

local environment agency plan

DORSET STOUR

SECOND ANNUAL REVIEW

January 1999 - December 1999



ENVIRONMENT
AGENCY

Additional Copies

Further copies of this Annual Review can be obtained from:

The LEAP Team

The Environment Agency

Rivers House

Sunrise Business Park

Higher Shaftesbury Road

Blandford Forum

Dorset DT11 8ST

Tel: 01258 456080

EA-South West LEAPs/112



NATIONAL LIBRARY &
INFORMATION SERVICE

HEAD OFFICE

Rio House, Waterside Drive,
Aztec West, Almondsbury,
Bristol BS32 4UD

Or by e-mail to: swessex.LEAPs@environment-agency.gov.uk

General Enquiries

For general information about the work of the Environment Agency, or information about a specific matter, please contact our Customer Contact Team at the Blandford Office.

Tel: 01258 456080

The Internet

For general information about the Environment Agency please visit our website at:

<http://www.environment-agency.gov.uk>

Environment Agency Copyright Waiver

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

Maps are reproduced from Ordnance Survey 1:50,000 scale map by the Environment Agency with the permission of the Controller of Her Majesty's Stationery Office, © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number 03177G

Published July 2000

Publication code: SW-07/00-0.65k-D-BFOG

ENVIRONMENT AGENCY



093160

Contents

| | |
|------------------------------------------------------------------------------------------------------------|-----------|
| 1 Introduction | 1 |
| 1.1 Who are the Environment Agency?..... | 1 |
| 1.2 Funding and the Environment Agency..... | 1 |
| 1.3 Local Environment Agency Plans..... | 1 |
| 1.4 Our Environmental Strategy..... | 2 |
| 1.5 Activity tables..... | 3 |
| 1.6 Fund-raising and partnerships..... | 3 |
| 1.7 Overview of the LEAP area..... | 3 |
| 2 A better environment through partnership | 6 |
| 2.1 Working with regional government..... | 6 |
| 2.2 Working with local planning authorities..... | 6 |
| 2.3 Coastal Zone Management Plans..... | 7 |
| 2.4 Shoreline Management Plans..... | 7 |
| 2.5 Working with Wessex Water and Bournemouth & West Hampshire Water Company..... | 8 |
| 2.6 Local Agenda 21..... | 9 |
| 2.7 Working with farmers and landowners..... | 9 |
| 2.8 Working with business..... | 10 |
| 2.9 Working with fisheries organisations..... | 10 |
| 2.10 Conservation..... | 11 |
| 2.11 Development of recreation..... | 11 |
| 2.12 Education..... | 11 |
| 2.13 Make a Difference environmental improvements..... | 12 |
| 2.14 Common Ground..... | 12 |
| 2.15 Public Registers and access to environmental information..... | 13 |
| 3 Progress overview | 14 |
| 3.1 Progress overview..... | 14 |
| 3.2 Priorities..... | 14 |
| 4 Activity tables | 15 |
| 4.1 The setting and maintenance of water quality targets..... | 15 |
| 4.2 Impact of agriculture on water quality..... | 17 |
| 4.3 Impact of sewage and sewerage on water quality..... | 19 |
| 4.4 Impact of development on urban rivers..... | 21 |
| 4.5 Contaminated land..... | 23 |
| 4.6 Developing strategies for sustainable waste management..... | 24 |
| 4.7 Maintaining our rivers and flood defences..... | 27 |
| 4.8 The provision of flood warning and emergency response..... | 28 |
| 4.9 Potential effects of climate change on the environment..... | 30 |
| 4.10 Impact of public water supply abstraction on the River Allen..... | 30 |
| 4.11 Potential impact of water supply abstractions on the River Stour at Longham (Ferndown)..... | 32 |
| 4.12 Impact of public water supply abstractions on the Tarrant..... | 33 |
| 4.13 Constraints on fish populations..... | 35 |
| 4.14 Loss and decline in the value of riverine and floodplain habitat..... | 37 |
| 4.15 Protection of ecologically important habitats and species..... | 38 |
| 4.16 Need to protect features of archaeological interest..... | 44 |
| 4.17 Improving air quality..... | 44 |
| 4.18 The development of recreation..... | 45 |
| 4.19 NEW ISSUE: Securing future water supplies..... | 47 |
| 4.20 NEW ISSUE: Historic mercury contamination..... | 48 |
| 5 Appendices | 50 |
| 5.1 Duties, powers and interests of the Environment Agency..... | 50 |
| 5.2 Guide to previous Dorset Stour LEAP actions in the Action Plan and First Annual Review..... | 54 |
| 5.3 The setting and maintenance of water quality targets..... | 56 |
| 5.4 EC Habitats and EC Birds Directive..... | 58 |
| 5.5 Summary flowchart of the review of consents process under the EC Habitats and EC Birds Directives..... | 59 |
| 5.6 Biodiversity in the LEAP area..... | 60 |
| 6 Glossary | 61 |
| 7 References | 63 |

Foreword

The role of the Environment Agency is to protect and improve the environment through the integrated management of water, land and aspects of air quality. We were established in 1996 and are officially a non-departmental public body, which means that we work for the public and have specific duties and powers of our own. Across our functions we have a wider remit to contribute towards the achievement of sustainable development and to form opinions on the state of the environment.

We are committed to delivering environmental improvement at the local level and one of the ways we do this is through Local Environment Agency plans – or LEAPs for short. The LEAP process consists of a Consultation Draft, a Plan and Annual Reviews. The LEAP describes the environmental issues that we have identified in the LEAP area and details the work or actions, as they are referred to, that we intend to undertake towards resolving these problems over the next five years. During the five years, the actions are monitored and we report on progress in a published Annual Review.

This is the Second Annual Review of the Dorset Stour LEAP which was originally published in 1997 and reports on progress from January 1999 to December 1999. The LEAP is based on the surface river catchment of the Dorset Stour. The main River Stour flows from Stourhead to Christchurch Harbour and is joined by numerous tributaries along the way, passing through or near Sturminster Newton, Blandford Forum, Sturminster Marshall, Wimborne, Ferndown, and Bournemouth. The catchment lies across three counties; Dorset, Somerset and Wiltshire. It is one of four LEAPs that cover the South Wessex Area of the Environment Agency.

The document consists of four main sections along with three sections of supporting information:

- **Section 1: Introduction**, introduces the Agency and the LEAPs process.
- **Section 2: A better environment through partnership**, this section details how we work in partnership with other organisations to help achieve LEAP actions and other local environmental improvements.
- **Section 3: Progress Overview**, gives an overview of the 87 actions which were originally identified in the Dorset Stour LEAP along with the 55 new actions identified over the last two years. The status of these 142 actions is as follows:
 - New actions – 37
 - Started/on-going actions – 48
 - Completed – 29
 - Delayed/no action – 13
 - Actions that are now routine - 15
- **Section 4: Progress report - activity tables**, this section is divided into 20 sub-sections. Each sub-section describes an environmental issue and summarises progress with each associated action from January 1999 to December 1999. The activity tables also list the partner organisations, the cost of the action (where available) and the timescale.

Developing partnerships is an essential part of the LEAP process and we are working with 27 partner organisations in the LEAP area. Among others these include local authorities, water companies, English Nature, Dorset Wildlife Trust and fisheries groups. These projects include work on river habitat restoration, water level management plans, improving recreational access and biodiversity actions. For example Dorset Wildlife Trust are one of our key conservation partners and we are working with them towards the restoration of habitats and species through the implementation of Biodiversity Action Plans. This partnership to date has benefited otters and water voles in the Stour catchment.

The LEAP will be reviewed again in 2001 to update progress achieved between January 2000 and December 2000. In the meantime, if you would like any more information or tell us your views on the issues raised in this review you can contact the LEAPs Team or the contact point provided in the activity tables in Section 4.

1 Introduction

1.1 Who are the Environment Agency?

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

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

These duties and powers are described in more detail in Appendix 5.1.

1.2 Funding and the Environment Agency

The Environment Agency spends some £650 million each year on protecting and improving the environment. Approximately 75 % of our revenue is derived from our own charges, principally in the form of licence fees, and the flood defence levy on local authorities which covers part of the cost of our Flood Defence function. The remainder is funded by Government grants; our main sponsor is the Department of the Environment, Transport and the Regions. The Agency also has links with the Ministry of Agriculture, Fisheries and Food and the National Assembly for Wales.

The following figures, which are presented in the Agency's Corporate Plan, have been included to give an indication of available resources and expenditure on Agency functions nationally.

Table 1: National Expenditure

| National Expenditure £ m | 2000/01 Planned | 2001/02 Estimate |
|----------------------------------------------------|--------------------|---------------------|
| Water Management | | |
| Flood defence | 286.6 | 285.6 |
| Water resources | 94.3 | 96.8 |
| Fisheries | 24.0 | 22.9 |
| Conservation | 3.7 | 3.8 |
| Conservation collaborative projects | 1.2 | 1.2 |
| Navigation* | 7.1 | 7.2 |
| Recreation | 2.1 | 2.1 |
| *None in South Wessex | | |
| Environmental protection | | |
| Process industries regulation (PIP) | 24.4 | 20.2 |
| Radioactive substances regulation (RSR) | 10.0 | 10.1 |
| Integrated pollution prevention and control (IPPC) | 13.5 | 22.5 |
| Waste | 70.1 | 71.3 |
| Water quality | 96.7 | 95.4 |
| Land quality | 5.4 | 5.5 |
| Contaminated land project expenditure | 0.8 | 0.2 |

The South Wessex Area budget is around £5 million each year.

1.3 Local Environment Agency Plans

The Agency is 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 within our remit. They also allow us to take into account the views of our local customers through a consultation process. The LEAP process involves several stages which are outlined below.

1.3.1 The Consultation Report

The Dorset Stour Consultation Report was published in January 1997, beginning a three month period of public consultation. The purpose of the consultation period is to give an opportunity for external organisations and the public to comment on environmental problems and our work in the LEAP area. We circulated approximately 600 documents to organisations and individuals and received 48 formal responses.

1.3.2 The Action Plan

The Dorset Stour Action Plan was published in January 1998 taking into account the views expressed during the consultation process. It outlines how the Agency and other organisations plan to deal with issues that affect the environment within the Dorset Stour LEAP area.

1.3.3 This Annual Review of the Dorset Stour Action Plan

An important part of this LEAP planning process is to monitor the Action Plan to ensure that targets and actions are achieved and that the Plan continues to address relevant and significant issues within the area. This review reports on progress made in the second year of the plan; January 1999 to December 1999, up dating the First Annual Review published in May 1999. It details both the progress of work shown in the activity tables as well as new issues and additional actions required in light of changes in the area. More detailed background information is provided by the previous publications relating to this area which are still available:

- 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
- Dorset Stour Local Environment Agency Plan First Annual Review – May 1999

The annual review process will be carried out until the Action Plan is five years old, at which point we will launch a new Consultation Draft. This process is currently under review and may change in the future.

1.4 Our Environmental Strategy

The Agency's principal and immediate concerns are stated in our national strategy, *An Environmental Strategy for the Millennium and Beyond*, and relate to the following nine themes:

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

We will deliver this strategy at a local level through dialogue between ourselves and the various organisations involved in the protection and management of the environment. A link is made between each LEAP action and the theme(s) which it addresses in the activity tables (see Section 1.5).

A copy of the booklet, *An Environmental Strategy for the Millennium and Beyond* is available from local Agency offices or on our Internet site at <http://www.environment-agency.gov.uk>.

Nationally the Agency has reviewed its vision and has recently published, *Creating an Environmental Vision: Progressing the Environment Agency's contribution to sustainable development by way of a better environment in*

England and Wales. This is currently out for public consultation and will eventually replace the existing strategy. Further details are available on our internet site or from local Agency offices.

1.5 Activity tables

The activity tables in Sections 2 and 4 update the progress with the actions identified by the Dorset Stour LEAP and the First Annual Review, for the period January 1999 to December 1999 inclusive. The actions are not presented in any order of priority. The tables also report on any new issues and actions that were raised during this period.

For the purposes of this report, the activity tables indicate:

- organisations who may implement the proposed activity
- an estimate of the cost to the Agency, where available, or an indication of how the work will be funded, *tbd* indicates costs have yet to be determined. The costs given are indicative only and do not indicate that the money has been committed
- a proposed timetable for each activity indicates the financial years (April–March) in which the work would be done. A dot indicates in which financial year, or over which period of financial years, work is planned to be undertaken. For example '00 is the financial year April 2000 to March 2001
- a link to which Environmental Strategy theme the action addresses (see Section 1.4)

Please refer to the Glossary (Section 6) for the definition of acronyms and abbreviations and Appendix 5.1 for further information on the Agency's duties, powers and interests.

1.6 Fund-raising and partnerships

In some cases, projects such as river habitat restoration, improving recreational opportunities and promotion of best practice are best achieved in partnership with others.

Where partnerships can be developed, opportunities exist to increase fund-raising potential and add value to projects. The Agency is not a grant-giving body, but we can contribute funds when collaborating with others in order to further our objectives. The benefits of partnerships include:

- access to more resources
- access to complimentary skills
- raised environmental awareness
- a more integrated approach by working with others who have a complimentary role

Details of some of our partnership work is given in Section 2 and a leaflet, *Who's who in the Environment Agency and interested in partnership funding*, is available from the Blandford office.

Funding for environmental and educational initiatives is also available from a range of other sources including, for example the lottery and the EU LIFE Programme, and is pursued where it can help the Agency and the partnership achieve its objectives.

1.7 Overview of the LEAP area

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 Christchurch Borough Council, along with the unitary authorities of Poole and Bournemouth.

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 which are predominantly pasture with arable. Here the settlements are situated along the outer margins of the valley floor.

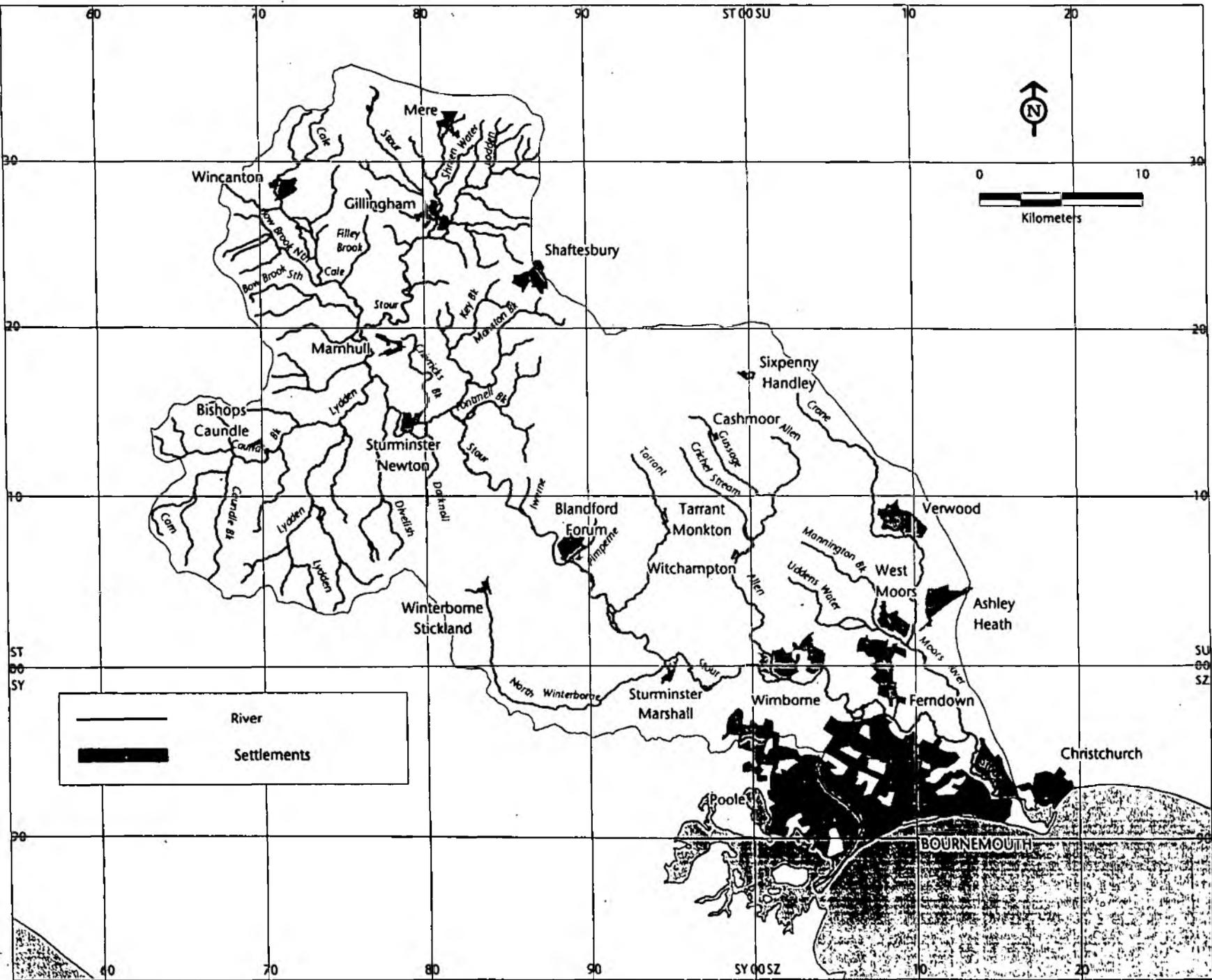
The Allen flows over chalk for almost all of its length until it joins the Stour at Wimborne. Its valley landscape is much more intimate than the surrounding countryside, with former water meadows on either side of the river contrasting with adjacent arable fields. Copses and riverside trees are frequent;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

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. The Harbour 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.

Map 1: The Dorset Stour LEAP Area



2 A better environment through partnership

We need to work in partnership with local authorities, industry, landowners, environmental groups and other interested organisations to resolve the identified issues.

2.1 Working with regional government

2.1.1 Government Offices

The Government Office for the South West is responsible for delivering various government department activities in the region. The Agency aims to work closely with the regional government office wherever possible, and has already been involved in a variety of collaborative regional projects, including the establishment of the regional round table on sustainable development.

2.1.2 Regional Development Agencies

In April 1999, the Government established statutory, regional economic development agencies for the English regions. This includes the South West of England Regional Development Agency (SW RDA). SW RDA has taken on many of the programmes of English Partnerships, the Rural Development Commission and the Government Office's Single Regeneration Budget with the aim of furthering the economic and social performance of the region.

SW RDA launched a strategy for the South West in October 1999 which identifies the environment as a key driver for the region's economy and quality of life. The links between the Environment Agency and other regional organisations were highlighted in a recent publication entitled *An Environmental Prospectus for South West England*.

2.1.3 Regional Chambers

The Government is committed to devolving decision making down to a regional level and intends to move to directly elected regional government in England, where there is a demand for it. To date, the Government has encouraged the establishment of voluntary regional chambers to cover Government Office regions. This includes the South West Regional Chamber which is made up of elected members from local authorities and various interest groups in the region. The Agency is offering advice and support on environmental and sustainability issues.

2.2 Working with local planning authorities

2.2.1 Land-use planning

While we can control some of the things that influence the quality of the environment, we have only limited control over the way that land is developed. This is the responsibility of local planning authorities.

Local planning authorities control development through the Town & Country Planning System. The planning system has two main components: a forward planning function which allocates and controls land use through the development plan and a development control function which assesses planning applications. The prime consideration in the determination of planning applications is the development plan.

We are a statutory consultee in the land use planning system, and advise planning authorities on the impact of proposed developments together with our requirements for environmental protection. In this respect we aim to provide consistent and effective responses to planning applications. We also work with county, unitary and local planning authorities to ensure that suitable policies to protect and enhance the environment are incorporated into development plans.

The main areas of concern to the Agency are highlighted below:

- we provide advice on new developments which may be at risk from flooding or may aggravate flood risk elsewhere by obstructing floodplain flows or increasing surface water runoff
- we seek to ensure that appropriate pollution control measures are incorporated in all new developments and that the wildlife and landscape of river corridors are protected and enhanced

We also promote the use of sustainable drainage techniques. This approach can help minimise the impact of development on the environment, for example to help reduce the risk of pollution and also flooding by preventing rapid surface run-off or maintaining flood storage capacity.

Section 105 floodplain maps (see Section 6) have also been provided to all local authorities.

We also contribute to Regional Planning Guidance and comment on county and district plans, and individual planning applications with respect to water resources and water efficiency. However, we can only comment on water resources in general as the specifics depend on which sources the relevant water company would plan to use to supply the development. We would wish to see water companies added to the land use planning list of statutory consultees as the availability of water resources becomes an increasingly important issue across England and Wales (see Section 4.19).

In the South Wessex Area we held a series of seminars during March and April, in a drive to build better relations with elected members of local authorities. The seminars were well attended and well received. Our objectives included improving awareness of the Agency among councillors, discussing issues where the Agency and the local authority share responsibility, and identifying areas for better liaison in the future.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|------|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.2a | NEW: Improve working relations with local planning authorities through six-weekly visits to local authority offices <i>The cost is Agency staff time</i> Contact: Area Planning Liaison Team Leader Status: New | 7 | Agency LAs | | | | | This action is new to the plan but Agency planning staff have met and continue to meet with local authority planning officers to discuss common issues. This is proving to be extremely valuable. |

2.3 Coastal Zone Management Plans

The Town & Country Planning system provides the means of regulating development above the low water mark; regulation of development (see Section 6) below the low water mark is controlled by a number of Government departments. The Agency has overall responsibility for water quality and pollution control from land-based discharges out to three miles offshore. We also regulate salmon, sea trout and eel fisheries in the coastal zone out to six miles offshore.

Dorset County Council has taken the lead role in setting up a Coast Forum for Dorset, with representatives from local authorities, environmental agencies, central government departments, businesses and other interest groups. Their aim is to promote a sustainable approach to the management of the coastal zone and to develop an integrated coastal zone management policy. We are a member of this Forum and support its aims.

