

# **local** environment agency plan

## **FROME & PIDDLE and POOLE HARBOUR & PURBECK** **PLAN from November 2000 to October 2005**



**ENVIRONMENT  
AGENCY**

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Map 1 - Frome & Piddle and Poole Harbour & Purbeck Plan Area and Local Authority Boundaries



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## Foreword

The Rivers Frome and Piddle drain one of the series of chalk catchments running across southern England, a unique group of waterways with a long history of management amidst a landscape of astonishing variety and beauty. Both rivers flow into Poole Harbour, one of the largest and most important features on the south coast. To the east of the Harbour, a thriving port and fishery, a major boating and sailing centre and the towns of Bournemouth and Poole sit side by side with the serenity and rich wildlife of the western harbour and islands.

Responsibility for the wellbeing of much of this area lies with the Environment Agency, whose multifarious activities include monitoring the quality of rivers and the quantity of water in them, flood prevention, the safe and proper disposal of waste, regulation of freshwater fisheries, the prevention of pollution and the conservation of aquatic wildlife.

This is the Environment Agency's action plan for this area for the next five years, affecting the lives of all who live and work within the catchment and harbour basin. The Agency is grateful to those who have contributed to the plan, and hopes that we can all help to take it forward.



**Dr John Day**  
**Chairman, South Wessex Area Environment Group of the Environment Agency**



## Vision

The Government has set out four objectives in its sustainable development strategy, *A better quality of life*:

- social progress that recognises the needs of everyone
- effective protection of the environment
- prudent use of natural resources
- maintenance of high, and stable, levels of economic growth and employment

At the heart of this strategy is the integration of human needs and the environment, and the Agency must take a long-term view of environmental management to help achieve the objective of sustainable development. This will mean developing a strong approach to education and influencing others in order to change understanding and behaviour.

Our overall objective, within the context of sustainable development, has been to allow for economic growth whilst ensuring that this was not achieved at the expense of failing to maintain and, where necessary, improve the state of our environment. We take as our ultimate measure of success the quality of our natural resources and the abundance and variety of our wildlife.

This is translated to the local level through Local Environment Agency Plans or LEAPs which have been developed in collaboration and liaison with our partners and the public, and reflect the integrated approach to our work.

The Frome & Piddle and Poole Harbour & Purbeck LEAP area is an area of high quality which is maintained by many organisations, both statutory and voluntary, local interest groups and individual land owners. However, there are areas where there is work to be done in restoring it to an appropriate level in the light of the concept of sustainability. We also need to promote the work of the Agency and how we can work in partnership with others. This is particularly important in the urban areas of Poole, Dorchester, Wareham and Swanage.

The LEAP shows our intentions to work towards the:

- development and achievement of suitable targets to maintain the diversity of wildlife in both urban and rural areas
- maintenance of ecologically acceptable river flows in the LEAP area through in part working with the water company and other abstractors to ensure sustainable supplies which reflect the needs of the environment
- maintenance of ecologically acceptable water quality in the LEAP area, through improvements to point source discharges and a reduction in pollution from urban and rural land runoff
- use of innovative techniques to ensure that land use does not damage the natural and built environment, especially with regard to pollution, the illegal disposal of waste and the risk of flooding
- sustainable and balanced use of the area for quiet enjoyment and recreational uses consistent with the internationally important status of the area
- dissemination of environmental information to inform and educate all sectors about the area and wider environmental issues

- development of existing and new partnerships with interested groups

We undertake work that is required of us by statute and in addition local actions that we undertake if our resources permit.

Although the LEAP is not a statutory document it aims to influence other decision-makers and reinforce the Agency message to all those with an interest and an influence in environmental management.

Working together will help us to achieve the required targets in a sustainable way for the benefit of all those who use this special area.



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# 1. Introduction

## 1.1 The Environment Agency

### Our vision is:

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

### Our aims are:

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

### We will do this by:

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

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

We are required and guided by Government to use these duties and powers in order to help achieve the objective

of sustainable development. The Brundtland Commission defined sustainable development *as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

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

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

## 1.2 Funding and the Environment Agency

We spend some £650 million each year on protecting and improving the environment. Approximately 75 % of this 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 activities. 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 to the Ministry of Agriculture, Fisheries and Food and the National Assembly for Wales.

All our charges are reviewed annually and are assessed through consultation. Charge proposals are then subject to approval by the Secretary of State and Regional Flood Defence Committees approve flood defence levies.

The budget for the South Wessex Area is in the order of £5 million each year.

Work priorities and resource allocations are set nationally and explained in the Agency's Corporate Plan which outlines how we will work towards achieving our Environmental Vision (see Section 1.5). 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.

As a consequence, a large proportion of the South Wessex budget is used to undertake work required of us by legislation and regulation. This includes committing substantial resources to everyday monitoring and management of the environment. The remaining resources are used to undertake other environmental works 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 LEAP 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.

## 1.3 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 fundraising 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 complementary skills



- raised environmental awareness
- a more integrated approach by working with others who have a complementary role

Details of some of our partnership work are given in Section 4 and a leaflet, *Who's who in the Environment Agency and interested in partnership funding*, is available from the Blandford office. As a Region we will also be recruiting an External Funding Manager who, amongst other things, will help identify opportunities to *deliver* actions by or with a partner organisation.

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.

## 1.4 Local Environment Agency Plans

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

For our part we are committed at the local level to a programme of Local Environment Agency Plans (LEAPs) in order to produce a local agenda of integrated action for environmental improvement. LEAPs help us 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 as outlined below.

**1.4.1 LEAP Consultation Draft** – The Frome & Piddle and Poole Harbour & Purbeck Consultation Draft was published in November 1999, beginning a three month period of public consultation. The purpose of the consultation period is to allow external organisations and the public to comment on environmental problems and our work in the LEAP area. We circulated approximately 750 documents and received 55 responses.

**1.4.2 LEAP Plan** – We have collated responses to the Consultation Draft (see Section 5) and produced this Plan. Following comments received during the public consultation, which are summarised in Section 5, a number of changes have been made to the format of the LEAP to help clarify the issues and actions, and to help the reader concentrate on their area of interest. Appendix 6.2 guides the reader between the LEAP Consultation Draft published in November 1999 and this LEAP Plan.

Each year we will review the progress that has been made with the actions identified in the Plan and publish a review. The Annual Review will also identify any additional actions needed to maintain progress in the light of changes in the LEAP area and also whether any actions need removing or amending where they are no longer appropriate.

## 1.5 Our Environmental Strategy

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



managing our water resources



managing our freshwater fisheries



enhancing biodiversity





conserving the land



managing waste



delivering integrated river-basin management



regulating major industries



improving air quality



addressing climate change

We will deliver this strategy at a local level by 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 Sections 3 and 4). A copy of the strategy 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 published *Creating an Environmental Vision: Progressing the Environment Agency's contribution to sustainable development by way of a better environment in England and Wales* which is available from local Agency offices. Following consultation the Environmental Vision is being finalised along with frameworks for action which will form the basis for progressing the vision.

## 1.6 Activity tables

The activity tables in Sections 3 and 4 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 imply that the money has been committed and that the action will be undertaken**
- a proposed timetable for each activity indicating 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(s) the action addresses (see Section 1.5)

Please refer to the Glossary (Section 7) for the definition of acronyms and abbreviations and Appendix 6.1 for further information on the Agency's duties, powers and interests.

## 1.7 The Area Environment Group

This group comments upon the Consultation Draft and LEAP Plan prior to public release and provides us with specific advice on the importance of issues within the plan area.

We regard the Area Environment Group as fundamental in assisting us in building relationships with our customers. The Group, which has an advisory role, has a broad experience and interest in environmental matters.

## 2 Description of the plan area

The area covered by this plan comprises the entire catchments of the River Frome, River Piddle, the Corfe River and the Sherford River, Poole Harbour and a number of small river catchments flowing into the sea on the Isle of Purbeck (see Map 1).

The plan area lies entirely within the county of Dorset. The County Planning Authority is responsible for strategic development, and minerals and waste planning. The District Councils responsible for local planning and environmental health are East Dorset, North Dorset, Purbeck and West Dorset. The Borough of Poole is a Unitary Authority and performs both County and District roles for its area (see Map 1).

To the north-west of Dorchester the area is characterised by a quintessentially English landscape; the dominant features are the open rolling chalk downland, the steep and dramatic sculpted scarp slopes and the attractive sheltered valleys. Woods tend to be small and dispersed over the area. Prominent chalk hills, often capped with the remains of hill forts, are distinct features whilst large regular fields of arable farmland are common on the higher downs and towards the valleys the fields become smaller and pasture more predominant. The area is predominantly rural with no major industrial base.

Dorchester, roughly central to the plan area, lies at the southern edge of the Dorset Downs. A typically English country town, Dorchester is full of charm and rich in history dating back to Roman times. East of Dorchester and extending south of Poole Harbour to the prominent chalk ridge of the Isle of Purbeck agriculture, conifer plantations and urban development now largely fragment open heathland which once dominated the area.

At the coast the valleys open out into the reedbeds, marshes and mudflats of Poole Harbour which dominate the coastal landscape. The harbour itself is dotted with small islands of which Brownsea is the largest. The southern shores are tranquil with their inlets, creeks, mudflats, sand-dunes and saltmarshes which grade into some of the most extensive and least disturbed heaths forming the edge of the Isle of Purbeck. The northern shore, with shipping lanes and leisure craft, is busy, bustling and dominated by the profile of the Poole and Bournemouth conurbations. There are also industrial estates on the north-western shores at Holton Heath, major BP Amoco oil workings on the southern shores with well sites at Furzey Island and Goathorn, the BP Amoco gathering station at Wytch Farm, and a small well site on the coast at Kimmeridge.

The most southerly part of the LEAP area, the Isle of Purbeck, has a unique landscape of sharp contrasts. It is bounded to the north by the narrow Chalk ridge that extends across Purbeck and to the south the ridge shelters the Corfe Valley. Further south is the open, windswept Purbeck Limestone plateau ending in abrupt sea cliffs such as those at Dancing Ledge, while to the south-west is an undulating land-slipped area of Kimmeridge Clay.

The coastline embraces elements of all the inland landscapes. From the chalk cliffs high above Swanage Bay, a complex and dramatic coastline sweeps round to Worbarrow Bay. Sheer, white chalk and limestone cliffs contrast with sheltered coves at Chapman's Pool and Lulworth Cove, and extend out to sea, such as the stacks of Old Harry. To the west are the unstable cliffs at Kimmeridge.

The area also has a rich and varied archaeological heritage associated with populations dating back to prehistoric times. There are numerous Scheduled Ancient Monuments including extensive field systems, Neolithic pits and henges, Bronze Age barrows and the Iron Age hill forts of Maiden Castle and Eggardon. More recent features include the Norman Chapel on St Aldhelm's Head, the ruins of Corfe Castle and the early 19th century Clavell's Tower folly at Kimmeridge. Relatively little is known of the wetland archaeology of the area along the coast and around and within Poole Harbour, although an Iron Age dugout canoe has been recovered from the harbour and there is evidence of a causeway of medieval origin or possibly earlier.

There were at least 10 water mills on the Frome and its tributaries between Cattistock and East Stoke, and 23 on the Piddle between Alton Pancras and Wareham. Their uses included the milling of flour, fulling and tucking of



cloth, silk throwing, papermaking, powering of grinding tools and more recently driving turbines for generating electricity.

To the south and west of Dorchester a significant proportion of the area is in the Dorset Area of Outstanding Natural Beauty designated by the former Countryside Commission to conserve and enhance the natural beauty of the landscape. The entire area also contains many sites of local, regional, national and international importance, with a range of habitats supporting a variety of species. Several designations apply to parts of the area including a number of County Wildlife Trust Reserves, National Nature Reserves, local nature reserves, Sites of Nature Conservation Interest, voluntary marine nature conservation areas, Sites of Special Scientific Interest, candidate Special Areas for Conservation, Special Protection Areas and Ramsar sites.

The coastal strip, up to 5 km inland, is designated Heritage Coast and the Dorset and East Devon coast is currently being considered for designation as a World Heritage Site.

English Nature has identified 120 terrestrial and marine Natural Areas in England defined by their wildlife, habitats, species and physical attributes. They provide a framework with which to focus efforts and resources on nature conservation priorities but are not formal designations. Five Natural Areas, including two marine Natural Areas, are of interest to this plan; the *South Wessex Downs* (north-west area), the *Dorset Heaths* (south-east area) and the *Isle of Portland and Purbeck* (south area), and the *South Dorset Coast*, and *Solent and Poole Bay*. These profiles help set out the nature conservation context of the area.

The most notable habitats of the South Wessex Downs include chalk grassland, chalk rivers and woodland with smaller areas of meadow land and wetland habitats that support a wide variety of associated species. Characteristic groups of species include downland herbs, bats and butterflies. Rare species for which the area is important include tuberous thistle, pearl-bordered and small pearl-bordered fritillary butterflies and stone curlew. More widespread species include the Adonis blue butterfly, barn owl, grey partridge, hare and water vole.

The Dorset Heaths cover the Poole Basin and the shoreline of Poole Harbour. The key habitats of the Poole Basin are lowland heathland, chalk rivers, reedbeds and the valley mires which are a special feature of the area. The heathland supports a substantial proportion of Britain's nationally scarce species, including species of moths, dragonflies, spiders and reptiles. Rare species for which the area is important include the sand lizard, smooth snake, great crested newt and the natterjack toad. In addition both the Dartford warbler and the nightjar are found on the heaths.

Poole Harbour is of exceptional ecological value and is protected by a multitude of conservation designations. Central to the ecological value are the intertidal mudflats, sandflats and marshes and the diversity of shoreline ranging from reed and marsh to sand and shingle. Although in decline, the wet grasslands adjacent to Poole Harbour are an important habitat for breeding waders.

The most extensive habitat of the Isle of Purbeck is the chalk grassland both inland and along the coast. Other notable habitats include ancient broad-leaved woodland, arable farmland and the coastal cliffs. The range of habitats supports a high diversity of plants and animals and characteristic groups of species include lichens, butterflies, birds and bats. Rare species include sea lavenders and a migrant dragonfly, the red-veined darter. Purbeck is the most important area in the country for the Lulworth skipper butterfly.

The South Dorset Coast maritime area lies between Studland Cliffs and Portland Bill extending some 12 miles out to sea. The cliffs and foreshore of this area are geologically some of the most famous in the world and the area contains a number of species which are highly valued, including bottlenose dolphins and puffins.

The area from Poole Harbour to Old Harry falls into the Solent and Poole Bay maritime natural area. It is a complex area of international importance for the range of marine and coastal habitats and species present. The area is at the transition between the warm and cold temperate regions with fauna and flora of both being present.

The Dorset Coast Path, part of the South West Peninsular Coastal Path, is popular with long distance and casual



walkers. Horse-riding, mountain-bike riding, birdwatching and climbing have all grown in popularity in recent years and take place wherever there is suitable public access. In Purbeck some paths have already been created which link the coast path with inland routeways, notably the Purbeck Way which also adjoins the River Frome for a short distance at Wareham.

There are several major bathing beaches in the area, including Durdle Door, Lulworth Cove, Swanage, Studland and Poole Shore Road Sandbanks, which are heavily used during the summer months. Coastal waters and Poole Harbour are used intensively for a wide range of recreational pursuits including swimming, diving, angling, sailing, canoeing, pleasure boating, sail boarding, water-skiing, jet-skiing and power boating. The harbour is home to several marinas and boat havens, and numerous moorings.

### **2.1.1 Organisations and their responsibilities in relation to Poole Harbour** – Poole Harbour

Commissioners are the statutory Harbour Authority for the area. They have responsibilities for the provision of port facilities and the conservancy and regulation of the harbour and exercise navigational control of the water up to the line of mean high water of ordinary tides under the Poole Harbour Acts and Orders of 1756 to 1999. They are the owners and operators of the port and have powers to create byelaws and issue licences which control activities on the water and permit works and moorings within the harbour limits.

The Southern Sea Fisheries District Committee is the statutory authority responsible for the administration and management of fisheries in Poole Harbour and on the coast. The committee derives its powers from the Sea Fisheries Regulation Act 1966 and the Poole Fishery Order 1985, and has the powers to make byelaws and the right of regulating a fishery for oysters, mussels, cockles and clams. The committee has powers to grant leases, impose restrictions and charge fees for licenses and leased areas within the fishery. However, the Agency does have responsibility for eels, salmon and migratory trout in the coastal zone and this includes the harbour.

Dorset County Council is the strategic planning and highway authority for rural areas and is also the agency responsible for management of the Purbeck Heritage Coast, of which the southern shore of the harbour is part. The Borough of Poole performs both County and District roles for the northern part of the harbour. The Borough of Poole, with representation from Purbeck District Council, also acts as the Port Health Authority for the entire harbour. These two authorities also act as Coast Protection Authorities for the harbour under the Coast Protection Act 1949.

Purbeck District Council is the local planning and environmental health agency for the southern part of the harbour. English Nature is the agency responsible for statutory nature conservation designations within the harbour.

In addition the Agency has overall responsibility for water quality and pollution control within three miles of the coastline and some sea and tidal defence responsibilities. The Agency also regulate salmon, sea trout and eel fisheries out to six miles offshore. We are part of and support the work of the Poole Harbour Steering Group (see Section 4.5).

### 3. Activity tables

#### 3.1 Securing future public water supplies

Water resources planning and management of supplies is based on areas known as water resources 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 LEAP area lies predominantly within the area supplied by Wessex Water and falls within their South Resource zone. There are a few households on the border of the LEAP area which are supplied by Bournemouth and West Hampshire Water Company.

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 Responsibly*, 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 affect 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 (see Sections 3.2 and 3.3)
- review of licence administration procedures

We have already consulted 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. Each CAMS will stand for six years, after which it will be reviewed.

This major initiative will provide the opportunity for consultation at a 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 by 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.



**3.1.1 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 4.8).

As part of this review water companies were required to revise their demand forecasts, review their resource availability and consider potential options to meet any forecast deficits 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 plan submitted by Wessex Water was considered acceptable. All companies are now to review and update the plans annually.

The determination of water company prices published in November 1999 (see Section 4.8) did not include funding to Wessex Water for a £100 million scheme to restore river flows at three sites identified in the National Environmental Programme. One of the three was the River Piddle (see Section 3.2). The Department of the Environment, Transport and the Regions (DETR) confirmed the OFWAT view that the scheme put forward by Wessex Water deserves further study to identify the most cost-effective solution. However, a scheme will need to go ahead in the pricing period to address the environmental problems once the studies are complete.



Officials of the DETR have been charged by the Minister to conduct a review of the options available to Wessex Water. Work on the River Piddle, including the upper Piddle, which has taken place to date has made progress but the outcome of the investigation is awaited to help identify how a full solution is to be achieved.

Within the LEAP area, resource development options considered by Wessex Water in their water resources plan include the existing licensed source at Lulworth Springs. However, this has not yet been developed and is not planned to be used in the near future. The Agency has recently recommenced continuous flow measurement on the River Win at Winfrith Newburgh. This will provide base line flow data on the River Win prior to any development of the Lulworth Springs source.

Another potential option being explored within the area by Wessex Water is Aquifer Storage and Recovery. This involves injecting fresh water into the aquifer when spare resources are available, and abstracting it again later when other resources are unable to meet demand. A leaflet on the trials is available from Wessex Water.

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 resources strategies for the period to 2025; publication of the South West Region’s water resource strategy is scheduled for December 2000.

Actions		By	Cost	00	01	02	03	04
1.1	Publish new Regional Water Resources Development Strategy <b>Contact: Regional Water Resources Planning Manager</b> 	Agency	£60k	●				
1.2	Work in conjunction with Wessex Water to identify sustainable spare resources to inject underground for storage and subsequent recovery for public water supply <b>Contact: Regional Water Resources Planning Manager</b> 	WW Agency		●	●			



### 3.2 Impact of public water supply abstractions on the River Piddle

Following a series of investigations to determine the impact of abstraction on the River Piddle and its dependent ecosystems in the early 1990s, it was concluded that public water supply abstractions at Alton Pancras, Briantspuddle and Dewlish were significantly reducing flow in the river.





In the upper Piddle, abstraction reduction trials were carried out at Alton Pancras in 1997 and 1998. These were in addition to the stream augmentation trials undertaken, further downstream, at White Lackington in 1996 and 1997. From this it was determined that a combination of a reduction in abstraction and stream augmentation is the most appropriate way to resolve the low flow problem (see Section 3.1.1).

In the middle Piddle we have successfully negotiated, with Wessex Water, a change to the conditions of the previously existing abstraction licence at Briantspuddle. The new licence now requires Wessex Water to supply up to 9 Ml/d of stream augmentation when flows at Briantspuddle fall to pre-defined thresholds. The summer of 1998 was the first season of operation of the new arrangements. We now need to undertake a post-project appraisal to assess the impacts of the new flow regime. In order to gain a representative view over a number of years the review will take place in 2003.

On the Devil's Brook, Wessex Water have been co-operating with us by supplying additional stream augmentation from Dewlish Pumping Station each summer since 1995. The effect has been to maintain a flow in the village for about three extra months a year. Whilst this is considered a temporary mechanism for improvement, we are still seeking ways of extending this benefit to cover the whole year and make any subsequent arrangement permanent. A new gauging station was commissioned in Dewlish village in 1997 in order to trigger the augmentation and monitor the improvements in flow.

A number of unauthorised ponds and diversions still exist on the affected reach near Dewlish which complicate and affect the efficiency of stream augmentation arrangements. We intend to review these operations to ensure changes are made that allow flows to be restored to a level which will promote ecological improvements and amenity benefits. Any changes will be applied to ensure fairness for all parties within an appropriate cost-benefit framework.

Agency biologists continue to undertake ecological surveys to help assess the impact of abstractions on the upper Piddle and Devils Brook.

Actions	By	Cost	00	01	02	03	04
2.1 Carry out post-project appraisal to assess the impact of the new stream augmentation regime at Briantspuddle <b>Contact: Regional Hydrologist</b> 	Agency	Staff time				●	●
2.2 Ensure long-term solutions are implemented by permanent changes to existing abstraction licences or authorisation of new ones <b>Contact: Regional Water Resources Manager</b> 	Agency WW	Staff time	●		●	●	●
2.3 Review the existing augmentation arrangements on the Devil's Brook and negotiate a permanent solution with Wessex Water to remedy the low flow problems <b>Contact: Regional Hydrologist</b> 	Agency WW	Staff time		●	●	●	●
2.4 Liaise with users on the Devil's Brook and propose an authorisation strategy <b>Contact: Area Water Resource Licensing Team Leader</b> 	Agency Land-owners	Staff time	●	●	●	●	●

### 3.3 Impact of water abstraction in the River Frome catchment

The South Winterbourne exhibits a complex pattern of drying up during a dry summer; the first 2 km is normally dry and stream augmentation, provided by Wessex Water, maintains a flow from Winterbourne Abbas to Martinstown. Downstream of Martinstown sink holes in the river bed deprive the stream of any further flow until reliable springs around West Stafford ensure a continuous flow in the last kilometre of the stream.

The drying up of the middle reaches is regarded largely as a natural phenomenon but work continues to monitor the behaviour of the winterbourne and to assess the impact on its ecology. This will help develop flow management and catchment strategies.

The River Hooke at Hooke is subject to regular fluctuations in flow due to the operations of upstream abstractions. It is not clear what impact this is having on the ecology of the watercourse; further investigations are required.










Residents at Stratton and Bradford Peverell have expressed concern regarding flows in the River Wrackle, where, in recent years, water has been diverted from the Frome to maintain or augment the flow. Over the last few summers as groundwater levels have reduced naturally in the headwaters, this additional flow has provided the sole source of water in this channel. As groundwater levels recede further this additional flow percolates through the stream bed, which in itself is unsustainable, and results in severely depleted flows and fish distress. As the *drying up* of the river is from downstream upwards, not upstream downwards as would occur naturally, fish are unable to migrate downstream leading to an increase in mortality. The situation is made worse by the fact that the augmentation is also prone to sporadic reductions, such as those caused by debris becoming lodged in the river channel.

