concerns regarding low flow expressed by Dorset Wildlife Trust	4	Agency	£2k				•		Progress with this action will depend on its' priority against other low flow projects
13i	We are contributing to a National study on the impact of cormorants and other fish-eating birds on fish stocks	5	Agency DETR MAFF	£1M Nationally	•	•	•			The study is due to report during 1999
13j	We will offer advice to those whose fisheries are affected by predatory birds regarding the options available to them at present	5	Agency	tbd	•	•	•	•	•	Advice is offered as and when required
13k	Specific Actions on the Allen	See Actions 10a – 10e								
13l	Explore potential to optimise channel morphology of the Tarrant for fish survival in low flow. <i>Following on from hydrological investigations (Actions 12a – 12f)</i>	4, 5, 6	Agency Fishery interests		•	•	•	•	•	This has been progressed in partnership with local fishing interests and WWSL. Investigations are on-going (see also Action 12g)
13m	Monitor impact of public water supply abstractions on the Tarrant	see Action 12c								
13n	Carry out a fish population survey on the Stour		Agency	tbd		•				Completed in 1998 and the report is now available
Loss and decline in the value of riverine and floodplain habitat										
14a	Encourage a reduction in agricultural intensification of the floodplain	4, 6	Agency MAFF Other Partners	£9k		•	•	•		Floodplain grazing marsh is a key habitat and occurs along the Moors River. Floodplains will be surveyed as resources become available. It is proposed to produce a floodplain grassland inventory of all information known in Dorset
14b	Review South Wessex Downs Environmentally Sensitive Area. <i>includes a small section of the Stour catchment</i>	4, 6	Agency MAFF		•					We responded to this review

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
14c	Contribute to the Blackmore Vale Restoration Project which involves the Lydden, Caundle, Cam and parts of the Divilish	4, 6	Agency EN	£7.4k	•	•	•			We sit on the steering group and have contributed to leaflets, promotional boards and a pond survey. Pond restoration/great crested newt enhancements and river projects will be targeted during 1999-2000
Protection of ecologically important habitats and species										
15a	Review all authorisations affecting Special Areas for Conservation and Special Protection Areas	4, 6	Agency	4/5 FTE for area		•	•	•	•	There are four sites in the LEAP area; the Dorset Heathlands is a priority Special Protection Area (see Appendix 6.4 for further information)
15b	Regional otter survey	4, 6	Agency			•				This has been dropped with the emphasis now being placed on the River and Wetland project (see Action 15f)
15c	We will provide post mortem analyses of any dead otters found in the catchment. <i>Details are available from our offices</i>	4, 6	Agency	tbd	•	•	•	•	•	Post mortem analysis has been undertaken on three otters from the LEAP area
15d	Create a database of habitats, species and relevant actions from National, Regional and Local Biodiversity Action Plans	4, 6	Agency		•	•	•	•	•	Ongoing; the database is currently used to inform LEAPs and routine screening work. However it does require modification and continual updating
15e	Participate in the County Forum to develop a County Biodiversity Action Plan (see Appendix 6.3 for further information)	4, 6	Agency DCC EN DWT RSPB	£5k		•	•	•	•	We have contributed to the Project Officer costs and have a role on the steering group. Targets for the first year will include floodplain grazing marsh, great crested newts, urban watercourses, fens and marine areas
15f	Dorset Vole and Otter Project	4, 6	DWT NT Agency	£22.5k	•	•	•			Two years of the project have established a baseline survey, a management leaflet and an otter enhancement project with the National Trust, 15 holts have been constructed. Further on the ground improvements are planned
15g	Review South Wessex Otter Strategy and prioritise rivers for action	4, 6	Agency	£1.5k		•				Completed. Actions are being worked into the Project Officer's and our work plans (see Action 15f)
15h	Prepare strategy for Christchurch Harbour	see Action 18d								
15i	Monitor headwater streams and winterbournes for invertebrates	4, 6	Agency	tbd			•			This action is unlikely to be progressed due to other priorities
15j	Explore opportunities for partnership with Environmental Trusts. <i>Part of the new Landfill Tax can be diverted into Environmental Bodies (Trusts) for environmental improvements. These improvements have to be related to the results of waste disposal activities or carried out in the vicinity of a landfill</i>	4, 6	Agency		•	•				The Landfill tax is being fully utilised by wildlife trusts for a number of projects and officers. No further action is planned at present
15k	Contribute to the Blackmore Vale Restoration Project	see Action 14c								
15l	NEW: Survey the Stour and Moors River for the native crayfish and monitor the river Allen	4, 6	Agency	£4k			•			This action is dependent on resources being made available
15m	NEW: Survey the Stour for the freshwater pea mussel	4, 6	Agency	£2k			•			This action is dependent on resources being made available
15n	NEW: Continue to support the Dorset Otter and Vole project. <i>Emphasis on analysis of road crossings and on-the-ground enhancements</i>	4, 6	Agency DWT Volunteers	£7.5k			•			This action is dependent on resources being made available