Following consultation, a Strategy was launched during May 1999 which is based around four key elements:

- Vision – a clear vision for the Dorset Coast
- Principles – a basis for widespread agreement on future planning and management
- Priorities – nine priorities for the future management of Dorset's coast
- Action – detailed policy and actions to achieve progress with each priority

Further details can be found on their internet site at: <http://www.dorset-cc.gov.uk/dcf>.

2.4 Shoreline Management Plans

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. Coastal defence includes sea defence (flooding) and coast protection (erosion). We have powers in respect of sea defences; local authorities have powers to carry out both sea defence and coast protection. Shoreline Management Plans are not constrained by political or administrative boundaries and they are promoted for sections of coast that have

been chosen with regard to the sediment movement regime. Coastal defence authorities such as the Agency, and District and Borough Councils promote them.

The Christchurch and Poole Bay Shoreline Management Plan has been prepared and adopted for the coastal zone in this area (see Section 4.9). The lead authority for this plan is Bournemouth Borough Council.

2.5 Working with Wessex Water and Bournemouth & West Hampshire Water Company

Bournemouth & West Hampshire Water Company are responsible for public water supply in the lower LEAP area with Wessex Water providing supplies for the remaining area. Wessex Water is also the sewage undertaker for the entire LEAP area.

A number of Wessex Water sewage discharges are known to cause or contribute to the failure of water quality objectives. These discharges will be improved through the water companies' investment programme.

The water companies' investment programmes are also known as Asset Management Plans (AMP) and the third of these, AMP3, will cover the period 2000–2005. The plans have been developed along the guidelines agreed between the Agency, the Department of the Environment, Transport and the Regions, the water services companies and the Office of Water Services (OFWAT). OFWAT has now completed the review of water prices which allows for this programme of environmental investment and enables the companies to make the improvements by 2005.

We expect improvements to the following sewage treatment works discharges to be completed in AMP3.

Table 2: Sewage treatment works improvements expected under AMP3.

| Discharge | Receiving water | Improvement expected |
|-----------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Edmonsham | Tributary of Edmonsham Brook | Improved secondary treatment to protect downstream water quality. By 2004 (see Section 4.3, Action 3i). |
| Iwerne Minster | Iwerne | Increased capacity and more stringent consent standard for ammonia to meet requirements of the Urban Waste Water Treatment Directive and to ensure achievement of the downstream River Quality Objective (see Appendix 5.3). By 2002 (see Section 4.3, Action 3d). |
| Holdenhurst | Stour | Ultra-violet treatment is required to achieve mandatory standards under the EC Bathing Water Directive. Increased storm storage is required under the EC Urban Waste Water Treatment Directive. By 2001 (see Section 4.3, Action 3b). |
| Kinson Palmersford Wimborne | Stour | Ultra-violet treatment may be required to ensure compliance with the EC Bathing Waters Directive following Agency investigations to determine the cause of bathing water failures. By 2004, subject to results of the investigation (see Section 4.3, Action 3h). |
| Christchurch | | Increased storm storage to reduce frequency of intermittent discharges and ensure compliance with the EC Bathing Waters Directive. By 2003 (see Section 4.3, Action 3b). |

The Agency is committed to monitoring the progress of all identified AMP schemes due for completion before the end of 2005. Monitoring schemes will be in place to assess the environmental benefits cited for the larger improvement schemes covering nutrient reduction and/or protection of bathing water quality.

We also expect AMP3 to deliver improvements to the sewerage infrastructure. Investigations by the Agency and Wessex Water have identified 31 unsatisfactory combined sewer overflows or pumping station overflows (intermittent discharges) in the LEAP area. Over the next five years we will draw up jointly agreed schemes with Wessex Water to address the problems of these identified discharges. There are also three *first time* rural sewerage schemes under consideration at Stour Row, Holwell and Charlton Musgrove (see Section 4.3). Each of the schemes is currently at the design stage and are planned to be implemented between 2002 and 2003.

Investigations and investment required to protect rivers and wetlands from the effects of abstraction have also been considered. We expect the following improvements to protect rivers and wetlands from the effects of abstraction to be completed in AMP3.

Table 3: Improvements to protect rivers and wetlands

| Site name | Source of problem | Driver | Improvements expected |
|-------------|------------------------|---------------|---------------------------------------------------------------------------------|
| River Allen | Stanbridge abstraction | Non SSSI site | Habitat improvement through reduced abstraction (see Section 4.10, Action 10c). |

2.6 Local Agenda 21

Local authorities are assisting their communities in developing local strategies and action plans for sustainable development. The approach adopted varies, but many Local Agenda 21 (LA21) groups set up working groups to look at specific issues. Government guidance expects each local authority to produce a LA21 plan by the year 2000.

The Dorset County Council LA21 Strategy document: *Dorset in the 21st Century, an agenda for action*, outlines visions for the future, partnerships and a programme of actions to move Dorset along the path towards sustainability.

The Agency contributes indirectly to LA21 by considering sustainability whilst carrying out all its activities. Links with organisations such as the Government Office, the Round Table for Sustainable Development and a local sustainability group for the South West ensure involvement in LA21 at a regional level (see Section 2.1).

At a local level, councils have progressed well with LA21 initiatives most choosing specific themes. North Dorset District Council (NDDC), for example has concentrated on local food links, successfully promoting farmers' markets. Along a similar theme, the Agency will be working with NDDC and Common Ground (see Section 2.14) to put on a *Water Market* in Blandford on 18th August 2000.

Representatives from the Agency attend LA21 meetings across the area whenever possible to provide data and expertise. The most recent forum to be set up is the Bournemouth Environmental Forum which is facilitated by Bournemouth Borough Council, and currently chaired by a representative from Bournemouth University.

Now that councils have established LA21 officers and sustainable development plans, the Agency is keen to extend its support for them and to work more with smaller community groups by providing information and *hands-on* experience to assist them in whichever projects they choose to mount. There is a small amount of funding available to offer as grants if the projects fall within the Agency's core aims.

We also provide information in various formats including public register, leaflets and our web site.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------|
| 2.6a | NEW: Supply information to Local Agenda 21 groups where possible. <i>The cost will be Agency staff time</i> Contact: Area Customer Contact Team Leader Status: New | All | Agency | | | | • | • |

2.7 Working with farmers and landowners

We promote agricultural incentive schemes as a means of supporting forms of agriculture which protect and enhance wildlife habitats and landscape. There is one Environmentally Sensitive Area (ESA) in the LEAP area, South Wessex Downs; the ESA scheme offers voluntary management agreements to farmers and landowners who agree to adopt a package of environmentally sensitive farming methods for which compensation is received. Rates of payment vary to reflect the level of participation and different management prescriptions which must be followed.

ESA schemes include biodiversity objectives within their targets. However, the scope for wetland habitats in the South Wessex Downs ESA is limited and only chalk rivers and water vole are specifically mentioned (see Section 4.15.2).

For land outside ESAs, the Ministry of Agriculture, Fisheries and Food's main agri-environment scheme is the Countryside Stewardship scheme. Voluntary ten year agreements are available to farmers and landowners covering a wide range of measures, each of which has a standard payment, and which are targeted at certain English landscapes. The scheme aims to enhance the landscape, wildlife and historic features of the target landscape, including watersides and wetlands; it also provides payments for allowing permissive access where this is appropriate. The scheme is available throughout the area with the Dorset Heaths, Blackmore Vale and the Old Meadows and Pastures of Wessex being particular targets. The scheme is however discretionary with a limited budget and individual applications compete for the funding available.

We carry out regular farm inspections and advise on pollution prevention, waste disposal, farm management plans and pesticide use. Where our monitoring work indicates poor water quality (see Section 4.1) due to point or non-point source discharges as a result of agricultural activity we look more closely at potential sources, for example, the River Lodden catchment survey and the River Lydden study (see Section 4.2).

2.8 Working with business

We are working with local businesses and their representatives to promote pollution prevention and waste minimisation. Recent waste minimisation initiatives, our oil care campaign and our training video for construction workers are practical examples of how we intend to combine education and communication to prevent pollution. We are also prepared to provide an induction on pollution control measures to workers at demolition and construction sites. The South Wessex Area actively promotes the use of the Agency's Environmental Good Practice Guide for industry and will assist companies in getting started on a waste minimisation and/or pollution prevention project.

We contribute funding and provide specialist advice to Business Link, an organisation based in Dorset, that as one of its services provides information on environmental legislation to small and medium size businesses. Business Link has also been involved with the Agency, along with other partners, in establishing the South Wessex Waste Minimisation Group.

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 180 local businesses as well as local authorities, Local Agenda 21 groups and Business Link with the Agency providing secretariat support to the group (see Section 4.6.2).

As part of our statutory visits to special waste producers, for example oil, solvents and photographic chemicals, the Agency is providing information and advice on waste minimisation. This has also given rise to numerous new recruits to the group and in the last two years the number of member organisations has almost doubled.

2.9 Working with fisheries organisations

We provide advice and assistance to fishery interests throughout the LEAP area, particularly in the area of habitat protection and restoration (see Section 4.13). We are currently collaborating with the Wild Trout Society, the Salmon and Trout Association and local angling clubs on a number of projects. With their financial support and that of other organisations, such as Bournemouth & West Hampshire Water Company and the National Trust the Agency is able to undertake projects that would not otherwise get done.

Habitat improvement work has also been undertaken on the Leaden Stour in partnership with Ringwood Angling Club and the Fitzharris Estate. We work with the Mudeford netsmen to release salmon netted at Mudeford so that they can pass upstream. Some of these will be River Stour fish.

In addition, we attend committee meetings for a number of the local fisheries organisations, and provide talks and advisory visits to angling clubs. Twice a year we publish a Coarse Fish Newsletter which provides an

update on the work that the Agency has been carrying out, for example, coarse fish surveys and habitat restoration work.

2.10 Conservation

We will continue to collaborate with other organisations (English Nature, the Royal Society for the Protection of Birds, County Wildlife Trusts and local authorities), to set targets, prepare and implement local action plans for key habitats and species and to set interim targets where insufficient information is available. We will also contribute towards the appropriate management of protected sites and species in the plan area (see Section 4.15). Other sites and species lacking statutory protection are also valued and require sympathetic management. We will consult with English Nature, Wildlife Trusts and other conservation organisations where known sites may be affected by our activities or activities we consent.

One of our key partners is the Dorset Wildlife Trust, who through the work of the Rivers and Wetlands Project Officer has allowed a number of projects to proceed to the benefit of otters and water voles in particular.

2.11 Development of recreation

The Agency has a duty to promote the recreational use of the inland and coastal waters and associated land in partnership with other organisations. Many people use water areas such as rivers, canals, still waters and the coast for a variety of recreational activities. Water-related activities include both those which are land based and water based such as angling, cycling, bird watching, walking, canoeing, water-skiing and surfing.

In April 1998 the Environment Agency, the Countryside Commission (now the Countryside Agency and the English Sports Council [now Sport England]) signed a joint Memorandum of Understanding. This document recognises that these three organisations must all work together to develop and promote sport and recreation in the countryside, as well as overseeing sound management of these activities whilst following the principles of sustainable development.

Sustainability is an underlying theme to all our activities and the promotion of recreation and management needs to be balanced with other interests. At a local level, there are a number of organisations (local authorities, County Wildlife Trusts and recreational clubs) with an interest in countryside and water recreation. We will work in partnership with these organisations, where appropriate, to promote and develop the recreational use of the area where this can contribute to a balance of uses (see Section 4.18).

We would welcome any ideas or opportunities for enhancing the recreational use of the LEAP area. Where possible, we promote the use of the river corridor for recreational use but as yet there are no legal obligations on landowners to provide access. Increased access must also be balanced against the wildlife status of the area.

In addition, we do support the provision of access facilities if approached and if funds are available, for example, construction of a canoe access platform on the River Stour at Blandford in collaboration with the British Canoe Union and local canoe clubs (see Section 4.18).

2.12 Education

We recognise that to achieve our vision, *a better environment for present and future generations*, we need to balance regulation with education.

Broad-based education covering the community, educational and industrial sectors will result in a more informed society that is better able to understand the environment, its needs, and the impact of society's activities upon it. In particular, we seek to:

- educate people to help them to make informed judgements about future environmental decisions
- educate industry through consultation, collaborative activities and targeted campaigns to promote a culture of prevention rather than cure
- raise public awareness of environmental issues to engender in society a common ownership of the environment and its challenges

To this end, we are working with the Education Business Partnership (EBP) to train teachers to implement these aims. The EBP promotes and develops mutually beneficial partnerships with businesses and the wider community to enable young people to develop potential through education. Initiatives being developed include teacher training, advising and assessing Eco-Schools, providing environmental data to schools, producing case-study materials suitable for secondary schools and in further and higher education, and developing links with all local education authorities. A strategy of *training the trainers* will make best use of our limited resources. A meeting was held in June between the Agency and EBP to plan a teacher training exercise for December 2000.

A new educational CD-Rom, *Riverside Explorer*, has been produced nationally and distributed to all primary and secondary schools in England. Advice to users of the CD will be offered by the Agency if required.

Further information can be obtained from the Customer Services Centre at our Blandford office or from the Regional Education Co-ordinator at our Exeter office.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|------|----|----|----|-------------------|
| 2.12a | NEW: Work with the Education Business Partnership to help disseminate environmental information to educational establishments. <i>The cost will be Agency staff time</i> Contact: Area Customer Contact Team Leader Status: New | All | Agency EBP | | | • | | |

2.13 Make a Difference environmental improvements

Over the last few years we have funded a few low to medium cost environmental improvement projects (average £2.5k per project). Where possible we seek partners to match funding (see Section 1.6). The list below highlights those *Make a Difference* projects which have been undertaken in the LEAP area:

- support for the Dorset Otter and Vole surveys and construction of otter holts at Gillingham, Shillingstone and Durweston (see Section 4.15.2, Action 15f)
- contribution to fencing at the Milldown Nature Reserve, Blandford
- Great Crested Newt survey as part of the Blackmore Vale project (see Section 4.14, Action 14c)
- provision of interpretation boards for the Blackmore Vale project and the River Allen (see Sections 4.14 and 4.18)
- production of a species action plan for crayfish (see Section 4.15.2)
- river rehabilitation work, to improve the riverine habitat at Shapwick, Langton Long, Nutsford and Spetisbury (see Section 4.13, Actions 13b–13e)

Unfortunately the resources are not available this year to fund any *Make a Difference* projects.

2.14 Common Ground

As part of a partnership scheme to engage community groups with issues in the Dorset 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. We provided £5,000 in 1999/2000 to assist with a series of events which are designed to appeal to a wide range of people and to encourage them to be inspired by the River Stour. These events are currently taking place around Sturminster Newton and have included bridge naming ceremonies and recently a plumbers' cabaret. Common Ground have been successful in appealing to an audience of all ages and the response to

these varied events has been very encouraging. For more information on Common Ground and the events they hold please contact them at: Gold Hill House, 21 High Street, Shaftesbury, Dorset, SP7 8JE.

2.15 Public Registers and access to environmental information

We maintain several public registers that can be inspected at most Agency offices. Information is usually provided free of charge, but for large and complex requests we may charge for staff time and materials. There are also standard charges for some specific searches. Confidential information, incomplete or draft reports, and information where disclosure may lead to environmental damage are generally not available.

Some environmental details and information about our public registers are available on the Internet at <http://www.environment-agency.gov.uk>. Further information is provided in the Agency's leaflet *A Guide to Information Available to the Public*.

3 Progress overview

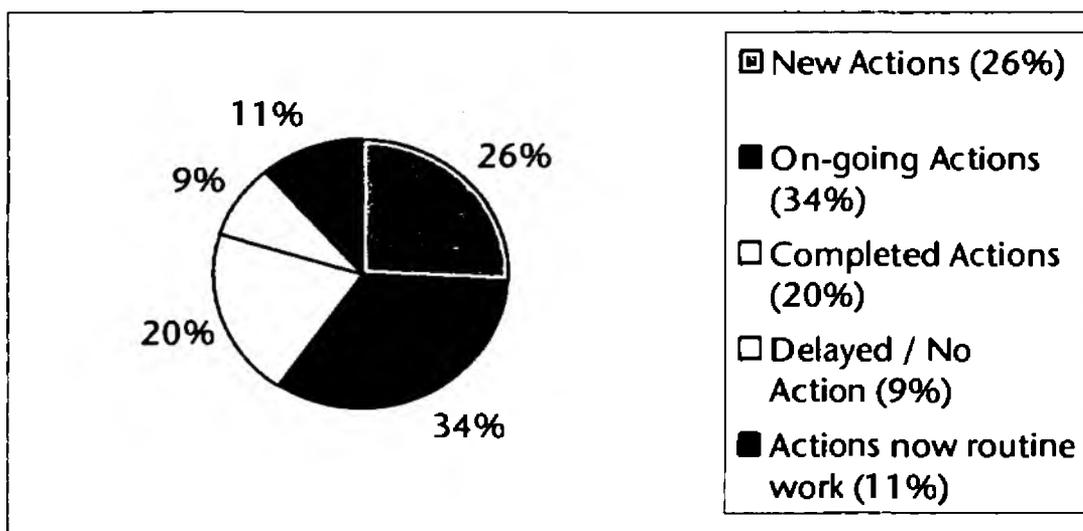
3.1 Progress overview

The activity tables in Section 4 provide a summary of our progress on the issues identified in the Action Plan. There were 87 actions identified in the Action Plan and a further 18 new actions were identified at the First Annual Review. Of these 105 actions, 77 have been started or completed. The Second Annual Review has identified 37 new actions and the overall status of the 142 actions is shown below:

- New Actions - 37
- Started/on-going actions - 48
- Completed Actions - 29
- Delayed/no action - 13
- Actions that are now routine work - 15

The following chart summarises the progress we have made since the Action Plan was launched in January 1998.

Figure 1: Summary of progress (%)



3.2 Priorities

Work priorities and resource allocations are set nationally and explained in the Agency's *Corporate Plan 2000/01*, this includes a number of key targets for each Environmental Strategy theme (see Section 1.4). Business Plans are then developed on a prioritised basis, with legislative and regulatory requirements afforded the highest priority to ensure the delivery of the Corporate Plan at the Regional and Area level.

Consequently, a large proportion of the South Wessex budget is used to undertake work required of us by legislation and regulation and the remaining resources are used to undertake other environmental work throughout the area on a priority basis. Throughout the year these priorities can change depending on funding availability, Government policy or new work that has a more urgent priority.

Although the plan period is for five years, because of the short-term nature of our funding, we can often only firmly commit ourselves to action in the current and next financial years.

4 Activity tables

4.1 The setting and maintenance of water quality targets

We manage water quality by setting targets called River Quality Objectives (RQOs). In some cases we may also set targets called Long Term RQOs (LT RQOs). Both of these targets are explained in Appendix 5.3. The rivers of the Dorset Stour LEAP have been divided into 49 monitored stretches; 21 of these stretches currently have LT RQOs.

The water quality assessment in the First Annual Review was based on three years data between 1994-1996. We have now updated these assessments for the period 1997-1999 and the number of significant failures has decreased from five to three; the number of marginal failures has decreased from 12 to nine for the same period. However, there is one river stretch on the Shreen Water that is a new significant failure. We will investigate all significant failures and persistent marginal failures. Investigations into non-persistent marginal failures will be undertaken where resources allow.

The table below shows the river stretches that failed to comply with their River Quality Objectives in the 1999 assessment and the associated investigation work.