Concern has also been expressed that the headwaters of the Wrackle above the augmentation point are drying up earlier than historically. A number of issues such as rainfall and groundwater recharge patterns over recent years and land drainage practices in the upper catchment could all be contributory factors.



With the continued co-operation of landowners further investigation of flows and groundwater levels in the winterbourne section will be carried out in an attempt to identify whether the cause is natural and, if not, whether any solutions can be found.

Biological and river corridor surveys (primarily a survey of the flora of the river corridor) have indicated that the ecology of the watercourse is extremely rich and varied, supporting a natural semi-aquatic invertebrate fauna in the headwaters and an invertebrate fauna typical of a perennial chalk river further downstream.

Actions	By	Cost	00	01	02	03	04
3.1 Continue to monitor the behaviour and ecology of the South Winterbourne. <i>This action is subject to review of past data which will assess the nature of any changes</i> <b>Contact: Area Biology Team Leader</b>  	Agency WW	Staff time ( 5 days for 00)	●	●			
3.2 Review hydrogeological work undertaken in the early 1990s by the National Rivers Authority in the South Winterbourne catchment. <i>Investigations also to be funded under the AMP3 programme (see Section 4.8)</i> <b>Contact: Area Water Resource Licensing Team Leader</b>  	Agency WW	Staff time ( 5 days for 00)	■	●	●	●	●
3.3 Consider the sustainability of the current augmentation arrangements on the River Wracke with all interested parties following further monitoring and investigation of the winterbourne section. <b>Contact: Area Water Resources Team Leader</b>   	Agency Local Comm'ity	£5k	■	●			
3.4 Investigate impact of flow fluctuations on the Hooke Stream and negotiate accordingly with licence holders over mitigation options. <i>Investigations also to be funded under the AMP3 programme (see Section 4.8)</i> <b>Contact: Area Water Resource Licensing Team Leader</b>  	Agency WW Licence holders	Staff time ( 5 days 00)	●	●	●	●	●

### 3.4 Constraints on fish populations

The Frome and the Piddle are well known for salmon, migratory trout and brown trout fisheries. The best of the salmon and migratory trout rod fishing takes place on the Frome downstream from Pallington and on the Piddle downstream from Trigon. Brown trout fisheries occur on the upper part of the Frome and throughout the middle and lower Piddle.

Salmon have been recorded in the tidal reaches of the Sherford, and it is likely that they are also occasional visitors to the tidal reaches of the Corfe. Brown trout dominate the Swan and the population of the non-tidal Corfe is composed entirely of brown trout with a large migratory component. Both migratory and non-migratory trout are present throughout the Sherford.

Coarse fishing is largely restricted to the Frome downstream of Wool and usually only in the winter because the river is mainly used for salmon angling. All fishing in the area is privately owned, although the Agency owns a fishery on the tidal reaches of the Frome and the Piddle. The upstream extent of Agency ownership on the Frome



is Wareham Pool and on the Piddle just upstream of North Bridge, Wareham. Downstream ownership extends, in both cases, to the white posts at the start of the Wareham Channel.

Poole Harbour contains a diverse population of marine fish for which we have no statutory responsibilities. Mullet and flounder are found in the Corfe together with bass in the tidal reaches of the Sherford, Frome and Piddle. The Southern Sea Fisheries District Committee is the statutory Sea Fisheries authority in Poole Harbour, however the Agency does have regulatory responsibility for eels, salmon and migratory trout in the harbour. As we own the lower Frome and Piddle we can control all types of fishing in that stretch.

A limited amount of licensed netting for salmon and migratory trout takes place in Poole Harbour, in the Wareham Channel. There is relatively little eel fishing on the Frome and Piddle although there are a number of eel fishermen in the harbour. The harbour also supports an important commercial fishery for a variety of wild and farmed shellfish particularly the native and Pacific oyster, clams, mussels and cockles. Edible crabs and prawns are also taken.

The EC Freshwater Fish Directive (*the quality of waters needing protection in order to support fish life*) ensures that water quality in designated stretches of water is suitable for supporting certain types of fish. The Frome downstream of Maiden Newton and the majority of the Piddle are designated as salmonid, along with the lower reaches of the South Winterbourne, Tadnoll Brook and Devil's Brook.

With a single exception, all sites complied with the Directive for the period 1993-1998. The failure was a site at Wareham and was due to low dissolved oxygen levels. However, this sampling site was found to be unsuitable due to its tidal location and it has now been relocated upstream to Holme Bridge and was compliant in 1999.

**3.4.1 Salmon** – Salmon catches on the Frome declined to their lowest level for 42 years in 1991. Unlike other local stocks, which declined in the same way, the Frome has since shown some signs of a recovery with catches in 1998 and 1999 at about 50 % of the long-term average.

The decline on the Frome, as with other rivers, can be divided into two components, a long-term decline of spring-running salmon and a shorter-term decline of later-running fish. Despite the decline in catches, the stock has continued to meet its spawning target.

In response we produced the *Frome Salmon Action Plan* which highlights what are considered to be the major potential threats to the salmon population. Following consultation the final plan was published in November 1998. Further information on the Salmon Action Plan is available from our Blandford Office. The proposed actions, if taken forward, should ensure that the stock continues to meet its spawning target and that the multi-sea winter component can grow to an acceptable level. The Salmon Action Plan addresses actions under three main headings:

- *Improve understanding* - actions include a Research and Development project to improve understanding of the mechanisms controlling chalk stream salmon populations
- *Habitat protection* - actions include habitat protection and improvement and investigation of the accessibility of the river and the impact of obstructions
- *Actions to protect multi-sea winter stock* - actions include national byelaws, possibly in association with locally applied codes of practice, to ensure significantly greater escapement of multi-sea winter salmon

The *Piddle Salmon Action Plan* is scheduled for consultation and publication in 2001.

However, a further cut of £1.5 million is being made nationally on salmon and sea trout work for the financial year 2001-2002 and therefore current activity will be cut. This has implications for the production and implementation of Salmon Action Plans.

The salmon angling byelaws were reviewed as part of the Frome Salmon Action Plan. We proposed no changes to



the byelaws but drafted a code of practice with the Frome & Piddle and West Dorset Fisheries Association. However, this has been overtaken by new national byelaws which came into force in April 1999. An extensive campaign has been undertaken to inform fishermen of the new measures aimed at combating the decline in stocks of early-running salmon. Detailed versions of the new byelaws are available from local Agency offices.

Although the Frome stock is above its spawning target, multi-sea winter (spring) salmon are under threat and require protection. The national byelaws introduced compulsory catch and release up to the 16th June, but many multi-sea winter fish are caught after this date. In liaison with the Frome & Piddle and West Dorset Fisheries Association we will be encouraging anglers who catch these fish after 16th June to return them to the river. This is an action in the *Frome Salmon Action Plan*.

The PHABSIM technique has been used to determine flow requirements for salmon and brown trout at Briantspuddle as part of the low flow investigation, a post-project appraisal will be undertaken (see Section 3.2).

Since January 1999, the Agency has been able to enforce legislation under Section 14 of the Salmon and Freshwater Fisheries Act (1975) (amended by the Environment Act (1995)) regarding the screening of fish farms and other water utilities. We will be ensuring that adequate devices are in place, to prevent the entrapment of wild salmonids and the escape of farmed fish and all the qualifying sites in the area have been inspected. Annual reviews of these sites will be undertaken.

Actions	By	Cost	00	01	02	03	04
4.1 Implement Frome Salmon Action Plan. <i>Specific action costs are given in the Frome Salmon Action Plan</i> <b>Contact: Area Fisheries Team Leader</b>  	Agency Partners		●	●	●	●	●
4.2 Prepare the Piddle Salmon Action Plan <b>Contact: Area Fisheries Team Leader</b>  	Agency	Staff time (44 days)	●	●			
4.3 Implement the Piddle Salmon Action Plan <b>Contact: Area Fisheries Team Leader</b>  	Agency Partners	tbd			●	●	●
4.4 Undertake annual reviews of qualifying sites under Section 14 of the Salmon and Freshwater Fisheries Act as amended by the Environment Act <b>Contact: Area Fisheries Team Leader</b> 	Agency	Staff time (3 days pa)	●	●	●	●	●

**3.4.2 Brown trout** – Alleviation of the low flow problems in the Briantspuddle area of the River Piddle has now been achieved, and the response of the trout population and fishery will be monitored as part of the post-project appraisal (see Section 3.2).

Since 1999 the Agency has pursued a policy for the stocking of brown trout within the River Frome Site of Special Scientific Interest (see Section 3.5.2) that is aimed at protecting the genetic integrity of wild populations. Downstream of 9-hatches, where there are valuable populations of sea trout, we will issue consent only for the introduction of sterile trout which cannot interbreed with wild fish. This area of policy is now being considered in detail in the production of a National Trout Strategy which will involve consultation with trout fishing interests nationally.



In collaboration with English Nature, angling organisations and riparian owners, a number of habitat improvement projects have been carried out downstream of Dorchester on the River Frome at Lewell Mill, West Stafford and Bockhampton. These projects have utilised natural materials in the form of pollarded willow and faggot material to provide *in-stream* structures to diversify flow and improve the riverine habitat for the benefit of fisheries and general conservation.

A programme of habitat improvement projects is now being planned in consultation with local anglers and farming interests, and English Nature. These projects will focus initially on those areas which have been most influenced by past dredging works. If resources allow we will undertake post-project monitoring to assess the benefits to habitats and species.

A strategic stock survey of the Frome, which included coarse fish (see Section 3.4.3), was completed in 1999 and a report is available. Future surveys are subject to the recommendations of the Agency's monitoring review.

Actions	By	Cost	00	01	02	03	04
4.5 Promote local habitat improvement on the River Frome <b>Contact: Area Project Officer</b>  	Agency EN Owners	£20k		●			
4.6 Restore and protect spawning and nursery areas by gravel cleaning <b>Contact: Area Fisheries Team Leader</b>  	Owners		●	●	●	●	●
4.7 Control the stocking of brown trout through Section 30 consents <b>Contact: Area Fisheries Team Leader</b>  	Agency EN		●	●	●	●	●
4.8 Carry out strategic stock surveys; this is a regular five-yearly survey and includes coarse fish. <i>This is subject to the recommendations of the Agency's monitoring review</i> <b>Contact: Area Fisheries Team Leader</b> 	Agency		●				●

**3.4.3 Coarse fish** – The Frome does not have a very diverse coarse fish population; with the exception of grayling and pike most coarse fish are restricted to the river downstream of Wool. The second full survey of the Frome, including coarse fish, was carried out during 1999 (see Section 3.4.2). The needs of coarse fish species are taken account of when Agency works are planned, or works by others consented. Our increasing knowledge of their habitat requirements is helping to inform the process.

The performance of the Poole Harbour eel fishery is still a cause for concern. Eel stocks in the Frome and Piddle also appear to be on a downward trend, consistent with the decline being observed throughout Europe, and which is probably due to marine factors. A new Research and Development project will be looking at the problem on a national and international scale.

In addition, we are concerned about the operation of fixed eel-traps on other species of fish. Inspections of eel-traps are carried out during the autumn operating period in order to collect information on operating arrangements and the by-catch. We have made recommendations to owners/operators that are aimed at minimising the impact of these activities on other species.

Actions		By	Cost	00	01	02	03	04
4.9	Use the findings of the Research and Development project into declining eel stocks to guide future initiatives. <i>We will be kept up to date with the on-going research</i> <b>Contact: Area Fisheries Team Leader</b>	Agency		●	●	●		
4.10	Continue eel-trap inspections <b>Contact: Area Fisheries Team Leader</b>	Agency	Staff time (2 days)	●	●	●	●	●

### 3.5 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 4.13).

**3.5.1 EC Habitats and Species Directive and EC Birds Directive** – The EC Habitats and Species Directive and the EC Birds Directive place additional responsibilities on us along with 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 six sites within the LEAP area (wholly or partly) which will eventually become part of the Natura 2000 network (see Appendix 6.3):

- Dorset Heaths (Purbeck and Wareham) and Studland Dunes (*priority candidate SAC*)
- Dorset Heaths (*priority candidate SAC*)



- Isle of Portland to Studland Cliffs (candidate SAC)
- St Aldhelms Head to Durlston Head (candidate SAC)
- Poole Harbour (SPA, Ramsar site)
- Dorset Heathlands ( priority SPA, Ramsar site)



The UK Government has decided that as soon as a site has been submitted to Brussels (ie it has become a candidate SAC), 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 Agency issued authorisations which may, either alone or in combination with others, have a significant effect on the conservation 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 site may have the potential to impact 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 Agency issued authorisations and our flood defence works which may be affecting these sites. Having determined which authorisations and activities are likely to be having an adverse effect 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 6.3.1.





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 a revised list of sites and qualifying interests, but delays in the receipt of *Conservation Objectives* will have knock-on effects on our own timetable.

Stage 1 reviews are now complete for priority sites in the South Wessex Area which in this LEAP area are the Dorset Heaths and the Dorset Heathlands. Stages 2 and 3 will not commence until we receive confirmation of the site boundaries and the associated *Conservation Objectives*. The *Conservation Objectives* will to some extent determine the resources required and so resources are yet to be allocated. There are currently no resources to undertake review work on non-priority sites.

Actions	By	Cost	00	01	02	03	04
5.1 Review authorisations as required by the EC Habitats Directive. <b>Contact: Area Water Resource Licensing Team Leader</b>	Agency	tbd	●	●	●	●	●
 							

While the rivers within the area do not form part of a proposed Natura 2000 site they do contain certain species listed under the EC Habitats Directive as qualifying interests. Atlantic salmon, bullhead and three lamprey species (brook, river and sea) are found in both the Frome and Piddle. Salmon and river and sea lamprey use Poole Harbour as a migration route and are also listed under the UK Biodiversity Action Plan (see Section 3.5.3). Shad, found in the lower Frome and Poole Harbour and adjacent coastal waters, are listed as a priority species under the UK Biodiversity Action Plan, and we therefore have certain responsibilities for their protection.

Nationally, Biodiversity Action Plans for the protection and enhancement of these species will be prepared (see Section 3.5.3) but until that time we will adopt best practice for their protection based on our current knowledge of their requirements. In the case of Atlantic salmon, action plans are already being produced for the principal rivers in England and Wales, including the Frome and Piddle (see Section 3.4.1).

Actions		By	Cost	00	01	02	03	04
5.2	Monitor Lamprey and Shad as part of on-going survey work <b>Contact: Area Fisheries Team Leader</b>	Agency Owners		●	●	●	●	●
	 							
5.3	Distribute identification leaflet and recording form for Shad to all involved in commercial fishing to confirm identification and distribution. The leaflet will also give details on protected status and rarity <b>Contact: Area Fisheries Team Leader</b>	Agency Owners		●				
	 							

**3.5.2 Sites of Special Scientific Interest** – A Consenting Protocol has been produced for the River Frome Site of Special Scientific Interest (SSSI) in partnership with English Nature, which aims to simplify consent authorisation between the two organisations. It establishes the responsibilities of each organisation with regard to the river, and clarifies procedures for determining authorisations. The protocol has been adopted as the national model.

Additionally we must produce a Conservation Strategy for each river SSSI which promotes joint working objectives between the Agency and English Nature in the conservation of the River Frome. A consultation element is included in the process.

At *Frome St Quintin* and *Woolcoombe* we have looked at the potential risk to SSSIs from water abstraction in conjunction with English Nature and concluded that the small abstractions taking place there pose only a very small risk. However, we will continue to ensure that licensed quantities are not exceeded via our routine enforcement work, and in the case of *Frome St Quinton*, review the appropriateness of current abstraction licence conditions.

We will also want to clarify any water resource issues in relation to Aunt Mary's Bottom and the Bere Stream Fen SSSIs. It has now been agreed with English Nature that the sites at East Stoke Fen and Morden Bog SSSIs are not *significantly affected* by abstraction.



Actions	By	Cost	00	01	02	03	04
5.4 Produce conservation strategy for the River Frome Site of Special Scientific Interest <b>Contact: Area Fisheries, Ecology and Recreation Manager</b>  	EN Agency	Staff time	●	●	●		
5.5 If required produce a leaflet to summarise the conservation strategy and consenting protocol <b>Contact: Area Fisheries, Ecology and Recreation Manager</b>  	Agency EN	£1k	●	●	●		
5.6 Review current abstraction licence conditions in relation to the Frome St Quintin Site of Special Scientific Interest <b>Contact: Area Water Resource Licensing Team Leader</b>   	Agency Licence Holder EN	Staff time (9 days pa for 00 & 01)	●	●	●	●	
5.7 Clarify water resource issues with regard to Aunt Mary's Bottom Site of Special Scientific Interest <b>Contact: Area Water Resources Team Leader</b>  	Agency EN	Staff time	●	●	●	●	
5.8 Consider water resource issues with regard to the Bere Stream Fen Site of Special Scientific Interest <b>Contact: Area Water Resources Team Leader</b>  	Agency EN	Staff time	●	●			

**3.5.3 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 are being and 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 the lead contact, the following are known to be present or have been recorded historically in the LEAP area:

**Chalk river habitats** – watercourses with a characteristic plant community often dominated by river water crowfoot (*Ranunculus*), species of starwort, watercress and lesser water parsnip. They are groundwater fed, producing clear waters and a stable flow and temperature regime, providing conditions that support a rich diversity of invertebrate, plant and fish life.

The River Frome is considered one of the best examples of a chalk stream habitat in Britain, and as such has been designated a Site of Special Scientific Interest by English Nature. Other chalk streams include the Piddle and its tributaries.

Winterbournes are included under the UK Biodiversity Action Plan for chalk streams as one of the 16 most threatened habitats in the country and consideration will be given to developing an overall strategy for the monitoring of headwaters in the LEAP area. Considerable effort is also put into the ecological monitoring of watercourses as part of the on-going water resource studies (see Sections 3.2 and 3.3).

**Water voles** – the Frome and Piddle catchments support the most significant populations of water voles in Dorset and are classified as a *core area*. In particular, good populations are found where the main channel and associated carriers and ditches provide extensive unfragmented areas of good habitat. The Dorset Water Vole Survey (1997) found that 85 % of sites checked on the middle and lower Frome contained water voles.



Both habitat loss and mink predation have contributed to the decline of the water vole. A re-survey of the 1997 survey is planned for 2001- 2002 through the Dorset Wildlife Trust's Rivers and Wetland Project which will look at previous records and target ditches and tributaries on the Rivers Frome and Piddle not previously surveyed. The survey will also look for signs of mink.

**Otters** – recent survey data suggests otters are increasing on both the Frome and Piddle, with an estimated 10 % site occupancy. This is still very low compared to pre-decline years, although increased survey effort may prove the figure to be an underestimate. Records have also been collected from the Sherford River and Tadnoll Brook catchments. The habitat on the Piddle and in Poole Harbour, where recent otter sightings have been confirmed, is generally good and there has recently been some otter holt construction and tree-planting on the Frome, Piddle and Tadnoll Brook.

**White-clawed crayfish** – the River Piddle is a key area for white-clawed crayfish in Dorset, which along with the Tadnoll Brook represents two of only three rivers known to support them in the county. They used to be widespread in the area but were almost certainly killed off by crayfish plague carried by the American Signal crayfish in the mid 1980s. Habitat degradation and possible future introductions of Signal crayfish are now threatening the existing populations.

A 1999 survey of ponds in the Piddle catchment found no Signal crayfish and we are in the process of proposing to the Ministry of Agriculture, Fisheries and Food that the Piddle catchment is designated a *no-go* area for Signal Crayfish.

**Depressed river mussel** – found in fairly clean, hard water in lowland rivers and canals. The specific ecology and therefore conservation requirements are unclear but may involve an inability to withstand drought, sensitivity to fine sediment and low numbers of fish that act as hosts for its larva.

This species is probably under-recorded in the area due to problems with identification, however there are some historic records on the Corfe River.

**Fine-lined pea mussel** – found in clean, hard water in lowland rivers and canals, and occasionally ponds. It has always been considered a rare species and although there are no historical records in this area it is likely to have been under-recorded. Ecological threats have been little studied and are poorly understood.

**Southern damselfly** – this damselfly tends to be found where chalk springs flow over acid heathland. They are typically found on the Dorset Heaths which includes several stronghold populations, but they are threatened by changes in water quality and lack of bankside management. There is concern that recently some important populations have suffered decline.

Scrub management is being carried out at several sites, and a study completed in October 2000 examined reasons for the population decline at Povington, previously one of the largest Dorset populations.

**Agabus brunneus (a diving beetle)** - a beetle of shallow lowland streams unable to fly. It has been recorded from several locations in the Dorset Heaths area and a stream near Wool.

**Coastal saltmarsh** - the upper vegetated areas of intertidal mudflats consisting of salt tolerant vegetation adapted to regular immersion. There are reasonable areas of saltmarsh in Poole Harbour which act as important breeding grounds for wildfowl and wading birds.

**Mudflats** - intertidal mudflats consisting of silt and clays with a high organic content. They usually occur between subtidal channels and vegetated saltmarshes and are high in biological productivity and therefore often support large numbers of birds as feeding and roosting grounds. Poole Harbour is an internationally important area for wildfowl and waders and contains significant areas of mudflats.

As a lead contact we are responsible for stimulating action to achieve targets, monitoring results and reporting progress to the national groups.

As well as acting as a lead contact 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 *habitats and species of conservation concern*.



The table in Appendix 6.4 lists all those habitats and species in the LEAP area for which the Agency has been assigned actions.

Work has also 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 Dorset Biodiversity Project are helping to refine habitat and species requirements and implement actions on the ground. These documents also list the other BAP habitats and species for which the Agency has no assigned actions but which are found in the area.

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. For example in 1997, a wide range of organisations produced the *Purbeck Biodiversity Action Plan*. Also of particular importance is the *Dorset Biodiversity Project* which is addressing the requirements of a range of habitats and species. In particular the project is looking at: fens, coastal and floodplain grazing marsh, great crested newts, pillwort, reedbed, southern damselfly, maerl beds and seagrass beds.

Many of the habitats and species actions will be progressed through individual steering groups. We are chairing the steering group for coastal and floodplain grazing marsh and will attend others where appropriate. We will carry out the actions assigned to us that arise from these groups over the forthcoming years.

From an assessment of biodiversity actions the South Wessex area are currently undertaking approximately half of them through day-to-day activities. Resources to undertake outstanding work, including those actions listed below, are bid for on a yearly basis and progress will be reported on in Annual Reviews.