Ref	Issues and Actions	Theme	By	Cost	97	98	99	00	01	Progress Year One
Need to protect features of archaeological interest										
16a	Feasibility study to identify potential for water meadow archaeology	6	Agency LAs	£10k	•					The pilot study was undertaken; results discussed at a public seminar and used by us on a daily basis
Air quality										
17a	We aim Nationally to reduce the emissions of sulphur dioxide by 75%, from a level of 1,656,000 tonnes in 1995 to 414,000 tonnes by 2005	1, 2, 9	Agency		•	•	•	•	•	In January 1998, we published a consultation document with proposals to bring forward the deadline for an 84% cut in sulphur dioxide emissions from power stations in England and Wales from 2005 to 2001. By 2001, changes in the electricity industry are expected to have reduced emission from 2,340,000 tonnes a year in 1991 to 500,000 tonnes. Through the consultation we are seeking a further reduction to 365,000 tonnes. There are no specific actions within the LEAP area
17b	We aim Nationally to reduce the emissions of nitrogen oxides by 33%, from a level of 512,000 tonnes in 1995 to 338,000 tonnes in 1998	1, 2, 9	Agency		•	•				Proposals in the above consultation document include substantial cuts in emissions of nitrogen oxides and particulates at coal and oil fired power stations, with plants not meeting the new limits expected to close. There are no specific actions within the LEAP area
The development of recreation										
18a	Provide native tree and shrub plantings, and steps for safe access to the river on the Stour Meadows development. <i>The Stour Valley Project will oversee this work</i>	6	Agency DCC NDDC DWT	£6.3k	•	•	•			A dipping platform on the pond side and interpretation panels have been provided and trees and shrubs have been planted. Riverside access is under negotiation
18b	Explore further opportunities for interpretation and enhancement projects along Stour Valley Way and Little Canford Ponds	6	Agency DCC LAs	£6k		•				We have developed an educational pack in partnership with NDDC and are involved with a school project in Blandford and the <i>Rivers in Wimborne</i> project
18c	Implement improvements to canoe facilities. <i>As opportunities arise</i>	6	Agency BCU	£0.9 pa	•	•	•	•	•	A canoe platform platform has been constructed near Blandford
18d	Develop strategy for Christchurch Harbour	6	Agency EN RSPB Users LAs	tbd		•	•			Currently deferred although this has been raised as a potential action in the Hampshire Avon LEAP Consultation Draft. This LEAP is available from the Blandford office
18e	Increase educational use of Little Canford Ponds	6	Agency	£0.5k			•			Following on from the education pack (Action 18b) an extra dipping platform will be constructed
18f	Build two educational ponds at Moors Valley Country Park	6	Agency EDDC Volunteers	£0.5k	•					This work has been successfully completed
18g	NEW: Explore opportunities for collaborative projects with the South East Dorset Greenlink project. <i>This project aims to promote the enjoyment and management of the countryside in ways which sustain its environmental qualities</i>	6	Agency Partners				•			
18h	NEW: Investigate role with planned Stour interpretation centre	6	Agency NDDC Others				•			