Table 4: River Quality Objective failures

| River Stretch | RQO | Failure | Reason for failure | Investigation |
|----------------------------------------------------------------------------------------|-----|-------------|---------------------------------------------------------------|--------------------------------------------|
| River Stour from the confluence with the Lodden to Eccliffe Mill | RE2 | Significant | High BOD | Farm campaign (see Section 4.2, Action 2a) |
| Shreen Water at Southbrook to the confluence with the River Stour | RE1 | Significant | High BOD, high total ammonia | Preliminary desk study (Action 1d) |
| River Lydden from Hazelbury Bryan to the confluence at Lydden House | RE2 | Significant | High BOD, low DO, high total ammonia, high un-ionised ammonia | Farm campaign (see Section 4.2, Action 2a) |
| River Lydden from the confluence with Caundle Brook to confluence with the River Stour | RE2 | Marginal | High BOD | Farm campaign (see Section 4.2, Action 2a) |
| River Lydden from Cannings Court to the confluence with Lydden House | RE3 | Marginal | High un-ionised ammonia | Farm campaign (see Section 4.2, Action 2a) |
| Caundle Brook from Bishops Caundle to the confluence with the Lydden | RE2 | Marginal | High BOD | Farm campaign (see Section 4.2, Action 2a) |
| River Stour from the confluence with the Shreen Water to downstream of Gillingham | RE2 | Marginal | High BOD | Preliminary desk study (Action 1e) |
| River Stour downstream of Gillingham to the confluence with the Lodden | RE2 | Marginal | High BOD | Farm campaign (see Section 4.2, Action 2a) |
| River Stour from Eccliffe Mill to Trill Bridge | RE2 | Marginal | High BOD | No action |
| River Stour from Trill Bridge to the confluence with the River Cale | RE2 | Marginal | High BOD | No action |
| River Stour from the confluence with Fontmell Brook to confluence with the River Iweme | RE2 | Marginal | High BOD | No action |
| River Stour from the confluence with the River Iwerne to Durweston | RE2 | Marginal | High BOD | No action |

Chlorophyll-a monitoring on the River Stour has been ongoing since 1995. The presence of nutrients combined with the sluggish summer flows in the Stour can create ideal conditions for summer algal blooms which can exert a high Biochemical Oxygen Demand (BOD) during laboratory analysis of the river sample. However, this does not necessarily represent the oxygen demand exerted in the river. If this impact is not excluded from compliance assessment, spurious results may be reported and there is a risk that investment to improve discharges will not be targeted efficiently. The Agency has recently completed a report on the correlation between BOD and chlorophyll-a on the Stour and the implications for RQO compliance, the main conclusions are discussed in Appendix 5.3.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1a | <p>Investigate cause of River Quality Objective failures on the following reaches. In 1996 there were 5 significant failures (Stour Durweston-Tarrant, Uddens Ameyford-Crane, Iweme 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, Divelish Kitford-Stour, Lydden Caundle-Stour, Caundle Bishops Caundle-Lydden, Cale Wincanton-Bow Brook). The investigation of EC Directive failures and significant River Quality Objective failures is afforded a higher priority than marginal failures. <i>The cost will be Agency staff time</i></p> <p>Contact: Area Investigations Team Leader</p> <p>Status: On-going</p> | 6 | Agency | | • | • | • | <p>Significant failures</p> <p><i>River Stour Durweston-Tarrant:</i> this stretch was a marginal failure in 1997 and is now compliant in 1999. No further action is planned.</p> <p><i>Uddens Water Ameyford-Crane:</i> this stretch was compliant with its RQO in 1997, 1998 and 1999 but continues to fail its LT RQO. Continuous monitoring has highlighted low dissolved oxygen (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 LT RQO of 1.</p> <p><i>River Iweme upstream fish farm-Ranston:</i> this stretch was only a marginal failure in 1998 (DO) and was compliant in 1999. Effluent from the sewage treatment works (STW) and the fish farm result in biological loadings to the watercourse which can cause risk of failure. Improvements to the STW will reduce the combined load and premature storming of overflows to the River Iweme. Improvements to Iweme Minster STW by March 2002 are planned under AMP3 (see Sections 2.5 and 4.3, Action 3d)</p> <p><i>River Lydden Cannings Court-Lydden House:</i> the stretch met its RQO in 1998 but was a marginal failure in 1999. It continues to significantly fail its LT RQO. Ongoing farm campaigns are targeted for this area (see Section 4.2, Action 2a).</p> <p><i>River Lydden Hazlebury Bryan-Lydden House:</i> this stretch was a significant failure in 1996 due to high pH but only a marginal failure in 1997 and 1998 for BOD. In 1999 it was a significant failure for BOD, DO, total ammonia and unionised ammonia. For work associated with this failure see Section 4.2, Action 2a.</p> <p>Marginal failures</p> <p>Of the 11 marginal failures, the following 3 are non-compliant in the 1999 assessment: River Stour Shreen-Gillingham (Action 1e) and River Lydden Caundle Brook-Stour and the Caundle Brook Bishops Caundle-Lydden (see Section 4.2, Action 2a).</p> |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1b | Investigate causes of Long Term River Quality Objective failures in the Divelish, Mannington, Allen and lower Stour. These investigations will determine the action required to meet Long Term River Quality Objectives. <i>The cost will be Agency staff time</i> Contact: Area Investigations Team Leader Status: On-going | 6 | Agency | | | | | <p><i>Divelish:</i> during April and October-November there are significant increases in BOD levels which may be related to land use practices. Additional sampling was to be targeted at these times but there were insufficient resources available.</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. This stretch was compliant in 1999.</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. Flow modelling of the catchment has been done and the River Allen Low Flow Scheme has now been approved (see Section 4.10).</p> <p><i>Lower Stour:</i> as with the marginal failures, there are a number of stretches which are failing on BOD which may be related to algal levels. Chlorophyll-a samples (Action 1c) have been collected routinely with BOD samples over the last five years. There is a strong correlation between chlorophyll-a concentration and increasing BOD. Tentative results suggest that algal activity puts RQO compliance at risk for sites on the lower Stour with an RQO that is more stringent than RQO 3 (see Appendix 5.3).</p> |
| 1c | Undertake chlorophyll monitoring at 25 additional sites in the catchment to provide additional information on the duration of algal blooms and to assist in determining the reasons for some River Quality Objective failures Contact: Area Investigations Team Leader Status: On-going | 6 | Agency | | | | | Chlorophyll-a concentrations at 22 sites on the main river are highly correlated with BOD which indicates that the RQO failures due to BOD on the Stour are attributable to algal blooms (for more information see Appendix 5.3). |
| 1d | NEW: Conduct a desk study to investigate the significant failure on the Shreen Water at Southbrook to the confluence with the River Stour. <i>The cost will be Agency staff time</i> Contact: Area Investigations Team Leader Status: New | 6 | Agency | | | | | |
| 1e | NEW: Conduct a desk study to investigate the marginal failure on the River Stour from the confluence with the Shreen Water to downstream of Gillingham. <i>The cost will be Agency staff time</i> Contact: Area Investigations Team Leader Status: New | 6 | Agency | | | | | |

4.2 Impact of agriculture on water quality

The agricultural community has responded well to our pollution prevention campaigns with improvements to the storage facilities provided for material such as silage and slurry. However, changing agricultural land use (for example, maize crops) and increases in the disposal of waste to land have led to other problems including

the increased risk of soil erosion and surface runoff from some intensively farmed land. This run-off can contain pesticide residues which can be harmful to watercourses.

Such runoff can also contain nutrients from fertilisers such as phosphates and nitrates, which can lead to the enrichment of water. The result can be the stimulation of a range of changes in the water quality and flora and fauna of the river. This process is known as eutrophication.

During 1998 and 1999 we undertook a risk assessment of 55 farms along the River Lodden and those that were found to be *high* or *medium* risk will be re-surveyed in 2000/2001 (Action 2a). We will also target our farm campaigns where we believe agricultural run-off is contributing to River Quality Objective (RQO) failures (see Section 4.1 and Appendix 5.3). A number of river stretches on the River Lydden failed to comply with their RQOs in 1999 (see Section 4.1) and we plan to survey farms in the upper Lydden catchment in 2000.

We are currently working with farmers in the Lydden catchment to identify areas for improvement although it is a particularly difficult catchment as it suffers from a lack of available land for the spreading of organic manure. Farms should have four months storage capacity where they cannot demonstrate that land can accept slurry for agricultural benefit at all times. We would recommend that farmers discuss this issue with a qualified professional advisor on the National Farm Waste Register. A list is available from the Register Secretary or the Blandford Agency office.

A major source of nitrate pollution can be from agricultural activity and the EC Nitrates Directive (*concerning the protection of waters against pollution caused by nitrates from agricultural sources*) requires member states to identify ground or surface waters that are or could be affected in this way. If waters are clearly demonstrated to be affected, and agriculture is making a significant contribution, the land draining to these polluted waters must be designated a Nitrate Vulnerable Zone (NVZ). In addition, agricultural activity within the zone is subject to control defined in an Action Programme which the Agency is responsible for enforcing. Codes of good agricultural practice continue to apply outside NVZs.

At present there are no NVZs in the Stour catchment but a review of all NVZ groundwater designations is due to begin in the next 12 months which may result in new areas being designated (Action 2i).

The whole of Christchurch Harbour was proposed as 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 Department of the Environment, Transport and the Regions for approval. Further nutrient data will be collected up to the end of 2000 to provide more information on the nitrogen balance and the extent of macroalgal (seaweed) and microalgal blooms, with a view to resubmission for the 2001 review of candidate Polluted Waters (Eutrophic). If the Harbour is designated at the next review, areas of land draining to it will be designated as an NVZ (Action 2e). We would also welcome information from the public of any undesirable disturbance to the water environment as a result of excessive plant and/or algal growth.

Our *Landcare Project*, currently running on the upper Hampshire Avon, specifically aims to reduce non-point source pollution from agricultural activities. Substantial progress has been made in raising the awareness of the issue with the farming community. If successful, and resources allow, similar techniques could be applied in the Stour catchment (Action 2h).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|------|----|----|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2a | Farm campaigns and the provision of pollution prevention advice to ensure that point source pollution from all farm activities is minimised. <i>The cost will be Agency staff time</i> Contact: Area Environment Protection Team Leader (Stour) Status: On-going | 6, 7, 4 | Agency | | • | • | • | A farm survey along the River Lodden has been completed and the upper stretches of the Lydden will be surveyed in 2000. <i>High and medium</i> risk farms on the River Lodden will be re-surveyed in 2000/2001. |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------|------------|----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2b | Facilitate the use of Fertiliser Management Plans by farms surrounding the Wessex Water supply source at Black Lane, Blandford. Contact: Area Environment Protection Team Leader (Stour) Status: Completed | 6, 7 | Agency Farmers WW | £20k | • | • | | This has now been completed; long term monitoring and partnership with farmers are proposed to continue the sustained decrease in levels of nitrates in the water source. We plan to re-visit some farms in 2000/01. |
| 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 Contact: Area Environment Protection Manager Status: No action | 6, 7 | Agency Farmers AD&AS Agric Con- tractors WW BWHWC MAFF FRCA | | • | | | There has been no further progress on this action in year two. |
| 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 Contact: Area Environment Protection Manager Status: No action | 6, 7 | | | • | • | • | This will depend on the outcome of Action 2c |
| 2e | Collect data to support the case for designation of Christchurch Harbour as a candidate Polluted Water (Eutrophic) under the EC Nitrates Directive. Contact: Area Investigations Team Leader Status: On-going | 6, 7 | Agency BWHWC MAFF | £15k pa | • | • | • | Further nutrient data will be collected during 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 | | | | | | |
| 2h | NEW: Extend the Landcare project to the Stour catchment. <i>This is entirely dependent on resources being made available.</i> Contact: Area Tactical Planning Team Leader Status: New | 6,7 | Agency Partners | | | | • | |
| 2i | NEW: Contribute to the four-yearly review process of groundwater NVZs Contact: Regional Principal Groundwater Protection Officer Status: New | 6,7 | Agency | tbd | | • | • | |

4.3 Impact of sewage and sewerage on water quality

The EC Bathing Water Directive (*concerning the quality of bathing water*) protects the environment and public health of bathing waters by reducing pollution entering identified bathing waters. There are nine designated bathing waters in the Stour catchment, all of which complied with the mandatory standards of the EC Bathing Waters Directive in 1998 and 1999. There will be two new sites in the 2000 season; Southbourne and Alum Chine.

The Actions identified in the Dorset Stour Action Plan (January 1998) and the work that has been on-going relate to:

- the failure of Boscombe Pier in 1993

- the failure of designated bathing waters close to the entrance of Christchurch Harbour in 1997, and River Quality Objective (RQO) failures in the catchment (see Section 4.1)

As part of the AMP3 programme (see Section 2.5) we expect improvements to be undertaken at Christchurch, Holdenhurst, Palmersford, Kinson, Wimborne, Iwerne Minster and Edmonsham sewage treatment works. This will be to ensure bathing water compliance at the Christchurch beaches and the meeting of RQOs (see Appendix 5.3) on the River Iwerne and the Edmonsham Brook at the top of the Moors Valley.

Improvements to Boscombe Pier combined sewer overflow were completed in 1998. However, the Agency also produced an interim report which looked at the water quality of the surface water short sea outfall and concluded there was bacterial contamination of the surface water discharge. We are currently considering the way forward in light of this report.

The EC Urban Waste Water Treatment Directive (*concerning urban waste water treatment*) specifies minimum standards for sewage treatment and collection systems. The Directive also requires higher standards of treatment for discharges to sensitive areas. Sensitive areas are those waters that receive discharges for which the population exceeds 10,000 population equivalents and are, or may become, eutrophic in the future (see Section 4.2).

There are a number of qualifying discharges (see Section 6) in the Stour catchment: Holdenhurst, Kinson, Palmersford, Wimborne, Corfe Mullen, Tarrant Crawford and indirectly Shaftesbury sewage treatment works. The lower Stour and Christchurch Harbour were proposed as candidate Sensitive Areas (Eutrophic) under the Directive in 1997 but insufficient criteria were met for them to go forward for designation. The Agency continues to gather data to support a case for possible submission to the Agency's National Panel in 2001 (Action 3e).

The Environment Act 1995 places a conditional duty on a sewage undertaker to provide connection to the foul sewer for domestic users subject to a number of qualifying criteria (also known as *first time sewerage*). The Agency as environmental regulator provides information on environmental impacts and may be requested to provide information to support applications and act as arbitrator. This is regarded as on-going work and incorporates the original LEAP action 3f (see Section 2.5 and Appendix 5.2).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------|------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3a | Negotiate improvements in Wessex Water discharges from Holdenhurst and Christchurch sewage treatment works Contact: Area Tactical Planning Team Leader Status: Completed | 6 | Agency WW OFWAT | | | | | Completed Year 1. See Action 3b. |
| 3b | Carry out agreed programme of improvements at Holdenhurst and Christchurch sewage treatment works Contact: Area Tactical Planning Team Leader Status: On-going | 6 | WW | | • | • | • | Ultra-violet disinfection treatment has been installed at Christchurch and WW have started constructing storm tanks at Holdenhurst in May 2000. An investigation was completed in September 1999 which showed ultra-violet disinfection is required at Holdenhurst. This is planned for May 2001 (see Table 2, Section 2.5). |
| 3c | Carry out improvements to Boscombe Pier combined sewer overflow Contact: Area Tactical Planning Team Leader Status: On-going | 6 | WW Agency | | | | | Improvements to Boscombe Pier combined sewer overflow have been completed. We are currently considering the conclusions of a subsequent report which indicates there are still issues of surface water contamination to be resolved. |
| 3d | Upgrading of Iwerne Minster sewage treatment works to include improved secondary treatment and increased storm storage capacity Contact: Area Tactical Planning Team Leader Status: On-going | 6 | WW | | • | • | • | This is included in the AMP3 programme for completion by March 2002 (see Table 2, Section 2.5). |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|---------|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3e | Data collection to support the case for designation of the lower Stour and Christchurch Harbour under the EC Urban Waste Water Treatment Directive. Contact: Area Investigations Team Leader Status: On-going | 6, 7 | Agency | £10k pa | • | • | • | Chemical and biological data are being collected for the Stour and Christchurch Harbour, with a view to resubmission for the 2001 review of Candidate Sensitive Areas (Eutrophic). |
| 3g | Actions on Bourne Stream | See Action 4a | | | | | | |
| 3h | Investigate impact of Holdenhurst, Palmersford, Kinson and Wimborne sewage treatment works on the lower Stour and Christchurch Harbour and compliance with the EC Bathing Waters Directive Contact: Area Investigations Team Leader Status: On-going | 6 | Agency WW | tbd | • | • | • | A spore tracer study showed that Holdenhurst does appear to impact on Christchurch bathing waters. As a result ultra-violet treatment will be installed at Holdenhurst in AMP3 and is planned for May 2001. If the outcome of the investigation shows ultra-violet disinfection is required at Kinson, Palmersford and Wimborne this will be included in the AMP3 programme (see Table 2, Section 2.5). |
| 3i | Upgrading of Edmonsham sewage treatment works to include improved secondary treatment to protect downstream water quality. Contact: Area Tactical Planning Team Leader Status: On-going | 6 | WW | | • | • | • | This is included in the AMP3 programme for completion by March 2004 (see Table 2, Section 2.5). |
| 3j | Agree with Wessex Water a prioritised intermittent discharge programme Contact: Area Tactical Planning Team Leader Status: On-going | 6 | WW | | • | • | • | WW to carry out improvements identified which includes work at Christchurch to improve storm storage capacity and reduce spillage from the storm overflow (see Table 2, Section 2.5). |

4.4 Impact of development on urban rivers

The Agency and local planning authorities have responsibilities for minimising the impact of development on the environment. We maintain a continuous dialogue with officers in the planning authorities so that issues of common interest can be pursued and potential conflict avoided. Our work with local planning authorities is discussed in Section 2.2 and is regarded as on-going day-to-day work and incorporates the original LEAP action 4e (see Appendix 5.2).

We are concerned with the problems of storm water run-off from areas of residential and industrial development which fall into two main groups:

- the quantity of run-off, which can lead to flooding
- the quality of run-off, which can negatively impact on aquatic ecosystems and has the potential to interfere with human uses of receiving waters

Urban run-off in the Bourne Stream catchment (Bournemouth) results in bacterial contamination of the stream which can threaten the bathing water quality (see Section 4.3) at Bournemouth. A partnership approach involving the Agency, the unitary authorities of Bournemouth and Poole, English Nature and Wessex Water has been set up to look for ways to improve stream quality. This will principally be through the retro-fitting of sustainable drainage techniques, for example, porous car park surfaces. The first formal meeting of the partners took place in July 2000 and the partnership will consider the installation of pollution prevention systems (Action 4b) and the setting of a River Quality Objective (RQO) for the Bourne stream (Action 4c).

The Agency has decided that it is no-longer necessary to go ahead with the planned survey of potential pollution sources on the Woolsbridge Industrial Estate (Action 4d). Analysis of Agency monitoring data reveals that currently there are no pollution problems on the estate but we are now considering a project on the Ferndown Industrial Estate where there have been two significant pollutions in the last year (Action 4g).

Gillingham sewage treatment works is now almost at full capacity and is prone to suspended solids problems in wet weather. As a consequence, the river downstream of the sewage treatment works marginally failed to comply with its current RQO (see Section 4.1 and Appendix 5.3). We have been working with Wessex Water to resolve this problem and ensure compliance with the RQO.

In the longer term, there is increasing concern from the residents of Gillingham that future residential development may put at risk the proper functioning of the sewerage system. It is Wessex Water's statutory obligation to comply with the consent to discharge conditions set by the Agency, and it must therefore provide the necessary sewage treatment works capacity. An extension to the sewage works is planned for 2004 and engineering design for the works is currently being carried out.

The Agency, in partnership with others, is involved in the development and implementation of plans for riverside management in urban areas. In collaboration with the *Dorset Biodiversity Initiative*, the Agency is involved with the Urban Streams project which aims to encourage the participation of local communities in the conservation of biodiversity (see Section 4.15.2) of streams and watercourses in towns and cities. The Agency is involved in producing a *Living Streams Pack* targeted at community group leaders containing advice and information on the conservation of local streams and we are currently working in Poole and Bournemouth to raise awareness of the value of urban watercourses (Action 4f).

In Gillingham we are working with North Dorset District Council, developers and the local community on the *Three Rivers Project* which aims to highlight the importance of Gillingham's rivers and identify opportunities for riverside access and enhancing wildlife habitats. In Wimborne, a leaflet, information board and plan have been produced as part of the drive to promote knowledge and awareness of chalk rivers as a UK Biodiversity habitat (see Section 4.15.2). The River Allen through Wimborne offers an excellent opportunity to do this as access is generally good and the river is a prime example of the chalk river habitat (Action 4f).

We have continued to work closely with the Stour Valley Project, particularly in North Dorset. In Blandford Forum, the Stour meadows ponds, grassland and tree planting are maturing well, and the area is enjoyed by many. The recently completed footbridge access across the Stour extends access to the river and the project will offer further opportunities in 2000 and beyond for collaborative works (see Section 4.18).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------|------|----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4a | Proposed scoping study to identify sources of diffuse pollution in the Boume Stream and opportunities to reduce this by the installation of pollution prevention systems. <i>We aim to reduce the potential impact on Bournemouth Pier Bathing Beach from the Bourne Stream.</i> Contact: Area Investigations Team Leader Status: Completed | 6, 7 | Agency BBC PBC WW EN | £10k | • | • | | The feasibility study has been completed. The report has been commented on by Bournemouth and Poole Borough Councils and a meeting took place in July 2000 to agree a partnership approach to see if progress can be made in reducing bacterial contamination of the stream. The group will consider sites for the retrofitting of sustainable drainage systems and will put forward success criteria based on chemical and biological monitoring programmes. |
| 4b | Phase 2 would be the installation of pollution prevention systems and assessment of benefits Contact: Area Investigations Team Leader Status: On-going | 6, 7 | BBC PBC Agency WW EN | tbd | • | • | | Depends on the outcome of Action 4a. This action will be taken forward through the partnership approach. |
| 4c | Consider setting a River Quality Objective for the Boume Stream to protect existing water quality and to use the classification system to improve chemical water quality in the future. Contact: Aea Investigations Team Leader Status: On-going | 6 | Agency BBC PBC WW EN | £1k | • | • | | This will also be taken forward through the partnership approach (Actions 4a and 4b). |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------|-------|----|----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4d | Survey of the Moors River to target farm drainage and industrial estate problems and reduce the risk of pollution incidents. This survey will initially target the Woolsbridge Industrial Estate area Contact: Area Environment Protection Team Leader (Stour) Status: No action | 6, 7 | Agency | £10k | • | • | | A survey of Woolsbridge Industrial estate was planned for April–May 1999 but analysis of Agency monitoring data reveals that there is currently no issue of pollution from the estate. |
| 4f | Continue to develop and implement plans for riverside management in urban areas, targeting the lower catchment. <i>Gillingham, Wimborne, Poole and Bournemouth are key sites</i> (see Section 4.18) Contact: Area Conservation Team Leader Status: On-going | 6, 4 | Agency LAs DWT Local Pop* | £4.5k | • | • | • | The <i>Three Rivers Project</i> in Gillingham has been developing riverside access and producing information leaflets with local authorities, developers and the local community. A leaflet is planned for 2000/01. A river management plan, leaflet and information boards have been produced in Wimborne. We are working with the Dorset Biodiversity Living Streams project in Poole and Bournemouth to raise awareness of the value of urban watercourses. |
| 4g | NEW: Survey the Femdown Industrial Estate in the Moors River catchment for potential pollution sources. Contact: Area Environment Protection Team Leader (Stour) Status: New | 6,7 | Agency | £10k | | • | | |

4.5 Contaminated land

A consequence of historical development is that sites become vacant when current uses end and in some cases the land has become contaminated. Contamination of land may cause damage to soil, plants, wildlife, man or buildings and contaminants can also spread to the air and surface water or ground water.

New provisions for dealing with contaminated land under Part IIA of the Environmental Protection Act 1990 came into force on April 1st 2000. Under the new regime local authorities are required to identify land that falls within the statutory definition of contaminated (see Section 6). Once land has been identified as potentially or actually contaminated, the local authority will seek to identify the polluter and/or the current land owner to ensure works are carried out to address the identified issues. It is the intention to encourage voluntary remediation works wherever possible.

Under the regulations some sites may be designated as *Special Sites* for which the Agency will be the lead authority and take responsibility. Nine categories of land are listed detailing types of geology or land use including certain processes or activities which may have been carried out on a site which may lead to Special Site status.