#### Chalk rivers and associated species

Actions	By	Cost	00	01	02	03	04
5.9 Develop a vision for the sustainable use of the Frome and Piddle floodplain <b>Contact: Area Conservation Team Leader</b>  	Agency Partners	Staff time	●	●	●	●	●
5.10 Target lower Frome and Piddle for Countryside Stewardship Scheme (or other agri-environment schemes, see Section 4.10); aim for 10 % bank length entered ( <i>in addition see Action 5.24</i> ) <b>Contact: Area Conservation Team Leader</b>  	Agency MAFF Partners	Staff time	●	●			
5.11 Target chalk rivers and their winterbourne stretches for river habitat surveys ( <i>for information on the LOCAR Project see Section 4.7</i> ) <b>Contact: Area Conservation Team Leader</b>  	Agency LOCAR Project	Staff time LOCAR Project		●			
5.12 Conduct a study looking at headwaters in the LEAP area to highlight important invertebrate and plant communities and their need for protection. <i>This may be undertaken as part of the CAMS initiative (see Section 3.1) and proposed review of the biological sampling network</i> <b>Contact: Area Biology Team Leader</b>  	Agency	tbd		●	●	●	




Chalk rivers and associated species *continued*

Actions	By	Cost	00	01	02	03	04
5.13 Target Wareham Royalty site (see Section 3.17) for an initial appraisal of aquatic invertebrate fauna. <i>This action has been deferred until the resources are available</i> <b>Contact: Area Conservation Team Leader</b>  	Agency	£2.2k					
5.14 Promote designation of the Piddle catchment as a <i>no-go</i> area for Signal crayfish <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	Staff time	●	●			
5.15 Establish long-term monitoring of existing crayfish populations. <i>This involves annual surveys of known sites</i> <b>Contact: Area Biology Team Leader</b> 	Agency	Staff time (10 days pa)	●	●	●	●	●
5.16 Support Dorset Rivers and Wetlands Project to implement actions from national and regional BAPs for otters including management of the Dorset Otter Group and on-going survey work to restore breeding otters to all catchments recorded since 1960 by 2010. <i>The Agency plans to contribute £8k in the financial years 01 and 02 for actions 5.16, 5.20 and 5.21</i> <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	£16k	●	●	●	●	●
5.17 Through the Dorset Rivers and Wetland Project, set up a road survey to identify blackspots for otter road casualties; targeting the Frome and Piddle. <i>The priority is to address the blackspot at Wareham, where two dead otters have been found in the last year</i> <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	£2k pa		●	●	●	
5.18 Ensure otter guards are present on all fyke nets <b>Contact: Area Fisheries Team Leader</b> 	Agency	Staff time	●	●	●	●	●
5.19 Carry out bioassays and post mortems on dead otters; please contact our Blandford Office should a dead otter be found. <i>This action is funded regionally</i> <b>Contact: Area Conservation Team Leader</b> 	Agency		●	●	●	●	●
5.20 Continue to implement UK and South West BAP for water voles to maintain core areas on the Frome and re-establish 1970s range by 2010, partly through support to the Dorset Rivers and Wetland project. <i>The Agency plans to contribute £8k in the financial years 01 and 02 for actions 5.16, 5.20 and 5.21</i> <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	£16k	●	●	●	●	●



Actions	By	Cost	00	01	02	03	04
5.21 Contribute towards the Dorset Rivers and Wetland Project re-survey of water voles in the Rivers Frome and Piddle catchments. <i>The Agency plans to contribute £8k in the financial years 01 and 02 for actions 5.16, 5.20 and 5.21</i> <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	£16k		●	●		
5.22 Target areas for water vole habitat enhancement work and set up demonstration sites for best management practices, specifically the River Piddle with the Dorset Rivers and Wetland Project <b>Contact: Area Conservation Team Leader</b>  	Agency Partners	£2k pa	●	●	●	●	●
5.23 Survey for depressed river mussel, fine-lined pea mussel and desmoulin's whorl snail; targeting Frome & Piddle catchments <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	£2k	●	●	●		

### Coastal and floodplain grazing marsh and associated species




Actions	By	Cost	00	01	02	03	04
5.24 Support Dorset Wetland Group to promote this habitat and target areas for action including setting up a demonstration site. <i>Aim to encourage 25 % of wet grassland into conservation management by 2005 and to increase the area of controlled winter flooding to 30 % and spring flooding to 10 % by 2005.</i> <b>Contact: Area Conservation Team Leader</b>  	Agency Partners	£10k	●	●	●	●	●
5.25 Ensure that key populations of the black bog ant are taken account of in our work and that their needs are incorporated into water level management plans (see Section 3.14.1). <b>Contact: Area Conservation Team Leader</b> 	Agency EN	Staff time	●	●	●	●	●

See also actions in Section 3.14.1


## Reedbed and associated species

Actions	By	Cost	00	01	02	03	04
5.26 Develop a plan for the management of reedbed and scrub on the Wareham Royalty site owned by the Agency (see Section 3.17) <b>Contact: Area Conservation Team Leader</b>  	Agency DRWG	Staff time	●	●			
5.27 Contribute towards Wareham Meadows reedbed creation where this is the best option for nature conservation <b>Contact: Area Conservation Team Leader</b>  	Agency RSPB	tbd	●	●	●		
5.28 Contribute towards a reedbed survey of Poole Harbour to establish distribution, health, management and areas for re-creation <b>Contact: Area Conservation Team Leader</b>  	Agency Partners	£2k	●				

## Fens and associated species

Actions	By	Cost	00	01	02	03	04
5.29 Contribute towards fen management, including tree removal on sites identified as priorities following production of the fen audit <b>Contact: Area Conservation Team Leader</b> 	Agency EN RSPB LAs DWT Others	£4k	●	●	●		
5.30 Develop study to look at the impacts of silt and habitat change on the southern damselfly at Povington <b>Contact: Area Conservation Team Leader</b> 	EN MoD DWT NT RSPB Agency	£3.5k	●				
5.31 Help fund habitat management/scrub removal on southern damselfly sites where required and help implement any other recommendations from the audit of Southern Damselfly sites in Dorset <b>Contact: Area Conservation Team Leader</b> 	Agency DWT Partners	£1k pa	●	●	●	●	●



## Rivers and streams and associated species

Actions	By	Cost	00	01	02	03	04
5.32 Re-create 5 hectares of floodplain woodland by 2005 where such woodland offers the best option for nature conservation <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	tbd	●	●	●	●	●




See also action in Section 3.5.4



## Urban watercourses and associated species

Actions	By	Cost	00	01	02	03	04
5.33 Provide advice and contribute to individual projects, raised by the urban watercourses group, to enhance urban watercourses and adjacent bank management and bid for funds where requested <b>Contact: Area Conservation Team Leader</b>  	Agency	£2k	●	●	●		

## Standing open water and associated species

Actions	By	Cost	00	01	02	03	04
5.34 Implement UK and Purbeck BAP for great crested newt <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	Staff time	●	●	●	●	●
5.35 Support Dorset Biodiversity project to survey ponds for great crested newts and following survey contribute towards pond enhancement work where key areas are identified <b>Contact: Area Conservation Team Leader</b>  	Agency Partners	£1.5k pa	●	●			


## Marine habitats and associated species

Actions	By	Cost	00	01	02	03	04
5.36 Survey for maerl beds, seagrass beds and starlet sea anemone <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	£1.5k pa	●	●	●	●	
5.37 Support seabed mapping and Dorset Seasearch project to survey 1 % of littoral/sub-littoral chalk and sub-littoral sands and gravel to identify important species and key areas <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	£3k pa	●	●	●	●	●
5.38 Bid for funds to support seabed visualisation project and other interpretation material <b>Contact: Area Conservation Team Leader</b> 	Agency	£3k	●	●			

## Estuaries and associated species

Actions	By	Cost	00	01	02	03	04
5.39 Develop a biological monitoring strategy for Poole Harbour and coastal areas with partners <b>Contact: Area Biology Team Leader</b>  	Agency Partners	tbd		●	●	●	●
5.40 Contribute towards survey and mapping of marine habitats including saltmarsh, mudflats and sand dunes around Poole Harbour <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	tbd		●			

**3.5.4 Invasive plants** – Some invasive plants occur in the LEAP area including Himalayan balsam. Nationally, the Agency is formulating a policy towards the control of these species in partnership with others. In the interim we would welcome any records of invasive plants along watercourses.

Actions	By	Cost	00	01	02	03	04
5.41 Develop a strategy to assess the distribution of invasive plants and possible options for their control. <i>This is a national action and will be implemented locally as appropriate</i> <b>Contact: Area Conservation Team Leader</b> 	Agency	tbd		●	●		

### 3.6 The potential impact of development on the environment

Local planning authorities and the Agency have responsibilities for minimising the impact of development on the environment. We maintain a continuous dialogue with officers of 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 4.2, *Working with local planning authorities*.

**3.6.1 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 groundwater.

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. Once the 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.

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* reports 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 controlled waters

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 (see Section 4.2).

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.

**3.6.2 Protection of groundwater** – With the importance of groundwater to the area there is a need to prevent contamination, for example from fuel spillages, and, if it has occurred, to ensure that effective remediation work is undertaken. Such remediation is costly and in some cases may be impossible to achieve due to the nature of the contaminant(s) and/or the structure of the underlying aquifer.

The Agency's *Policy and Practice for the Protection of Groundwater* classifies groundwater vulnerability to pollution based on parameters such as the nature of overlying soil and the properties of the rock strata. Maps are available showing these classifications. Source protection zones have been defined for all potable supplies, and published for public water supply and major sources. We use these tools, with the policy statements, to guide planning and to minimise the risk of groundwater contamination. Source protection zones are to be regarded as additional to the general consideration of overall resource protection. This information is available on the Agency's web site.

We also have a requirement to monitor the quality of groundwater through a number of responsibilities. These include our general duty to monitor controlled waters and requirements under the EC Nitrates Directive (see Section 3.11.2) and the Groundwater Regulations. There is no nationally agreed network for groundwater sampling hence data for the plan area is limited despite significant areas of major aquifer.

Given the lack of data we are not able to comment authoritatively on the general state of groundwater or note any significant trends in quality. The Agency is beginning the development of a more rigorous network, based where possible on existing observation boreholes, in line with recommendations made by the British Geological Survey in 1994. This review will lead to a gradual increase in data collection from 2001. Since groundwater samples are taken relatively infrequently (often once or twice a year), it will be some years before reports can be made on these new sites.


Groundwater levels in the aquifer underlying the area are measured on a monthly basis at 28 locations. The groundwater level in the vicinity of Dorchester is also continuously monitored at a borehole just south-west of the town, at Ashton Farm. The use of groundwater for a variety of purposes is regulated through the water



abstraction licensing system (see Section 3.1 and Appendix 6.1).

The EC Groundwater Directive (*for the protection of groundwater against pollution by certain dangerous substances*) requires member states to prevent the discharge into groundwater of the most toxic substances and control other less harmful substances so that pollution does not occur. Disposal of listed substances to land, such as sheep-dip or pesticide washings on farms, can only be done with an appropriate authorisation.

We must enforce statutory Codes of Practice in respect of many other activities that could give rise to discharges, such as chemical stores or petrol stations, and we can serve notices to require improvements to activities or processes, or even to require that they stop altogether. In future years we will target those handling and storing oils and solvents in vulnerable groundwater areas, and work to ensure that appropriate authorisations are in place for all disposals.

Actions	By	Cost	00	01	02	03	04
6.1 Improve collection and reporting of groundwater quality data. <i>The national timetable and associated costs have yet to be determined</i> <b>Contact: Regional Principal Officer (Groundwater Protection)</b> 	Agency	£25k pa	●	●			

### 3.7 Developing strategies for sustainable waste management

The 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.

**3.7.1 Waste planning** – District and Borough Councils and Unitary Authorities are responsible for the collection of household waste. Unitary Authorities, along with County Councils are also responsible for the disposal of household waste. The County Council or Unitary Authority is also the waste planning authority and is responsible for producing waste local plans. The Agency assists waste planning authorities by providing information and advice on waste and waste management.

The Government through its waste strategy, *Waste Strategy 2000*, seeks to 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:

- statutory local authority recycling targets
- the new *Waste and Resources Action Programme* dedicated to developing new markets for recycled waste
- extending producers responsibility initiatives, for example to newspapers and junk mail
- continuing to raise public awareness, working with the *National Waste Awareness Initiative*
- more use of the landfill tax credit scheme to deliver an increase in recycling, particularly of household waste

In drawing up the strategy statistics on the quantities of commercial and industrial waste produced, collated from the first National Waste Production survey conducted by the Agency between October 1998 and March 1999, were used. The Agency will conduct further national work on gathering data from industrial and commercial



sources during 2001-2002.

The Agency have produced strategic waste management assessments for each planning region (see Section 4.1.1) in England and Wales. These include baseline waste management information for the South West and illustrate current and future issues which are likely to affect the production and management of waste over the next 20 years.

We are also assisting local authorities in Dorset with their work to formulate a waste strategy for the future treatment and disposal of all waste in Dorset. This involves provision of data, use of the software tool WISARD and advice on the Best Practicable Environmental Option in terms of waste management.

The Agency's software tool, *WISARD* (Waste-Integrated Systems Assessment for Recovery and Disposal), helps inform planners, policy makers in local government, the waste management industry as well as other interested organisations of the environmental burdens of the options available to them for managing waste. We have been involved with Dorset County Council who are testing the software in a *real world* situation. Further details are available from the Tactical Planning Team at the Agency's Blandford Office.

Campaigns have been run by the Agency in partnership with Dorset Health Authority, Dorset County Council and the Local Authorities on sharps disposal (for example needles) in the community. A Best Practice Guideline is being developed for the primary care sector within Dorset to promote the provision of sharps bins and a sharps disposal service for self-caring patients at home (for example diabetic patients). Current practice includes the return of used sharps to clinics and doctors surgeries in plastic bottles and drink cans. Once the Guideline has been published and implemented it is hoped to adopt it within the rest of the South Wessex Area. The Salisbury National Health Service and New Forest District Council have already given support to the project.

**3.7.2 Minimising and recycling waste** – Waste minimisation is the reduction of waste at source and 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 practice 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 (see Section 4.9) and Business Link (see Section 4.12) and actively seeks new members. In 1999, 20 companies were newly recruited to the SWWMG. The Agency promotes and supports the work of the group and if you would like further details please contact the Tactical Planning Team at the Agency's Blandford Office.

The SWWMG is currently running *Project Pride* 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.

Two successful placements for *Project Pride* have been undertaken in the area: one to review the environmental impacts of a company site in Poole and the other to seek alternative uses for 200 tonnes of spent foundry sand, sent to landfill each week from a precision casting firm in Poole.

The SWWMG has also set up the Waste Exchange Scheme, based on the principal 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 reduce both disposal and resource costs. Further details are available from the internet site <http://recycle.centre.org.uk> or from the Tactical Planning Team at the Agency's Blandford office.

BP Amoco (Wareham) and Merck Ltd (Poole) linked together in a waste exchange scheme whereby BP Amoco supplied Merck with free 205 litre drums which contain a slight oil residue for which they previously had to pay £6 per drum for disposal. Merck benefited from not having to pay £8 per drum for their use for storage and transport of chemical wastes.










In addition during 1997 Merck saved £12,000 by collecting drums on a weekly basis from Mathmos (Poole) for disposal of their waste chemicals. Mathmos also made savings on drum disposal.

The South Wessex Area have also produced the *Industrial and Commercial Waste Minimisation and Recycling Directory*. 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 updated national and regional recycling directories.

The Producer Responsibility Obligations (Packaging Waste) Regulations 1997 (as amended) are designed to implement the recovery and recycling targets 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 have been charged with implementing, monitoring and enforcing this legislation and will provide advice on the implementation of the regulations.

In 1999, we made 15 compliance visits to companies in the South Wessex Area, and in partnership with Business Link (see Section 4.12) 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 visits and at least 25 other monitoring activities. We will also host another event in partnership with Business Link in March 2001 to provide information regarding the Regulations to local businesses and to incorporate issues on packaging waste




Actions		By	Cost	00	01	02	03	04
7.1	Undertake waste surveys as required nationally <b>Contact: Area Tactical Planning Team Leader</b> 	Agency	tbd		●	●		
7.2	Contribute to the integrated waste strategy for Dorset <b>Contact: Area Tactical Planning Team Leader</b> 	Agency	Staff time	●	●			
7.3	Assist with production of Strategic Waste Management Assessment based on the Government Office South West Region. <b>Contact: Area Tactical Planning Team Leader</b> 	Agency	Staff time	●				
7.4	Assist waste planning authorities and other organisations in determining the best practicable environmental option for waste management options using WISARD <b>Contact: Area Tactical Planning Team Leader</b> 	Agency	Staff time	●	●	●	●	●
7.5	Produce Best Practice Guidance on sharps disposal in the community <b>Contact: Area Tactical Planning Team Leader</b> 	Agency DHA	Staff time + £0.5k	●				
7.6	Promote and support the South Wessex Waste Minimisation Group and provide advice to commerce and industry on waste minimisation <b>Contact: Area Tactical Planning Team Leader</b> 	SWWMG Agency	£1.5k pa	●	●	●	●	●
7.7	Assist with production of a National and Regional Industrial and Commercial Recycling Directory <b>Contact: Area Tactical Planning Team Leader</b> 	Agency	Staff time	●	●			
7.8	Raise business awareness of the Packaging Regulations through telephone calls, visits and seminars <b>Contact: Area Tactical Planning Team Leader</b> 	Agency	Staff time	●	●	●	●	●
7.9	Enforce the Packaging Regulations in the South Wessex Area, ensuring producers affected are registered and meeting targets <b>Contact: Area Tactical Planning Team Leader</b> 	Agency	Staff time	●	●	●	●	●

### 3.8 Illegal waste disposal

Illegal tipping of waste or fly-tipping is a problem that affects the rural as well as the urban environment. It makes the environment unattractive and in some cases can cause land and water pollution and hazards to people. We are working in partnership with other organisations, such as local authorities, to try and tackle this problem.

Following increased concern about fly-tipping on the Isle of Portland in West Dorset, we intend to conduct a campaign during 2000-2001; further details are given in the West Dorset LEAP First Annual Review. Depending on its success, a similar campaign may be undertaken in the Poole and Purbeck area subject to resources being available.

Actions	By	Cost	00	01	02	03	04
8.1 Investigate fly-tipping within the LEAP area. <i>Subject to the success of the Isle of Portland campaign and the availability of resources</i> <b>Contact: Area Environment Protection (South Dorset) Team Leader</b> 	Agency Partners	tbd	●	●			

### 3.9 Impact of sewage and sewerage on water quality

The EC Bathing Waters Directive (*concerning the quality of bathing water*) seeks to protect public health and the amenity value of popular bathing waters by reducing pollution. There are 12 designated bathing waters in the LEAP area; all have complied with the mandatory standards of the Directive since 1995.

The discharge at Lulworth outfall is to be improved under AMP3 (see Section 4.8) to include secondary treatment in order to achieve guideline compliance with the Bathing Waters Directive at Lulworth Cove. Guideline standards are more stringent than the mandatory standards of the Directive and we aim to achieve them subject to consideration of the costs and benefits.

Ultra violet disinfection is to be installed at Poole, Wareham and Lytchett Minster sewage treatment works under AMP3 to maintain compliance with the guideline standards of the EC Bathing Waters Directive. Joint survey work by the Agency and Wessex Water was undertaken during Summer 2000 to assist in determining the available dilution for these discharges. This information will be used in the design of the ultra violet plant and for consenting discharges. More investigation work may be needed during 2001.

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 (see Section 3.11.1).

Improvements to Sydling St. Nicholas sewage treatment works are to be carried out in AMP3 (see Section 4.8) in order to meet the requirements of the Urban Waste Water Treatment Directive. The improvements are to increase the volume of sewage receiving full treatment at the works and to upgrade the storm tanks.

Improvements to Dorchester sewage treatment works are to be carried out in AMP3 (see Sections 3.11.1 and 4.8) including a tightening of the consent condition for ammonia in order to maintain the current discharge load and ensure that downstream ammonia levels are not raised due to the works.

We are considering upgrading the River Quality Objective of the river stretch of the Dorset Frome which receives the discharge from Dorchester sewage treatment works (Dorchester sewage treatment works to the confluence with the South Winterbourne) from RE2 to RE1 (see Appendix 6.5).

Wool sewage treatment works may be responsible for the significant non-compliance with the River Quality



Objective of RE1 in 1998 due to elevated biochemical oxygen demand and low dissolved oxygen on the Dorset Frome from East Burton to downstream of the Water Barn bifurcation (see Appendix 6.5 and Map 2). Under the 1999 classification the stretch was a marginal failure. Recommendations for action will be made after completion of an investigation which will be comparing adjacent downstream stretches and associated sampling points.

**3.9.1. Sewerage system problems** – A number of sewerage systems within the area can become infiltrated with groundwater during the winter months when the water table is high. This results in intermittent discharges of dilute raw sewage from pressure points within the system.

Wessex Water has undertaken some sealing of the sewerage system in the Piddle valley area to prevent the manholes surcharging (sewage escaping through inspection covers), although this appears not to have completely resolved the problem. Wessex Water and West Dorset District Council are continuing their investigations.

Similar problems have also been experienced in the Martinstown area and the storm sewage discharge from the Martinstown pumping station has been recognised as *unsatisfactory* and improvement under AMP3 (see Section 4.8) will be completed by the end of March 2003. AMP3 will also see improvements to other parts of the sewerage infrastructure in the LEAP area (see Section 4.8).

We are also aware of problems with the sewer running from Milton Abbas to Milborne St Andrew and Wessex Water has already undertaken sealing work and we will continue to investigate the appropriate course of action.

The Environment Act 1995 also places a conditional duty on a sewerage undertaker to provide connection to the foul sewer for domestic users, subject to a number of qualifying criteria. The Agency as an environmental regulator provides information on environmental impacts and will act as an arbitrator on disputes between the Water Companies and the applicant.

First time rural sewerage is to be provided at Kimmeridge in AMP3 (see Section 4.8) in order to maintain compliance with the EC Bathing Waters Directive. Schemes are also being considered by Wessex Water at Bovington-Lytchett Lane, Furzebrook Road, Harman's Cross Phase 2 and Godmanstone.

Actions		By	Cost	00	01	02	03	04
9.1	Monitor progress with AMP3 improvement schemes under the EC Bathing Waters Directive. <b>Contact: Area Tactical Planning Team Leader</b> 	WW Agency	Staff time	■	●	●	●	●
9.2	Monitor progress with AMP3 improvement schemes under the EC Urban Waste Water Treatment Directive. <b>Contact: Area Tactical Planning Team Leader</b> 	WW Agency	Staff time	■	●	●	●	●
9.3	Monitor progress with AMP3 improvement schemes at Dorchester sewage treatment works (see also Section 3.11.1) <b>Contact: Area Tactical Planning Team Leader</b>  	WW Agency	Staff time	■	●	●	●	●
9.4	Consider upgrading the River Quality Objective on the Frome from Dorchester sewage treatment works to confluence with the South Winterbourne <b>Contact: Area Tactical Planning Team Leader</b>  	Agency Users	Staff time	●	●			
9.5	Investigate significant River Quality Objective non-compliance on the Frome from East Burton to downstream of the Water Barn bifurcation <b>Contact: Area Investigations Team Leader</b>  	Agency	£2.5k	■	●			
9.6	Continue efforts to find a solution to sewer problems in the Piddle valley and at Milton Abbas <b>Contact: Area Tactical Planning Team Leader</b> 	WW WDDC Agency	Staff time	■	●	●		
9.7	Monitor progress with AMP3 intermittent discharge improvement schemes. <b>Contact: Area Tactical Planning Team Leader</b>  	WW Agency	Staff time	■	●	●	●	●
9.8	Monitor progress with AMP3 first time rural sewerage schemes. <b>Contact: Area Tactical Planning Team Leader</b> 	WW Agency	Staff time	●	●	●	●	●



### 3.10 Protection of shellfisheries

The EC Shellfish Waters Directive (*on the quality required of shellfish waters*) protects shellfish populations from harm caused by pollution. We are responsible for monitoring the quality of designated waters and reporting the results. Where appropriate standards are not met, we are responsible for identifying sources of pollution and ensuring that improvements are made.

Historically, Poole Harbour was designated as a single shellfish water under the EC Shellfish Waters Directive. Four monitoring points were used: Wareham Channel, Salterns Main Channel, South Deep and Harbour Entrance. In July 1999, the Government announced a revision to the designated shellfish waters in Poole Harbour. The Harbour itself is now split into three designated shellfish waters: Poole Harbour West, North and South. These three waters include the area previously designated and extend slightly further to the west. Poole Harbour North is monitored at Salterns Main Channel and Poole Harbour South is monitored at South Deep. A new site at Poole Harbour 1 (Wareham Channel) is used for Poole Harbour West.