6. Appendices

6.1 The role of the Environment Agency

The Environment Protection function includes:

- integrated pollution control - regulating the potentially most polluting industrial processes
- water quality - a duty to monitor, protect, manage and where possible enhance the quality of all controlled waters including rivers, groundwaters, lakes, canals, estuaries and coastal waters through the prevention and control of pollution
- radioactive substances - a duty to regulate the disposal of radioactive waste (on all licensed sites) and the keeping and use of radioactive material and accumulation of radioactive waste (non-nuclear sites only)
- waste management and regulation - we regulate and influence the organisations and individuals that produce, collect and transport waste, deal with the handling of waste, its treatment, disposal, recovery, and re-use and decide policy
- air quality - in discharging pollution control functions, the Agency must have regard to the National Air Quality Strategy

The Water Management function includes:

- water resources - a duty to conserve, redistribute, augment and secure the proper use of water resources
- flood defence - aim to provide effective defence for people and the developed and natural environment against flooding from rivers and the sea. In practice, flood defence operates in three activity areas: alleviation, physical works and emergency response
- fisheries - a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries in order to optimise the social and economic benefits from their sustainable exploitation. The Agency is also the sea fisheries committee for some estuaries. We have statutory duties with respect to commercial fishing for sea fish and shellfish in these waters
- conservation - a duty to further wherever possible the conservation of special features when carrying out water-management activities, to have regard for conservation as part of Environment Protection activities, and generally to promote the conservation of natural beauty and amenity and the wildlife dependent on the aquatic environment
- recreation - a duty to promote the use of inland and coastal waters and associated land for recreational purposes. We also have a duty to consider the need to maintain public access at sites of conservation or historic interest and to make best recreational use of Agency owned land. We must also have regard to preserving access to places of natural beauty and to take account in all aspects of our work the needs of the sick or disabled
- archaeology - a duty to consider the impact of all regulatory, operational and advisory activities upon archaeology and heritage, and implement mitigation and enhancement measures where appropriate
- navigation - we have no navigation responsibilities in the South West Region

We do not cover all aspects of environmental legislation and service to the general public. Your local authority deals with:

- noise and odour problems
- litter
- air pollution from vehicles, household areas, small businesses and small industries
- planning permission (they will contact us when necessary)
- contaminated land issues (at present in liaison with ourselves)
- environmental health issues including control of invasive weeds on non-main river and notification of health risks from blue-green algae

- coastal erosion, and most flood defence matters on ordinary watercourses

Additionally the responsibility for drinking water quality rests with water companies and, in the case of private supplies, local authorities.

6.2 The setting and maintenance of river water quality targets

We manage water quality by setting targets called River Quality Objectives (RQOs) which are intended to protect current water quality and future use. We use them as a basis for setting consents for new discharges and planning future water quality improvements. The RQOs we set must be achievable and sustainable; we must be able to identify what needs to be done to meet the target, and to ensure as far as practicable that water quality can be maintained at this level in the future.

The classification scheme known as River Ecosystem (RE) comprises five hierarchical classes reflecting the chemical quality needed by different types of river ecosystem including the types of fishery they can support.

RQO (RE Class)	Class Description
RE1	Water of very good quality suitable for all fish species
RE2	Water of good quality suitable for all fish species
RE3	Water of fair quality suitable for high class coarse fish populations
RE4	Water of fair quality suitable for coarse fish populations
RE5	Water of poor quality which is likely to limit coarse fish populations

Failures to meet RQOs are shown as *significant* and *marginal* failures. Significant failures are those where we are 95% certain that the river stretch has failed to meet its RQO. Marginal failures are those where we are less certain (between 50% and 95%) that the stretch has failed to meet its RQO.

In some cases, we may also manage water quality by setting long term RQOs (LT RQOs). LT RQOs must be realistic and are set where clear actions can be identified to bring about necessary improvements in water quality or to restore water quality to a former level. Where LT RQOs are set, we measure compliance with our objectives against RQOs but use the LT RQOs as a basis for the setting of consents for new discharges, thus ensuring that these will not compromise the achievement of LT RQOs.