At the time of publication, no sites have yet been identified but some land in the area may qualify. This incorporates original LEAP action 5f (see Appendix 5.2).

Local authorities are currently working on *Inspection strategies* which have to be submitted to the Department of the Environment, Transport and the Regions by July 2001. The strategy documents will detail how each authority intends to identify contaminated land as defined under the regulations and will ultimately contribute to *State of Contaminated Land* report which will be published by the Agency in April 2002. The Agency is working closely with local authorities in the development of the strategies.

It is important to note the difference between contaminated land designated under Part IIA and land which is *contaminated* in the more general sense. The new regime incorporates a fundamentally risk based approach in

the assessment of contamination. Therefore, for land to be designated under Part IIA a significant pollution linkage must be present, comprising:

- a source of contamination
- a mode of transport for the contaminant, or pathway, to the receptor for example human ingestion or groundwater movement
- a receptor, for example, humans or a controlled water

A site may show evidence of contamination but if it cannot cause harm due to the absence of a pathway and /or receptor it will not meet the definition of contaminated under Part IIA.

We will continue to provide pollution prevention guidance on sites which are known to be contaminated and possibly requiring remediation. On a day-to-day basis we contribute to the development planning process to ensure the effective improvement of contaminated sites proposed for development through our role as a statutory consultee under the Town & Country planning process. This is regarded as ongoing day-to-day work and incorporates the original LEAP actions 5d and 5e (see Appendix 5.2).

Most contaminated sites are improved during redevelopment with the cost of the work paid for by the developer 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.

The Cogdean Elms Industrial site has a long history of association with solvent storage and supply and is now undergoing treatment to remediate the contamination (Action 5c). Surface capping which is the first stage of the work is now complete. Progress on the soil vapour extraction system has been complex and it is now unlikely that a passive barrier will be installed for technical reasons, but other options are being considered.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sb | 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> Contact: Regional Principal Waste Regulation Officer Status: Completed | 7 | Agency | | | | | Completed in Year 1. |
| 5c | Cogdean Elms Phase 2. Carry out appropriate treatment to remediate the contamination Contact: Area Environment Protection Team Leader (Stour) Status: On-going | 7 | Agency | £600k | • | • | • | Treatment is underway to remediate the contamination. Surface capping was completed in 1999-2000 and the soil vapour extraction system is under construction. |

4.6 Developing strategies for sustainable waste management

The Environment Agency regulates the treatment, recovery, storage, movement and disposal of controlled wastes, which includes household, commercial and industrial wastes. This currently excludes waste from agriculture, mining and quarrying operations, waste water, explosives and radioactive wastes. The aim is to ensure that waste management activities do not give rise to pollution of the environment, harm to human health or serious detriment to the local amenity.

4.6.1 Waste planning

Unitary Authorities and County Councils are responsible for producing waste local plans. The Agency assists waste planning authorities by providing information and advice on waste and waste management.

The Government published a new waste strategy for England and Wales in May 2000 called *Waste Strategy 2000*. The strategy contains provisional data from the waste production survey conducted by the Agency between October 1998 and March 1999. The Agency will conduct further national work on gathering data from industrial and commercial sources during 2001/2002. *Waste Strategy 2000* will tackle the growth in

waste, encourage waste recovery and stimulate sensible recycling. The strategy also looks at the steps needed to move towards a more sustainable waste management system and to meet the requirements of the Landfill Directive.

Key measures in the waste strategy include:

- new plans to require Government departments to buy recycled products, starting with paper
- statutory local authority recycling targets and action plans
- more use of the landfill tax credit scheme to deliver an increase in recycling, particularly of household waste
- the new *Waste and Resources Action Programme* dedicated to developing new markets for recycled waste
- tradable permits limiting the amount of waste local authorities can send to landfill sites
- extending producers' responsibility to recover their product, for example newspapers and junk mail
- continuing to raise public awareness working with the *Notional Waste Awareness Initiative*

The Agency will produce waste management assessments for each planning region in England and Wales (see Section 2.1). These will include baseline waste management information for the South West and will illustrate current and future issues which are likely to affect the production and management of waste over the next 20 years. They are due to be published by September 2000.

4.6.2 Minimising and recycling waste

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 (SWWMG) 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 arisings from South Wessex businesses (see Section 2.8).

The group is a partnership involving some 180 local businesses as well as local authorities, Local Agenda 21 groups and Business Link (see Section 2.8) and actively seeks new members. In 1999, twenty companies were newly recruited to the SWWMG. The Agency promote and support the work of the group (Action 6a) and if you would like further details please contact the Blandford Office.

The SWWMG has set up the Waste Exchange Scheme (Action 6c), based on the principle that *One company's waste is another company's resource*. The main aim of the scheme is to encourage member companies to reduce the quantities of waste they dispose of. This is being done through the development of a shared database of the waste produced and the main resource requirements to provide the opportunity to both reduce disposal and resource costs. There are a number of successful waste exchanges in the LEAP plan area, for example, Flight Refuelling Ltd. in Wimborne supplied in-flight hoses to W H White for use at the Whites Pit landfill site for their methane gas collection scheme. Further details are available from the internet site, <http://recycle.centre.org.uk> or from the Blandford office.

The SWWMG is also currently running a project which places students from Bournemouth University in local industry to conduct a waste minimisation or other environmental study as part of their degree course. It is hoped that this will continue over the next few years, increasing the number of placements and expanding to other educational establishments (Action 6f).

Up until now most waste minimisation initiatives have taken place within industry and commerce however, the new Government Strategy will consider the concept of household waste minimisation and includes recycling and/or composting at least 25 % of household waste by 2005, increasing to 33 % by 2015. North Dorset District Council have been running a campaign to encourage householders to compost their kitchen waste by offering compost bins for sale at council supported prices.

The South Wessex Area has also produced the *Industrial and Commercial Waste Minimisation and Recycling Directory* (Action 6d). The directory is one of a series of four covering the South West Region and includes

contacts for the re-use and recovery of wastes, and waste minimisation and recycling information. Copies are available from the Agency's Blandford office. The Agency is now planning to produce a national recycling directory in electronic format which will contain area specific information.

The *Producer Responsibility Obligations (Packaging Waste) Regulations 1997* (as amended) are designed to implement the recovery and recycling target in the EC Directive on Packaging and Packaging Waste. The regulations require businesses with an annual turnover of £2 million or more, and who handle 50 tonnes of packaging and packaging material, to recover and recycle a specified tonnage of packaging waste based on the amount of packaging they handle. We are charged with implementing, monitoring and enforcing this legislation and providing advice on the implementation of the regulations. This is regarded as ongoing work and incorporates the original LEAP actions 6h and 6i (see Appendix 5.2).

In 1999, we made 15 compliance visits to companies in the South Wessex Area, and in partnership with Business Link (see Section 2.8) we hosted a seminar in March 2000 targeting companies in the South Wessex Area to explain amendments to these regulations. During 2000 we intend to conduct 25 compliance monitoring visits and at least 25 other monitoring activities. We will also host another event in partnership with Business Link during March 2001 to provide information regarding the Regulations to local businesses and to incorporate issues on packaging waste minimisation.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------|--------|----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6a | Promote and support the work of the South Wessex Waste Minimisation Group Contact: Area Tactical Planning Team Leader Status: On-going | 8 | Agency | £5k pa | • | • | • | We continue to promote and support relevant waste minimisation initiatives including support for the South Wessex Waste Minimisation Group. |
| 6b | Produce an updated version of <i>Don't Waste Away Profits</i> Leaflet in 2000/2001 Contact: Area Tactical Planning Team Leader Status: On-going | 8 | SWWMC | £1k | | • | | <i>Don't Waste Away Profits</i> leaflet was produced in 1997 and is available from local Agency offices. This action was completed in Year 1; the leaflet now requires updating. |
| 6c | Maintain and update the Waste Exchange Scheme. Contact: Area Tactical Planning Team Leader Status: Completed | 8 | SWWMC | | • | | | Bournemouth University have now set up a web site for the Waste Exchange Scheme on the Internet at http://recycle.centre.org.uk . |
| 6d | Agency to produce a National Industrial and Commercial Recycling Directory which will be available at Area offices in electronic format. Contact: Area Tactical Planning Team Leader Status: On-going | 8 | Agency | £3.5k | • | • | • | An area recycling directory was produced in March 1998 and is available from local Agency offices. The National Directory will be produced as a database and will be available in electronic format. |
| 6e | Publish a Waste Minimisation Success Story booklet Contact: Area Tactical Planning Team Leader Status: No action | 8 | Agency | | | | | We are no longer planning to produce this booklet (see Action 6f). |
| 6f | Publish Industry Specific Environmental Best Practice guide (for Dorset). <i>Planned as part of the South Wessex WMC Project Pride with Bournemouth University</i> Contact: Area Tactical Planning Team Leader Status: On-going | 8 | SWWMC Partners | | • | • | • | To be reviewed on completion of the five projects that are part of <i>Project pride</i> during 2000. |
| 6j | Raise business awareness of the Producer Responsibility Regulations through telephone calls, visits and seminars. Contact: Area Tactical Planning Team Leader Status: On-going | 8 | Agency | tbd | • | • | • | We hosted a seminar in February 2000 in partnership with Business Link involving 37 companies to explain the amendments to the regulations. In addition we have made 15 visits to companies in the South Wessex Area and plan to host another seminar in 2001. |

4.7 Maintaining our rivers and flood defences

We carry out maintenance work to ensure the efficient working of the natural and modified river network (drainage system), and to ensure flood alleviation schemes provide protection up to their design standard. All watercourses are classified as either *main river* or *ordinary watercourse* (sometimes referred to as *non-main river*). In broad terms *main river* includes all watercourses which contribute significantly to a catchment's drainage though ordinary watercourses may be more significant locally. The Agency supervises all flood alleviation matters and has permissive powers to carry out work on main rivers and sea defences. Local authorities have powers for flood defence on ordinary watercourses, sea defences and for protecting the coast from erosion by the sea (see Appendix 5.1).

Using the Flood Defence Management Manual methodology the Agency has set targets to identify and rank flood defence maintenance work; all works within the LEAP area are ranked and justified ahead of the Agency target of 100 % justification before April 2001. Original LEAP actions 7a–7d dealt with a number of routine flood defence actions; further details are given in Appendix 5.2.

Maintaining the natural flow of a river is critical to conserving its geomorphological characteristics and the communities associated with the river. Water level management plans (WLMP) allow areas of the floodplain, historically separated from the river, to be opened up and used to their full potential. The plans have been developed to integrate all our functions to deliver more sustainable water level management, and to focus on actions where landowners are keen to co-operate to obtain environmental improvements.

A strategic WLMP has been produced for the Moors River Site of Special Scientific Interest in partnership with English Nature, the Royal Society for the Protection of Birds and the Farming and Rural Conservation Agency (Actions 7k, 7m-7o). The Leaden Stour has been identified as a trial site, and a local WLMP has been produced. This is now being implemented (Action 7m).

There has been steady progress with reviewing our routine maintenance work on the Moors River. The cessation of a routine weed cut, and the implementation of improved water management on one stretch of the river during 1999/2000 should bring benefits, particularly to the invertebrate fauna, including dragonflies for which the Moors River is well-known (Actions 7f and 7i).

Our future capital programme in the LEAP area currently includes work on the River Stour at Iford to replace the earth embankments. This work is required as a result of the December 1999 flooding on the river which was the severest in ten years and is planned to be completed by 2005/6.

The hydraulic model of the proposed flood defence scheme for Gillingham is now finished and has proved to be very successful (Action 7l). The project was joint funded with North Dorset District Council and now generates an income for the Council. A copy of the model is provided to developers, who incorporate their ideas and provide us with this information so that the Agency can revise the model. The model allows the Agency to view the impact of development on the river.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------|------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7e | Make initial enquiries to local authorities about dealing with surface water flooding behind our Flood Alleviation Schemes. Local authorities would have to determine, fund and carry out such works Contact: Area Development Control Team Leader Status: Completed | 6, 7 | Agency | | | | | Completed Year 1. |
| 7f | Prepare and implement a review of weedcutting on the Moors River Contact: Area Flood Defence Operations Team Leader Status: Completed | 4, 6 | Agency EN | £1k | | | | This has been undertaken and weedcutting as a routine operation has now ceased. The use of weedcutting to control water levels links to water level management plan objectives and will be considered in the review of flood defence maintenance work which is planned for 2000/01. |

• ACTIVITY TABLES

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------------|------|----|----|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7i | Review routine flood defence maintenance work and identify opportunities for enhancement of the environment Contact: Area Flood Defence Team Leader Status: On-going | 4, 6 | Agency LAs | £1k | • | • | | Maintenance work on the Iwerne, Stour and Gussage Streams has been reviewed and amendments made to maximise environmental benefit for species like water vole. There are issues on-going with regard to the Gussage Stream (see Section 4.10, Action 10d). |
| 7j | Prepare Operational & Maintenance Plan for Piddles Wood Contact: Area Conservation Team Leader Status: Completed | 4, 6 | Agency | | | | • | The plan has been prepared and will be reviewed after 5 years. |
| 7k | Produce a Water Level Management Plan for the Moors River and Leaden Stour Contact: Area Conservation Team Leader Status: Completed | 4, 6 | Agency EN RSBP FRCA Land-owners | £5k | | | | Plans approved and English Nature are implementing the plan on the Leaden Stour. Further progress in implementing raised water levels is dependent on landowner/occupier agreements. They are currently not persuaded of the benefits. The plan will be reviewed on a regular cycle. |
| 7l | Prepare a hydraulic model of the proposed flood defence scheme for Gillingham. The model is required to more accurately determine the effects of regeneration of the town centre. The total cost of the project is £40k. Contact: Area Development Control Team Leader Status: Completed | 6 | Agency NDDC | £20k | • | • | | Part funded by North Dorset District Council and will be used to inform the planning process within Gillingham. |
| 7m | NEW: Help implement the water level management plan on the Leaden Stour Contact: Area Flood Defence Operations Team Leader Status: New | 4,6 | Agency | tbd | | • | | |
| 7n | NEW: Implement the Moors River water level management plan. <i>Establish improved water level management in new trial areas when established</i> Contact: Area Flood Defence Operations Team Leader Status: New | 4,6 | Agency FRCA EN | tbd | | • | • | |
| 7o | NEW: Implement monitoring programme on trial sites to measure environmental performance Contact: Area Flood Defence Operations Team Leader Status: New | 4,6 | EN Agency | tbd | | | • | |

4.8 The provision of flood warning and emergency response

We can build new defences if flooding is a serious problem in a particular area; further details are given in Section 4.7.

Even with flood defence schemes in place absolute flood protection is not possible; because of this we need to warn people when there is a risk of flooding. We have the lead role in passing flood warnings to people who are at risk so that they can take action to protect themselves and their properties. Where there is a risk that flooding could occur, flood warnings are issued for the area affected. Detailed arrangements are documented in the *Dorset Flood Warning Dissemination Plan* which can be viewed at our offices.

Flood warning for the Stour is based on the gauging station at Colesbrook, a level recorder on the Lodden, and principally the gauging station at Hammoon. These are supplemented by rain gauges, gaugeboard readings and the gauging station at Throop. In general, data from monitoring stations is used in flood

warning. However in particularly severe events, an *indication* of river levels can be calculated using a Weather Radar Interpretation Prediction model (WRIP). This model uses forecast rainfall to predict rises in river levels.

Where possible we aim to issue a warning at least two hours in advance of flooding. A survey into the level of service of flood warning is currently being carried out in the South West (Action 8c). The results will identify possible additions and other improvements to the system, including new flood detection sites and increasing the number of properties receiving direct warnings. A summary of the findings will be produced by September 2001.

Last year the Agency constructed a new level monitoring station at Iford Bridge (Action 8a) and the data from the station is used to assist with the issue of flood warnings particularly on the lower reaches of the Stour. In addition the new warning criteria for tidal reaches on the lower Stour (Action 8b) have been implemented and have helped to improve our system of issuing flood warnings.

Following the severe floods of Easter 1998, the Government commissioned an independent review of events, the Bye Report. Having considered the Bye Report, the Agency has drawn up an action plan which will be implemented nationally and includes the following actions:

- deliver improvements to the Hydrometric monitoring network, including the supporting telemetry
- publish revised flood risk maps using the best available information and to review the scope and content of the Flood Warning Dissemination Plans
- In conjunction with the local authorities and emergency services, assess emergency response plans and develop arrangements for the regular testing of emergency response through a programme of joint exercises
- complete visual surveys of all flood defences and undertake regular updates thereafter, coupled with less frequent but more rigorous structural surveys
- review internal management structures and take action to address skill shortages

In general, the South West region is well advanced in dealing with the issues raised. In addition, a National Flood Awareness campaign was launched in 1999, and the flood warning colour code system will be replaced from September 12th 2000. These codes will be used throughout England and Wales, wherever there is risk of flooding from rivers or the sea. The new system has four stages, from Flood Watch to Flood Warning, to Severe Flood Warning and finally to All Clear when warnings are stood down.

Advance notice of the changes has been sent to householders at risk, local authorities, emergency services and other organisations such as the coastguard. A further detailed guide to explain the meaning of the new codes will be disseminated when we introduce the new system in September. The Agency also operates a telephone information service called Floodline (0845 988 1188) which provides up-to-date information on warnings in force and general advice on how to prepare and deal with floods.

The floods on the River Stour in December 1999 were the severest for the last 10 years (with a return period of 1 in 35 years). The incident proved that the procedures that we have in place following the Bye Report are effective and that our liaison with local authorities works very well. There were two major flooding incidents; Iford caravan park, which was undefended, and Grove Farm caravan park, which was defended against a 1 in 30 year event. The Agency is looking at both sites and to date, we are planning to construct earth embankments at Iford as part of our capital programme (see Section 4.7).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------------------------|
| 8a | Construct new level monitoring station at Iford Bridge Contact: Regional Flood Defence Manager Status: Completed | 6, 7 | Agency | £15k | | | | Completed and operational in Year 1 |

• ACTIVITY TABLES

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|----|----|----|-------------------------------------|
| 8b | Develop new warning criteria for tidal reaches Contact: Regional Flood Defence Manager Status: Completed | 6, 7 | Agency | £3k | | | | Completed and implemented in Year 1 |
| 8c | NEW: Complete the survey investigating the level of Service of Flood Warning in the South West. <i>The cost given is for the South West Region</i> Contact: Regional Flood Defence Manager Status: New | 6,7 | Agency | £525k | • | • | • | |

4.9 Potential effects of climate change on the environment

There is a broad consensus of opinion that climate changes are occurring because of the impact of human activities on the global atmosphere. The burning of fossil fuels in cars, power stations and industrial processes causes the emission of gases into the atmosphere, including greenhouse gases. The Agency is working to reduce its own energy and fossil fuel consumption; initiatives include reducing energy use in our offices and depots and improving the overall fuel efficiency for the badged vehicle fleet.

In the LEAP area there are five licensed landfill sites that are emitting the main greenhouse gases carbon dioxide and methane as the waste decays. Methane gas is estimated to be 20-30 times more damaging than carbon dioxide, and by converting the methane to carbon dioxide by flaring or utilising the gas to generate power, landfill sites can reduce the impact on the atmosphere. The Whites Pit landfill site (Wimborne) has an active gas abstraction system and a generator converting gas to electricity that is used on site and sold to the National Grid.

We will be reviewing licence conditions for all landfill sites producing landfill gas within the South Wessex Area to ensure that where flaring is possible it is adopted. We will also continue to encourage the constructive use of landfill gas.

Allowances are already made in the design of sea defences to accommodate the estimated rise in sea levels. Consideration of coastal defences will take place within the strategic framework of Shoreline Management Plans which are produced in partnership with other organisations (see Section 2.4). There is one plan in preparation for the coast in this area (Action 9a).

The Christchurch and Poole Bay Shoreline Management Plan (Durlston Head eastwards to Hurst Spit) is the aggregation of issues for all coastal operating authorities with respect to their management of the coastal cells within the plan. The final report has now been adopted. The Shoreline Management Plan will be reviewed every five years based on data and information collected in the intervening years. For further details please refer to the Shoreline Management Plan which can be viewed at our office in Blandford or at Bournemouth, Poole and Christchurch Borough Council offices and Purbeck District Council offices.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------|------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9a | Participate in the development and adoption of the Christchurch and Poole Bay Shoreline Management Plan Contact: Area Flood Defence Operations Team Leader Status: Completed | 1, 6 | Agency LAs | £15k | • | • | | The Shoreline Management Plan has now been adopted by the coastal operating authorities. The plan will be reviewed every five years based on data and information collected in the intervening years. |

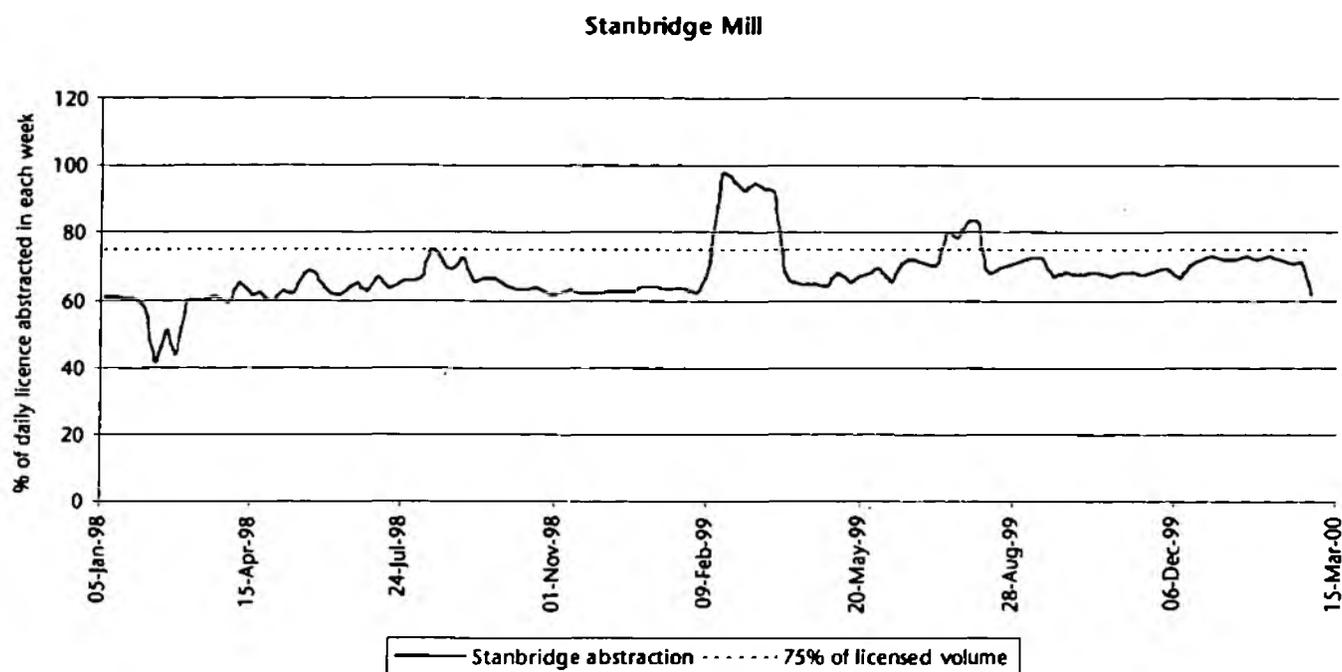
4.10 Impact of public water supply abstraction on the River Allen

The River Allen was identified as one of the top 20 low flow sites in England and Wales in 1989, requiring attention as a consequence of groundwater abstraction, principally from the Bournemouth & West Hampshire Water Company (BWHWC) borehole at Stanbridge. In 1993, the National Rivers Authority proposed an Action Plan which identified the need for a reduction of 50 % in the water company's licence at Stanbridge. In

response the water company volunteered to reduce their abstractions at Stanbridge to 75 % of the licensed volume.