In addition to the three waters within Poole Harbour, Poole Bay has also become a designated shellfish water. The new monitoring point for this shellfish water is south of Bournemouth Pier.

The Salterns Main Channel site failed the Directive in 1996 and 1997 due to elevated levels of nickel and zinc, with copper levels also exceeding Directive standards in 1997. Investigations have shown potential non-point sources of zinc from sacrificial anodes on boats and steel pilings in the marina. However, the unusually high levels suggest a possible intermittent point source of contamination. If further sampling proves inconclusive, risk assessment work will be carried out on possible sources of contamination from marine-based activities. The site was compliant with the standards of the Directive in 1998 although sediments did show significant contamination with zinc.

Both the Harbour Entrance and South Deep sites failed the dissolved copper standard of the Directive in 1997. The failure could not be attributed to any reported pollution event. In addition to the possible impacts of copper-based anti-fouling paints, further water sampling will be undertaken to highlight other possible diffuse or point sources of copper in the Harbour. Both of these sites were compliant with the standards of the EC Shellfish Waters Directive in 1998.







One potential source of metals could be the re-suspension of historic contamination from Holes Bay following disturbance. Metals are no longer discharged into Holes Bay following pollution prevention activities by the Agency and predecessor organisations and the adoption by local firms of best management practices to minimise their impact on the environment.

At the time of publication 1999 compliance data for the EC Shellfish Waters Directive had not been calculated.

Under the EC Shellfish Hygiene Directive (*laying down the health conditions for the production and placing on the market of live bivalve molluscs e.g. oysters and mussels*) shellfish harvesting areas are classified into four categories according to the concentration of bacteria found in the shellfish flesh. The site at Poole Harbour (excepting Wareham Channel) was classified as a B in 1998, 1999 and 2000 and the Wareham Channel site was classified as a C in 1998, 1999 and 2000. Poole Bay was classified as a B in 1998, 1999 and 2000. The Ministry of Agriculture, Fisheries and Food and Port Health or Environmental Health authorities share responsibility for this Directive in England and Wales. Local authority Environmental Health departments undertake monitoring of shellfish tissue. The Agency provides information on discharges that may affect harvesting areas.

Ultra violet disinfection will be installed at Poole, Wareham and Lytchett Minster sewage treatment works in AMP3 (see Section 4.8). This level of treatment is required to improve and protect the designated shellfish waters and this will help achieve Class B status as defined by the EC Shellfish Hygiene Directive.

The Agency is in contact with the Borough of Poole's Environmental Health department to discuss our work in Poole Harbour, particularly to improve the exchange of information between the two organisations.

Actions	By	Cost	00	01	02	03	04
10.1 Undertake risk assessment work to identify possible sources of zinc contamination at the Salterns Main Channel EC Shellfish Waters Directive site <b>Contact: Area Investigations Team Leader</b>  	Agency	£5 to £10k	●	●			
10.2 Investigate possible sources of copper contamination at the South Deep EC Shellfish Waters Directive site <b>Contact: Area Investigations Team Leader</b>  	Agency	£2.5k	●	●			
10.3 Monitor progress with AMP3 improvement schemes under the EC Shellfish Waters Directive. <b>Contact: Area Tactical Planning Team Leader</b> 	WW Agency	Staff time	●	●	●	●	●
10.4 Improve links with the Borough of Poole Environmental Health department with regard to monitoring work under the EC Shellfish Waters and EC Shellfish Hygiene Directive <b>Contact: Area Investigations Team Leader</b> 	Agency B of P	Staff time	●	●	●	●	●



### 3.11 The effect of nutrients on the catchment

Nutrients present in waters originate from a number of sources, both point and non-point. The actual concentration of nutrients in waters is dependent on the amount of flow available in the river for dilution. A common point source of nutrients are sewage treatment works discharges. The most common non-point source is runoff from agricultural land which can contain nutrients, such as nitrates and phosphates, from fertilisers.

Nutrient enrichment can result in the stimulation of a range of changes in the water quality and flora and fauna of the river. This process is known as eutrophication.

Nutrient enrichment of waters can either be controlled under the Urban Waste Water Treatment Directive through the designation of watercourse stretches as a Sensitive Area (Eutrophic) (see Section 3.11.1) or under the EC Nitrates Directive (see Section 3.11.2). We are also trialling methods to try and reduce agricultural non-point source pollution (see Section 3.12).

The Agency has recently published a management strategy for aquatic eutrophication: *Aquatic Eutrophication in England and Wales - A Management Strategy*.

**3.11.1 EC Urban Waste Water Treatment Directive** – The EC Urban Waste Water Treatment Directive (*concerning urban waste water treatment*) specifies minimum standards for sewage treatment and collection systems (see Section 3.9). 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 either eutrophic or may become so in the future.

The Dorset Frome downstream of Dorchester sewage treatment works, *the qualifying discharge*, to the tidal limit at Wareham was assessed as a candidate Sensitive Area (Eutrophic), under the Directive. This assessment was based on monitoring carried out during the period from 1994 to 1996. The whole of Poole Harbour was also assessed as a candidate Sensitive Area (Eutrophic), with *the qualifying discharges* being Poole and Wareham sewage treatment works.

Neither proposal was ratified by our National Panel and hence they were 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 at both sites with a view to resubmission for the 2001 review of candidate Sensitive Areas (Eutrophic). If these two areas are designated, nutrient reduction may be required at Poole and Wareham sewage treatment works.

Improvements to Dorchester sewage treatment works in AMP3 (see Sections 3.9 and 4.8) do include phosphate reduction following concerns about the rising phosphate levels in the final effluent and the potential impact on downstream water quality.

The Agency receives reports on issues associated with algae from a variety of sources and has established good working relationships with a number of interest groups, including shell fishermen and the Southern Sea Fishery Association. 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.



Actions	By	Cost	00	01	02	03	04
<p>11.1 Continue monitoring the Frome and Poole Harbour in support of the Sensitive Area (Eutrophic) designation. <i>Costs are made up of staff time, boat maintenance and laboratory analysis. These costs contribute to the total cost of all boat monitoring work.</i></p> <p><b>Contact: Area Investigations Team Leader</b></p>  	Agency						

**3.11.2 EC Nitrates Directive** – 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 (eutrophic) must be designated a Nitrate Vulnerable Zone (NVZ).

Action plans need to be established to reduce existing nitrate pollution and prevent further pollution. Regulations establishing the Action Programme in designated NVZs came into force in December 1998. The Agency is responsible for enforcing the regulations which place restrictions on the timing and rate of fertiliser and manure applications. Codes of Good Agricultural Practice will continue to apply outside NVZs and the advice in these will help reduce the risk of pollution (see Section 4.10).

Regular reviews must be carried out of existing NVZs and to identify potential new areas. A review of surface waters has recently been completed, and the next review for groundwater sources will begin shortly. There are currently no NVZs in the plan area.

The whole of Poole Harbour was proposed as a candidate Polluted Water (Eutrophic) under the 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 until the end of 2000 to provide more information on the nitrogen balance and the extent and duration of macroalgal (seaweed) 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.

Actions	By	Cost	00	01	02	03	04
11.2 Contribute to the four-yearly review process of NVZs <b>Contact: Regional Principal Officer (Groundwater Protection)</b> 	Agency	Staff time		●	●		
11.3 Continue monitoring Poole Harbour in support of the candidate Polluted Waters (Eutrophic) designation. <i>Costs are made up of staff time, boat maintenance and laboratory analysis. These costs contribute to the total cost of all boat monitoring work</i> <b>Contact: Area Investigations Team Leader</b> 	Agency		●				



### 3.12 Impact of land use on water quality

The agricultural community has responded well to our campaigns to reduce acute pollution incidents from specific point sources by improvements to the storage facilities provided for material such as silage and slurry. However, changing agricultural land use and increases in the disposal of waste to land have led to other problems, including the risk of soil erosion and surface runoff from some intensively farmed land. This runoff can contain pesticide residues which, depending on the type, concentration and length of exposure, can be harmful to watercourses, by for example inhibiting plant growth. Such runoff can also contain nutrients from fertilisers (see Section 3.11).

Although sediments occur naturally in rivers and form part of the natural cycle of erosion, elevated quantities can cause serious damage to the flora and fauna of rivers. In particular, they may encourage the growth of less desirable plants in the river channel and reduce the reproductive success of some fish species by smothering the eggs. There have been a number of known non-point source inputs of sediment to watercourses in the area including:

- soil erosion from agricultural land
- erosion from the Ministry of Defence ranges
- silt washing from gravel workings

In 1994 the Piddle Valley Soil Erosion Project identified and quantified sediment inputs into the upper Piddle, examined evidence for changes in inputs and sources in recent years, and assessed differences between the Piddle and other chalk streams. As a result a number of follow-up farm visits were undertaken and we continue to monitor the situation.

The upper Hampshire Avon *Landcare Project* aims to reduce agricultural non-point source pollution by influencing widespread change to more sustainable farming practices and we are consequently trying to identify the most cost-effective methods of influencing farmers. However, this approach is new to pollution control management in the South of England and the project is initially being piloted in the upper Hampshire Avon catchment. Further details are given in the *Hampshire Avon LEAP Plan*. If this approach is successful and resources are available, we would like to see the Landcare Project extended to the Frome & Piddle and Poole Harbour & Purbeck LEAP area.

The Farming and Wildlife Advisory Group have set up a project to target the Frome Site of Special Scientific Interest (see Section 3.5.2) and landowners, in order to provide advice on nutrient budgets and soil erosion control. This project will also target the Tadnoll Brook, where siltation may be contributing to a deterioration in habitat and water quality. This project complements our own Landcare initiative and we will study progress with interest. Agri-environment schemes such as Countryside Stewardship (see Section 4.10) could help fund future changes in farm management.

The use of Wool Heath as a tank training facility was causing a discharge of silty water to the Bovington Stream following heavy rainfall. With the help of various environmental groups, including the Agency, the Ministry's conservation group have brought about a change in the management of the heath and drainage of the all-weather training circuit at Bovington. Further improvements have also been made including construction of a final settlement pond and wetland habitat to allow settlement of storm water during high flow conditions (see Section 5.8).

The scheme had its first real test during the extremely wet month of December 1999 and according to reports from the Ministry appears to have resulted in large amounts of silt being trapped within the sacrificial land and ponds as planned. No records of high suspended solids were made regarding the River Frome for that period and we will continue to monitor the situation and hope that these ideas can lead to similar improvements on the Lulworth ranges.

We continue to investigate water quality problems in Poole Harbour and will concentrate on freshwater inputs to








identify intermittent polluting discharges from industrial properties, other than those identified as a result of reported pollution incidents. These investigations may be implemented in the form of pollution prevention campaigns targeting particular industries or industrial estates. Currently, this work is focused on the Dawkins Road Industrial Estate.

A survey of the sewers serving the Dawkins Road Industrial Estate is currently being undertaken by Wessex Water in order to highlight problem areas. Following the survey appropriate action will be taken which may include the installation of pollution prevention devices to prevent intermittent polluting discharges entering Poole Harbour. Relevant units on the industrial estate are being targetted to ensure that pollution prevention techniques are being adopted.

The River Piddle from Manor House to Alton Pancras significantly failed to comply with its River Quality Objective of RE1 in 1998 (see Appendix 6.5 and Map 2) due to elevated biochemical oxygen demand. Under the 1999 classification the stretch was still a significant failure. An investigation will clarify the reasons for the failure.

The River Hooke from Hooke to Kingcombe also significantly failed to comply with its River Quality Objective of RE2 in 1999 (see Appendix 6.5 and Map 2) due to elevated biochemical oxygen demand. It is believed that the failure was due to a one-off pollution incident as a result of runoff from agricultural land and when resources allow appropriate pollution prevention work will be undertaken.

Actions	By	Cost	00	01	02	03	04
12.1 Extend the Landcare project to the Frome and Piddle catchments. <i>This is entirely dependent on resources being made available</i> <b>Contact: Area Tactical Planning Team Leader</b> 	Agency Partners	tbd	●	●	●	●	●
12.2 Work with the Ministry of Defence to ensure best practice in the management of runoff from Bovington and Lulworth ranges <b>Contact: Area Environment Protection (South Dorset) Team Leader</b> 	Agency MoD	Staff time	●	●	●	●	●
12.3 Carry out a joint campaign with Wessex Water to determine the cause of intermittent pollution from the Dawkins Road industrial estate, Hamworthy <b>Contact: Area Environment Protection (Stour) Team Leader</b> 	Agency WW	Staff time	●	●			
12.4 Investigate significant River Quality Objective non-compliance on the River Piddle from Manor House to Alton Pancras <b>Contact: Area Investigations Team Leader</b> 	Agency	Staff time	●	●			
12.5 Undertake pollution prevention work in relation to the significant non-compliance on the River Hooke from Hooke to Kingcombe. <i>This will be undertaken when resources allow</i> <b>Contact: Area Tactical Planning Team Leader</b> 	Agency	Staff time	●	●			



### 3.13 Other water quality failures

A number of other river stretches in addition to those reported in Sections 3.9 and 3.12 failed to comply with their River Quality Objectives in 1998 and 1999 (see Appendix 6.5 and Map 2). Generally speaking the resources available to us will be used to investigate and remedy *significant* failures first and then to investigate *marginal* failures.

The River Cerne upstream of Nether Cerne Fish Farm to downstream of Nether Cerne Fish Farm significantly failed to comply with its River Quality Objective of RE1 in 1998 and 1999 due to elevated biochemical oxygen demand. The cause of failure is unknown and an investigation will be undertaken to recommend the action to be taken.

The River Frome from Frampton to the confluence with the Cerne marginally failed to comply with its River Quality Objective of RE1 in 1998 and 1999 due to elevated biochemical oxygen demand. The cause of failure is unknown and a desktop study will be undertaken to determine an appropriate course of action. The Corfe River from Bucknowle House to the Estuary also marginally failed to comply with its River Quality Objective of RE2 in 1998 and 1999 due to elevated biochemical oxygen demand and low dissolved oxygen. An investigation is planned which will review historic data and the location of existing sampling points.

The Bere Stream from Milborne St. Andrew to the confluence with the River Piddle marginally failed to comply with its River Quality Objective of RE1 in 1998 due to total ammonia, the stretch was compliant in 1999. Ammonia monitoring has been introduced upstream of this stretch and on all the discharges to the stream. The data will be reviewed to ensure compliance with the River Quality Objective.

On the following four stretches significant and marginal failures have been recorded but it is believed that the sampling points used may not be representative and are giving a biased view of water quality:



- Sydling Water from downstream of Huish Fish Farm to Shearplace Hill, marginally failed to comply with its River Quality Objective of RE1 in 1998 due to elevated biochemical oxygen demand. Under the 1999 classification the stretch was a significant failure
- River Piddle from Brockhill to Chamberlaynes Farm, significantly failed to comply with its River Quality Objective of RE1 in 1998 and 1999 due to low dissolved oxygen
- River Piddle from upstream of 8 Hatch Fish Farm to 8 Hatch Fish Farm, marginally failed to comply with its River Quality Objective of RE1 in 1999 due to low dissolved oxygen
- River Piddle from upstream of the Trigon bifurcation to upstream of 8 Hatch Fish Farm, marginally failed to comply with its River Quality Objective of RE1 due to low dissolved oxygen. Under the 1999 classification the stretch was a significant failure

In all cases we are looking to review the situation. The sampling point on the stretch upstream of the Trigon bifurcation to 8 Hatch Fish Farm on the River Piddle is considered unsuitable due to a lack of mixing available for the two channels of the Piddle which merge upstream. There is a more suitable sampling point downstream but it requires modification to comply with health and safety regulations. Permission has been granted by the landowner to undertake the modifications and these will be completed in the near future.

Two further stretches marginally failed to comply with their River Quality Objectives in 1999; the River Frome from upstream of the Water Barn bifurcation to downstream of the Water Barn bifurcation (RE1) due to elevated biochemical oxygen demand and the Tadnoll Brook from the confluence with Empool Bottom to Ryclose (RE2) due to total ammonia. When resources allow desktop studies will be undertaken to identify the causes of non-compliance and to recommend the action to be taken.

Actions	By	Cost	00	01	02	03	04
<p>13.1 Investigate significant River Quality Objective non-compliance on the River Cerne from upstream of Nether Cerne Fish Farm to downstream of Nether Cerne fish farm</p> <p><b>Contact: Area Investigations Team Leader</b></p> 	Agency	tbd	●	●			
<p>13.2 Undertake a desktop study to determine the cause of the marginal River Quality Objective non-compliance on the River Frome from Frampton to the confluence with the Cerne</p> <p><b>Contact: Area Investigations Team Leader</b></p> 	Agency	Staff time (10 days)	●	●			
<p>13.3 Investigate marginal River Quality Objective non-compliance on the Corfe River from Bucknowle House to the estuary</p> <p><b>Contact: Area Investigations Team Leader</b></p> 	Agency	Staff time	■	●			
<p>13.4 Review ammonia data to ensure compliance is maintained with the River Quality Objective on the Bere Stream from Milborne St Andrew to the confluence with the River Piddle</p> <p><b>Contact: Area Investigations Team Leader</b></p> 	Agency	Staff time	●	●			
<p>13.5 Review location of sampling point on the Sydling Water for the stretch from downstream of Huish Fish Farm to Shearplace Hill</p> <p><b>Contact: Area Monitoring Team Leader</b></p> 	Agency	tbd	●	●			
<p>13.6 Review location of sampling point on the River Piddle for the stretch from Brockhill to Chamberlaynes Farm</p> <p><b>Contact: Area Monitoring Team Leader</b></p> 	Agency	tbd	●	●			
<p>13.7 Review location of sampling point on the River Piddle for the stretch from upstream of 8 Hatch Fish Farm to 8 Hatch Fish Farm</p> <p><b>Contact: Area Monitoring Team Leader</b></p> 	Agency	tbd	●	●			
<p>13.8 Modify relocated sampling site on the Piddle, for the stretch from upstream of the Trigon bifurcation to upstream of 8 Hatch Fish Farm</p> <p><b>Contact: Area Monitoring Team Leader</b></p> 	Agency	tbd	●	●			



Actions	By	Cost	00	01	02	03	04
13.9 Undertake a desktop study to determine the cause of the marginal River Quality Objective non-compliance on the River Frome from upstream of the Water Barn bifurcation to downstream of the Water Barn bifurcation <b>Contact: Area Investigations Team Leader</b> 	Agency	Staff time (10 days)	●	●			
13.10 Undertake a desktop study to determine the cause of the marginal River Quality Objective non-compliance on the Tadnoll Brook from the confluence with Empool Bottom to Ryclose <b>Contact: Area Investigations Team Leader</b> 	Agency	Staff time (10 days)	●	●			

### 3.14 Loss and decline in the value of the floodplain habitat

**3.14.1 Water level management plans** – The maintenance of natural flow is critical to conserve the geomorphological characteristics and associated communities of rivers. In addition, some stretches have associated wetlands which are dependent on the water level regime being maintained. The raising and improved control of water levels is often seen as a direct way of improving or rehabilitating the wetland interest of an area. In particular, higher water levels in spring and early summer are of value to wetland birds and plants.

The survey of two of the water level management plan trial areas showed no breeding waders present in 2000, except one possible pair of Redshank. This confirms the findings of the Royal Society for the Protection of Birds (RSPB) 1999 *Dorset Farmland Bird Survey* which showed that Lapwing had declined by 51 % and were now mostly breeding on arable land.

Water level management 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. The plans are used to identify areas of environmental and physical constraints on the floodplain and then to determine what the appropriate water level management should be to balance environmental and land-use needs.

The following trial areas have been identified:

- Redcliff and Bestwall (lower Frome) – plan complete; implementation during 2000 - 2001
- Keyworth and Piddle South (lower Piddle) – plan complete; implementation to be determined
- River Frome Site of Special Scientific Interest (SSSI), including Wareham Meadows SSSI – strategic plan to be developed
- Arne Moors (lower Frome) - draft plan completed; implementation to be determined with RSPB
- River Frome (South East) - draft plan completed; implementation to be determined
- Wareham Common - plan to be developed

In 1999, new Ministry of Agriculture, Fisheries and Food targets required the Agency to produce water level management plans for all Natura 2000 sites (see Section 3.5.1) by March 2000 and all other SSSIs by December 2000. Consequently, a new approach has been adopted splitting the floodplain into hydrological units; a plan will be prepared for each, defining conservation aims, constraints, hydrology and management objectives.

The main mechanism for implementing water level management plans is through one of the agri-environmental schemes on offer for example, the Countryside Stewardship (see Section 4.10). Water level management plans are also a crucial mechanism by which our biodiversity targets can be achieved, for example, those for coastal and floodplain grazing marsh (see Section 3.5.3).

Additionally the Agency, in partnership, will support the raising of water levels outside the existing water level management plan areas where appropriate. For example, the Dorset Wetland Group has targeted the lower Frome upstream of the areas already identified above. In addition, target areas for future water level management plans have been highlighted by the RSPB and priorities given. We will work with partners to implement these recommendations.

Monitoring of the trial areas will be required in order to assess the ecological impacts of changes in water levels and will include botanical, bird and water vole surveys.

Partial restoration of water meadows, such as those at Maiden Newton, may be appropriate in some locations where the wildlife interest could be enhanced by the reopening of carefully selected disused channels. We would wish to be consulted at the early stages of any proposals (see Section 3.16).

Actions	By	Cost	00	01	02	03	04
14.1 Implement tidal Frome and Piddle water level management plan, establishing improved water level management in trial areas <b>Contact: Area Flood Defence Operations and Enforcement Team Leader</b> 	Agency RSPB EN MAFF/ FRCA Owners	£2k pa	●	●	●	●	●
14.2 Implement monitoring strategy on target areas <b>Contact: Area Conservation Team Leader</b> 	Agency	£1.5k pa	●	●	●	●	●
14.3 Progress strategic River Frome Site of Special Scientific Interest water level management plan and then implement <b>Contact: Area Flood Defence Operations and Enforcement Team Leader</b> 	Agency	£20k	●	●	●	●	●

**3.14.2 Maintaining 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 that flood alleviation schemes provide protection up to their design standard. All waters 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.

Using the Flood Defence Management Manual methodology the Agency has set targets to justify and rank flood defence maintenance work to help allocate resources on a priority basis, this includes maintenance of flood defences and in-channel maintenance work. All works within the LEAP area have been ranked and justified ahead of the Agency target of 100 % justification before April 2001. The work programme for South Wessex is presented annually to conservation interests to ensure conservation interests are met as well as those of Flood Defence.

Insufficient benefits have been identified to promote a capital scheme at Maiden Newton. However, the same



study has identified that some flood relief could be achieved by creating a by-pass channel which would effectively move downstream the point at which the River Hooke flows into the River Frome. If agreement can be reached works will be programmed for 2002. The project has been deferred from this year due to weedcutting on the Hampshire Avon and River Frome which is of a higher priority.

A pre-feasibility study for the proposed Wareham tidal embankments concluded that there were insufficient benefits to warrant a capital scheme. Instead the study recommended the introduction of a flood warning scheme which is being considered as part of the Flood Warning Levels of Service Review (see Section 3.15).

Similarly, initial inspection of the proposed Swineham and Arne tidal embankments shows there to be little financial benefits for a capital scheme although there are significant conservation interests protected by the existing embankment. A strategic study is programmed for 2001 to review the situation.

The combination of high surge tides and wind generated waves in Poole Harbour mean that in extreme conditions up to 250 homes and businesses in the Town Quay area are susceptible to flooding. A pair of floodwalls, with ramps and steps, together with the Poole Harbour Commissioners' breakwater, which is currently under construction, will defend these properties and reduce the risk of flooding. Construction on the Agency's defences commenced in October 2000.