Where the necessary steps to improve water quality in the future are committed within a 5-10 year horizon, we set dated RQOs rather than LT RQOs. Dated RQOs reflect the investment timetable and indicate the date at which we expect our water quality targets to be met.

In certain circumstances data can be *set-aside*, that is we will not take into account some or all of the results of a particular determinand when we assess compliance with an RQO. We will set aside data where high concentrations of metals or low pH are caused by the natural geology of the catchment. This allows us to protect good water quality reflected by other parameters in the RE classification.

In certain slower-flowing, nutrient-rich rivers, substantial growth of planktonic algae can occur. During analysis the algal cells can exert a high Biochemical Oxygen Demand (BOD). However, these elevated BOD values do not necessarily represent the BOD exerted in rivers, or that resulting directly from effluent discharges. If these results for BOD are not discounted when we assess compliance, there is a risk that we will falsely identify a river as being non-compliant, and therefore investment to improve discharges will not be targeted efficiently.

6.3 Biodiversity

Biodiversity is defined as the variety of life and reflects the huge variation seen in the natural world, between habitats and species, and landscapes and genetics. Conservation of biodiversity seeks to safeguard this variety.

In 1994, the Government set up the Biodiversity Steering Group as its response to the Rio Earth Summit held in 1992, an international initiative for conserving biodiversity. The Steering Group led to the production of the *UK Biodiversity Action Plan* (UK BAP) which produced targets for the most threatened habitats and species in the UK. These are known as *priority habitats and species*. In addition plans will be

drawn up for a number of other habitats and species, known as *habitats and species of conservation concern*.

Of those priority habitats and species, we were named as a contact point for chalk rivers habitats and 12 species, six of which have been recorded in the South Wessex area. Chalk river habitats and the otter, the water vole, the white-clawed crayfish and the depressed river mussel are known to be present in the Dorset Stour LEAP area. As a contact point we are responsible for stimulating action to achieve targets, monitoring results and reporting progress to the national groups. We also have responsibilities for other *priority habitats and species* and *habitats and species of conservation concern* in order to help ensure their future protection.

Tranche 2 Action Plans, for invertebrates and vascular plants, were published in 1998. These detail distribution and proposed actions for a further 56 species including one further contact species for the Agency, the Marsh Warbler.

Work has also been ongoing at a regional level to translate some of the UK actions into specific actions on the ground. This has resulted in the production of the *South West Regional BAP*. This contains 31 target-based action plans for some of the region's most threatened habitats and species. These spell out in clear terms what needs to be done, by whom, if biodiversity in the South West is to be conserved, and where possible, enhanced.

Key habitats and species in the LEAP area

Habitats	Species
Chalk rivers ¹	Beaked beardless moss
Coastal and floodplain grazing marsh ¹	Depressed river mussel ¹
Fens ¹	Grass snake
Headwater streams	Great crested newt ¹
Lowland heathland ¹	Greater water-parsnip
Ponds	Otter ¹
Reed bunting	Pipistrelle bats ¹
Reedbed ¹	Water vole ¹
Rivers and streams	White-clawed crayfish ¹
Seagrass beds ¹	
Urban watercourses	

¹Priority habitats and species

6.4 EC Habitats and EC Birds Directive

The EC Habitats and Species Directive and the EC Birds Directive (which was transcribed into UK Law as the *Conservation Natural Species and Habitats Regulations, 1994*) place additional responsibilities on us along with our normal conservation duties. The EC Habitats Directive seeks to protect habitats and species of European importance by designating Special Areas for Conservation (SAC). Special Protection Areas (SPA) are classified under the EC Birds Directive which seeks to protect wild birds and their habitats. These will eventually become part of the Natura 2000 network.