Figure 2 shows the progress that the company has made with their voluntary reduction in abstraction at Stanbridge Mill (Actions 10a-10c). Abstracted quantities for 1999/2000 are again lower than the volunteered 75 %, the average abstraction was around 70 % of licensed volume.

Figure 2: Percent of daily licence abstracted between January 1998 and March 2000 by Bournemouth and West Hampshire Water Company



The proposed solution to the River Allen low flow scheme was approved by the Department of the Environment, Transport and the Regions in 1998. This means that BWHWC now have an obligation to implement this by 2003; they have however been committed to this target for some time. Implementing this solution is being supported by background work involving modelling, together with the collection and analysis of macrophyte and invertebrate data.

The current flow gauging station upstream of Loverley Mill is due to be replaced. Following submission of the consultant's report investigating options for improvement to the gauging station in March 2000, agreement has been reached in principle with landowners to construct a new ultrasonic gauging station. Detailed design of the gauging station is planned for July/August and construction is programmed for September/October 2000 (Action 10f).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|--------------------------------------|
| 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 Periodic Review (see Section 2.5) and incorporating the benefit values now established Contact: Regional Water Resources Planning Manager Status: Completed | 3 | Agency | £2k | | | | Completed with a successful outcome. |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|----------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10b | Incorporate in our Water Resources Development Strategy a review of a downward marking of the yield of the Stanbridge borehole in order to make evident the future change in balances of Bournemouth & West Hampshire Water resources Contact: Regional Water Resources Planning Manager Status: Completed | 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 (see Section 4.19, Action 19a). |
| 10c | Encourage Bournemouth & West Hampshire Water to continue to make a as great as possible interim voluntary reductions at Stanbridge Mill Contact: Regional Water Resources Planning Manager Status: On-going | 3 | Agency | | • | • | | Substantial improvements in Bournemouth & West Hampshire Waters voluntary reductions were made in 1999/2000 with the majority of abstractions being around 70 % of the full authorised quantity (see Figure 2). |
| 10d | Conduct annual surveys of flow accretion in Gussage and investigate bed-lining maintenance Contact: Area Water Resources Team Leader Status: On-going | 3, 4 | Agency | £0.5k pa | • | • | • | The flow survey carried out in 1999 indicated that 77 % of augmentation was reaching the River Allen. In-channel maintenance continues to be flexible with respect to local environmental concerns. Conservation recommendations received in July 2000 need to be considered and where possible incorporated into the maintenance regime. |
| 10e | General review of existing stream augmentation control rules to maximise potential benefits. Contact: Regional Water Resources Planning Manager Status: On-going | 3 | Agency | £25k | • | • | • | Fisheries have reviewed initial flow data from the groundwater model. Work is ongoing to provide control rules. |
| 10f | NEW: Construct a new flow gauging station at Loverley Mill on River Allen Contact: Area Water Resources Team Leader Status: New | 3 | Agency | £166k | | • | • | |

4.11 Potential impact of water supply abstractions on the River Stour at Longham (Ferndown)

Permanent reductions in abstraction from the River Allen (see Section 4.10) by Bournemouth & West Hampshire Water Company will be dependent on the availability of water at Longham, where the water company already has a licensed river abstraction.

While we are committed to the principle of abstractions as near as possible to the mouths of rivers, there is still a need to ensure that such abstractions do not have adverse environmental impacts. Insufficient flows on the Stour downstream of Longham may result in a deterioration in water quality due to the lack of available dilution water to reduce the impact of treated sewage effluent discharges from Kinson, Palmersford and Holdenhurst sewage treatment works.

The abstraction at Longham will be set with a prescribed flow, that is, the water company will only be able to abstract water above a defined flow in the river. The prescribed flow will be linked to measured flows at our Throop gauging station.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------|-------|----|----|----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 11a | Investigate the potential for changes to the Boumemouth & 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> Contact: Regional Water Resources Planning Manager Status: On-going | 3 | BWHWC Agency | £50k+ | • | • | | Initial meetings have taken place between the Agency and the company in order to progress this action. Work on the scoping study is in progress. |
| 11b | Investigate other options for Boumemouth & 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 Contact: Regional Water Resources Planning Manager Status: On-going | 3 | BWHWC Agency | £5k | • | • | | This is being investigated within the work on the scoping study (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 Boumemouth & West Hampshire Water Contact: Regional Water Resources Planning Manager Status: On-going | 3 | Agency | | • | • | | The Regional Water Resource Strategy is due to be published in December 2000 (see Section 4.19, Action 19a). |

4.12 Impact of public water supply abstractions on the Tarrant

The Tarrant is a typical chalk winterbourne and during the summer months some river reaches have historically dried up. There is considerable local concern about the possible adverse effect that two public water supply abstractions operated by Wessex Water, at Stubhampton and Shapwick, may have on flows in the Tarrant.

Following the severe low flows experienced in 1995, the Agency intensified its regular monitoring of river flows, groundwater levels and rainfall in the Tarrant catchment. This is regarded as ongoing day-to-day work and incorporates the original LEAP action 12a (see Appendix 5.2). We provided data for an independent hydrological study of the River 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. In 1998 three new boreholes were drilled in the lower Tarrant valley and regular monitoring of the water levels between the Tarrant, Stour and Shapwick pumping station has been on-going. These data will be analysed in 2000 (Action 12c) to assess the impact of groundwater abstractions for public water supply at Shapwick, on surface water flows and consideration will then be given to the need for the construction of a continuous river flow monitoring facility (Action 12d).

A River Corridor Survey (RCS) (which is primarily a survey of the flora of the river corridor) and a River Habitat Survey (RHS) (which is a survey of the physical structure of the river) were undertaken on the River Tarrant in 1999. In addition the river was surveyed for invertebrate and macrophyte (plant) data. The purpose of the surveys was to establish baseline data against which to assess future impacts on the river (Action 12e). The surveys showed the Tarrant to be modified in places with a lower habitat quality than similar rivers. Recommendations included increasing the tree cover and the diversity of bank margins.

Following these reports and local consultation, habitat enhancements have been undertaken with the River Tarrant Protection Society and local landowners. These have included: tree planting at Tarrant Hinton and

Tarrant Monkton; fencing and tree management at Tarrant Monkton; and an otter holt at Tarrant Crawford (Action 12g). In addition a leaflet, *The River Tarrant: How you can help your local river*, illustrating the wildlife value and providing management advice to riparian owners has been produced and is available from our Blandford Office. We will continue to promote enhancement work with local landowners and the community (Action 12h).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------|-------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 Contact: Area Water Resources Team Leader Status: On-going | 3 | Agency | £20k | • | • | • | Three boreholes were drilled in Year 1 and monitoring water levels is on-going routine work. |
| 12c | Review results of Actions 12a and 12b to detect any impact from groundwater abstraction at Shapwick. <i>The cost will be Agency staff time</i> Contact: Area Water Resources Team Leader Status: On-going | 3 | Agency | | • | • | • | With particular focus on the three boreholes commissioned in 1998, it is intended to analyse the data in 2000 to see if there is any evidence of an impact as a result of groundwater abstractions at Shapwick. |
| 12d | Depending on the outcome of the data analysis in Action 12c, consider construction of a permanent flow gauging station in the vicinity of Tarrant Crawford. Contact: Area Water Resources Team Leader Status: No action | 3 | Agency | tbd | | • | • | Dependent on the outcome of Action 12c. |
| 12e | Establish baseline data for the river against which to assess future impacts. Contact: Area Conservation Team Leader Status: Completed | 4, 6 | Agency | £1.8k | • | | | A River Corridor Survey and River Habitat Survey of the River Tarrant showed the need for habitat improvement work. Recommendations included increasing tree cover and the diversity of bank margins. The data collected have been used to undertake Action 12g. |
| 12f | Explore the potential to optimise channel morphology of the River Tarrant for fish survival in low flow | See Action 13l | | | | | | |
| 12g | Undertake enhancements on the Tarrant to maximise ecological and landscape interest Contact: Area Conservation Team Leader Status: Completed | 4, 6 | Agency RTPS | £4k | • | • | | The following enhancements have been undertaken with the River Tarrant Protection Society and local landowners: tree planting at Tarrant Hinton and Tarrant Monkton; fencing and tree management at Tarrant Monkton, and an otter holt at Tarrant Crawford. This has been done in conjunction with Action 13l (Section 4.13). |
| 12h | NEW: Continue to promote the enhancement of the River Tarrant using projects from 1999 as demonstration areas to local landowners and achieve improvements with the local community. Contact: Area Conservation Team Leader Status: New | 4.6 | Agency Local community | £2k | | • | • | |

4.12.1 Potential impact of public water abstraction on the Shreen and Ashfield Water

There was concern expressed regarding the perceived low flows in the vicinity of Mere by Mere Parish Council and fishery clubs. Particularly apparent is the migration of the headwaters (spring source) as the groundwater level drops in late summer in the Shreen, and its tributary the Ashfield Water. During 1999 we carried out flow and ecological monitoring on both watercourses, and it is our intention to continue with flow monitoring

during 2000 and to analyse the results of the ecological monitoring. This will help us to begin to understand the impact of groundwater abstraction on the watercourses.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19a | Carry out ecological and flow monitoring on the Shreen and Ashfield Water in the vicinity of Mere to assess concerns over low flows. <i>The cost will be Agency staff time</i> Contact: Area Water Resources Team Leader Status: On-going | 3, 4 | Agency | | • | • | • | Invertebrate monitoring was carried out in 1999, and analysis is programmed for late summer 2000. Monthly flow monitoring at a number of sites has been established since April 1999. It is intended to add some groundwater monitoring to the network in 2000 in order to begin to assess the impact of nearby groundwater abstraction. |

4.13 Constraints on fish populations

The River Stour has a very diverse fish population with 22 species widely distributed. Coarse fish in particular, including roach, dace, chub and pike dominate the main Stour and many tributaries. Coarse fishing is well established along the entire length of the main Stour.

Hurn Weir on the Moors River was modified in 1997 to ensure the upstream migration of coarse fish, in particular small dace (Action 13a). The design includes a series of baffles fixed horizontally to the downstream sloping face of the weir forming a cascade which enables small fish to pass upstream and ensures that flow measurement, for which the weir was constructed, is not affected.

The fish populations of the Moors River upstream of Hurn Weir were surveyed during May 2000. The data collected will be processed and a report is due by December 2000. This will compare the current state of fish populations with that observed in 1995 when the last survey was carried out. It is also intended to undertake a Research and Development project to evaluate the fish pass (Action 13o).

Following a national study on the impact of cormorants and fish eating birds (Action 13i) the Agency's position remains unchanged. Fisheries who believe that their stock are being damaged by cormorants can apply to the Ministry of Agriculture, Fisheries and Food (MAFF) for licences to shoot the cormorants. The Agency provides assistance to applicants and also provides information requested by MAFF to help in the decision-making process (Action 13j).

The Stour Salmon Action Plan Consultation Document was published March 2000 (Action 13f) and a number of responses were received, including kind offers to provide supporting information. The responses are currently being collated and an Action Plan will be produced before the end of the year (Action 13p).

An extensive river habitat improvement project is planned for the lower end of the River Allen at Knobcrook, Wimborne to start in July/August 2000 (Action 13r). The scheme will re-instate a severely degraded section of the river by installing new *riffle and pool* sequences as well as improving bankside riparian habitat and adjacent wetlands. The project is being carried out in collaboration with, and co-funded by Bournemouth & West Hampshire Water Company, The National Trust, Wild Trout Society and the Salmon & Trout Association.

Habitat improvement projects are also planned at Bryanston where a small fish pass will be constructed to enable coarse fish to get around the Mill Stream and at Sturminster Newton where works in the past had removed a gravel bank. The reinstatement of this bank will provide suitable habitat for chub and dace spawning (Action 13e).

A commercial eel fisherman who fishes the River Stour has reported very low catches in 1999 and this accords with findings for eel abundance in our 1998 survey. A Europe-wide problem of reduced eel abundance makes it difficult to interpret these findings but close monitoring of eel levels will be undertaken during 2000/01. We will collect and analyse eel catch and survey data from the River Stour on a continuing basis. We will also investigate the perception that there has been a more serious decline in the eel populations on the Stour than there has been on other local rivers (Action 13q).

• ACTIVITY TABLES

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------|------|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13a | Hum Weir has been rebuilt to facilitate passage of fish. Contact: Area Fisheries Team Leader Status: On-going | 5 | Agency | £2k | • | • | | 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 Hum Weir were resurveyed in Spring 2000. |
| 13b | Coarse fish habitat improvement at Nutford Farm Contact: Area Fisheries Team Leader Status: Completed | 4, 5 | Agency | £6k | | | | Completed Year 1. |
| 13c | Coarse fish habitat improvement at Bryanston School Contact: Area Fisheries Team Leader Status: Completed | 4, 5 | Agency | £8k | | | | Completed Year 1. |
| 13d | Coarse fish habitat improvement at Langton Long Contact: Area Fisheries Team Leader Status: Completed | 4, 5 | Agency | £9k | | | | Completed Year 1. |
| 13e | Further coarse fish habitat improvement projects at other locations as funding allows Contact: Area Fisheries Team Leader Status: On-going | 4, 5 | Agency | | • | • | • | Further work was carried out at Crawford Bridge, Spetisbury in 1999. This included the creation of more brushwood berms and islands. Monitoring will be undertaken during September 2000 as post-improvement evaluation and will be compared to the monitoring undertaken prior to the work commencing in 1998. This year we intend to make improvements at Bryanston and Sturminster Newton. |
| 13f | Produce Stour Salmon Action Plan Contact: Area Fisheries Team Leader Status: Completed | 5 | Agency | £7k | • | • | | The Salmon Action Plan was published for consultation in March-May 2000. The final plan will be published late summer 2000. |
| 13g | Investigate migration conditions for sea trout on the Crane and Mannington Contact: Area Fisheries Team Leader Status: Delayed | 5 | Agency | £15k | | | | The investigation was carried out in June 1998 and identified the need for improvement works at Cranebrook Fishery. Due to cuts and funding restrictions with respect to migratory salmonid work we have no resources to undertake these works. |
| 13h | Carry out a review of existing data on the Crane to investigate concerns regarding low flow expressed by Dorset Wildlife Trust Contact: Area Water Resources Team Leader Status: No action | 4 | Agency | £2k | | • | | The River Crane is not considered to be a priority site under the Restoring Sustainable Abstraction Programme. However, we are now undertaking routine monitoring on the river and we will undertake further investigation if necessary. The River Crane flows into the Moors River Site of Special Scientific Interest and the Agency and English Nature have agreed, following a report in September 1999, that it is not significantly affected by abstraction. |
| 13i | We are contributing to a National study on the impact of cormorants and other fish-eating birds on fish stocks. <i>The cost given is the overall cost of the study</i> Contact: Area Fisheries Team Leader Status: Completed | 5 | Agency DETR MAFF | £1m | • | | | This study reported in September 1999. The results confirmed that there was no immediate need for the Agency to change its position on fish-eating birds. |
| 13j | We will offer advice to those whose fisheries are affected by predatory birds regarding the options available to them at present Contact: Area Fisheries Team Leader Status: On-going | 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 River Tarrant for fish survival in low flow. <i>Following on from hydrological investigations</i> Contact: Project Officer Status: On-going | 4, 5, 6 | Agency Fishery interests WW | | • | • | • | This has been progressed in partnership with local fishing interests and Wessex Water. Investigations are on-going (see Section 4.12). |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------|----------|----|----|----|-------------------|
| 13m | Monitor impact of public water supply abstractions on the River Tarrant | See Action 12c | | | | | | |
| 13n | Carry out a fish population survey on the Stour Contact: Area Fisheries Team Leader Status: Completed | 5 | Agency | | | | | Completed Year 1 |
| 13o | NEW: Undertake Research and Development project to evaluate the Hum Weir fish pass Contact: Area Fisheries Team Leader Status: New | 5 | Agency | tbd | | | • | |
| 13p | NEW: Produce final Stour Salmon Action Plan Contact: Area Fisheries Team Leader Status: New | 5 | Agency | £3k | | | • | |
| 13q | NEW: Monitor the River Stour eel catches closely and examine the significance of historic changes relative to other rivers in the area. Contact: Area Fisheries Team Leader Status: New | 5 | Agency | £0.2k pa | | | • | |
| 13r | NEW: Undertake river habitat improvement work on the lower River Allen. <i>Includes installing a new riffle and pool sequence and improving bankside riparian habitat and adjacent wetlands</i> Contact: Project Officer Status: New | 4,6 | Agency BWHWC NT Wild Trout Society Salmon & Trout Association The Allen Association | £30k | | | • | |

4.14 Loss and decline in the value of riverine and floodplain habitat

The riverine and floodplain habitat are key habitats both in terms of biodiversity (see Section 4.15) and flood defence (see Section 4.7). On some rivers in the catchment the floodplain habitat has been significantly reduced and the watercourse has been greatly modified with the loss of meanders, marsh and ditches. Improvements in habitats will contribute towards the maintenance and enhancement of biodiversity and require us to review our own flood defence maintenance operations and to work in partnership with riparian owners.

The Blackmore Vale Restoration Project (Action 14c) is one of four areas in England where English Nature is promoting the restoration of a range of wildlife habitats including woodlands, hedgerows, grasslands, rivers and streams. The aim of the restoration work is to provide shelter, breeding sites and suitable habitats for a range of species including owls, bats, otters and curlew. The Project is now coming to an end and a final report is being produced detailing successes and pit-falls. Pond restoration for Great Crested Newts and otter holt creation was undertaken with Agency support during 1999, and the project has contributed towards the maintenance and enhancement of biodiversity in the catchment (see Section 4.15.2). It has failed to restore breeding curlew habitat, and this species is probably now extinct as a breeding species in the Vale. The Project Officer will continue in her role to promote habitat improvements with landowners, but over the whole county under the direction of Dorset Farming and Wildlife Group. Projects will continue in partnership with the Farming and Rural Conservation Agency (Stewardship) and the Agency in 2000/01 (Action 14e).

A floodplain grassland inventory of Dorset was produced co-ordinating all known information on one set of maps (Action 14a). The inventory is used as a reference for screening proposed works within the floodplain in order to safeguard this resource. Whilst the Stour catchment includes some areas of floodplain grazing marsh, it is not considered a first priority for restoration. However, opportunities will be taken where they arise on the River Allen, lower Stour and Moors River, where landowners express an interest in adopting more traditional, extensive forms of agriculture within the agri- environment schemes available (see Section 2.7). Features that

can be restored include ditches, pollards, ponds, withy woodlands and grasslands, as well as raising water levels. This work also benefits threatened species; the otter, water vole and Great Crested Newt (Action 14d).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------|-------|----|----|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14a | Encourage a reduction in agricultural intensification of the floodplain Contact: Area Conservation Team Leader Status: On-going | 4, 6 | Agency MAFF Other Partners | £9k | • | • | | Floodplain grazing marsh is a key habitat and occurs along the Moors River, Stour and Allen. A floodplain grassland inventory of all information known in Dorset has been produced. |
| 14b | Review South Wessex Downs Environmentally Sensitive Area. <i>Includes a small section of the Stour catchment</i> Contact: Area Conservation Team Leader Status: Completed | 4, 6 | Agency MAFF | | | | | Completed Year 1. |
| 14c | Contribute to the Blackmore Vale Restoration Project which involves the Lydden, Caundle, Cam and parts of the Divelish Contact: Area Conservation Team Leader Status: Completed | 4, 6 | Agency EN | £7.4k | • | • | | Pond restoration for Great Crested Newts and the creation of otter holts was undertaken with Agency support in 1999/2000. The Project is now coming to an end and a final report is being produced. |
| 14d | NEW: Restore floodplain grazing marsh habitat where opportunities arise Contact: Area Conservation Team Leader Status: New | 4,6 | Agency Landowners DWT EN | £5k | | | • | |
| 14e | NEW: Implement action on key wetland sites in Blackmore Vale Project area, including Great Crested Newt ponds. <i>Projects will involve restoration of ponds, improved management, appropriate planting, new otter holts and water level management</i> Contact: Area Conservation Team Leader Status: New | 4,6 | Agency | £3k | | • | • | |

4.15 Protection of ecologically important habitats and species

Diversity means *variety* and bio means *life*, so biodiversity means the variety of life. There are three levels at which biodiversity can be considered:

- the variety of communities (ecosystem or habitat diversity)
- the variety of individual species (species diversity)
- the variation within organisms of the same species (genetic diversity)

The concept of enhancing biodiversity applies to the whole of the LEAP area which contains sites of local, national and international importance for wildlife. Some of these sites have been recognised as particularly *special* for their biodiversity and these sites receive certain levels of protection. Principally:

- Ramsar sites (internationally important wetland sites)
- Special Areas for Conservation (SAC) nominated under the EC Habitats and Species Directive (*seeks to protect habitats and species of European importance*)
- Special Protection Areas (SPA) classified under the EC Birds Directive (*seeks to protect wild birds and their habitats*)
- Sites of Special Scientific Interest (SSSI)

We will play our full part in contributing towards the appropriate management of these sites as well as those sites that do not have statutory protection (see Section 2.10).