A feature of the new flood defences will be engravings in the ten granite pillars at access points along the walls. Specially commissioned by the Borough of Poole, co-funders of the defences, the artwork will be based on the idea of a *tideline* and will include themes such as mythical dolphins, Dunkirk, D-Day preparations, cod-fishing and Baden-Powell and the Scout movement.

The Swanage flood alleviation scheme, funded and supervised by Purbeck District Council, is to be adopted by the Agency once the River Swan has been designated *main river*. We have identified and costed the changes needed to the scheme to bring it in line with the Agency's operating and monitoring systems. Discussions over the details of the adoption are on-going.

Current proposals are to designate the watercourse as main river to allow the Agency to adopt the scheme. An 18-month trial operation and maintenance period will be undertaken at the same time. This will be carried out once discussions on commuted sums (transfer of funds to maintain the scheme over its design life) for maintenance have been finalised. This is likely to be during 2001, followed by the trial period.

We also hope to conduct a geomorphological study to examine bankside erosion problems on the Frome; current erosion control practices may be inappropriate to the actual level of erosion. The study would determine erosion and deposition processes so that an appropriate level of bankside erosion control can be applied. This study could possibly be undertaken through the LOCAR Project (see Section 4.7).

Actions	By	Cost	00	01	02	03	04
14.4 Investigate proposals for maintenance work at Maiden Newton and undertake if appropriate <b>Contact: Area Flood Defence Operations and Enforcement Team Leader</b>  	Agency	£25k		●	●		
14.5 Implement any recommendations resulting from the Flood Warning Levels of Service Review with regard to Wareham tidal embankments <b>Contact: Regional Flood Warning Manager</b>  	Agency	tbd	■	●	●		
14.6 Undertake strategic study of Swineham and Arne embankment options <b>Contact: Area Strategic Planning, Improvement, Flood Warning Team Leader</b>   	Agency	Staff time		●			
14.7 Construct the Poole Town Quay tidal defence scheme. <i>The cost given is the total cost of the scheme; 25 % of this will be contributed by MAFF, 25 % by the Borough of Poole and the remaining 50 % by the Agency</i> <b>Contact: Area Strategic Planning, Improvement, Flood Warning Team Leader</b>  	Agency	£1m	■	●			
14.8 Continue and resolve discussions with Purbeck District Council over adoption of Swanage flood alleviation scheme <b>Contact: Area Strategic Planning, Improvement, Flood Warning Team Leader</b>  	PDC Agency	£2k		●			
14.9 Following from Action 14.8 operate and maintain Swanage flood alleviation scheme for a 18-month trial period <b>Contact: Area Flood Defence Operations and Enforcement Team Leader</b>  	Agency	tbd		●	●		
14.10 Undertake geomorphological study looking at erosion problems on the Frome <b>Contact: Area Conservation Team Leader</b>  	Agency	tbd		●	●	●	●


**3.14.3 Weedcutting** – Weedcutting is undertaken for land drainage on the Frome between Dorchester and Wareham. No routine weedcutting takes place on the Piddle, but weed is occasionally cut for agricultural purposes depending on flows. Owners and fisheries interests also carry out weedcutting and the removal and disposal of cut weed is their own responsibility.

An audit of Agency weedcutting for land drainage purposes has been undertaken on the Frome and Hampshire Avon. The main aim of the audit was to assess the effectiveness of reducing water levels in the main channel, to allow ditches to discharge, and to look at possible changes to the riverine or near riverine habitats.



The final report has been completed and we are consulting those parties that have an interest in weedcutting on the recommendations of the audit. We will then implement any changes in the form of an action plan which will be reviewed annually.

We still consider that there are benefits to be had from operating a *free weed cut* during set periods and this is being discussed with the Frome & Piddle and West Dorset Fishery Association. A *free weed cut* is a weed cut which operates on the basis of an agreed fixed time period during which weed can be cut and allowed to float downstream to be collected at boom sites for disposal by the Agency. Outside the fixed time period, weed that is cut must be removed from the river.

Actions	By	Cost	00	01	02	03	04
14.11 Review weedcutting practices and objectives with interested parties following the audit <b>Contact: Area Flood Defence Operations and Enforcement Team Leader</b> 	Agency EN Owners	Staff time			●	●	

### 3.15 Emergency response to fluvial and tidal flooding

We can build new defences if flooding is a serious problem in a particular area subject to cost-benefit analysis; further details are given in Section 3.14.2.

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 Local Flood Warning Plan for Dorset, Poole, Bournemouth and Salisbury.

Where possible the Agency aims to issue a *Flood Watch* and then 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. 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.

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:

- introduce improvements to the network of telemetered river-flow monitoring
- publish revised flood risk maps using the best available information and to review the scope and content of the Flood Warning 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
- improve links with the Meteorological Office

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 was replaced in **September 2000**. The new 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 was 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 new codes was disseminated during 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.

Actions	By	Cost	00	01	02	03	04
15.1 Complete survey into level of service of flood warning in the South West. <i>The cost given is for the whole region</i> <b>Contact: Regional Flood Warning Manager</b>	Agency	£525k			●	●	



### 3.16 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.

Permanently waterlogged or flooded areas within the river valleys and surrounding Poole Harbour provide the ideal conditions necessary for the preservation of undiscovered archaeological deposits. At present however, although areas adjacent to rivers are likely to be a rich source of archaeological finds, it is difficult to assess or quantify these. Poole Harbour is similarly rich in archaeological history and also very difficult to survey and quantify.

The Frome and Piddle have significant lengths of surviving water-meadow systems which allow us a glimpse of past agricultural practices. During 1997-1998 we funded a pilot project to investigate the extent, survival and historic importance of water meadows on the River Frome. This found that 17 % were considered well preserved, visible and reasonably intact and that water meadows on the Frome had survived better than those on other rivers.

The study has also improved protection of those systems that were identified and allowed a comparison of their age and condition to those found on other rivers. It is hoped that the Piddle will be a future priority for similar work.

Subject to the availability of water resources, consideration of fish migration issues and in the absence of adverse environmental impact, we will support water meadow restoration projects where possible. We would wish to be consulted at the early stages of any proposed restoration scheme (see Section 3.14.1).





There are a number of projects in the area looking to restore water-meadow systems and we will support these where possible. Current proposals are in the Dorchester and Cerne Abbas areas and we will work with the applicants on these projects.

It is important to note that the operation of water meadows creates a large seasonal demand for water and depending on the individual circumstances, the water provided for water meadows may need an abstraction licence (see Section 3.1).

The Dorset Coast Forum (see Section 4.3.1) has set up an archaeological working party that is starting to



investigate the archaeological resource of Poole Harbour and the coastline (both intertidal and littoral). The Agency is interested in this work and is using the data collected but at present is unable to be a proactive partner.

Actions	By	Cost	00	01	02	03	04
16.1 Provide support and advice to water-meadow projects <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	Staff time	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>		
16.2 Initiate extensive study on the Piddle to identify the extent, survival and historic importance of water-meadows. <i>This depends on the availability of resources</i> <b>Contact: Area Conservation Team Leader</b> 	Agency	£10k				<div><div></div></div>	
16.3 Explore further initiatives to assist with the restoration of the water meadow system at Maiden Newton <b>Contact: Area Conservation Team Leader</b>  	Agency DCC	tbd	<div><div></div></div>				

3.17 The development of recreation opportunities within the area

The LEAP consultation process revealed a demand for more access to both the Frome and Piddle valleys. In reality, there are considerable constraints against significant additions to the access network. The Agency believes there is some scope for improving and promoting existing access however, increased access needs to be very carefully balanced against conservation and landowner and fishery interests.

We own and manage 129 moorings on the River Frome below Wareham and 3.5 km of the River Piddle, currently let for salmon fishing, between Wareham and Poole Harbour. Site management has recently been reviewed with the production of the Wareham Royalty Site Management Plan, which determines the actions we need to take over the next five years to maximise the recreational and natural interests of the site.

To date, improving the recreational use of this site to a level in keeping with the area has included the improvement of signage and footpaths along the *Two Rivers Walk* and the production of an information board in collaboration with Purbeck District Council. We are undertaking a user survey of people who use the River Frome at Wareham in order to help determine future priorities.

A minority of boat users, by speeding along the river Frome, are posing a risk to other users and contributing to the damage of reed fringes and banks. These are protected habitats important for rare bearded tits and Cetti’s warblers. The Agency is undertaking a campaign to promote the importance of existing bank side habitat and to highlight the damage caused when the four-knot speed limit is broken. Enforcement of the speed limit by the Agency is undertaken on the Frome between South Bridge, Wareham and the mouth of the river.

There are generally good access opportunities around Wareham, Poole Harbour and the lower catchment, but these decrease upstream. However, opportunities should be taken for increasing public awareness of both the Frome and Piddle Valleys through promotion of the landscape, nature conservation and historic interest. This should be targeted around Wareham, Dorchester and Wool and relate where possible to existing facilities for public access, including opportunities for links to the wider countryside. This could include the creation of paths that link the South West Coast Path with inland routeways, such as the Purbeck Way, and features of interest, particularly around Dorchester. There may also be an opportunity to undertake low-key improvements to existing footpaths and signs along the River Cerne.

We are currently liaising with the Dorset County Council Countryside Section who are preparing a bid for a

project embracing sustainable tourism, environmental and recreational improvements, education and art work around the *Dorset Downs and Valleys*, which would start in 2001. The project would meet many of the Agency's objectives in this area.

South-east Dorset is one of only nine national demonstration projects to develop *Greenways* as quiet alternative routes for commuters as well as for recreation. We will investigate links for access with riverside and coastal routes in collaboration with Greenlink. In the LEAP area this project is targeting the Wareham-Northport Greenway and the Poole-Corfe Mullen Greenway as trial sites.

Proposals for the development of links to the South West Coast Path and a cycleway between Wareham and Upton, and Norden to Shell Bay are encouraging. We will review any such proposals and support them, with partners, where appropriate.









There is unlimited canoe access on the lower Frome and Piddle (within the tidal limit) and a youth club at Wareham facilitates canoeing activities on the Frome. Poole Harbour Canoe Club, based at Lake Pier, is very active in the harbour. However, there are only limited opportunities for landing and overnight stays within the harbour and access upstream of the tidal limit on both rivers is limited.

Trout and salmon fishing on the principal rivers dominate recreational fishing within the LEAP area. Sea trout fishing is popular in some areas, and there is also a small fishery on the Sherford River. Brown trout fishing is widely available on the rivers whilst fishing for rainbow trout can be enjoyed at a number of stillwater fisheries. Fishing for coarse species is mainly restricted to stillwaters, the Frome downstream of Wool and the tidal Piddle. The Agency also recognises a need for angling provision for the young and disabled in this area and in principle are supportive of such fisheries provided they balance all of our requirements.

There is excellent sea fishing in the area, notably along the Purbeck coast, where shore-caught bass are a particularly important component of the rod catch.

The Borough of Poole takes water samples from Poole Park Lake on a weekly basis during the summer months (May to early October) and the Agency undertakes algal analysis of the samples. The results of the analysis inform the Borough as to whether cyanobacteria (potential toxin producing organisms) are evident and at what levels. The local authority then assess the risk to water users and signs are posted around the lake to inform water users of decisions regarding the water quality of the lake.



Actions	By	Cost	00	01	02	03	04
17.1 Undertake a survey of present recreational activity on the Wareham Royalty site <b>Contact: Area Conservation Team Leader</b> 	Agency DCC PDC	£3.1k	●				
17.2 Consider options for the control of unauthorised moorings and develop a strategy <b>Contact: Area Conservation Team Leader</b> 	Agency PDC EN	tbd	●	●			
17.3 Promote low-key access on the River Cerne and other areas as appropriate ( <i>possibly through the Dorset County Council Dorset Downs and Valleys Project</i> ) <b>Contact: Area Conservation Team Leader</b> 	Agency Partners	£6k pa	●	●	●	●	
17.4 Promote the importance of the existing speed limit along the River Frome taking enforcement action when necessary <b>Contact: Area Flood Defence Operations and Enforcement Team Leader</b> 	Agency	Staff time	●	●	●	●	●
17.5 A long-term national and regional recreation supply and demand study will assess existing recreational activities and review any further requirements <b>Contact: Regional Recreation Officer</b> 	Agency	tbd	●	●	●		
17.6 Implement Wareham Royalty Management Plan <b>Contact: Area Conservation Team Leader</b>   	Agency Partners	Staff time £5.6k pa + £70k	●	●	●	●	●

### 3.18 Regulating major industries

Industries with the greatest potential to pollute the environment, known as Part A processes, are subject to a system of Integrated Pollution Control (IPC) for which we are responsible under the Environmental Protection Act (1990) (Part I). This approach considers releases to air, to water and to land in the context of their effect on the environment as a whole. There are three IPC authorisations in the LEAP area.

Processes known as Part B are the responsibility of local authorities operating within a system known as Local Authority Air Pollution Control. They are also responsible for domestic smoke control and other miscellaneous controls under the Clean Air Act of 1993.

The application of IPC is being extended following the passing of the Pollution and Prevention Control Act in July 1999. This implements the European Integrated Pollution Prevention and Control (IPPC) Directive. The effect of this is to extend the range of industry to which an integrated approach to environmental regulation applies. It will also broaden the scope of regulated activities by incorporating aspects such as noise control, odour and energy use, and by requiring measures to prevent accidents with environmental consequences. The phasing in of IPPC extends to 2007 and will supersede IPC.

We are the principal regulator in England and Wales under the Radioactive Substances Act (1993). The act is concerned with the storage, use and disposal of radioactive substances and in particular, the regulation of radioactive waste. Major nuclear establishments are licensed to operate by the Nuclear Installations Inspectorate, but discharges from these are authorised by the Agency.

The UK Atomic Energy Authority licensed nuclear site at Winfrith was a major centre for prototype reactor development. All the reactors were shut down during the 1990s, and are now being decommissioned. The Agency regulates the disposal of radioactive wastes from the site, including the sea outfall which discharges off the Dorset coast at Arish Mell. The UK Atomic Energy Authority is now promoting the use of the site as a technology centre for science and engineering.

The UK Atomic Energy Authority recently applied to the Agency to reduce significantly the discharge limits of its authorisations for gaseous and liquid radioactive wastes from the site. We are currently considering the application and will be consulting widely on the proposed draft authorisations.

The radioactive waste discharges from Winfrith are significantly below the limits in the existing authorisations and the radiological impact of these releases have been shown to be very low.

Actions	By	Cost	00	01	02	03	04
18.1 Consult on the proposed changes to the UK Atomic Energy Authority's authorisations to discharge radioactive wastes from the Winfrith site <b>Contact: Area PIR/RSA Officer</b> 	Agency	Staff time		●			

### 3.19 Improving air quality

Air quality is an important indicator of environmental quality; air pollution can damage flora and fauna and have significant effects on soil and water as well as posing a serious threat to public health for example by contributing to asthma, bronchitis and other respiratory diseases. Its impact may be both local, especially with regard to vehicle emissions; international, for example acid rain; and global, in affecting climate change.

Air monitoring networks are sponsored by the Department of the Environment, Transport and the Regions and run by the National Environmental Technology Centre (NETCEN). An air quality information service is available on freephone 0800 556677, Ceefax pages 410-417, Teletext page 106 and at [www.aeat.co.uk/netcen/airqual](http://www.aeat.co.uk/netcen/airqual).

The Agency has powers to regulate emissions to air, principally by operating a system called Integrated Pollution Control (IPC) (see Section 3.18).

The Agency also regulates landfill sites and, in particular landfill gas which is a product resulting from chemical and biological breakdown at waste sites. This gas is principally a mixture of methane and carbon dioxide both of which are greenhouse gases (see Section 3.20.1).


The Environment Act 1995 requires local authorities to conduct a review and assessment of local air quality against the air quality objectives (AQOs) set out in the National Air Quality Strategy. Where an AQO is likely to be exceeded the local authority must declare measures necessary to achieve the AQO. We will be working closely with local authorities and others to help achieve the objectives of the National Air Quality Strategy, principally through our regulation of emissions to air.

The strategy sets objectives for seven main air pollutants, *Nitrogen Dioxide*, *Carbon Monoxide*, *1,3 Butadiene*, *PM<sub>10</sub>*, *Sulphur Dioxide*, *Benzene* and *Lead* (see Appendix 6.6), to be achieved by 2005. The standards reflect advice from the EU and World Health Organisation and take into account potential risks, costs and technical feasibility.



All local authorities within the LEAP area (see Map 1) have undertaken assessments of air quality within their areas in line with the air quality strategy. Further investigation into levels of nitrogen dioxide and fine particles (PM<sub>10</sub>) by West Dorset District Council and the Borough of Poole will be required. The main source of both being from road traffic and the burning of fossil fuels in industry. Further information is available from the local authorities.

The most significant impact on air quality by a Part A process in the LEAP area comes from emissions of NO<sub>x</sub> (oxides of nitrogen, see Appendix 6.6) from the BP Amoco Exploration oil gathering station at Wytch Farm. A major improvement to the plant was commissioned in January 1999 and this has reduced NO<sub>x</sub> emissions by over 40 %. We continue to monitor progress of the new plant.

Actions	By	Cost	00	01	02	03	04
19.1 Monitor reduction in emissions from the new plant at Wytch Farm <b>Contact: Area PIR/RSA Officer</b> 	Agency	Staff time	●	●	●		

3.20 Dealing with the 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 cause the emission of gases into the atmosphere, including greenhouse gases such as carbon dioxide, which are believed to contribute to long-term climate change. 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.

Nationally we have set targets to help ensure that the Government’s greenhouse gas reduction targets are met by regulating emissions from Part A processes (see Section 3.18).

Allowances are already made in the design of sea defences to accommodate the estimated rise in sea levels over the design life of the defence. Predicted changes in rainfall patterns and increased storminess are likely to increase the frequency of riverine flooding and subsequent inundation of floodplains. It is regional policy to build in 5 mm per year to 2030, and 7.5 mm per year thereafter, to take into account sea level rise as a result of climate change.

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 4.3.2).

Should climate change be occurring it will significantly affect naturally occurring communities. Ocean and climate trends in the North Atlantic in recent years are believed to be having major effects on the survival at sea of Atlantic salmon and we are having to take actions to reduce mortality in-river partly because of this (see Section 3.4.1). The loss of coastal habitats through sea level rise is predicted and options will address the re-creation of habitats when coastal defences are being reviewed.

There is an Environmental Change Network site at East Holme on the Frome where we collect chemical, biological and river flow data. This information is collated by the Institute of Terrestrial Ecology. A number of other organisations are also involved in this programme including English Nature and the Scottish Environmental Protection Agency.

**3.20.1 Minimising the effect of landfill gas on climate change** – Methane and carbon dioxide are the main gases produced at landfill sites as the waste decays. Both carbon dioxide and methane are greenhouse gases; however methane is estimated to be 20–30 times more damaging than carbon dioxide. Converting the methane to carbon dioxide by burning, either by flaring or utilising the gas to generate power, can reduce the impact.

There are five sites producing landfill gas, with a waste management licence, in the LEAP area:

- Warmwell
- Warmwell North
- Hines Pit
- Beacon Hill
- Swanage Landfill

Warmwell, Hines Pit and Swanage have permanent flares and Warmwell North and Beacon Hill have smaller temporary flares as the landfill gas generated has only just started to be collected.

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.

Actions	By	Cost	00	01	02	03	04
20.1 Review the equipment at Warmwell, Warmwell North, Hines Pit, Beacon Hill and Swanage landfill and ensure that equipment replaced or installed will meet new Agency guidance <b>Contact: Area Waste Licensing Team Leader</b>	Agency Operators	Staff time	●	●			



## 4. 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.

### 4.1 Working with regional government

**4.1.1 Government Offices** – The Government Office for the South West (GOSW) is responsible for delivering various government department activities in the region including planning, regeneration, social inclusion, competitiveness and skills. 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 *Sustainability South West*, the regional round table on sustainable development. Sustainability South West has been tasked by GOSW to prepare a Regional Sustainable Development Framework for the Region by the end of 2000.

**4.1.2 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 the publication *An Environmental Prospectus for South West England*. SW RDA is now developing a series of Regional Frameworks for action to help implement the strategy. The Agency is working with SW RDA and regional partners to take forward the links between the environment and the region's economy.

**4.1.3 Regional Assembly** – 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 assemblies to cover Government Office regions, including the South West Regional Assembly which is made up of elected members from local authorities and various interest groups in the region. The Assembly now incorporates the South West Regional Planning Conference and is responsible for preparing and overseeing Regional Planning Guidance in the South West. The Assembly is also responsible for endorsing the Regional Sustainable Development Framework.

The Agency is offering advice and support on environmental and sustainability issues.

### 4.2 Working with local planning authorities

**4.2.1 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 district councils 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 aggravate flood risk elsewhere by obstructing floodplain flows, reducing floodplain storage 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 runoff or maintaining flood storage capacity.

Long-term maintenance of these schemes is an issue and will be addressed during 2000 - 2001, when best practice guidance is issued. The Agency has been working with the Construction Industry Research and Information Association to develop the best practice guide.

The recent flooding throughout the country highlighted the need to carefully consider the impact of any development on the floodplain. Planning Policy Guidance Note 25 (PPG25) regarding development and flood risk is expected to be published by the Department of the Environment, Transport and the Regions by the end of December 2000. PPG25 will replace the existing Circular 30/92. The floodplain storage upstream of Dorchester was put to the test at the beginning of November 2000 when the lower part of the town prepared for evacuation.

Section 105 floodplain maps have also been provided to all local authorities in both paper and digital format.

It is often found that the arrangements for the disposal of surface and foul water from proposed developments are overlooked. This information is imperative when considering the likely impact of development proposals on the environment. There is a need to consider the options for foul and surface water disposal at the very beginning of the process, and we would stress the value of consultation with the Agency.

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 3.1).

We have recently received an outline planning application and associated Environmental Statement for the proposed development site at Holton Heath. The proposals are located on land which is to the north-west and south-east of the A351 Wareham Road, and include improvements to the B3075 Moredon Road. The development proposals incorporate housing, employment, commercial and community facilities, shopping and public open space.

The Agency will influence the proposals to ensure protection of the environment and will take the opportunity to discuss and agree environmental enhancements with local authority planners, developers and other environmental organisations.

**4.2.2 Minerals and waste plans** – We are also consulted on Minerals and Waste Plans and on applications relating to specific sites. Commenting on waste plans allows the Agency an opportunity to influence the location of new waste sites, as well as policies relating to the operation and aftercare of the sites. The Agency will seek



policies, among others, to ensure that leachate and drainage is controlled and monitored and that adequate provision is made for the containment and collection of landfill gas where necessary.

In relation to mineral workings the Agency will seek policies, among others, to resist proposals for new mineral extraction where there is likely to be an adverse effect on groundwater quantity and quality, surface waters and other water bodies and associated habitats, and to encourage restoration works that result in environmental enhancement.

A significant area of the floodplain of the Frome and Piddle contains viable quantities of sand and gravel, and clay reserves. The development of these, together with the more small-scale extraction, could potentially cause detrimental impacts on the local environment. However, exhausted workings can provide benefit in the development of more sustainable land use and opportunities for the re-creation of reedbed, carr and other habitats listed under the UK Biodiversity Action Plan (see Section 3.5.3).

**4.2.3 Transport** – The County Council and the Unitary Authorities, as the Highways Authorities, set out proposals for the strategic road network in the Structure Plan and their Local Transport Plan. Trunk roads are the responsibility of the Department of the Environment, Transport and the Regions.

Although road transport is not our responsibility, it does affect the environment and cuts across many of our nine environmental themes (see Section 1.5). Where appropriate and required we will comment on road proposals to ensure protection of the environment.