Area ¹	Designation	Qualifying Interests
Dorset Heathlands	SPA; Ramsar	Heathland birds; wet heath
Dorset Heaths	cSAC	Dry and wet heath, depressions on peat, southern damselfly
Fontmell & Melbury Downs	cSAC	Early gentian
Rooksmoor	cSAC	Marsh fritillary

¹Sites wholly or partly within area

It has been decided by the UK Government that as soon as a site has been submitted to Brussels for confirmation (i.e. it has become a candidate SAC (cSAC)), the regulations will apply. This means that the conservation regulations already apply to the sites listed above.

With regard to SACs and SPAs, we are a competent authority, and have extra responsibilities to safeguard the sites. Any proposals or applications for new authorisations (e.g. consents to discharge, water abstraction licences and waste management licences) which may, either alone or in combination with others, have an effect on the conservation interests of a Natura 2000 site will be subject to a full

appropriate assessment of the impact on the interests of the site. The application can only be granted where we have ascertained that it will not adversely affect the integrity of the European site. These authorisations can be either inside or outside the site, as those outside the boundary may have the potential to impact the qualifying interests.

We are also obliged to review all existing authorisations and activities (flood defence work) which may be affecting these sites, taking advice from English Nature fully into account. Stage II of the review procedure is currently underway using a methodology agreed with English Nature to determine which authorisations are likely to be adversely affecting these sites. Bids are currently being made to resource this process.

The Dorset Heathlands SPA is a priority site. We are committed to completing Stage II of the review on priority SPAs by September 1999, and begin Stage III (carrying out the appropriate assessment) by October 1999, providing adequate conservation objectives are available. On all sites, Stage II should be completed by the end of March 2002. However, the resources to undertake this have not yet been identified, so the first target is unlikely to be met.

This is a wide ranging review, involving at least four Agency functions, in close partnership with English Nature and other competent authorities, including local authorities. It is a significant task for the South Wessex area, partly because of the number of Natura 2000 sites, and also because of their reliance on the wetland resource.

7. Glossary

AD & AS – Agricultural Development and Advisory Service

BC – Borough Council

BCU – British Canoe Union

BOD – Biochemical Oxygen Demand, a measure of the amount of dissolved oxygen consumed in water, usually as a result of organic pollution

BWHWC – Bournemouth & West Hampshire Water Company

DCC – Dorset County Council

Department of the Environment – Now part of the Department of the Environment, Transport and the Regions

DETR – Department of the Environment, Transport and the Regions

DO – Dissolved Oxygen, oxygen dissolved in water; suitable levels are essential for the maintenance of aquatic life

DWT – Dorset Wildlife Trust

EC – European Community

EDDC – East Dorset District Council

EN – English Nature

ETs – Environmental Trusts

FRCA – Farming and Rural Conservation Agency

FTE – full time equivalent member of staff

LAs – Local Authorities

LTRQO – Long Term River Quality Objective

MAFF – Ministry of Agriculture, Fisheries and Food

National Rivers Authority – One of the three predecessor bodies to the Environment Agency

NDDC – North Dorset District Council

Nitrate Vulnerable Zone - The major source of nitrate is from agricultural activity and the EC Nitrates Directive requires member states to identify waters (ground and surface) that are or could be affected in this way. If waters are clearly demonstrated to be affected, under the guidelines the land draining to these must be designated as nitrate vulnerable zones

NT – National Trust

OFWAT – Office of Water Services, the government regulatory agency for the water industry

pa – per annum

RQO – River Quality Objective

RSPB – Royal Society for the Protection of Birds

RTPS – River Tarrant Protection Society

South Wessex WMG – South Wessex Waste Minimisation Group

SSSI – Site of Special Scientific Interest

STW – Sewage Treatment Works

WWSL – Wessex Water Services Ltd

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EC Directive on the Conservation of Wild Birds (79/409/EEC)

EC Directive on the Protection of Groundwater against Pollution Caused by Certain Dangerous Substances (80/86/EEC)

EC Directive Concerning Urban Waste Water Treatment (91/271/EEC)

EC Directive Concerning the Protection of Waters Against Pollution Caused by Nitrates from Agricultural Sources (91/676/EEC)

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MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

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ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

0645 333 111

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

ENVIRONMENT AGENCY EMERGENCY HOTLINE

0800 80 70 60



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