4.15.1 EC Habitats and Species Directive and EC Birds Directive

The EC Habitats and Species Directive and the EC Birds Directive place additional responsibilities on the Agency in addition to our normal conservation duties. The aim of the legislation is to contribute to the protection and conservation of certain threatened habitats and species throughout Europe. This is to be achieved by the establishment of a network of nature conservation sites which will be known as the Natura 2000 Network.

There are four sites within the LEAP area (wholly or partly) which will eventually become part of the Natura 2000 network (see Appendix 5.4):

- component parts of the Dorset Heathlands (SPA, Ramsar site)
- component parts of the Dorset Heaths (candidate SAC)
- Fontmell & Melbury Down (candidate SAC)
- Rooksmoor (candidate SAC)

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

With regard to these sites, the Agency is a competent authority and has extra responsibilities to safeguard them. Any proposals or applications for new authorisations which may, either alone or in combination with others, have a significant effect on the listed interests of a Natura 2000 site, will be subject to a full appropriate assessment of the impact on those interests. These authorisations can be either inside or outside the site as those outside the boundary may have the potential to impact on the qualifying interests. Authorisations include; consents to discharge, water abstraction licences, waste management licences, Integrated Pollution Control authorisations and Radioactive Substances authorisations.

We are also obliged to review all existing authorisations and flood defence works which may be affecting these sites. Having determined which authorisations and activities are likely to be having an adverse affect on priority SACs and SPAs (Stages 1 and 2) the Agency will undertake an appropriate assessment (Stage 3) of these authorisations or activities. The review process is shown graphically in Appendix 5.5.

We are required to complete Stage 2 of the review procedure in the light of conservation objectives set by English Nature. Following European concern over the UK list of sites, English Nature has had to reconsider the network. This has led to delays in the receipt of conservation objectives with knock-on effects on our own timetable, and uncertainties over the site network as a whole as new SACs may be proposed (Action 15a).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------|------|----|----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15a | Review all authorisations affecting Special Areas for Conservation, Special Protection Areas and Ramsar sites as required by the EC Habitats Directive and EC Birds Directive. <i>This includes:</i> <ul style="list-style-type: none"> • Waste management licences • Water abstraction licences • Consents to discharge • Radioactive substances authorisations • Integrated Pollution Control authorisations • Flood Defence operations Contact: Area Water Resources Licensing Team Leader Status: On-going | 4, 6 | Agency EN | | • | • | • | Stage 1 reviews are now complete at the priority sites in the South Wessex Area. The Dorset Heathlands SPA and the Dorset Heaths candidate SAC are both priority sites. Stages 2 and 3 will not commence until we receive the conservation objectives for the Dorset Heathlands and Dorset Heaths. The conservation objectives will to some extent determine the resources required. Hence, no resources have yet been allocated. There are no resources to undertake review work on non-priority sites. |
| 15h | Prepare strategy for Christchurch Harbour | | see Action 18d | | | | | |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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> Contact: Area Conservation Team Leader Status: Completed | 4, 6 | Agency | | | | | Completed Year 1. The Landfill tax is being fully utilised by wildlife trusts for a number of projects and officers. No further action is planned at present. |

4.15.2 Biodiversity Action Plans

In 1994, the Government set up the Biodiversity Steering Group as its response to the Rio Earth Summit, an international initiative for conserving biodiversity, held in 1992. 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 have been drawn up for a number of other habitats and species, known as *habitats and species of conservation concern*.

Of those *priority habitats and species* for which we are lead contact, the following are known to be present in the LEAP area: chalk river habitats, the otter, water vole, white clawed crayfish, fine-lined pea mussel and depressed river mussel. As a lead contact we are responsible for stimulating action to achieve targets, monitoring results and reporting progress to national groups.

All the UK BAPs have now been produced and work has been ongoing at a regional and local level to translate some of the UK actions into a local context. The *South West Regional BAP* and the Dorset Biodiversity Project are helping to refine habitats and species requirements and implement actions on the ground.

The current status and actions on our contact habitats and species is summarised below:

Chalk river habitats – a draft revised BAP is currently in circulation; significant resources are needed to develop actions for South Wessex chalk rivers and to implement them.

Otters – otter numbers are steadily increasing on the Stour and its tributaries and it is a key catchment in the South Wessex Area, although a recent increase in road casualties is a significant threat. Three holts have been put in this winter.

Water voles - water voles are present in important numbers, although declining significantly nationally. The chalk tributaries, for example the Allen, are important, as are the ponds and ditches around Gillingham. These provide an important refuge habitat in times of flood.

White clawed crayfish – the Allen has a stronghold population which will be monitored and protected. It is one of only two known populations in Dorset. Signal crayfish, responsible for carrying a plague know to be fatal to natives are prevalent in the upper catchment. However, there may be other relic native populations in some of the tributaries.

Fine-lined Pea Mussel – there are no historic records for the Stour. A national survey is planned but not yet approved; the Stour is planned to be surveyed in the second stage of the project.

Depressed river mussel – the Stour has been surveyed and the results are awaited.

As well as acting as lead partner for the above habitats and species, we also have commitments for a significant number of other actions to be completed in partnership or alone for the *habitats and species of conservation concern*. The table in Appendix 5.6 lists all those habitats and species in the LEAP area for which the Agency has been assigned actions. These have been taken from existing BAPs which include plans at UK, Regional and County level.

The above documents also list other numerous BAP habitats and species for which the Agency has no assigned actions, but which are found in the area. The Agency will be working with the Dorset Biodiversity Project to develop projects, particularly for the following areas of relevance to the Agency: coastal and floodplain grazing marsh, fens, maerl beds, pink sea fan, seagrass beds, urban watercourses and Great Crested Newts. Liaison and collaborative work with a wide variety of partners, which is evident in the following LEAP actions, is central to the delivery of biodiversity on the ground. Many biodiversity issues are also dealt with through our day-to-day work.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------|-------|----|----|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15d | Complete and maintain database of biodiversity actions and ensure all functions use it when required. Contact: Area Conservation Team Leader Status: On-going | 4, 6 | Agency | £1.5k | • | • | | The database will be completed this year but requires continual updating. It is widely used throughout the Agency. This is now regarded as routine work. |
| 15e | Work with the Dorset Biodiversity Project to implement actions for priority species and habitats. Contact: Area Conservation Team Leader Status: On-going | 4, 6 | Agency DCC EN DWT RSPB | £20k | • | • | • | The project is progressing well setting up steering groups and carrying out work in the following areas of relevance to the Agency: coastal and floodplain grazing marsh, fens, urban watercourses, seagrass beds, maerl beds, pink sea fan, Great Crested Newt and Little Tern. We contributed £10k towards <i>on-the-ground</i> projects in 1999/2000, and will continue to support further work. |
| 15k | Contribute to the Blackmore Vale Restoration Project | see Action 14c | | | | | | |

Chalk rivers and associated species

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------|-------|----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15b | Regional otter survey Contact: Area Conservation Team Leader Status: No action | 4, 6 | Agency Wildlife Trusts | | • | • | • | This action has been dropped and local survey work has been progressing through the Dorset Wetlands Project. The national survey is planned to re-visit sites this year to allow assessment of long-term trends. This will be done through the Rivers and Wetlands Project Officer. |
| 15c | We will provide post mortem analyses of any dead otters found in the catchment. This helps determine long-term population trends and helps detect pollution impacts. Contact: Area Conservation Team Leader Status: On-going | 4, 6 | Agency | tbd | • | • | • | In winter 1998/1999 post-mortems were carried out on four otters. So far in 1999/2000 we have had two otter mortalities. Regional results indicate that pesticide related deformities to the uterus are decreasing in the long-term. |
| 15f | Continue to support the Dorset Vole and Otter Project (now called the Rivers and Wetlands Project) and undertake collaborative projects on key habitats and species. Contact: Area Conservation Team Leader Status: On-going | 4, 6 | DWT NT Agency Landowners | £7.5k | • | • | • | The project has been concentrating on the Dorset Otter Group. Volunteers are involved with surveying for otters, on-the-ground enhancement works for otters and water voles, and in the production of publicity material to promote the otter group. This winter, 1999/2000, road surveys have been carried out to highlight otter blackspots in partnership with the Stour Valley Project (Action 15p). |
| 15g | Review South Wessex Otter Strategy and prioritise rivers for action Contact: Area Conservation Team Leader Status: Completed | 4, 6 | Agency | £1.5k | | | | Completed in Year 1. Actions are being incorporated into the work plans of the Rivers and Wetlands Project Officer's and the Agency (Action 15f). |
| 15i | Survey the Stour and Moors River and all tributaries for the native crayfish and monitor the River Allen Contact: Area Conservation Team Leader Status: On-going | 4,6 | Agency | £4k | • | • | | A student will be employed during 2000/01 to survey the Stour catchment. The Area biologists are monitoring the population on the River Allen. |

• ACTIVITY TABLES

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------|------|----|----|----|-------------------------------------------------------------------------------------------------------------------|
| 15m | Survey the Stour for the Fine-lined pea mussel Contact: Area Conservation Team Leader Status: Delayed | 4,6 | Agency | £2k | • | | | A national survey is planned but not yet approved. The Stour will be surveyed in the second stage of the project. |
| 15n | NEW: Target the River Stour catchment: priority to chalk tributaries for River Habitat Survey to obtain 25 % coverage. <i>This is needed to be able to set habitat targets for all rivers by 2002/03.</i> Contact: Area Conservation Team Leader Status: New | 4,6 | Agency | £5k | | | • | |
| 15o | NEW: Create sites to demonstrate best management practice on chalk rivers. <i>Opportunities will be taken as enhancement projects proceed to use them to promote best practice to a wider audience (eg see Section 4.12, Action 12h).</i> Contact: Area Fisheries, Ecology and Recreation Manager Status: New | 4,6 | Agency DWT Landowners EN | £6k | | • | • | |
| 15p | NEW: Contribute towards otter road survey and implement recommendations, including otter fencing, otter underpasses and bridge ledges. Contact: Area Conservation Team Leader Status: New | 4,6 | Agency DWT Landowners | £10k | | • | • | |
| 15q | NEW: Target the Blackmore Vale, the Gillingham area and urban areas in the lower catchment for otter habitat creation. Contact: Area Conservation Team Leader Status: New | 4,6 | Agency Landowners FRCA DWT | £2k | | | • | |
| 15r | NEW: Re-survey for water voles on the Stour catchment as part of a countryside survey. Contact: Area Conservation Team Leader Status: New | 4,6 | Agency | £2k | | | • | |
| 15s | NEW: Implement other actions from UK Chalk river BAP Contact: Area Conservation Team Leader Status: New | 4,6 | Agency | tbd | | • | • | |
| 15t | NEW: Implement the recommendations from the national survey of the Depressed river mussel. Contact: Area Conservation Team Leader Status: New | 4,6 | Agency Partners | tbd | | • | • | |

Coastal and floodplain grazing marsh and associated species

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------|------|----|----|----|-------------------|
| 15u | NEW: Continue to promote action within the Dorset Wetlands Group for the promotion of appropriate water level management in key areas (see Section 4.7). <i>The Stour catchment is not a priority area for this habitat</i> Contact: Area Conservation Team Leader Status: New | 4,6 | Agency Partners Landowners | tbd | | • | • | |

Wet ditches, Tall Herb Fens and Swamps

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------|------|----|----|----|-------------------|
| 15v | NEW: Prioritise fens for action in the Stour catchment. <i>A fen inventory has been produced for all Dorset fens. Those within the remit of the Dorset Wetland Group will be reviewed.</i> Contact: Area Conservation Team Leader Status: New | 4,6 | Dorset Wetland Group | tbd | | | • | |
| 15w | NEW: Adopt good management where the Greater water parsnip exists. <i>EN must establish the current distribution before this action can proceed.</i> Contact: Area Conservation Team Leader Status: New | 4,6 | Agency | tbd | | | • | |

Coastal Saltmarsh

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------|
| 15x | NEW: Consider the options for raising awareness and creating coastal saltmarsh as part of the development of a strategy for Christchurch Harbour (see Section 4.18, Action 18d) Contact: Area Conservation Team Leader Status: New | 4,6 | Agency | tbd | • | • | • | |

Headwater streams

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15i | Monitor headwater streams and winterbournes for invertebrates Contact: Area Biology Team Leader Status: No action | 4,6 | Agency | tbd | | | • | This action was not progressed in 1999 due to other priorities. It forms part of the Chalk River BAP and work is programmed for 2001 onwards. It is currently unfunded. |

4.15.3 Moors River System Site of Special Scientific Interest

We must produce a conservation strategy and consenting protocol for each river Site of Special Scientific Interest (SSSI). The strategy is an over-arching document highlighting those issues that potentially impact on the conservation interest, and proposed measures to research, monitor and act to reduce impacts. The protocol is a mechanism to assist in streamlining the consenting procedure for owners and occupiers. It is a

working agreement between English Nature and the Agency and aims to reduce bureaucracy relating to activities requiring consent.

The strategy and protocol have been awaiting the notification of the Crane, as an extension to the Moors River SSSI. This new SSSI is called the *Moors River System*. The protocol and strategy will be prepared in 2000/01; the strategy will be consulted on and reviewed every five years (Action 7h).

In addition, all owners and occupiers within the SSSI should be aware of their first point of contact (English Nature or the Agency) when proposing to undertake activities within the SSSI identified on the Operations Likely to Damage or OLDs list (see Section 6).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------|------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7g | Update Moors River Operational and Maintenance Plan to incorporate our work on the Uddens Status: No action | 4, 6 | Agency EN | | | | | Deferred, will now be linked to the conservation strategy (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 Contact: Area Conservation Team Leader Status: On-going | 4, 6 | Agency EN | £2k | • | • | | The River Crane has been notified as an Site of Special Scientific Interest and is called the Moors River System. The strategy and protocol will be prepared this year. |

4.16 Need to protect features of archaeological interest

Archaeological features may be at risk from direct damage by our work, for example, river maintenance and dredging and indirectly through the drying out of organic remains with lowered water tables and the deposition of spoil on sites of historic interest. We routinely screen our works for possible impact on known archaeological features.

The River Allen was part of the Agency's pilot study of water meadows carried out during 1997 and 1998 to investigate the extent, survival and historic importance of water meadows. The study attempted to identify the surviving water meadow resource in the valley. A gazetteer of all water meadow systems has been compiled, which is used as a reference source by staff to make decisions arising from management and maintenance policies. The project was recommended for a 1998 Dorset Archaeological Award. Twenty-nine meadows were classified on the Allen; relative to the Dorset Frome, they have survived less well, reflecting more intensive landuse. Some water meadows would be worth partly restoring to increase or safeguard their ecological and historic value. An opportunity is offered through the Ministry of Agriculture, Fisheries and Food Countryside Stewardship scheme (see Section 2.7).

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------|------|----|----|----|-------------------|
| 16a | Feasibility study to identify potential for water meadow archaeology Contact: Area Conservation Team Leader Status: Completed | 6 | Agency LAs | £10k | | | | Completed Year 1. |
| 16b | NEW: Assist in advising landowners on appropriate restoration of water meadows on the River Allen. <i>The cost will be Agency staff time</i> Contact: Area Conservation Team Leader Status: New | 6 | Landowners Agency MAFF | | | | • | |

4.17 Improving air quality

The LEAP previously included two national actions (see Appendix 5.2) relating to the reduction of emissions of sulphur dioxide and nitrogen oxide. The majority of these cuts relate to improvements at coal and oil fired

power stations. Since there are no power stations within the LEAP area these actions will no longer be included.

We will be working closely with local authorities who will be reviewing and assessing air quality in their areas, and others, to help achieve the objectives of the National Air Quality Strategy, published in March 1997. This will be principally through our regulation of emissions to air under the system of Integrated Pollution Control. There are no significant emissions in the LEAP area.

The National Environmental Technology Centre post air quality bulletins on Ceefax pages 410-417 and Teletext page 106 and at [www://aeat.co.uk/netcen/airqual](http://www.aeat.co.uk/netcen/airqual).

4.18 The development of recreation

During 1999 the Agency worked in partnership with a number of organisations to promote and develop the recreational use of water and the associated land throughout the Stour catchment.

We have continued to work closely with the Stour Valley Project (Action 18a), particularly in North Dorset. In Blandford the Stour Meadows ponds, grassland and tree planting are maturing well, and the area is enjoyed by many. New footbridge access between the Stour Meadows and the town centre, will offer opportunities in 2000 and beyond for further collaborative work. The provision of a riverside dipping platform remains under negotiation.

In collaboration with North Dorset District Council, we have also developed the Stour Valley Education pack which is currently in draft form with the council. It has been written by local teachers and includes a wide variety of projects and activities related to the River Stour. The Stour Valley Education Pack also links to Little Canford Ponds.

At Little Canford Ponds near Wimborne, where we operate a coarse fishery, we have been improving the facilities through further tree management to improve access for anglers (Action 18b). The *Fishing for Fun* days aimed at the younger angler are now formally established in the calendar of events at this site. We are re-writing the management plan this year (Action 18i) and are currently exploring options to further develop the site for use by schools and disabled groups (Action 18j). Following the review of the management plan we will have a clear idea of how to increase the educational use of the site.

We have also undertaken work along the Stour at Gillingham and Wimborne (Action 18b). The Gillingham *Three Rivers Project* aims to highlight the importance of Gillingham's rivers and identify opportunities for access and habitat enhancement work and is currently being progressed with the Stour Valley Project and the Gillingham Civic Society. We will continue to explore opportunities for new partnerships with the project.

In Wimborne the Agency has been involved with the *Rivers in Wimborne* project. We have developed an action plan, produced informative leaflets and put up interpretation boards in collaboration with the East Dorset Heritage Trust, Wimborne in Bloom, Wimborne Town Council, East Dorset District Council, Dorset County Council and the local community. This has raised local awareness about river management especially relating to vegetation clearance.

We have been working with the British Canoe Union and local canoe clubs to increase canoe access on the Stour and a canoe platform and improved access has been constructed near Blandford (Action 18c).

The Agency is continuing to explore opportunities with the South East Dorset Greenlink project who are currently looking to use part of the Stour Valley (Bournemouth to Hurn) as one of its demonstration projects aimed at providing quiet alternative routes for commuters as well as for recreation (Action 18g).

At the lower end of the catchment is Christchurch Harbour which is an important recreational and ecological resource and a number of important habitats and species occur within and around it including coastal grazing marsh, saltmarsh and seagrass beds (see Section 4.15). The Agency has responsibility for some aspects of fishery management in the harbour, and is consulted on a wide range of proposals from dredging to power boat provision.

• ACTIVITY TABLES

At present we feel that there is insufficient knowledge available on the harbour to enable sound sustainable decisions to be taken, and that there is a need to prepare a strategy, in partnership with others, to make the most effective use of these waters (Action 18d). This is discussed more fully in the Hampshire Avon LEAP Plan which is available from our Blandford Office.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------|---------|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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> Contact: Area Conservation Team Leader Status: On-going | 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 (dipping platform) is under negotiation. |
| 18b | Explore further opportunities for interpretation and enhancement projects along Stour Valley Way and Little Canford Ponds (see Section 4.4) Contact: Area Conservation Team Leader Status: On-going | 6 | Agency DCC NDDC LAs | £6k | | • | • | We have developed a Stour Valley Education Pack in partnership with North Dorset District Council. The pack contains various projects/activities for schools covering many topics related to the River Stour and are involved with a school project in Blandford. The <i>Three Rivers</i> Project in Gillingham has been developing riverside access and producing information leaflets with local authorities, developers and the local community. A leaflet is planned for 2000/01. The <i>Rivers in Wimborne</i> project has been completed. |
| 18c | Implement improvements to canoe facilities as opportunities arise in partnership with the British Canoe Union and local canoe clubs Contact: Area Conservation Team Leader Status: On-going | 6 | Agency BCU Local canoe clubs | £0.9 pa | • | • | • | A canoe platform has been constructed near Blandford and further access improvements secured. |
| 18d | Develop strategy for Christchurch Harbour Contact: Area Conservation Team Leader Status: On-going | 6 | Agency EN RSPB Users LAs | £1k | • | • | • | This has been raised as an action in the Hampshire Avon LEAP Plan. This LEAP is available from the Blandford office |
| 18e | Increase educational use of Little Canford Ponds Contact: Area Conservation Team Leader Status: No Action | 6 | Agency | £0.5k | • | • | | This action has been replaced with Action 18j. Increased educational use of Little Canford Ponds will be investigated following the review of the management plan and the completion of the Stour Valley Education Pack. |
| 18f | Build two educational ponds at Moors Valley Country Park Contact: Area Conservation Team Leader Status: Completed | 6 | Agency EDDC Volunteers | £0.5k | | | | Completed in Year 1. |
| 18g | Continue to 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> Contact: Area Conservation Team Leader Status: On-going | 6 | Agency CA | £1k | | • | • | We are collaborating with the Countryside Agency to explore opportunities to link <i>Greenways</i> and river corridors to provide safe and attractive non-motorised traffic routes to work and for recreation. |
| 18h | Investigate role with planned Stour interpretation centre Contact: Area Customer Services Manager Status: No action | 6 | Agency NDDC Others | | | • | | No progress in year 1. |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------|
| 18i | NEW: Re-write management plan for Little Canford Ponds. Contact: Area Conservation Team Leader Status: New | 6 | Agency | £1k | | • | | |
| 18j | NEW: Investigate opportunities for increased educational use and disabled access at Little Canford Ponds and throughout the Stour catchment Contact: Area Conservation Team Leader Status: New | 6 | Agency | tbd | | • | • | |
| 18k | NEW: Produce leaflet promoting Little Canford Ponds to all users Contact: Area Conservation Team Leader Status: New | 6 | Agency | £1k | | | • | |

4.19 NEW ISSUE: Securing future water supplies

Water resources planning and management of supplies is based on areas known as water resource zones. They have an integrated network of pipes and sources and can extend over large areas, often encompassing several catchments, LEAP areas and administrative areas.