**4.2.4 Communication of policy guidance** – We have produced several documents that set out our policy guidance in a number of areas:

- Liaison with Local Planning Authorities
- Section 105 Surveys
- Policy and Practice for the Protection of Groundwater
- A Guide to Sustainable Urban Drainage
- Policy and Practice for the Protection of Floodplains
- Safeguard the Environment – A Guide for Developers
- The Environment Agency and Development Plans
- Pollution Prevention Guidance Notes

The information in these documents should ensure that we provide consistent and up-to-date advice to our customers, and inform local planning authorities, developers and other interested parties about our policies. In the South Wessex Area we held a series of seminars during March and April 2000, 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.

Actions	By	Cost	00	01	02	03	04
<b>4.2a</b> Improve working relations with local planning authorities through six-weekly visits to authority offices <b>Contact: Area Planning Liaison Team Leader</b>	Agency LAs	Staff time	●	●	●	●	●



### 4.3 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 4.2) 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 out to six miles offshore.

**4.3.1 Dorset Coast Strategy** – 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 the Dorset Coast Strategy was launched in 1999. Action to achieve the Dorset Coast Strategy is organised around nine priorities which draw together the issues so allowing an integrated approach to be put forward. Of most interest to the Agency are the two priorities which consider the quality of the Dorset coast, *protecting and improving the coastal environment* and *delivering sustainable shoreline management*. We also have an interest in the two priorities *managing and promoting coastal recreation* and *supporting and strengthening local management arrangements for the Dorset coast*.

The table below cross references areas of the LEAP which relate to priorities and policies in the Dorset Coast Strategy. In addition our day-to-day monitoring of the environment will help contribute to the achievement of the strategy. Further details on the strategy and associated priorities and policies are available from the Dorset Coast Forum Internet site at [www.dorset-cc.gov.uk/dcf](http://www.dorset-cc.gov.uk/dcf).

#### Priority: Protecting and improving the coastal environment

Key policies	Comment
Overall strategy towards coastal pollution Point source pollution	We routinely monitor the 12 EC designated bathing beaches in the LEAP area; further improvements will be made during the AMP3 programme at the Lulworth and Swanage outfalls and at Poole, Wareham and Lytchett Minster sewage treatment works (see Section 3.9) to ensure compliance is maintained. Improvements at the three sewage treatment works will also ensure compliance with standards at EC Shellfish Water sites (see Section 3.10). Improvements will also be made to the sewerage system and first time rural sewerage is to be provided at Kimmeridge (see Sections 3.9.1 and 4.8). We are also collecting nutrient data on the lower Frome and in Poole Harbour (see Section 3.11).
Diffuse (non-point source) water pollution	We are trialling our <i>Landcare</i> project in the upper Hampshire Avon catchment which aims to reduce non-point source pollution. If this approach is successful and resources are available we would like to extend this project to other areas (see Section 3.12). We also promote the use of agricultural incentive schemes (see Section 4.10). We promote the use of sustainable drainage techniques (see Section 4.2) and are currently working in a partnership group in the neighbouring Bourne Stream catchment to help solve problems of non-point source pollution (see Dorset Stour LEAP Second Annual Review).



Key policies	Comment
<i>Public awareness about coastal environmental quality</i>	Public registers are maintained at most Agency offices and information is also available on the Agency's Internet site (see Section 4.16), including the results of bathing beach monitoring.
<i>Oil and chemical pollution contingency planning</i>	We work closely with all relevant partner organisations in the development and execution of emergency plans (see Section 4.3.3).
<i>National and European policies towards coastal pollution</i>	Nationally we are in close liaison with Government regarding changes to existing legislation and new areas of legislation for example the forthcoming EC Framework Directive.
<i>Local delivery of biodiversity conservation</i>	Our work under the EC Habitats and EC Birds Directives (see Section 3.5.1) is contributing to the delivery of biodiversity conservation, this includes the Poole Harbour SPA. We also have a responsibility, with our partners, to undertake actions for a number of habitats and species listed in Biodiversity Action Plans. This includes those in estuary and marine environments (see Section 3.5.3). Biodiversity actions will be included in the LEAP as they are agreed.

**Priority: Delivering sustainable shoreline management**

Key policies	Comment
<i>Overall strategy for flood and coastal defence in Dorset</i>	We are one of the partners involved with the preparation and implementation of Shoreline Management Plans within the area (see Sections 3.20 and 4.3.2).
<i>Integration of coastal defence into the planning system</i>	We work closely with local authorities and developers giving advice on flood risk in relation to proposed developments (see Section 4.2).
<i>Property likely to be affected by erosion and flooding</i> <i>Public information about coastal erosion and flooding</i>	We are also responsible for providing flood warnings (see Section 3.15) and have provided floodplain maps and flood risk information to local authorities (see Section 4.2) and can also provide information on flood risk to the public.
<i>Implementation of coastal defence schemes</i>	We are involved with a number of flood defence schemes in this LEAP area including the Wareham and Swineham and Arne tidal embankments and Poole Town Quay tidal defence scheme (see Section 3.14.2).

**Priority: Managing and promoting coastal recreation**

Key policies	Comment
<i>Overall strategy for coastal recreation</i> <i>Realising and promoting new water recreation opportunities</i>	The LEAP promotes a balanced view on the development of recreation throughout the LEAP area (see Section 3.17).

**Priority: Supporting and strengthening local management arrangements for the Dorset coast**

Key policies	Comment
<i>Long-term management of harbours and estuaries</i> <i>The next steps towards better management of the coast</i> <i>Effective information management</i>	We are a member of the Poole Harbour Steering Group and the Poole Harbour Study Group (see Sections 4.5 and 4.6). We have also proposed in the Hampshire Avon LEAP Plan the development of a strategy for Christchurch Harbour.
<i>Community involvement and consultation</i>	The LEAPs process and other Agency consultation exercises allow partner organisations and the general public to comment and help shape the Agency's work in the local area. This process should be strengthened through the development of community strategies and other groups such as the Coast Forum.



**4.3.2 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 defence; 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 the coast that have been chosen with regard to the sediment movement regime. Coastal defence authorities such as the Agency, District and Borough Councils promote them.

There are two plans that have been agreed and adopted by the coastal defence authorities in the LEAP area:

- Poole and Christchurch Bays Shoreline Management Plan (Durlston Head to Hurst Spit)
- Portland Bill to Durlston Head Shoreline Management Plan

Local authorities and the Agency have copies available for public viewing.

**4.3.3 Emergency plans** – Emergency planning responsibilities along the coastline overlap and integrate with those of the County Council, Unitary Authorities, Local Authorities, Port Authorities and Harbour Masters, as well as those of the Marine and Coastguard Agency. We work closely with Dorset County Council Emergency Planning in areas of coastal sensitivity mapping and the construction and implementation of emergency plans. Meetings are regularly held with Emergency Planners, Harbour Masters, Local Authorities and English Nature where plans are made and reviewed.

The statutory responsibility for response to oil spills in Poole Harbour rests with the Poole Harbour Commissioners. The Commissioners have developed an oil spill response plan, *Poolspil*, after consultation with relevant authorities including the Agency. As well as having our own powers for addressing pollution and taking enforcement action against those responsible, we will assist the Commissioners in responding to pollution events. The Poole Harbour Memorandum of Understanding reflects the joint responsibility of the Agency, Poole Harbour Commissioners and Dorset County Council with regard to pollution responsibilities within the Harbour.

#### 4.4 Purbeck Heritage Committee

*Keeping Purbeck Special: A Strategy for the Purbeck Heritage Area*, published in June 1995 is a detailed policy document that provides a number of proposals and policies for the conservation and management of Purbeck. The strategy has four main sections: *conservation, tourism, transport and making it happen*. The strategy has formed the basis for the work programme of the Purbeck Heritage Committee and has proved an excellent vehicle for attracting funding for a variety of projects.

The summary report *2000 Onwards – Charting a new course for the Purbeck Heritage Committee* published in June 1999 considers the last five years and looks forward to the next steps as well as listing those projects for which funding has already been identified. Issues continue to focus on *Keeping Purbeck Special* with sustainability as the key theme, for example transport issues.

The Agency is not a member of the Purbeck Heritage Committee; however, we have contributed where appropriate and are happy to provide advice on our wide range of interests. Local authorities, English Nature, the National Trust and land-owning and farming organisations are represented and we will usually attend meetings if staff are available.

#### 4.5 Poole Harbour Steering Group

The Poole Harbour Steering Group was originally set up to produce management policies for the harbour and in 1988 produced the *Poole Harbour Management Policies* document, relating primarily to the harbour fringes. This document was updated in 1991 with a revised set of policies. The *Poole Harbour Aquatic Management Plan*, which



includes the water body and areas below the low water mark, was published in 1995 and aims to promote the sustainable use of Poole Harbour. It is a practical example of the multi-agency approach. Central to this aim is the recreational zoning plan, which provides a framework for the management of the harbour that balances the needs of recreational (see Section 3.17) and commercial users with the needs of the environment and other legitimate interests.

The steering group monitors the operation of the strategy and re-assesses it on an on-going basis.

4.6 Poole Harbour Study Group

The Poole Harbour Study Group was launched in March 1999 and is made up of individuals and representatives of organisations with an interest in the natural sciences of Poole Harbour. The aim of the group is to encourage the further study of, and the collection and dissemination of data on, the wildlife and other natural sciences of the harbour. We attend meetings of the Study Group.

The group is sponsoring a number of studies with a view to publication of the results and held a symposium on Poole Harbour at Winfrith in November.

4.7 Lowland catchment research

The National Environment Research Council has recently granted funding for a major medium term (five years) research programme focussing on ecology and surface water/groundwater interactions in permeable lowland catchments. The project is known by the acronym *LOCAR* and the Frome and Piddle catchments have been identified as one of a number of catchments to provide focus for this research.

The research presents us with an opportunity to bridge gaps in our current understanding of the catchment, this will enable us to protect it better and improve our ability to press for improvements. The research will be conducted mainly by universities and other research institutes, for example the Centre for Ecology and Hydrology and British Geological Survey but the Agency has a role in shaping the bids for the research. Details of the location and nature of these research activities are not known at present as the project is in its very early stages. It should also be noted that new projects are to be funded each year.

Actions	By	Cost	00	01	02	03	04
4.7a Provide information and advice to the LOCAR project <b>Contact: Area Hydrologist</b> 	Agency	Staff time	●	●	●	●	●

4.8 Working with Wessex Water

Wessex Water is responsible for public water supply in the LEAP area and is also the sewage undertaker.

The water companies' improvement programmes are known as Asset Management Plans (AMP) and the third of these, AMP3, will cover the period 2000–2005. The plans have been developed along guidelines agreed between the Agency, the Department of the Environment, Transport and the Regions (DETR), the water services companies and the Office of Water Services (OFWAT). The Environment Agency has agreed with the DETR which sewage discharges require improvement during AMP3. 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.

Improvements to the following sewage treatment works are to be completed in AMP3.

**Table 1: Sewage treatment works improvements in AMP3**

Discharge	Receiving water	Improvements expected
Dorchester STW	Frome	Reduction of effluent phosphate concentrations by the end of March 2002 (see Section 3.11.1)
Dorchester STW	Frome	Improved secondary treatment to achieve more stringent ammonia standard by the end of March 2002 (see Section 3.9)
Lulworth screened discharge	Purbeck coast	Secondary treatment of effluent to achieve compliance with the guideline standards of the EC Bathing Waters Directive by the end of April 2004 (see Section 3.9)
Lytchett Minster STW Poole STW Wareham STW	Poole Harbour	Ultra violet treatment of effluent to maintain compliance with guideline standards of the EC Bathing Waters Directive and ensure compliance with standards at EC Shellfish Water Directive sites by the end of March 2003 (see Sections 3.9 and 3.10)
Sydling St Nicholas STW	Sydling Water	Resolution of storm tank problems to meet requirements of the EC Urban Waste Water Treatment Directive by the end of March 2002 (see Section 3.9)

The Agency is committed to monitoring the progress of all identified AMP schemes due for completion before the end of 2005. This will essentially be through existing monitoring programmes.

AMP3 includes improvements to the sewerage infrastructure including improvements to 21 unsatisfactory intermittent discharges, of which 18 are combined sewer overflows. Completion dates for the improvements to these discharges range from the end of March 2002 to the end of March 2004. A number of first time rural sewerage schemes are also being considered in the AMP3 programme (see Section 3.9.1).

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

**Table 2: Protection of rivers and wetlands from abstraction in AMP3**

Site name	Source of problem	Driver	Improvements expected
River Piddle	Groundwater abstraction	Non SSSI	See Section 3.2; to be implemented by March 2005
South Winterbourne	Groundwater abstraction	Non SSSI	Investigate by March 2005, see Section 3.3
River Hooke	Surface water abstraction	Non SSSI	Investigate by March 2005, see Section 3.3

## 4.9 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 have 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 for the South West and the Round Table for Sustainable Development ensure involvement in LA21 at a regional level (see Section 4.1).

Now that councils have established LA21 Officers and sustainable development plans, the Agency is keen to extend its LA21 remit to work more with smaller community groups to provide information and *hands-on* experience to assist them in a variety of projects. These projects should encourage participation in environmental issues and improve management of the local environment by tapping into the energy and involvement of community groups. There is a small amount of funding available to offer as grants if the projects fall within the Agency's core aims. For further details please contact the Area Customer Contact Team Leader at the Blandford office.

One such project recently undertaken is the work done with the Piddle Valley LA21 group. A workshop was held involving the community, the Agency and the Dorset Wildlife Trust to examine how to improve the management and enhance enjoyment of the River Piddle. It is likely that this initial workshop will generate more community and partnership initiatives.

We also provide information in various formats including public registers, leaflets and our web site (see Section 4.16).

Actions	By	Cost	00	01	02	03	04
4.9a Supply information proactively to Local Agenda 21 groups where possible <b>Contact: Area Customer Contact Team Leader</b>	Agency LAs	Staff time & funding	●	●	●	●	●

4.10 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 packages 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 3.5.3).

For land outside ESAs, the Ministry of Agriculture Fisheries and Foods (MAFF) main agri-environment scheme is the Countryside Stewardship scheme. The scheme is applicable to the LEAP area and 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. Applications for Countryside Stewardship that fall within a target area and meet the area's objectives are given priority for funding.

Each year MAFF select target areas in association with a wide range of statutory and voluntary bodies, including the Agency. Target areas within the LEAP area which have been promoted during 2000 are:

- Dorset Heaths
- Rivers Frome and Piddle (including grazing marshes on the fringes of Poole Harbour)
- South Purbeck

We also provide advice on best practice, consenting issues and on the scheme itself.

Early consultation with the Farming and Rural Conservation Agency (FRCA) Stewardship Project Officer is essential to ensure that applications meet the objectives of the target area or the broader national objectives if outside a target area. The Project Officer will also be able to refer the applicant to organisations who can advise on specific interests, for example the Agency in relation to water abstraction for water meadow restoration (see Section 3.16).

The target area for the Frome and Piddle is particularly critical to the water level management plan project (see Section 3.14.1) and the maintenance of floodplain grazing marsh (see Section 3.5.3).

We have also been liaising with the National Trust on a number of projects including safeguarding Southern damselfly habitat, Corfe Common wetlands and other river valleys.

We continue to liaise with the farming community to advise on pollution prevention, waste disposal, farm management plans and pesticide use. Where our monitoring work indicates poor water quality (see Appendix 6.5) due to point or non-point source discharges as a result of agricultural activities we look more closely at potential sources (see Sections 3.12 and 3.13). If resources allow we would like to see our Landcare Project extended to the Frome & Piddle and Poole Harbour & Purbeck LEAP area (see Section 3.12).

The MAFF *Codes of Good Agricultural Practice for the Protection of Water, Air and Soil* provide farmers with advice on how to avoid pollution; the disposal of slurry and sludge should comply with these codes.

We provide advice and assistance to fishery interests throughout the LEAP area, particularly in the area of habitat protection and restoration. 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 (see Section 3.4.3).

#### 4.11 Working with the Ministry of Defence

As a result of the Strategic Defence Review, a combination of new build and redevelopment is required at Bovington Camp. This will provide accommodation for an estimated 1000 soldiers and their families, and additional military equipment. The project has to be completed by 2003 and Agency staff have already attended a presentation on the proposals.

We have developed a good working relationship with the Ministry of Defence, and these development proposals have provided us with the opportunity to influence the design and location of the infrastructure. We also provide information relating to design guidance and best practice to ensure protection of the environment.

We have also worked closely with the Ministry to improve silt management at Bovington (see Sections 3.12 and 5.8).

#### 4.12 Working with business

We are working with local businesses and their representatives to promote pollution prevention and waste minimisation; for example we have met with businesses on Westminster and Sandford Lane industrial estates in Wareham to disseminate pollution prevention and waste minimisation advice.

We contribute funding and provide specialist advice to Business Link, an organisation that amongst other activities 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 local businesses as well as local authorities, Local Agenda 21 groups and Business Link. We provide secretariat support to the group (see Section 3.7.2) and have also published the booklet *Waste Minimisation - An Environmental Good Practice Guide for Industry*.

#### 4.13 Conservation

We will continue to collaborate with other organisations (English Nature, the Royal Society for the Protection of Birds, Dorset Wildlife Trust 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 3.5). Other sites and species lacking statutory protection, for example Sites of Nature Conservation Interest, are also valued and require sympathetic management. We will consult with English Nature, Dorset Wildlife Trust and other conservation organisations where known sites may be affected by our activities or activities we consent.

We are also working in partnership with a number of organisations to help achieve actions under the Biodiversity Action Plan process (see Section 3.5.3).

Purbeck Marine Wildlife Reserve and the Durlston Marine Research Area are a focus of research, education and management on the sensitive areas of the marine environment. With the increasing role of the Agency in marine biodiversity, we are placing more emphasis on this work and developing links with key personnel, for example the Dorset Wildlife Trust's Marine Conservation Officer.

#### 4.14 Development of recreation

The Agency has a duty to promote the recreational use of 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 Agency, Countryside Commission (now part of 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 the activities of the Agency, and the promotion of recreation and management needs to be balanced with other interests. There are a number of organisations with an interest in countryside and water recreation and we will work in partnership, where appropriate, to promote and develop the recreational use of the area where this can contribute to a balance of uses (see Section 3.17).

We would welcome any ideas or opportunities for enhancing recreational use of the LEAP area. Where possible, we promote the use of river corridors 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.

There are a number of sites where recreation, education and conservation facilities have been specially provided. These include the Dorset County Council country park at Durlston, the Royal Society for the Protection of Birds reserve at Arne, the National Trust properties of Brownsea Island and Studland, the Heritage Centre at Lulworth Cove and the Borough of Poole's Upton Country Park. The Dorset Wildlife Trust reserves at Brownsea, Kimmeridge and Kingcombe are also important sites for quiet, informal recreation as well as conservation.

## 4.15 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 young 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.

A strategy of *training the trainers* will make best use of our limited resources. A meeting was held in June 2000 between the Agency and EBP to plan a teacher training exercise for December 2000. We are also linking with the Dorset Education for Sustainability Network (DESN) to explore opportunities in the curriculum. DESN are based at the Winfrith Technology Centre and can be contacted on 01305 853992 or office@dorsetebp.com. Links have also been forged between the Agency and Wessex Water's education co-ordinator to help maximise the effectiveness of both organisations. We also encourage teachers and students to visit the Internet site as a first step.

A *Living Streams* pack has been produced through the Dorset Biodiversity Project (see Section 3.5.3) to provide advice on the management of gardens and urban areas adjacent to watercourses. This is part of a wider *Living Streams* project which aims to protect and enhance urban water courses and provide education regarding their value.

As part of the Millennium Festival Partnership between the Agency and the Heritage Lottery Fund schoolchildren and teachers were invited to take a boat trip around Poole Harbour to learn about the local marine environment. Over 500 children took the opportunity and the event was deemed a great success.

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

Actions	By	Cost	00	01	02	03	04
4.15a Work with the Education Business Partnership to help disseminate environmental information to educational establishments <b>Contact: Area Customer Contact Team Leader</b>	Agency EBP	Staff time	●	●	●	●	●



#### 4.16 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*.

## 5. Summary of public consultation

Approximately 750 Frome & Piddle and Poole Harbour & Purbeck LEAP Consultation Drafts were circulated, and the responses received included those from:

### National Organisations

British Canoe Union  
Council for the Protection of Rural England  
Country Landowners Association  
English Nature  
Farming and Rural Conservation Agency  
FPD Savills  
Inland Waterways Association  
Ministry of Agriculture, Fisheries and Food  
National Farmers Union  
Office of Water Services  
Royal Society for the Protection of Birds  
Royal Yachting Association  
The Atlantic Salmon Trust  
The Countryside Alliance  
The Forestry Commission  
The Hawk and Owl Trust  
The National Trust  
The Rambler's Association

### Local Organisations

Bournemouth and West Hampshire Water Company  
Dorchester and District Angling Society  
Dorset Agenda 21 Forum  
Dorset Community Action Group  
Dorset Wildlife Trust  
Frome, Piddle and West Dorset Fishery Association  
Martinstown Ahead Agenda 21 Group  
Southern Sea Fisheries District Committee  
The Weld Estate, Lulworth Castle

### Councils

Borough of Poole  
Bradford Peverell Parish Council  
Dorset County Council  
East Stoke Parish Council  
Maiden Newton Parish Council  
Purbeck District Council  
Wareham St Martin Parish Council  
West Dorset District Council

Some of the comments and concerns raised are summarised below. The comments are based on the sections in the Consultation Draft; the table in Appendix 6.2 shows the relationship between the issues in the Consultation Draft and this LEAP Plan.

### 5.1 Reader survey

A reader survey questionnaire was distributed with each LEAP and although only 51 were returned the results do give an indication as to the make-up of consultees and their main areas of interest.

Of those returned 73 % came from within the LEAP area with the majority being a member or representative of a local interest group and/or a local resident; 31 % and 35 % respectively. The remaining 27 % was spread between officers working for a local authority, government agency or department, elected members of a local authority and *other*.



Under the broad headings used in the Consultation Draft the main areas of interest were as follows:

- managing our water resources (37 %)
- managing our freshwater fisheries (35 %)
- conserving the land (35 %)
- delivering integrated river-basin management, which amongst other things included discussion on water quality, flood defence, and recreation issues (35 %)

These results were reinforced by other comments received during the consultation period, the main points of which are summarised over the next few sections. Those areas which were of least interest were regulating major industry (8 %) and improving air quality (2 %), given the nature of the LEAP area this may come as no surprise. Surprisingly, however enhancing biodiversity was only seen as a priority by 25 % of the respondents.

It must be remembered that the above only gives a *flavour* of the views expressed during the consultation period and does not represent the views of all those that responded. However, the results do seem to *reflect* the more detailed comments received from all those who replied.

## 5.2 General comments

The view was expressed that the LEAP Consultation Draft implied a certain amount of *thou shalt* or *thou shalt not*. The Agency needs to take the approach, *how can we achieve this together* or *who can we help* as a number of landowners have spent a great deal of money in making properties helpful to wildlife.

*Our comment: we are aware that many landowners contribute considerable resources to environmental projects and where we are able we are keen to work in partnership. As highlighted by the LEAP, which in itself is a consultation exercise, many of the actions will have to be undertaken in partnership and/or in consultation with landowners.*

*Where we have to undertake statutory work requiring access to private land we will always endeavour to agree this with the landowner although this may not always be possible in emergencies or enforcement situations. This year we published a leaflet outlining the nature and timing of our routine monitoring programmes for the Frome and Piddle catchments as information for landowners.*

Note was made that there are 120+ actions in the Consultation Draft but many of them use the words review, monitor, contribute etc. Would be better to produce a practicable plan that fitted the constraints of staff and money than a list that mentions everything but gives little assurance that things will get done.

*Our comment: within the Agency, resources are used to undertake statutory and organisational requirements first and so on down to specific Area initiatives. Actions within internal Agency business plans are prioritised on this basis, the overall national view is given by the Agency's Corporate Plan.*

*LEAP actions make up a selection of these activities. It is important to note that LEAPs do not report on all of the activities undertaken by the Agency. For example a substantial part of our workload relates to everyday monitoring and management of the environment. This includes over 700 sampling points for monitoring water quality in the South Wessex Area.*

*Given the volume of information, listing all our monitoring sites and associated information is beyond the scope of the LEAP in its current format. This information is however available on the public register which can be viewed at Agency offices and information is also available on the Agency's web site.*



### 5.3 Managing our water resources

**A number of consultees were interested in changes to the water abstraction licensing system following publication of *Taking Water Responsibly*.**

*Our comment: the system of water resource licensing in England and Wales was reviewed during 1997 and 1998 and Taking Water Responsibly details Government decisions following consultation. The changes proposed will affect the way in which the Agency controls the abstraction, transfer and impoundment of water in England and Wales. 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 may affect existing operations.*

*Further information is provided in the leaflet, Changes to the water abstraction licensing system, which is available from local Agency offices.*

**A question was asked regarding the Agency's policy concerning the restoration of currently capped wells that are privately owned.**

*Our comment: if a private individual wishes to investigate reopening a well on their own property for private domestic use and intends to abstract water at a rate of less than 20 cubic metres per day, then they can do this without the requirement for either an abstraction licence or a pumping test consent from the Agency. Care should be taken to avoid pollution of the aquifer when 'uncapping' and to secure anti-pollution mechanisms during any subsequent use.*

*If the same private individual wished to abstract from such a well for any other purpose, irrespective of quantity, the Agency would require a pumping test to be undertaken. If adequate sustainable resources are available without damage to other users or the environment, an application for a Licence to Abstract should be made. Any persons not in ownership of the capped well should follow a similar path, after seeking legal occupation of the well from the owner.*

*To ensure that the supply of water is suitable for potable use we recommend that the householder concerned contact the local Environmental Health Department at their District Council who will be able to advise if the source needs testing.*

**Consultees also asked for more information on the potential of Lulworth Springs as a source of water.**

*Our comment: Wessex Water's water resources plan confirms that Lulworth Springs may have the potential to provide more water. The boreholes are currently not developed but are licensed for up to 5 million litres per day. However, there are constraints including a relatively low yield, the need to protect the nearby Lulworth Stream and the need for complex treatment. The company therefore does not foresee developing the source before 2025.*

**The LEAP Consultation Draft discussed the wider use of aquifers to store water; consultees wanted to know whether this would be confined to water companies or if private landlords could make use of such an arrangement?**

*Our comment: Aquifer Storage and Recovery is at a trial stage at present and timetables are still under discussion. As an integral part of such schemes, significant prior investment is required to achieve a detailed understanding and monitoring of the local hydrology and hydro-geology (including water chemistry) and of any likely outcomes from carrying out the works. This is followed by a rigorous testing phase over time. At present the size of the required early investment is likely to limit such developments to large organisations such as water companies. The abstractive use of previously injected water would be controlled through conditioned licences which would be associated with the quantities of water injected and the purpose of that injection.*

*Private individuals subsequently seeking to utilise such injected water for a licensable purpose would also be subject to the same usual licensing procedures. These include the principle that no new licence can be issued if it would cause unconsented derogation of existing protected rights, i.e. if spare water had been injected which was not already committed for subsequent licensed use by the 'injector' or required for environmental reasons. As the scheme is currently*



*in its infancy it seems a little early to prejudge the possible outcomes at this stage.*

*Wessex Water are currently investigating the potential to develop Aquifer Storage and Recovery (ASR) options in the Frome and Piddle catchments. Its success depends on there being suitable geology and hydrogeological conditions to enable 'potable' water to be injected into an isolated aquifer, stored, and subsequently recovered for public water supply with minimal treatment. In the UK, ASR is a new science and there is a need for large investigations to be undertaken before an operational scheme can be licensed. The Agency does however recognise the benefits to the environment that such a scheme can offer, and where possible are assisting water companies in these investigations.*

**Several consultees asked if there were any proposals to create local reservoirs filled from river(s) during the winter.**

*Our comment: the Agency does occasionally receive proposals for sealed winter storage lagoons for uses such as spray irrigation. These lagoons are filled during the winter period when there is more water available, and then abstraction takes place from the sealed lagoon during the summer period.*

*In general the Agency supports this approach in its charging scheme for abstraction licences. The charge for summer abstraction is ten times greater than the removal of water for the same use during the winter. However, the Agency carefully considers the impact of each proposal before a licence is issued. Therefore, just because a proposed abstraction takes place during the winter it does not guarantee that such an application would be successful.*

*In principle this is an approach recommended both by the Agency and the Ministry of Agriculture, Fisheries and Food to private abstractors, but again considerations will depend on the exact locale, size, scale and nature of the proposed development. Water may not be available throughout the winter or at the rate desired by the potential abstractor without impacting the environment. Reservoirs will often need lining to prevent loss of stored resources and this is costly. There are currently no plans from water companies to develop such reservoirs in the plan area, and such 'major' water resources developments will have very long planning lead-in times.*

**Consultees also wanted to know if any further direct river abstraction is feasible or have safe limits already been reached?**

*Our comment: the Agency would only issue a licence if it was satisfied that the ecology of the watercourse and other riparian interests would not be affected. If a licence was issued it is also very likely to contain a condition restricting abstraction when the flow in the river reaches a pre-determined trigger point. The larger the abstraction the earlier this trigger point would come into effect. These conditions ensure that the abstraction cannot occur during periods when the river flows are too low. In order to prevent an applicant obtaining a licence which would be of little use to them, we either advise them to modify their proposal, or, where appropriate, abstract water during the winter period into a sealed storage area for subsequent use during the summer.*

*Again it would also depend where, when and why. In some parts of the catchment, the level of environmental protection that we would place on any direct abstraction would render the remaining water available of little use to the abstractor. In these cases the provision of off stream 'high water availability filled' storage becomes appropriate. In many parts of the plan area there is no further water available at present until after the impacts of existing abstraction problems have been studied, addressed and alleviated.*

**A number of consultees commented on why water should be abstracted from inland chalk aquifers damaging rivers and streams when it could be abstracted near the coast direct from rivers?**

*Our comment: aquifers store water from rainfall in wet periods and can provide a reliable source of water for abstraction through dry summers or drought periods. Often, the water stored is also of high quality and available close to where people need to use it. This compares with abstraction from rivers which normally requires more treatment and, at times of low flow in summer and drought periods, may not be able to provide sufficient quantities to maintain reliable supplies. Also, abstraction near the downstream limits of rivers may be distant from where the water is needed further inland. Overcoming this may involve long expensive pipe networks and high pumping costs.*



Allowing abstraction from aquifers therefore takes advantage of a valuable natural resource. However, the Agency will only licence abstraction from aquifers when there are no adverse effects on the environment or when the abstraction is made subject to conditions to prevent environmental damage. Work is also being undertaken to address the impact of historic licensed abstractions on chalk rivers in the plan area.

**Concern was expressed at the adequacy of water supplies for the proposed levels of development and that the Agency should take a more strategic view when commenting on development proposals.**

*Our comment: regarding adequacy of water supplies, both water companies covering the LEAP area submitted water resources plans to the Agency in March 1999 setting out how they plan to supply water for forecast levels of development for the 25 years to 2025. These plans were accepted by the Agency at the time and, as part of an ongoing process of annual reviews, will be updated to take into account changes that occur.*

*Looking beyond the LEAP area and individual water company boundaries, the Agency has recently been responding to consultation for the Regional Planning Guidance that is being developed. In December 2000, the Agency is also scheduled to publish National and Regional Water Resources Strategies which will provide a strategic view on water resources and how they should be developed over the next 25 years.*

**The LEAP generated debate as to whether the Devil's Brook is a winterbourne or not.**

*Our comment: there has always been some debate about the historic winterbourne nature of the Devil's Brook. We have no historic information to prove either way whether the stream dried up in the past or not. The stream certainly does dry up now and there is a perception that it dries up further upstream more quickly and more frequently than previously. The additional stream augmentation provided each summer since 1995 by Wessex Water has maintained flows in Dewlish for about three extra months a year. Whilst this improvement is welcomed, we are still seeking ways of extending the benefit to cover the whole year.*

*This issue is complicated by a number of unauthorised ponds and diversions which affect the efficiency of the stream augmentation arrangements. With the co-operation of riparian owners we intend to review these operations to ensure changes are made that allow flows to be restored to a level which will promote ecological improvement and amenity benefits.*

#### 5.4 Managing our freshwater fisheries

**The recently agreed policy with English Nature for the stocking of brown trout within the River Frome Site of Scientific Interest, downstream of Nine Hatches, gave rise to a great deal of adverse comment. This was principally in relation to the lack of consultation with fishery and riparian interests, the fact that the limitation is not being imposed on other rivers, the lack of understanding of population genetics and normal process of evolution and the perceived erosion of the value of riparian interests.**

*Our comment: the view we have taken in the LEAP is the one endorsed by our National Centre who take full account of the latest research and the views of the foremost fish population geneticists in the British Isles. The evidence that stocking fertile, hatchery-bred trout can cause damaging changes in the genetically based fitness of recipient populations is extensive and increasing. Allowing stocking could damage the fitness of the sea trout population and could actually devalue capital assets.*

*It should be noted that returns on stocking tend to be poor on the lower Frome and we are consenting stocking with sterile trout rather than advocating 'no-stocking'. Also, the areas where established brown trout fisheries exist, upstream of Nine Hatches, are not affected.*

**Considerable concern was also raised over the relationship between the Agency and English Nature which appears to dominate much of the thinking behind the LEAP at the expense of fishery interests. It was pointed out that the condition of many rivers is due to activities of fishermen and river keepers over hundreds of years.**



Also considered that the LEAP was clear evidence that conservation is of prime concern but that fishing licences are a main source of income and therefore felt it is important that fishery and fishing considerations remain of prime concern to the Agency.

*Our comment: our conservation work is paid for by the taxpayer along with those paying abstraction charges, discharge licence charges and land drainage levies. Fishing licences pay for coarse and trout work but only a small percentage of migratory salmonid work, the taxpayer funds the rest, and this contribution is continuing to be cut.*

*The Agency takes its fisheries duties very seriously and gives them appropriate weight relative to all the other interests it has responsibilities for.*

*The recent report of the Government's Salmon and Freshwater Fisheries review, if it feeds through to Government action, could provide the backing and finance for us to carry out more of the sort of work which has been advocated by consultees. Its main themes, which include managing fisheries to maximise value to society, particularly tourism and the rural economy, while protecting overriding conservation interests, would seem to indicate continuation of an approach which strikes an appropriate balance.*

It was felt that the restoration of river habitat to the benefit of fish and wildlife in and around the River Frome should be the primary objective of all parties. The area between Lewell Mill and Moreton was seen as needing a particular focus.

*Our comment: we will produce an action plan, with fishery interests, landowners and English Nature to address areas of degraded habitat on the middle Frome.*

Deep concern was expressed over the level of predation by seals, pike and cormorants.

*Our comment: following a national study on the impact of cormorants and fish eating birds on fish stocks 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.*

Serious problems are being caused by large numbers of mute swans around Wareham and the lower reaches of the Frome as are overwintering geese. Suggested that if control not possible then affected areas should be targeted for Countryside Stewardship to provide recompense to landowners suffering damage.

*Our comment: the Ministry of Agriculture, Fisheries and Food (MAFF) are responsible for the agricultural problems caused by swans and geese and should be contacted for advice on how to deal with them. Similarly, if they are causing a fishery problem then again MAFF is the responsible body.*

## 5.5 Enhancing biodiversity

The River Frome Site of Special Scientific Interest Consenting Protocol and Conservation Strategy was raised by a number of consultees especially the hope that interested parties will be consulted on this strategy including those from recreation, amenity and cultural heritage interests.

*Our comment: the Conservation Strategy is a requirement upon English Nature and the Agency following the production of the Memorandum Of Understanding for all river Sites of Special Scientific Interest (SSSI) as a basis for an effective working mechanism between the two organisations. The aim is to ensure protection of the SSSI interests when carrying out our activities. The strategy highlights the major issues that affect the SSSI. Therefore, if recreation, amenity and cultural heritage are issues that affect the SSSI, then the strategy will address them. A consultation element is included in the process.*

*The Regional Rural Development Plan produced by the Regional Rural development Committee may also provide a*



vehicle for addressing issues of recreation, amenity and cultural heritage.

The need for a vision of the sustainable floodplain was welcomed although it was felt that any proposals must be fully discussed and reviewed and only carried out with the agreement and co-operation of the landowners.

*Our comment: we agree that landowners should be fully consulted before any works are carried out.*

Concern was also expressed about the damage to banks caused by the Himalayan balsam weed which proliferates along the Frome and Wrackle in Stratton and Bradford Peverell.

*Our comment: we can advise on best practice for control of Himalayan Balsam if landowners wish to remove it. The Dorset Wildlife Trust are currently collecting any information on Himalayan Balsam, to maintain an up-to-date database, and any records should be passed onto them.*

The aim of 10 % bank length for the Countryside Stewardship was felt not to be very ambitious.

*Our comment: the aim of 10 % of bank length entered into Countryside Stewardship does not seem very ambitious for conservation purposes, but there is a balance to be struck. The National Farmers Union have suggested that this figure is overambitious. Therefore, whilst we in collaboration with others would like to achieve this, it remains to be seen whether the riparian landowners are keen to take this up.*

## 5.6 Conserving the land

Concern was raised regarding building in the floodplain and it was felt that Local Plans should show the floodplain.

*Our comment: it is certainly appropriate for floodplains to be shown on Local Plans. During 1997 and 1998, the Agency undertook to update its floodplain records in accordance with Section 105 of the Water Resource Act 1991. The Agency is now pleased to note how readily local authorities are incorporating these floodplain records into their Local Plans.*

*The Agency is the Drainage Authority for watercourses that are classified as Main River. Unfortunately, the Section 105 survey is mostly limited to such watercourses and does not include ordinary watercourses or non-main river. Consequently we do not hold detailed floodplain maps for this type of river.*

*The Agency is working with local authorities to extend the Section 105 surveys to stretches of ordinary watercourse that are prone to flooding and for which there is pressure to develop, but this will not be extended to cover all ordinary watercourses.*

*The Local Authority does consider flood risk when determining applications for planning permission and it does so in consultation with the Agency.*

Concern was raised about developments throughout the countryside and the detrimental impact on habitats, wildlife and local communities with expectations on the Agency to take a strong line.

*Our comment: the Agency is a statutory consultee in the land use planning system and advises planning authorities on the impact of proposed developments together with our requirements for environmental protection for issues within our remit. There is obviously a balance that has to be struck between the necessary built development and preserving, enhancing and allowing access to the countryside, and our Planning Liaison Team are spending a large amount of time seeking ways to balance the various conflicts.*

Comment was made regarding the contaminated seabed at Holes Bay.



*Our comment: historically heavy metals were discharged through uncontrolled operations (legal and illegal) into Poole Harbour until about 1960. As a result of strong enforcement by the National Rivers Authority and the Agency this is no longer the case. Much research has been done on the fate of metals in sediments, and the best advice is to allow them to biodegrade naturally. Early indications are that this is occurring slowly at Holes Bay.*

**Concern was also raised regarding meeting future mineral needs from material dredged from the seabed.**

*Our comment: if an application is made to dredge minerals from the seabed it would be submitted to the relevant planning authority and to the Ministry of Agriculture, Fisheries and Food; the Agency would be consulted by both parties.*

**Need to clarify the policy as to who is responsible for keeping drainage ditches clear and removing other obstacles to watercourses to prevent flooding.**

*Our comment: the riparian owner or landowner is responsible for removing obstructions from ordinary watercourses and drainage ditches. A leaflet, Living on the edge - a guide to the rights and responsibilities of a riverside owner, is available from local Agency offices. The Agency only has powers to carry out maintenance work on those rivers classified as main river and this includes all those watercourses which contribute significantly to a catchment's drainage.*

## 5.7 Managing waste

**The presence of roadside litter was raised as an issue.**

*Our comment: the collection of litter is the responsibility of the local authority. If litter is on private land, it is the responsibility of the landowner to remove it. Should 'fly-tipping' be suspected then we can take action to track down and prosecute offenders. Agency staff should be informed immediately if fly-tipping is suspected via our 24-hour telephone hotline, 0800 80 70 60.*

**Concern that you are now unable to recycle junk mail, cardboard boxes and other packaging which now has to be put with domestic waste for landfill.**

*Our comment: local authorities have had to stop various collections of recyclables due to the reprocessors not wanting the more contaminated post-consumer material. This is probably an effect of the Packaging Regulations in that reprocessors are now getting 'cleaner' material (i.e. baled cardboard/paper etc.) from industry and commerce who have specific recycling and recovery targets to meet under the regulations. The post consumer material is a small proportion of the total and it is often very mixed in quality, requiring more sorting for example. This is obviously therefore not the most desired source for the reprocessors.*

*Additional factors include market fluctuations and the resources available to local authorities to undertake collections.*

*It is possible to register with mail and telephone preference services to remove personal details from company mailing lists (Mail Preference Services, Freepost 22, London, W1E 7EZ or 0207 7664420).*

**It was noted that farmers are very keen to have farm plastics recycled and other non-organic waste which has been a problem since the collapse of the recycling scheme.**

*Our comment: the black plastic used for silage used to be recycled. All of the main suppliers got together and with the support of the farmers they charged a small supplement on plastic and in return they collected the used product and recycled it (into for example, fence posts and garden furniture). The scheme worked well for some years. Unfortunately one supplier either backed out or a new foreign supplier entered the market outside the recycling scheme, offered a cheaper product and the scheme collapsed.*

*However, the Agency's Midlands Region in collaboration with the Gloucestershire Farming and Wildlife Advisory Group are investigating a new process that can use mixed and dirty plastics to create new products such as aggregates and*



fence posts. During October a trial investigated the collection of waste plastics from farms and their delivery for recycling.

## 5.8 Developing integrated river-basin management

There was no mention made of the intention to co-ordinate either sampling regimes or analysis of data for the EC Shellfish Waters Directive and EC Shellfish Hygiene Directive. Whilst it is accepted that local authorities are testing shellfish flesh and the Agency the water quality, the common objective is the production of good quality shellfish which are safe to the consumer. Surely a joint approach would make sense?

*Our comment: the Agency has agreed with the Centre for Environment, Fisheries and Aquaculture Science and the Department of the Environment, Transport and the Regions, the monitoring that is needed to meet the requirements of both the EC Shellfish Waters Directive and the EC Shellfish Hygiene Directive.*

*The Agency has responsibility for implementing and reporting on the Shellfish Waters Directive whilst the Ministry of Agriculture, Fisheries and Food (MAFF) and the public health authority have responsibility for the implementation and reporting of the Shellfish Hygiene Directive. The remit of the Agency is to maintain and protect water quality and it does this through its regulatory and enforcement powers.*

*We have recently met with Portland Environmental Health to discuss greater co-operation and co-ordination of effort and will set up a meeting with Poole Environmental Health to pursue a similar policy. We will continue to liaise with MAFF and public health authorities to ensure the water and shellfish monitoring regimes are complementary and provide the best scientific approach to protecting both water and shellfish flesh quality.*

*In addition to our formal monitoring and reporting commitments under the EC Shellfish Water Directive we make extensive use of environmental data when determining what improvements to sewage discharges are required. Improvements to discharges from Wareham, Lytchett Minster and Poole sewage treatment works will be made during Wessex Water's next Asset Management Plan (AMP3) which began in April. These improvements are required to safeguard local bathing waters and to improve the quality of shellfish waters in Poole Harbour. We are seeking to improve the quality of shellfisheries to at least Class B and we will use the powers conferred to us under the EC Shellfish Waters Directive to do this.*

**It was also felt that the *no deterioration* policy detailed in the LEAP Consultation Draft was not sufficiently positive and should be *no deterioration is acceptable* and that every effort will be made to improve shellfish harvesting area designations.**

*Our comment: the Agency's 'no deterioration' policy applies to both the EC Shellfish Waters Directive and EC Shellfish Hygiene Directive and under these the Agency tries to ensure that there is no increase in pollution. Ultra violet disinfection at Wareham, Lytchett Minster and Poole sewage treatment works and improvements to limit spills from storm discharges should improve water quality and compliance with the EC Shellfish Waters Directive.*

**Concern that the increase in fish farming activity provides an increase of pollution into local rivers.**

*Our comment: there have been no additional fish farms started in the catchment within the last ten years. Those that are in existence are regularly sampled and monitored against suitable discharge consents or 'permits' issued by the Agency.*

*If our monitoring shows up any effects on downstream water quality as a result of a fish farm discharge we will take the appropriate action.*

**The point was made that many of the stretches listed as having a River Quality Objective of RE2 have been so for a long time, for example downstream of fish farms.**



*Our comment: the River Quality Objectives (RQO) for the classified stretches listed in the Consultation Draft and this Plan have been determined from historic water quality information and current requirements. In the future it may become necessary to review RQOs as we are currently considering doing downstream of Dorchester sewage treatment works.*

*It is important to note that an RQO of 2 indicates good water quality.*

**Actions with regard to water quality failures refer to investigations and/or studies but there needs to be something on implementation in order to address the problems.**

*Our comment: on the basis of the results of these investigations, recommendations will be made to address the issues. The implementation of and progress with any remedial action following these studies will be reported in future LEAP documents.*

**Concern was expressed regarding sewage discharges from boats moored in Poole Harbour.**

*Our comment: the disposal of waste (solid and liquid) is covered by Harbour Bylaws administered by Poole Harbour Commissioners and we work closely with them on best practice.*

*The Agency tries to promote good practice and encourages the installation of sealed toilets on all new vessels, through partnerships with the British Marine Industries Federation and the commercial and business network of the leisure boat building industry. Unfortunately without compulsory adoption and building of pump out stations at marinas to empty such units, the additional costs are not apparently justified. There appears to be only one such station that exists at Poole Quay.*

*Wherever possible the Agency recommend the adoption of pump out stations in response to planning applications but recommendation or enforcement still lies with the planning authorities. On the continent private vessels are required by law to have sealed systems and it was that requirement that led to the facility at Poole Quay being installed.*

*With the expected increase in leisure and boating related recreation the problem will only increase in those areas of existing high boating density and poor coastal circulation such as Studland and Swanage Bays or the confined waters of Poole Harbour and Lulworth Cove. Some local port authorities and councils do have byelaws to control such action if the coastal water is defined within their limits. Without amendment to the Water Resources Act 1991, the Agency is powerless to prevent coastal discharges of sewage from vessels.*

**Although it was appreciated that the Ministry of Defence have spent considerable sums of money in order to reduce the discharge of silt at Bovington there is still a problem at times of high rainfall and when funds are available further work should be encouraged. This issue is still of major importance on the Frome, particularly the damaging effect which it has on the salmon spawning redds.**

*Our comment: with the help of various environmental groups, including the Agency, the Ministry's conservation group have brought about a radical change in the management of the heath and drainage of the all-weather training circuit at Bovington. In addition, peripheral drainage has been rerouted through a variety of smaller ponds and french drains that have been placed to extend retention times of surface water runoff during heavy rain and hence promote settlement.*

*In order to improve the situation further, the Ministry of Defence (MoD) have contracted the Institute of Freshwater Ecology to undertake an impact survey of the Bovington stream. They have consulted with both English Nature and the Agency about further improvements that involve:*

- *bank stabilisation and habitat enhancement of the stream south of the dam behind Cologne Road, and*
- *construction of a final settlement pond and wetland habitat to allow settlement of storm water during high flow conditions*



*The issue of land drainage consent and water abstraction was satisfactorily resolved and the scheme was cleared last autumn with both our Area Fisheries and Ecology teams and English Nature. In addition, all the relevant landowners were contacted and they did not object to the scheme being implemented.*

*The scheme had its first real test during the extremely wet month of December 1999 and following reports from the MoD appears to have resulted in large amounts of silt being trapped within the sacrificial land and ponds as planned. No records of high suspended solids were made regarding the River Frome for that period, which represents a success for the short-term management of runoff from these ranges. In the long term further work will be directed towards protection of those areas on the ranges that are known to have a clay component and hence add to the runoff problem.*

*Further revision of the main dam and a rolling programme of improvements to drainage on the all-weather circuit will hopefully lead to enhancement of the silt management process. It is hoped that these ideas can lead to similar improvements on the Lulworth ranges as well.*

**Considered by some that a large proportion of phosphates originate from agricultural land. The side effects of oestrogen and detergents from sewage treatment works should also be mentioned.**

*Our comment: we would agree that phosphates can come from agricultural land. The South Wessex Area's Landcare initiative is investigating this on the upper Hampshire Avon. Depending on the success of this initiative and funding becoming available, the Area will extend this work to other river catchments.*

*The Agency through its national R & D programme is investigating the issue of endocrine disruptor substances. The South Wessex Area is keeping up-to-date with this issue and is awaiting further information from the Agency's National Centre for Ecotoxicology and Hazardous Substances who are co-ordinating the work on this subject and who have published a strategy for dealing with these substances.*

**Concern expressed that with the move towards diversification of agriculture and the prairie style of cultivation, safeguards should be incorporated for the retention of all hedgerows to ensure enduring land stability, survival of native birds and animals, and the consequent loss of soil by erosion.**

*Our comment: the Agency recognises that, in certain circumstances, agricultural practices can give rise to significant levels of runoff which may cause localised flooding and non-point source pollution problems. However, the Agency's statutory powers with respect to land use are limited. As a consequence, we are trying to work in partnership with farmers and farming groups, for example the National Farmers Union, to obtain widescale implementation of better management practices which reduce the risk of such problems.*

*As part of all our work we aim to protect and enhance the natural environment and this would include hedgerows and associated flora and fauna where relevant.*

**The Farming and Wildlife Advisory Group initiative on the River Frome was welcomed and there was support for an extension of the Landcare project.**

*Our comment: we welcome the support for our Landcare Project. Unfortunately once resources have been allocated to our statutory duties there is little resource available to undertake such initiatives. This is why we have chosen to put the limited resources we have into a pilot scheme on the upper Avon. If the project is successful we hope to extend the approach to other parts of the South Wessex Area, including the Plan area. In the interim we will, however, be happy to provide whatever assistance and advice we can to control non-point source agricultural pollution across the South Wessex Area.*

**There was recognition of the need for nitrate levels to be kept within acceptable limits but the imposition of Nitrate Vulnerable Zones without compensation was seen as unjust particularly as little regard is taken of other possible sources of nitrate.**

*Our comment: issues regarding compensation for farms within Nitrate Vulnerable Zones (NVZ) are for the Government*



to consider. Nevertheless it should be noted that the Action Plans have been devised with recognition that the limits on nitrate use on farms can be achieved through good agricultural practice. Also farm waste grants are available in NVZs where changes in storage and handling are needed. With regard to other nitrate sources, these are taken into consideration in the designation process. If the nitrate present is not predominantly from agricultural sources, then the designation is not made.