The Dorset Stour LEAP area lies within the area supplied by Wessex Water and Bournemouth & West Hampshire Water Company. The supply in the LEAP area is from a number of sources both from groundwater and surface water abstractions.

Water resources management, including public water supplies, within the LEAP area and beyond are subject to national legislation and regulation. Primarily this is with the help of a system of impounding and abstraction licences which are determined and administered by the Agency.

This system of licensing is common to England and Wales and was reviewed during 1997 and 1998 and a number of changes were proposed. *Taking Water Responsibility*, a paper detailing the Government decisions following consultation was published in March 1999. The changes proposed will fundamentally affect the way in which the Agency will control the abstraction, transfer and impoundment of water in England and Wales. This in turn will alter the way in which abstractors and other interested parties are involved in the control and management of water resources. During the development of our proposals we will want to reassess the changes with groups and representatives of abstractors. In particular, we will discuss how we will implement the changes and how the changes might effect existing operations.

Initially we are concentrating on the following areas which do not require primary legislation:

- Catchment Abstraction Management Strategies (CAMS)
- time limiting of licences
- restoring sustainable abstractions by dealing with damaging abstractions
- review of licence administration procedures

We are currently consulting on our proposals for CAMS using the document *Managing Water Abstraction: Towards a Shared Strategy*. In South Wessex we hope to publish our first CAMS in April 2002. CAMS will provide the opportunity for consultation at the local catchment level allowing groups and individuals to contribute to the development of each strategy. The strategy will provide information on:

- the availability of water in a catchment
- licensing practice in dealing with new applications

- changes needed to the abstraction regime in the catchment to achieve the sustainable long-term use of water resources
- a transparent basis for planning for abstractors, the Agency and all other interested parties

It will also be the vehicle for reviewing existing time limited licences. Further information is provided in the leaflet *Changes to the water abstraction licensing system* which is available from local Agency offices.

4.19.1 The water companies and OFWAT

The Office of Water Services (OFWAT) is the body appointed by the Government as financial regulator of the water companies. The last periodic review of prices was published by OFWAT at the end of November 1999 and covers the period 2000–2005 (see Section 2.5).

As part of this review of water company prices, the companies were required to revise their demand forecasts, review their resource availability and consider potential options to meet any forecast deficits within the planning horizon to 2010. In parallel with this, the Agency required water companies to submit water resources plans for the period to 2025. These were received in March 1999 and the plans submitted by Wessex Water and Bournemouth & West Hampshire Water Company were considered to be acceptable. All companies are now to review and update the plans annually.

The water companies also have a duty to apply and demonstrate water efficiency to their customers and to promote the efficient use of water by their customers. They prepare *Water Efficiency Plans* which set out how they aim to achieve this and the ways in which both domestic and business customers can save water. Information on promoting water efficiency is available from the water companies.

The Agency is now developing new national and regional water resource strategies for the period to 2025. Consultation for this closed at the end of January 2000 and publication is scheduled for December 2000.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19a | NEW: Revise the Regional Water Resources Development Strategy. Contact: Regional Water Resources Planning Manager Status: New | 3 | Agency | £60k | • | • | | This action is new to the plan but work started on the strategy in 1999/00. The revision will be based on information received in the companies' water resources plans. |

4.20 NEW ISSUE: Historic mercury contamination

The EC Surface Water Abstraction Directive (*concerning the quality of surface water intended for the abstraction of drinking water*) protects the quality of surface water used for public supply. The only identified surface water abstraction point in the catchment is at Longham and is operated by Bournemouth & West Hampshire Water Company.

In March 1999, a sample breached the Directive limit for mercury, however all other samples taken over the year were compliant. Over the last ten years we have had very occasional single sample failures for mercury, although the concentrations reported only breached the required standard by a small margin and do not pose a serious risk. Subsequent sampling after the events has not shown any short-term reoccurrence and historic data shows no trend or indication of mercury as a risk to the supply intake at Longham.

We have started to investigate possible sources of mercury within this stretch of the River Stour and have increased the sampling frequency for mercury at the intake. In addition sediment samples will be taken between Little Canford and Longham during September 2000 when river levels are at their lowest. The data will be reviewed at the end of the year.

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------|
| 20a | NEW: Increase sampling frequency for mercury at the Longham intake and survey sediments for mercury from Little Canford to Longham. Contact: Area Investigations Team Leader Status: New | 6 | Agency | £2k | | • | | |

5 Appendices

5.1 Duties, powers and interests of the Environment Agency

The Agency has a wide range of interests in the areas of water management, waste management, flood defence, conservation, fisheries, recreation and pollution prevention and control. Whilst many of these interests are supported by statutory duties and powers, much of the Agency's work is advisory, with the relevant powers resting with the other bodies such as local planning authorities. The following table summarises the Agency's duties, powers and interests.

| |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Resources |
| <i>The Agency has a duty to conserve, redistribute, augment and secure the proper use of water resources</i> |
| <p><i>The Agency has powers to:</i></p> <ul style="list-style-type: none"> • grant or vary water abstraction and impoundment licences on application with appropriate conditions imposed to safeguard the needs of the environment whilst allowing reasonable and justified use of available and sustainable water resources with the aim of achieving an equitable balance between competing demands • revoke or vary existing licences to reinstate flows or levels to surface waters or groundwaters which have become depleted as a result of abstraction. Compensation may be payable if such powers are used • secure the proper use of water resources through its role in water resources planning, and the assessment of reasonable need for abstractions and the promotion of more efficient use of water resources • monitor and enforce abstraction and impoundment licence conditions • issue conservation notices to direct appropriate practices with regard to water resources issues associated with exempt dewatering activities |
| <p><i>The Agency has an interest (but no powers) in:</i></p> <ul style="list-style-type: none"> • the more efficient use of water by water companies, developers, industry, agriculture and the public and the introduction of water efficiency measures and suitable design and layout of the infrastructure • protecting the water environment from any adverse impact due to proposed major developments |
| <p><i>Partnership:</i></p> <ul style="list-style-type: none"> • the Agency is committed to water-demand management and will work closely with water companies and developers, local authorities, other relevant organisations and the public to promote the efficient use of water • the Agency acknowledges that new resources may be needed in the future and supports a twin-track approach of planning for water resource development alongside the promotion of demand-management measures • the Agency uses its position as a statutory consultee to the planning authorities to secure conditions and agreements that protect the water environment and that encourage water conservation measures. The Agency also seeks to influence planning decisions for new development by ensuring that planning authorities allow for any lead-time required for resource development. |

| |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flood Defence |
| <i>The Agency has a duty to exercise general supervision over all matters relating to flood defence throughout each catchment</i> |
| <p><i>The Agency has powers to:</i></p> <ul style="list-style-type: none"> • control, through Land Drainage consents, development within 8 m of main river (Water Resources Act 1991, Section 109) or construction of a structure that would affect the flow of an ordinary watercourse (Land Drainage Act 1991, Section 23) • produce flood risk maps for all main rivers under Section 105 of the Water Resources Act 1991 • undertake works to main rivers using permissive powers • issue flood warnings to the public relating to main rivers, local authorities and the police • consent mineral workings within 16 m of main rivers |
| <p><i>The Agency has an interest (but no powers) in:</i></p> <ul style="list-style-type: none"> • granting of planning permission throughout a catchment but especially floodplains where development can significantly increase flood risk. This permission is granted by local planning authorities • installation of surface water source control measures • supervising the maintenance of ordinary watercourses which is a local authority remit, but may impact on main rivers • installation of buffer zones which reduce flood risk and have significant environmental benefits • urban and rural land use and measures that can reduce flood risk or the need for watercourse maintenance |

Flood Defence**Partnership:**

- as a statutory consultee on planning applications within main river floodplains the Agency offers advice based on knowledge of flood risk. We also advise on the environmental impacts of proposed floodplain development
- the Agency will encourage best practice, including source control measures and common standards, among local authorities and riparian owners to protect and enhance the environment
- the Agency works with civil authorities to prepare flood warning dissemination plans and supports their endeavours to protect communities at risk

Waste Management

The Agency has a duty to regulate the management of waste, including the treatment, storage, transport and disposal of controlled waste, to prevent pollution of the environment, harm to public health or detriment to local amenities

The Agency has powers to:

- vary waste management licence conditions
- suspend and revoke licences
- investigate and prosecute illegal waste management operations

The Agency has an interest (but no powers) in:

- the siting and granting of planning permission for waste management facilities. This is conducted by the waste industry and local planning authorities. The Agency, as a statutory consultee on planning applications, can advise on such matters

Partnership:

- the Agency will work with waste producers, the waste management industry and local authorities to reduce the amount of waste produced, increase re-use and recycling and improve standards of disposal

Water Quality

The Agency has a duty to monitor, protect, manage, and, where possible, enhance the quality of all controlled waters including rivers, groundwaters, lakes, canals, estuaries and coastal waters through the prevention and control of pollution

The Agency has powers to:

- issue discharge consents to control pollution loads in controlled waters
- regulate discharges to controlled waters in respect of water quality through the issue and enforcement of discharge consents
- issue works, enforcement and groundwater notices where action is required to reduce the risk of pollution
- prosecute polluters and recover the costs of clean-up operations
- serve prohibition notices (with or without conditions) on highway authorities to require treatment and pollution measures for highway runoff
- regulate new and modified structures on farms to reduce the risk of pollution

The Agency has an interest (but no powers) in:

- the greater use of source control measures to reduce pollution by surface water runoff
- prevention and education campaigns to reduce pollution incidents
- the provision of highway runoff control measures which is a highway authority remit

Partnership:

- the Agency will liaise with local authorities, developers, the Highways Agency, industry and agriculture to promote pollution prevention and the adoption of source control measures. As a statutory consultee on planning applications, the Agency will advise local planning authorities on the water quality impact of proposed developments

Air Quality

The Agency has a duty to implement Part 1 of the Environment Protection Act 1990

The Agency has powers to:

- regulate the largest technically complex and potentially most polluting processes such as refineries, chemical works and power stations including enforcement of, and guidance on, BATNEEC and BPEO
- have regard to the Government's National Air Quality Strategy when setting standards for the releases to air from industrial processes

The Agency has an interest (but no powers) in:

- the vast number of smaller industrial processes which are controlled by local authorities
- control over vehicular emissions and transport planning

| |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air Quality |
| <p>Partnership:</p> <ul style="list-style-type: none"> • the Agency provides data on IPC processes and advice on planning applications to local authorities • the Agency is willing to offer its technical experience to local authorities on the control of air pollution • the Agency wishes to liaise with local authorities in the production of Air Quality Management Plans • the Agency will advise and contribute to the government's National Air Quality Strategy |

| |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radioactive Substances |
| <p>The Agency has a duty under the Radioactive Substances Act 1993 to regulate the use of radioactive materials and the disposal of radioactive waste</p> |
| <p>The Agency has powers to:</p> <ul style="list-style-type: none"> • issue certificates to users of radioactive materials and disposers of radioactive waste, with an overall objective of protecting members of the public |
| <p>The Agency has an interest (but no powers) in:</p> <ul style="list-style-type: none"> • the health effects of radiation |
| <p>Partnership:</p> <ul style="list-style-type: none"> • the Agency will work with users of the radioactive materials to ensure that radioactive wastes are not unnecessarily created, and that they are safely and appropriately disposed of. The Agency will work with the Ministry of Agriculture, Fisheries and Food to ensure that the disposal of radioactive waste creates no unacceptable effects on the food chain • the Agency will work with the Nuclear Installations Inspectorate to ensure adequate protection of workers and the public at nuclear sites • the Agency will work with the Health and Safety Executive on worker protection issues at non-nuclear sites |

| |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contaminated Land |
| <p>The Agency has a duty to develop an integrated approach to the prevention and control of land contamination, ensuring that remediation is proportionate to risks and cost-effective in terms of the economy and environment</p> |
| <p>The Agency has powers to:</p> <ul style="list-style-type: none"> • regulate the remediation of contaminated land designated as special sites • prevent future land contamination by means of IPC, water quality and other statutory powers • report on the state of contaminated land |
| <p>The Agency has an interest (but no powers) in:</p> <ul style="list-style-type: none"> • securing with others, including local authorities, landowners and developers, the safe remediation of contaminated land |
| <p>Partnership:</p> <ul style="list-style-type: none"> • the Agency supports land remediation and will promote this with developers and local authorities and other stakeholders |

| |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conservation |
| <p>The Agency will further conservation, wherever possible, when carrying out water management functions; have regard to conservation when carrying out pollution control functions; and promote the conservation of flora and fauna which are dependent on the aquatic environment</p> <ul style="list-style-type: none"> • the Agency has no direct conservation powers but uses its powers with regard to water management and pollution control to exploit opportunities for furthering and promoting conservation |
| <p>The Agency has an interest (but no powers) in:</p> <ul style="list-style-type: none"> • the conservation impacts of new development. These are controlled by local planning authorities • protection of specific sites or species, which is a function of English Nature. The Agency does, however, provide advice to local authorities and developers to protect the integrity of such sites or species • implementation of the UK Biodiversity Plan |
| <p>Partnership:</p> <ul style="list-style-type: none"> • the Agency supports action to sustain or improve natural and man-made assets so that they are made available for the benefit of present and future generations. Many development schemes have significant implications for conservation. The Agency will work with developers, local authorities, conservation bodies and landowners to conserve and enhance biodiversity |

| |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Landscape |
| <i>The Agency will further landscape conservation and enhancement when carrying out water management functions; have regard to the landscape when carrying out pollution control functions; and promote the conservation and enhancement of the natural beauty of rivers and associated land</i> |
| <i>The Agency has powers to:</i> |
| <ul style="list-style-type: none"> • further the conservation and enhancement of natural beauty when exercising its water management powers and have regard to the landscape in exercising its pollution control powers |
| <i>The Agency has an interest (but no powers) in:</i> |
| <ul style="list-style-type: none"> • the landscape impact of new development, particularly within river corridors. This is controlled by local planning authorities |
| <i>Partnership:</i> |
| <ul style="list-style-type: none"> • the Agency produces River Landscape Assessments and Design Guidelines which it uses when working with local authorities and developers to conserve and enhance diverse river landscapes |
| Archaeology |
| <i>The Agency has a duty to consider the impact of all of its regulatory, operational and advising activities upon archaeology and heritage, and implement mitigation and enhancement measures where appropriate</i> |
| <i>The Agency has powers to:</i> |
| <ul style="list-style-type: none"> • promote its archaeological objectives through the exercise of its water management and pollution control powers and duties |
| <i>The Agency has an interest (but no powers) in:</i> |
| <ul style="list-style-type: none"> • direct protection or management of sites of archaeological or heritage interest. This is carried out by local planning authorities, County Archaeologists and English Heritage |
| <i>Partnership:</i> |
| <ul style="list-style-type: none"> • the Agency will liaise with those organisations which have direct control over archaeological and heritage issues to assist in the conservation and enhancement of these interests |
| Fisheries |
| <i>The Agency has a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries</i> |
| <i>The Agency has powers to:</i> |
| <ul style="list-style-type: none"> • regulate fisheries by a system of licensing • make and enforce fisheries byelaws to prevent illegal fishing • promote the free passage of fish and consent fish passes • monitor fisheries and enforce measures to prevent fish entrainment in abstractions • promote its fisheries duty by means of land drainage consents, water abstraction applications and discharge applications |
| <i>The Agency has an interest (but no powers) in:</i> |
| <ul style="list-style-type: none"> • the determination of planning applications which could affect fisheries |
| <i>Partnership:</i> |
| <ul style="list-style-type: none"> • many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and local authorities to protect fisheries |
| Recreation |
| <i>The Agency has a duty to promote recreational use of rivers and water space</i> |
| <i>The Agency has powers to:</i> |
| <ul style="list-style-type: none"> • contribute towards its recreation duty through the exercise of its statutory powers and duties in water management |
| <i>The Agency has an interest (but no powers) in:</i> |
| <ul style="list-style-type: none"> • promotion of water sports. This is carried out by the Sports Council and other sports bodies |
| <i>Partnership:</i> |
| <ul style="list-style-type: none"> • the Agency will work with the Countryside Agency, the Sports Council, British Waterways and other recreational and amenity organisations to optimise recreational use of the water environment |
| Navigation |
| We have no navigation responsibilities in the South West Region |

5.2 Guide to previous Dorset Stour LEAP actions in the Action Plan and First Annual Review

The actions listed below are regarded as ongoing work and as such have no particular start and end point and are no longer considered to be LEAP actions. However, a brief review of progress is given in the relevant sections as referenced below.

Impact of sewage and sewerage on water quality (Section 4.3)

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3f | We will provide information regarding the installation of first time sewerage as required | 6 | Agency | tbd | • | • | • | 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. (see Section 4.3). |

Impact of development on urban rivers (Section 4.4)

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------|------|----|----|----|--------------------------------------------------------|
| 4e | Ensure that development in the catchment incorporates appropriate pollution prevention and attenuation measures through our role as a statutory consultee to the development planning process. | 6, 7 | Agency Developer LAs | | • | • | • | Regarded as ongoing day-to-day work (see Section 2.2). |

Contaminated Land (Section 4.5)

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------|------|----|----|----|-----------------------------------------------------------------------------------------------------------------------------------------|
| 5d | Contribute to the development planning process to ensure effective improvement of contaminated sites proposed for development. This will be undertaken through our role as a statutory consultee to the development planning process | 7 | Agency | | • | • | • | Regarded as on-going day-to-day work (see Section 4.5). |
| 5e | Assist local authorities to implement their responsibilities under the new regime for the improvement of contaminated land. | 7 | LAs Agency | tbd | • | • | • | Regarded as on-going day-to-day work (see Section 4.5). |
| 5f | In consultation with local authorities manage contaminated land sites identified as special under the new regime. | 7 | Agency LAs | tbd | • | • | • | A list of specific sites has not yet been compiled. Actions at individual sites will be incorporated when they arise (see Section 4.5). |

Developing strategies for sustainable waste management (Section 4.6)

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|---------------------------------------------------------|
| 6g | Advice on waste minimisation to be provided to industry and commerce through the South Wessex Waste Minimisation Group, special waste visits and Producer Responsibility visits. | 8 | Agency | tbd | • | • | • | Regarded as on-going day-to-day work (see Section 4.6). |
| 6h | Monitor compliance with Producer Responsibility Regulations and ensure companies who are affected by the regulations are registered. <i>Certificates of compliance are required from individual registered companies from 31/1/99 and each year thereafter to demonstrate compliance.</i> | 8 | Agency | tbd | • | • | • | Regarded as on-going day-to-day work (see Section 4.6). |

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6i | Continue accreditation of reprocessors. Accredited reprocessors to be re-accredited every year. Accreditation to continue as and when a reprocessor applies to the Environment Agency | 8 | Agency | tbd | • | • | • | Regarded as on-going day-to-day work (see Section 4.6). In the South Wessex Area there are two accredited reprocessors; Boumemouth Clinical Waste Incinerator and Dolphin Packaging Materials Ltd., with sites in Poole and Christchurch. |

Maintaining our rivers and flood defences (Section 4.7)

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|-------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------------------|----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7a | Revise our programme of works to favour reaches where we are currently providing service below the target Standard of Service | 6,7 | Agency | tbd | • | • | • | As a result of the implementation of the Flood Defence Management 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 the Dorset Stour works score more highly than works in other areas they are included (see Section 4.7). |
| 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. The project to determine flood risk and flood defence effectiveness of assets in Gillingham is now also completed. One-off asset surveys have been superceded by MAFF High Level Targets with respect to six monthly inspections. (see Action 7d). |
| 7c | Assess priorities in light of asset survey | 6, 7 | Agency | £350k pa for Area | • | • | • | As a result of the Easter Floods and the subsequent Bye Report an asset inspection engineer has been appointed to determine the condition of assets and the position of subsequent works in the annual works programme. |
| 7d | Carry out necessary refurbishment and replacement works | | | | | | | |

Impact of public water supply abstraction on the Tarrant (Section 4.12)

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|--------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------------------------------------------------------------|
| 12a | Continue monitoring groundwater levels and river flows to determine the impact of abstraction on groundwater levels and surface flow | 3 | Agency | tbd | • | • | • | This is on-going and now considered as routine work (see Section 4.12). |

Improving Air Quality (Section 4.17)

| Ref | Actions | Theme | By | Cost | 99 | 00 | 01 | Progress Year Two |
|-----|---------------------------------------------------------------------------------------------------------------------|-------|--------|------|----|----|----|-------------------------------------|
| 17a | We aim Nationally to reduce the emissions of sulphur dioxide by 75% by 2005. This is for Agency regulated processes | 1,2,9 | Agency | | • | • | • | This action is currently on course. |
| 17b | We aim Nationally to reduce the emissions of nitrogen oxides by 33% by 1998. This is for Agency regulated processes | 1,2,9 | Agency | | | | | This has been achieved. |

5.3 The setting and maintenance of water quality targets

We manage water quality by setting targets called River Quality Objectives (RQOs). They are intended to protect current water quality and they form the basis for setting consents for new discharges and planning river water quality improvements.

We also manage water quality by applying standards set in EC directives and other international commitments.

River Quality Objectives are based on the River Ecosystem (RE) classification scheme that consists of five hierarchical classes which are summarised in the table. It sets standards for dissolved oxygen, biochemical oxygen demand (BOD), total ammonia, free ammonia, pH, dissolved copper and total zinc.

| 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 |

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

Where we were unable to identify solutions or resources to resolve current water quality problems, we may also set a Long Term RQO. We will measure compliance against RQOs but use Long Term RQOs as a basis for setting consents for new discharges. This will ensure that future development will not prevent us from achieving our long term objectives. The Agency has recently decided to stop setting Long Term RQOs as they are measured against infrastructure improvements that we are seeking, usually with the water companies, which are due to come to fruition in a known time period. We are currently working with Long Terms RQOs covering the AMP3 period 2000-2005, as detailed in Section 2.5.

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 certain circumstances we can *set-aside* data, 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. This allows us to protect good water quality reflected by other parameters in the RE classification.

In slow-flowing, nutrient rich rivers, substantial growth of planktonic algae can occur. During analysis in the laboratory these can exert 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. We do not currently *set-aside* BOD values associated with high chlorophyll-a levels and algal blooms. However, recent analysis of data has shown that set-aside of BOD values associated with chlorophyll-a concentrations in excess of 25 µg/l resulted in a marked reduction in the length of the main river failing its Long Term RQO and the removal of any significant failures.

The main problem with set-aside of BOD values associated with algal blooms is deciding what constitutes *elevated* chlorophyll levels. In this particular instance 25 µg/l was used as it is the Department of the Environment Transport and the Regions criterion for Sensitive Area (Eutrophic) status under the Urban Waste Water Treatment Directive (see Section 4.3).

5.3.1 Classified stretches

| River | Stretch boundaries | RQO | Dated |
|-------------------------------------|----------------------------------------------------------------------|-----|-------|
| Stour | Gaspar to confluence with Shreen Water | 2 | |
| | Confluence with the Shreen Water to D/S Gillingham | 2 | |
| | D/S Gillingham to confluence with the Lodden | 2 | |
| | Confluence with the Lodden to Ecccliffe Mill | 2 | |
| | Ecccliffe Mill to Trill Bridge | 2 | |
| | Trill Bridge to the confluence with the Cale | 2 | |
| | Confluence with Cale to Twinwood Coppice | 2 | |
| | Twinwood Coppice to confluence with Manston Brook | 2 | |
| | Confluence with Manston Brook to confluence with Fontmell Brook | 2 | |
| | Confluence with Fontmell Brook to confluence with the Iweme | 2 | |
| | Confluence with Iweme to Durweston | 2 | |
| | Durweston to confluence with the Tarrant | 2 | |
| | Confluence with the Tarrant to confluence with the North Winterborne | 2 | |
| | Confluence with North Winterborne to confluence with the Allen | 2 | |
| | Confluence with the Allen to U/S A348 | 2 | |
| | U/S A348 to D/S Longham Bifurcation | 2 | |
| | D/S Longham Bifurcation to Palmersford | 2 | |
| Palmersford to Holdenhurst | 2 | | |
| Holdenhurst to Jumpers Common | 2 | | |
| Jumpers Common to Tuckton (estuary) | 2 | | |
| Moors | Confluence with the Crane to confluence with the Stour | 1 | |
| Crane | Squirrels Comer to Romford | 1 | 2000 |
| | Romford to U/S Kings Farm | 1 | |
| | U/S Kings Farm to confluence with the Mannington Brook | 2 | |
| Uddens Water | Arneysford to confluence with the Crane | 1 | |
| Mannington Brook | Mannington to Arneysford | 1 | |
| Allen | Monkton Up Wimborne to confluence with the Gussage Stream | 1 | |
| | Confluence with Gussage Stream to D/S Hinton Pava Bifurcation (east) | 1 | |
| | D/S Hinton Parva Bifurcation to confluence with the Stour | 1 | |
| North Winterborne | Winterborne Kingston to confluence with the Stour | 1 | |
| Tarrant | Tarrant Gunvill to the confluence with the Stour | 1 | |
| Iweme | U/S Iweme Fish Farm to Ranston | 2 | 2000 |
| | Ranston to confluence with the Stour | 2 | |
| Fontmell Brook | Farrington to confluence with the Stour | 2 | |
| Manston Brook | Confluence with Sturchell Brook to confluence with the Stour | 3 | |
| Key Brook | Marsh Common to confluence with the Sturchell Brook | 4 | |
| Divelish | Kitford to confluence with the Stour | 2 | |
| Cam | Confluence at Lydden House to confluence with the Caundle Brook | 2 | |
| Lydden | Cannings Court to confluence with Lydden House | 2 | |
| | Hazelbury Bryan to confluence at Lydden House | 2 | |
| | Confluence at Lydden House to confluence with the Caundle Brook | 2 | |
| | Confluence with Caundle Brook to confluence with the Stour | 2 | |
| Caundle Brook | Middlemarsh to Bishops Caundle | 2 | 2000 |
| | Bishops Caundle to confluence with the Lydden | 2 | |
| Cale | Wincanton to confluence with Bow Brook (north) | 3 | |
| | Confluence with Bow Brook (north) to confluence with the Stour | 2 | |
| Lodden | Lower Mere Park Farm to confluence with the Stour | 3 | |
| Shreen Water | Southbrook to confluence with the Stour | 1 | |
| | Swainsford Farm to confluence with South Brook Tributary | 2 | |

The table below gives an update on River Ecosystem compliance since the publication of the Consultation Draft.

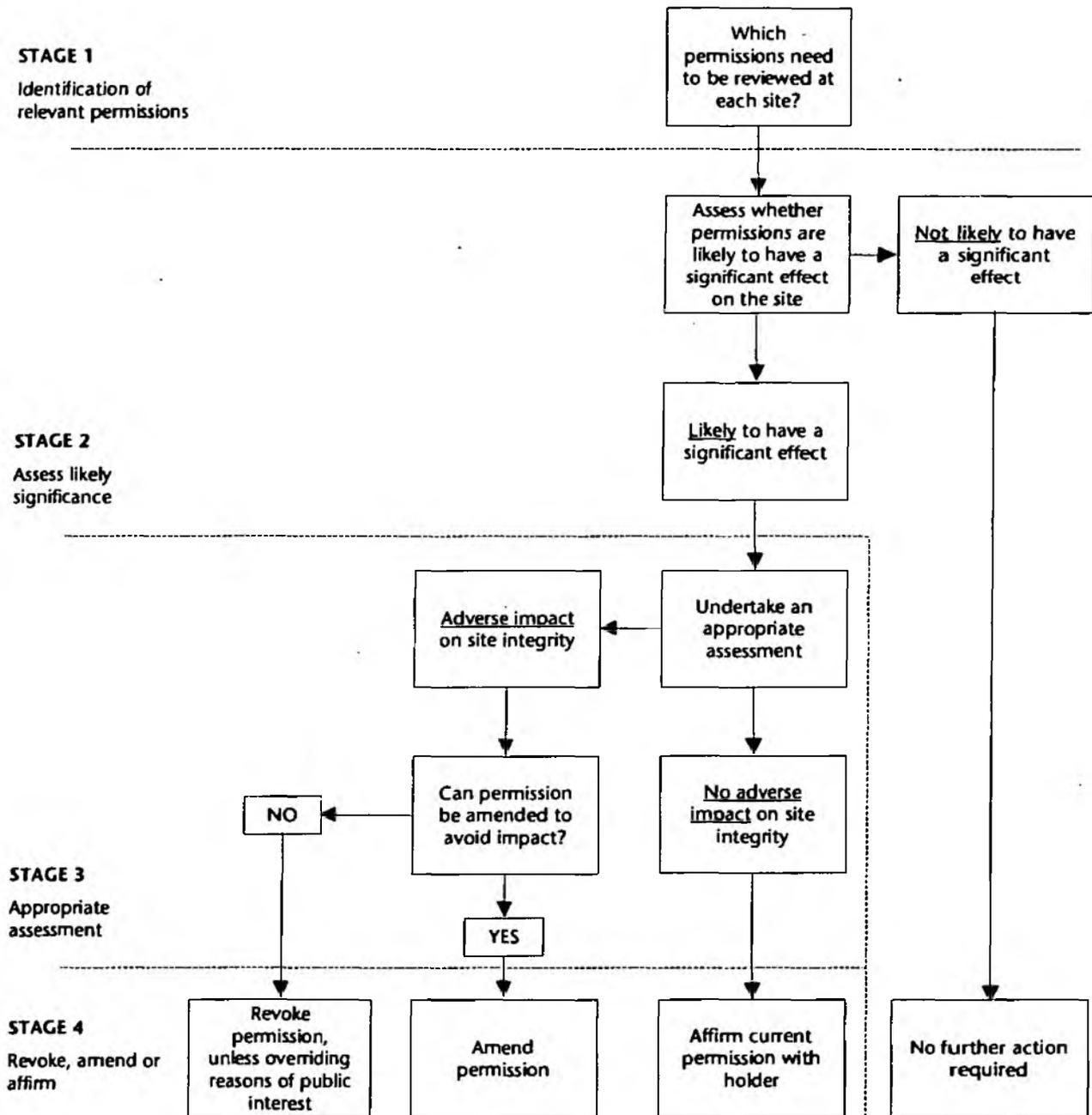
| Compliance Period | RQO Failure | | Long Term RQO Failure | |
|-------------------|-------------|-------------|-----------------------|-------------|
| | Marginal | Significant | Marginal | Significant |
| 1993 - 1995 | 14 | 6 | | |
| 1994 - 1996 | 12 | 5 | | |
| 1995 - 1997 | 12 | 2 | 4 | 15 |
| 1996 - 1998 | 11 | 2 | 10 | 8 |
| 1997 - 1999 | 9 | 3 | 11 | 6 |

5.4 EC Habitats and EC Birds Directive

Further details on the designated sites within the LEAP area are given below (see Section 4.15.1):

| Area | Designation | Qualifying interests |
|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dorset Heaths | cSAC | Wet heathlands with cross-leaved heath (considered to be one of the best areas in the UK) Dry heaths (considered to be one of the best areas in the UK) Southern damselfly (considered to be one of the best areas in the UK) Depressions on peat substrates (one of four outstanding UK locations containing more than 10 % of the UK resource, considered to be rare as its total extent in UK thought to be less than 100 hectares) |
| Dorset Heathlands | SPA | Regularly used by 1 % or more of Dartford warbler, Nightjar, Woodlark, Hen harrier and Merlin in any season |
| | Ramsar | Qualifies by virtue of its wet heathland habitats Northern wet heaths with cross-leaved heath Southern wet heaths with Dorset heath and cross-leaved heath which is rare and unusual A number of nationally rare Red Data Book flora, fauna and invertebrate species are found One of the most biologically rich areas of the UK |
| Fontmell and Melbury Downs | cSAC | Early gentian (considered to be one of the best areas in the UK) |
| Rooksmoor | cSAC | Marsh Fritillary butterfly (considered to be one of the best areas of the UK) |

5.5 Summary flowchart of the review of consents process under the EC Habitats and EC Birds Directives



5.6 Biodiversity in the LEAP area

The habitats and associated species shown below are listed in various published Biodiversity Action Plans (BAPs). In each case the Agency is or will be required to undertake action, although not as the lead authority in every instance (see Section 4.15.2). In many cases individual BAPs have yet to be developed and actions will be incorporated into the LEAP as appropriate. BAPs also contain actions not assigned to the Agency.

(1) – Priority habitats and species

(2) – Habitats and species of conservation concern

| Key Habitats [Reason for Inclusion] <i>Supporting BAP species</i> | Potential threats |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chalk river habitats [UK BAP priority habitat, Habitats Directive] <ul style="list-style-type: none"> • <i>Water vole (1)</i> • <i>Otter (1)</i> • <i>Depressed river mussel (1)</i> • <i>White clawed crayfish (1)</i> • <i>Pipistrelle bat (1)</i> • <i>Reed bunting (2)</i> • <i>Grass snake (2)</i> | Abstraction Physical modification Pollution Land use change Inappropriate vegetation management Invasive species |
| Coastal and floodplain grazing marsh [UK BAP priority habitat, South West BAP, Dorset County BAP] <ul style="list-style-type: none"> • <i>Greater Water Parsnip (2)</i> • <i>Grass snake (2)</i> | Reduction in the extent and period of winter flooding Failure to retain water levels in spring/summer Changes in agricultural practices creating grassland swards unattractive to feeding wildfowl and wading birds Decrease in pollarding management of hedgerow and riverside trees reducing the openness of enclosures Damage to nest sites through increased trampling by stock Loss of feeding micro-habitat and ditch infrastructure |
| Reedbed [UK BAP priority habitat, South West BAP] <ul style="list-style-type: none"> • <i>Water vole (1)</i> • <i>Otter (1)</i> • <i>Reed bunting (1)</i> | Poor water quality Inappropriate water level management Lack of management leading to succession to a drier woody habitat |
| Fen [UK BAP priority habitat, South West BAP] <ul style="list-style-type: none"> • <i>Water vole (1)</i> • <i>Otter (1)</i> | Abstraction, and operation leading to drying out Pollution Habitat modification (scrub encroachment, inappropriate management) |
| Estuaries/coastal saltmarsh/mudflats [UK BAP priority habitat, South West BAP] <ul style="list-style-type: none"> • <i>Otter (1)</i> | Dredging, sea defences Pollution Recreational pressure Development pressure Sea level rise Exploitation of shell fisheries |
| Standing open water [South West BAP] <ul style="list-style-type: none"> • <i>Great Crested Newt (1)</i> | Abstraction and/or land drainage and/or infilling Pollution and/or nutrient enrichment Inappropriate management and/or neglect Recreational pressures Inappropriate stocking Invasive species |
| Urban watercourses [South West BAP, Dorset County BAP] <ul style="list-style-type: none"> • <i>Water vole (1)</i> • <i>Pipistrelle Bat (1)</i> • <i>Great Crested Newt (1)</i> • <i>Grass snake (2)</i> | Inappropriate management Development pressures Pollution Over engineering and/or culverting and/or flood defence works Recreational pressures |

6 Glossary

AD & AS – Agricultural Development and Advisory Service

BC – Borough Council

BBC – Bournemouth 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

CA – Countryside Agency

Catchment – the land that drains, whether naturally or artificially, to any point in a specified stream or river

Contaminated land – under Part IIA of the Environmental Protection Act 1990 contaminated land is defined as: any land which appears to the local authority to be in such a condition due to substances in, or under it, that significant harm is being caused, or there is a significant possibility of such harm being caused to controlled waters, humans, buildings, crops, livestock or ecological receptors

Controlled waters – include all watercourses, canals and water contained in underground strata (groundwater)

DCC – Dorset County Council

DETR – Department of the Environment, Transport and the Regions

Development – with certain exceptions means the carrying out of building, engineering, mining or other operations, in, on, over or under the land or the making of any material change in the use of any buildings or other land

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

D/S - downstream

DWG - Dorset Wetland Group

DWT – Dorset Wildlife Trust

EC – European Community

EBP - Education Business Partnership

EDDC – East Dorset District Council

EN – English Nature

ETs – Environmental Trusts

FRCA – Farming and Rural Conservation Agency

LAs – Local Authorities

LT RQO – Long Term River Quality Objective

MAFF – Ministry of Agriculture, Fisheries and Food

NRA – National Rivers Authority, one of the three predecessor bodies to the Environment Agency

NDDC – North Dorset District Council

NVZ - Nitrate Vulnerable Zone, one of the major sources 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

OLD'S List – The list of *operations likely to damage* the special interest of a Site of Special Scientific Interest, and on which the owner/occupier and the Agency is required to consult English Nature before undertaking.

pa – per annum

PBC - Poole Borough Council

Population equivalent - measure of the polluting load of an organic discharge. One population equivalent is defined as the organic degradable load with a BOD of 60g of oxygen per day. This corresponds to the domestic effluent load produced by one person

Qualifying discharge – a discharge from a sewage treatment works whose connected population exceeds 10,000 population equivalents, under the EC Urban Waste Water Treatment Directive

RE - River Ecosystem

Return Period – relates to the long-term average time interval between events of a particular magnitude

RQO – River Quality Objective

RSPB – Royal Society for the Protection of Birds

RTPS – River Tarrant Protection Society

Section 105s – flood risk surveys produced as required by Section 105 of the Water Resources Act 1991; intended to show the estimated flooding extents along certain river reaches of the 1-in-100 year event (1-in-200 for tidal reaches) or the most significant historical flood, whichever is the greater

SWWMG – South Wessex Waste Minimisation Group

SSSI – Site of Special Scientific Interest

STW – Sewage Treatment Works

Telemetry – a method of retrieving information (such as river level or rainfall) from a remote site, in many cases via a phone line

U/S - upstream

WW – Wessex Water

WWT – Wiltshire Wildlife Trust

7 References

- Cordrey, L (ed) (1997) Action for Biodiversity in the South West. A Series of Habitats and Species Plans to Guide Delivery. Prepared by a partnership of the Royal Society for the Protection of Birds, the County Wildlife Trusts and the South West Regional Planning Conference
- Dorset Agenda 21 Forum (1999) Dorset in the 21st Century: an Agenda for Action
- Dorset Coast Forum (1999) Dorset Coast Strategy: Proposals for Policy and Action for Dorset's Coast
- EC Directive Concerning the Quality of Bathing Water (76/160/EEC)
- EC Directive Concerning the Quality Required of Surface Water Intended for the Abstraction of Drinking Water (75/440/EEC)
- EC Directive on the Conservation of Wild Birds (79/409/EEC)
- EC Directive Concerning the Protection of Waters Against Pollution Caused by Nitrates from Agricultural Sources (91/676/EEC)
- EC Directive Concerning Urban Waste Water Treatment (91/271/EEC)
- EC Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC)
- EC Directive on Packaging and Packaging Waste (94/62/EC)
- Environment Agency (1996) A Guide to Information Available to the Public. HO-4/96-2k-C-AUBB
- Environment Agency (1997) Dorset Stour Local Environment Agency Plan Consultation Report. SW-1/97-1k-E-AWZ
- Environment Agency (1998) Dorset Stour Local Environment Agency Plan Action Plan. SW-1/98-0.8k-E-BAJK
- Environment Agency (1998) South Wessex: Industrial and Commercial Waste Minimisation and Recycling Directory. SW-1/98-5k-BAOU
- Environment Agency (1998) A Price Worth Paying. The Environment Agency's proposals for the National Environment programme for water companies 2000-2005, a submission to government, May 1998. HO-5/98-2k-C-BCKZW
- Environment Agency (1999) South West Region Flood Warning Dissemination Plan for Dorset
- Environment Agency (1999) Corporate Plan 2000/01. HO-8/99-5k-B-BEOP
- Environment Agency (2000) Who's Who in the Environment Agency and Interested in partnership funding. SW-2/00-1k-C-BFAP
- Environment Agency (2000) River Stour Salmon Action Plan Consultation
- Environment Agency (2000) The River Tarrant How you can help your local river. SW-3/00-1k-C-BFFA
- Environment Agency (2000) Managing Water Abstraction: Towards a Shared Strategy. A Consultation for Catchment Abstraction Management Strategies
- Environment Agency (2000) Changes to the Water Abstraction Licensing System. HO-4/00-50k-D-BFBI
- Halcrow (1999) Poole and Christchurch Bays Shoreline Management Plan Volume 1 Strategy Document Consultation Draft
- HMSO (1990) Environmental Protection Act
- HMSO (1994) Conservation (Natural Habitats, &c.) Regulations. SI 2716
- HMSO (1995) Biodiversity: The UK Steering Group Report. London, 2 Vols
- HMSO (1995) Environment Act
- HMSO (1997) The Producer Responsibility Obligations (Packaging Waste) Regulations. SI 648

• REFERENCES

HMSO (1997) The United Kingdom National Air Quality Strategy. Department of the Environment, The Scottish Office and The Welsh Office

HMSO (1999) Government Decisions following Consultation on Changes to the Water Abstraction-Licensing System in England and Wales. Department of the Environment, Transport and the Regions and the Welsh Office

HMSO (2000) Waste Strategy 2000 Department of the Environment, Transport and the Regions and the Welsh Office

Independent Easter Flood Review Team (1998) Easter 1998 Floods—final assessment by the independent review team, 2 vols

RSPB et al (1999) An Environmental Prospectus for South West England—linking the economy and the environment

CONTACTS:

THE ENVIRONMENT AGENCY HEAD OFFICE

Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol BS32 4UD.
Tel: 01454 624 400 Fax: 01454 624 409

www.environment-agency.gov.uk

www.environment-agency.wales.gov.uk

ENVIRONMENT AGENCY REGIONAL OFFICES

ANGLIAN

Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 5ZR
Tel: 01733 371 811
Fax: 01733 231 840

SOUTHERN

Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tel: 01903 832 000
Fax: 01903 821 832

MIDLANDS

Sapphire East
550 Streetsbrook Road
Solihull B91 1QT
Tel: 0121 711 2324
Fax: 0121 711 5824

SOUTH WEST

Manley House
Kestrel Way
Exeter EX2 7LQ
Tel: 01392 444 000
Fax: 01392 444 238

NORTH EAST

Rivers House
21 Park Square South
Leeds LS1 2QC
Tel: 0113 244 0191
Fax: 0113 246 1889

THAMES

Kings Meadow House
Kings Meadow Road
Reading RG1 8DQ
Tel: 0118 953 5000
Fax: 0118 950 0388

NORTH WEST

Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 01925 653 999
Fax: 01925 415 961

WALES

Rivers House/Plas-yr-Afon
St Mellons Business Park
St Mellons
Cardiff CF3 0EY
Tel: 029 2077 0088
Fax: 029 2079 8555



ENVIRONMENT AGENCY
GENERAL ENQUIRY LINE

0845 933 3111

ENVIRONMENT AGENCY
FLOODLINE

0845 988 1188

ENVIRONMENT AGENCY
EMERGENCY HOTLINE

0800 80 7060



**ENVIRONMENT
AGENCY**