**Commented that foul sewage leaks to the Bere stream in some parts of Milborne St. Andrew during flood conditions and could be the cause of the River Quality Objective failure.**

*Our comment: we are aware of the situation at Milborne St. Andrew where hydraulic overloading of the sewers leads to some manholes overflowing. These occasions generally occur in the winter when the water table rises. In such conditions, the sewage is very weak and receives massive dilution from the flood waters. However, we are considering what action can be taken to resolve the situation.*

*We are looking into why the stream has failed the River Quality Objective of RE1 and any reasons for this will be addressed.*

**Concern raised regarding the problem with sewage disposal and surface water drainage in the Piddle Valley. At times raw sewage escapes in places and one place in particular is on the main route to the new school. No development should be allowed until a comprehensive plan for sewerage disposal for the whole Piddle Valley has been put forward.**

*Our comment: we are aware of the sewerage system problems in the Piddle Valley. At times of high water the sewer can be flooded which results in surcharging (sewage escaping through inspection covers). Wessex Water has undertaken some sealing of the sewerage system to prevent the manholes surcharging, although this appears not to have completely resolved the problem. Wessex Water and West Dorset District Council are continuing their investigations.*

**Concern with the on-going problem of discharge of storm sewage from Martinstown Pumping Station which does not appear to have been addressed and hence no targets for its improvement seem to exist.**

*Our comment: the Agency is fully aware of the situation at Martinstown, and we are working with Wessex Water to resolve matters. The site has been included in Wessex Water's Asset Management Programme as unsatisfactory and improvements will be completed by the end of March 2003.*

**Proposed changes to weedcutting practices must include consultation with fishery interests.**

*Our comment: we have completed an audit of weedcutting and are consulting interested parties on the recommendations. We will then implement any changes in the form of an action plan which will be reviewed annually.*

**There is a lack of access to the rivers in the plan area and it was hoped that the Agency would be supportive of increasing access to the benefit of the public and make reference to this in the LEAP Plan.**

*Our comment: the Agency is very supportive of increased access where possible, in particular where this relates to increased access to the rivers in the plan area, for example, the River Cerne. The improvements would be, as stated, low key and appropriate to the area. Priority would be given to the landscape and wildlife value of existing footpaths. In the case of the River Cerne, our aim is to increase awareness, signage and, where necessary, mend and/or improve existing stiles, gates and fences.*

*We are aiming to increase access where possible provided this is in balance with the needs and requirements of others. The conservation value of the LEAP area is widely recognised and increased access needs to be very carefully balanced alongside this. However, there are recognised requirements for increased access in some areas. Striking such a balance in no way means reducing existing recreational activities; for example we are conducting a user survey on the River Frome below Wareham to gauge future requirements and needs of recreational users.*

*Unfortunately, the reality is that there are considerable constraints cited from both landowners and conservationists*

against significant additions to the access network. We believe there is some limited scope for improving and promoting existing access to the valley. To this end we are exploring options in the Dorchester, Cerne Abbas and Wareham areas with the local councils.

**Although some expressed reservation about the encouragement of recreational cycling as mountain bikes were seen as damaging to footpaths, bridleways, common land and open country.**

*Our comment: we would agree about the sensitivity of the area to uncontrolled and unsuitable recreational pursuits. Striking the balance between the conservation of the countryside and the enjoyment of the countryside is never easy. The Agency's position is to seek an appropriate balance of uses which protects and respects the existing value of the countryside whilst striving to meet the needs of other sectors of the population.*

**Concern was expressed regarding the importance of water quality to coastal recreational pursuits and that long sea outfalls only export the problem to a new set of recreational users.**

*Our comment: in the plan area there are no planned long sea outfalls. The emphasis is on treatment before discharge, and improvements to the level of treatment include:*

- *microfiltration to replace the unsatisfactory discharge of macerated sewage at Swanage sewage treatment works*
- *secondary treatment of effluent at Lulworth sewage treatment works*
- *ultraviolet disinfection of effluents at Poole, Wareham and Lytchett Minster sewage treatment works*

**Felt that there is a paucity of research into the effects of navigation on the environment with a belief that the fears that navigation is damaging is misplaced, and the *Precautionary Principle* is being taken too far.**

**A number of consultees supported the Agency's actions regarding development of recreation and urged us to promote and implement access to rivers, including landing and mooring sites.**

*Our comment: with regard to your comments on the Precautionary Principle application, the Agency aims to strike a balance in our approach. We have duties to further both conservation and recreation. However, it has to be recognised that the recreational use of watercourses is largely in the hands of the landowners, and in the catchments in question there is little support for increased recreation and access.*

*We are hoping to develop the use of the Frome below Wareham further for recreational use, and have published a leaflet highlighting walks around this area which is available from Tourist Information Centres. This project also involves improved signage and pedestrian access.*



## 6. Appendices

### 6.1 Duties, powers and interests of the Environment Agency

The following tables summarise the Agency's duties, powers and interests.

#### Water Resources

*The Agency has a duty* to conserve, redistribute, augment and secure the proper use of water resources

*The Agency has powers to:*

- 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

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

- 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

*Partnership:*

- 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 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

*The Agency has a duty* to exercise general supervision over all matters relating to flood defence throughout each catchment

*The Agency has powers to:*

- 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

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

- 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

*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 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

*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 Environmental 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

*Partnership:*

- 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

*The Agency has a duty* under the Radioactive Substances Act 1993 to regulate the use of radioactive materials and the disposal of radioactive waste

*The Agency has powers to:*

- issue certificates to users of radioactive materials and disposers of radioactive waste, with an overall objective of protecting members of the public

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

- the health effects of radiation

*Partnership:*

- 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

*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

*The Agency has powers to:*

- 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

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

- securing with others, including local authorities, landowners and developers, the safe remediation of contaminated land

*Partnership:*

- the Agency supports land remediation and will promote this with developers and local authorities and other stakeholders

## Conservation

*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

- 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

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

- 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 for which it is the contact point and/or lead partner for five habitat action plans and 39 species

*Partnership:*

- 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

*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

*The Agency has powers to:*

- 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

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

- the landscape impact of new development, particularly within river corridors. This is controlled by local planning authorities

*Partnership:*

- 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

*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

*The Agency has powers to:*

- promote its archaeological objectives through the exercise of its water management and pollution control powers and duties

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

- direct protection or management of sites of archaeological or heritage interest. This is carried out by local planning authorities, County Archaeologists and English Heritage

*Partnership:*

- 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

*The Agency has a duty* to maintain, improve and develop salmon, trout, freshwater and eel fisheries

*The Agency has powers to:*

- 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

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

- the determination of planning applications which could affect fisheries

*Partnership:*

- many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and local authorities to protect fisheries

## Recreation

*The Agency has a duty* to promote recreational use of rivers and water space

*The Agency has powers to:*

- contribute towards its recreation duty through the exercise of its statutory powers and duties in water management

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

- promotion of water sports. This is carried out by the Sports Council and other sports bodies

*Partnership:*

- 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



## 6.2 Guide to the Consultation Draft and LEAP Plan

The table below shows the relationship between the issues highlighted in the Frome & Piddle and Poole Harbour & Purbeck LEAP Consultation Draft and those in this document.

Frome & Piddle and Poole Harbour & Purbeck Consultation Draft		LEAP Plan
Section number	Issue title	New issue number
3.1.1	Securing future public water supplies	3.1
3.1.2	Water resource investigations on the River Piddle catchment	3.2
3.1.3	Water resource investigations on the River Frome catchment	3.3
3.1.4	Protection of groundwater	3.6.2
3.2.1	Management of salmon stocks	3.4.1
3.2.2	Management of the brown trout fishery	3.4.2
3.2.3	Management of coarse fish stocks	3.4.3
3.3	Enhancing biodiversity	3.5.3
3.3.1	EC Habitats Directive and EC Birds Directive	3.5.1
3.3.2	River Frome Site of Special Scientific Interest Consenting Protocol and Conservation Strategy	3.5.2
3.4.1	Contaminated land	3.6.1
3.5.1	Developing strategies for sustainable waste management	3.7 and 3.7.1
3.5.2	Minimising waste	3.7.2
3.5.3	Recycling	3.7.2
3.5.4	Reducing the fly-tipping of waste	3.8
3.6.1	Impact of sewage and sewerage on water quality	3.9, 3.9.1 and 3.11
3.6.2	Shellfisheries	3.10
3.6.3	Impact of land use on water quality	3.12 and 3.11
3.6.4	Other water quality failures	3.13
3.6.5	Maintaining our rivers and flood defences	3.14.2
3.6.6	Water level management plans	3.14.1
3.6.7	Review the objectives, efficiency and effectiveness of weedcutting operations	3.14.3
3.6.8	The adequate provision of flood warning and emergency response	3.15
3.6.9	The protection of features of archaeological interest	3.16
3.6.10	The development of recreation	3.17
3.7	Regulating major industries	3.18
3.8	Improving air quality	3.19
3.9.1	Minimising the effect of landfill gas on climate change	3.20.1
3.9.2	Potential effects of climate change on sea level	3.20

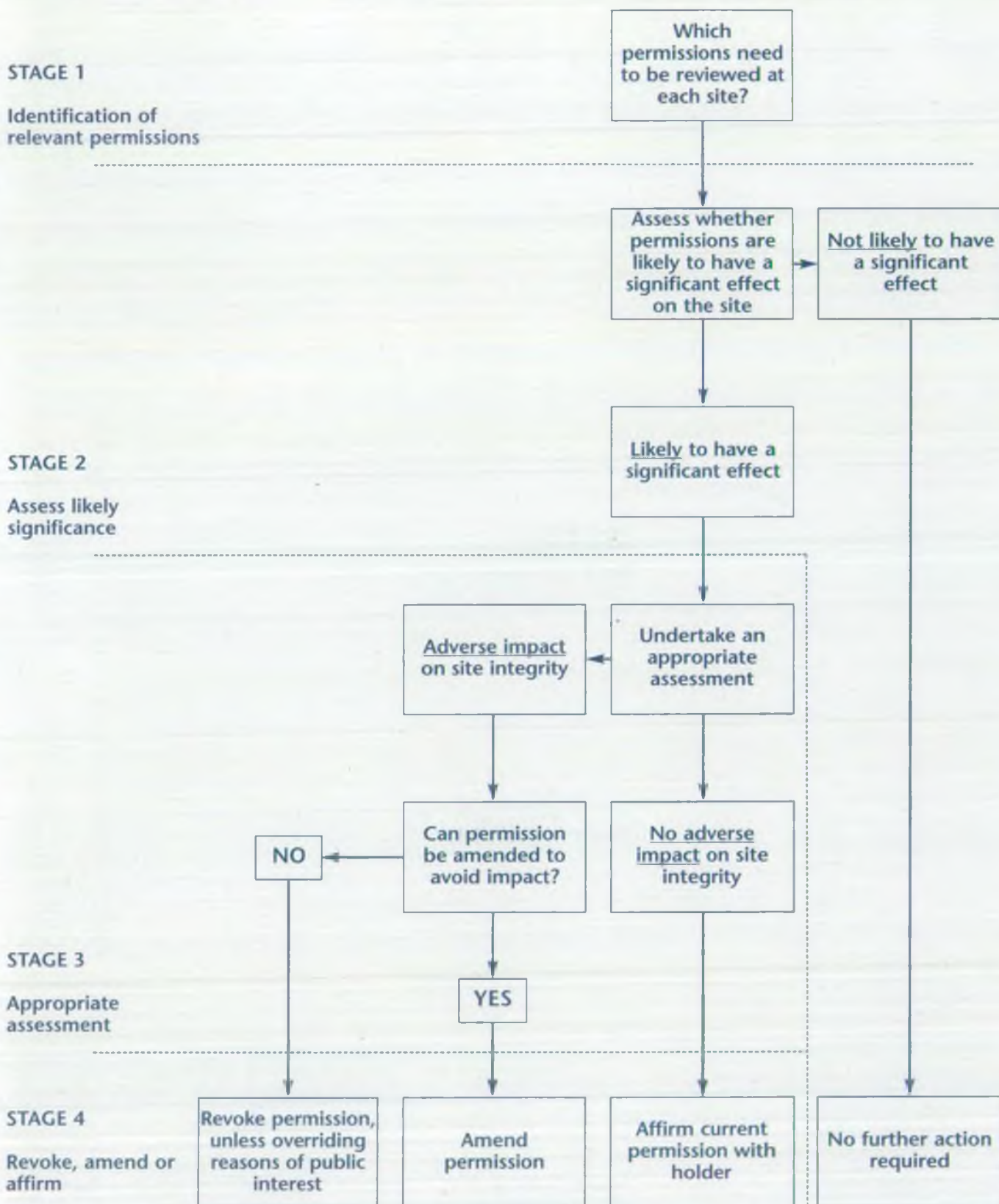
## 6.3 EC Habitats and EC Birds Directive

Summary of details on the relevant sites within the LEAP area are given below (see Section 3.5.1):

Area	Designation	Qualifying interests
Dorset Heaths (Purbeck and Wareham) and Studland Dunes	cSAC	Wet heathland and cross-leaved heath Coastal dune heathland Dry heaths Southern damselfly Depressions on peat substrates Shifting dunes Shifting dunes with marram grass Alkaline fens Bog woodland Calcareous fens with <i>Cladium mariscus</i> and species of the <i>carican davallianae</i> Humid dune slacks <i>Molinia</i> meadows ( <i>molinson caerulea</i> ) Great crested newt Oligotrophic waters containing very few minerals <i>Littorelletalia uniflorarum</i>
Dorset Heaths	cSAC	Wet heathland with cross-leaved heath Dry heaths Southern damselfly Depressions on peat substrates Alkaline fens Calcareous fens with <i>Cladium mariscus</i> and species of the <i>carican davallianae</i> <i>Molinia</i> meadows ( <i>molinson caerulea</i> ) Great crested newt
Isle of Portland to Studland Cliffs	cSAC	Early gentian Vegetated sea cliff
St Aldhelms Head to Durlston Head	cSAC	Chalk-rich dry grassland, including important orchid sites Vegetated sea cliffs Early gentian Greater horseshoe bat
Poole Harbour	SPA	Regularly used by 1 % or more of the UK population of three species listed in Annex 1 of the EC Birds Directive, in any one season (Avocet, Mediterranean gull, Common Tern) It is also used by 1 % or more of the following internationally important bird populations in any one season: black-tailed godwit, shelduck Regularly used by over 20,000 waterfowl or seabirds in any one season
	Ramsar	Regularly supports 20,000 waterfowl Regularly supports 1 % of the individuals in a population of waterfowl: avocet, black-tailed godwit, common tern, Mediterranean gull, shelduck Is a particularly good example of a <i>natural harbour</i> Contains an appreciable assemblage of rare, vulnerable or endangered species of plant or animal
Dorset Heathlands	SPA	Regularly used by 1 % or more of the UK population of five species listed in Annex I of the EC Birds Directive, in any one season (Dartford warbler, nightjar, woodlark, hen harrier, merlin)
	Ramsar	Supports particularly good examples of wet heathland habitats which are characteristic of the heathlands of the Atlantic biogeographical region of western Europe Contains examples of southern wet heaths and cross-leaved heaths Contains an appreciable assemblage of rare, vulnerable or endangered species of plant or animal High species richness and ecological diversity of the mire communities



### 6.3.1 Summary flow chart of the review of consents process under the EC Habitats and EC Birds Directives



## 6.4 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 3.5.3). In many cases individual BAPs have yet to be developed and actions will be incorporated into the LEAP as appropriate.

### (1) - Priority habitats and species

### (2) - Habitats and species of conservation concern

#### Key Habitats

##### [Reason for inclusion]

##### Supporting BAP species

#### Chalk rivers

##### [UK BAP priority habitat, Habitats Directive]

- *Water Vole* (1)
- *Otter* (1)
- *Southern damselfly* (1)
- *White-clawed crayfish* (1)
- *Desmoulins snail* (1)
- *Depressed river mussel* (1)
- *Salmon* (2)
- *Lamprey (Brook, River and Sea)* (2)
- *Shad (Allis and Twaite)* (1)
- *Bullhead* (2)
- *Medicinal leech* (1)

#### Rivers and streams

##### [South West BAP]

- *Lamprey (Brook, River and Sea)* (2)
- *Salmon* (2)
- *Shad (Allis & Twaite)* (1)
- *Round mouthed snail* (2)
- *Otter* (1)
- *Water vole* (1)
- *Pipistrelle Bat* (1)
- *Barbastelle Bat* (2)
- *Reed bunting* (2)

#### Coastal and floodplain grazing marsh

##### [UK BAP priority habitat, South West BAP, Dorset County BAP]

- *Black bog ant (bog habitat)* (1)
- *Greater water parsnip* (2)
- *Desmoulins snail* (1)
- *Mole cricket* (1)

#### Potential threats

#### Abstraction

#### Physical modification

#### Pollution

#### Land use change

#### Inappropriate vegetation management

#### Invasive species

#### Pollution

#### Abstraction

#### Land drainage

#### Development pressure

#### Inappropriate bank management

#### Invasive species

#### Lowered water levels

#### Reduction in the extent and period of winter flooding

#### Changes in agricultural practices creating grassland swards unattractive to feeding wildfowl and wading birds

#### Decrease in management of hedgerow and riverside trees, and scrub invasion along ditches reducing the openness of grazing marsh

#### Damage to wader nest sites through trampling by stock

#### Loss of bird feeding micro-habitats and ditch infrastructure



**Key Habitats****[Reason for inclusion]****Supporting BAP species****Reedbed**

[UK BAP priority habitat, South West BAP]

- Bittern (1)
- Otter (1)
- Water vole (1)
- Reed bunting (2)

**Fen**

[UK BAP priority habitat, South West BAP, Dorset County BAP]

- Water vole (1)
- Otter (1)
- Southern damselfly (1)
- Desmoulins snail (1)

**Estuaries**

[UK BAP priority habitat, South West BAP]

- Otters (1)
- Tentacled lagoon worm (2)
- Shad (Allis and Twaite) (1)
- Salmon (2)
- Seagrass beds (1)
- Maerl (2)
- Starlet sea anemone (1)

**Standing open water**

[South West BAP]

- Great crested newt (1)
- Medicinal leech (1)
- Southern damselfly (1)
- Pillwort (2)

**Urban watercourses**

[South West BAP, Dorset County BAP]

- Pipistrelle bat (1)
- Great crested newt (1)
- Bullhead (2)
- Water vole (1)

**Saline lagoons**

[UK BAP priority habitat, South West BAP]

- Starlet sea anemone (1)

**Sand dunes**

[UK Marine BAP, South West BAP]

**Potential threats****Poor water quality**

Inappropriate water level management

Lack of management leading to succession to a drier woody habitat

Abstraction and operations leading to drying out

Pollution

Habitat modification (scrub encroachment, inappropriate management)

Inappropriate water level management

Dredging, sea defences

Pollution

Recreational pressure

Development pressure

Sea level rise

Exploitation of shell fisheries

Abstraction and/or land drainage and/or infilling

Pollution and/or nutrient enrichment

Inappropriate management and/or neglect

Recreational pressures

Inappropriate stocking

Invasive species

Inappropriate management

Development pressures

Pollution

Over engineering and/or culverting and/or flood defence works

Recreational pressures

Pollution, especially nutrient enrichment

Natural succession and sediment movement

Artificial water control

Development, infilling and coastal defence

Coastal defence work

Sand and gravel extraction

Inappropriate dune management

Changing sea levels

Erosion

Invasive species

## Key Habitats

[Reason for inclusion]

Supporting BAP species

Rocky sea bed

[UK Marine BAP, South West BAP]

Sea cliff and slope

[UK Phase II, South West BAP, UK Marine BAP Draft]

- *Rock sea lavender* (2)

Seagrass beds

[UK BAP, South West BAP, Dorset BAP]

Lowland heathland

[UK BAP, South West BAP, Purbeck BAP]

- *Southern damselfly* (1)
- *Black bog ant* (1)

Coastal saltmarsh

[UK Phase II Marine BAP]

Commercial marine fish

[UK Phase II Marine BAP]

Littoral and sub-littoral chalk

[UK Phase II Marine BAP]

Maerl beds

[UK Phase II Marine BAP]

Maritime cliff and slope

[UK Phase II Marine BAP, South West BAP]

Sabellaaria reefs

[UK Phase II Marine BAP]

## Potential threats

Fishing gear damage

Dredging and dumping of material

Recreational pressures

Pollution

Climate change

Sea defences

Changes in land management

Recreational pressures

Invasive species

Anchoring and mooring issues

Coastal development

Shellfish collection and bait digging

Dredging and dumping of materials

Pollution

Invasive species

Neglect and scrub encroachment

Inappropriate management

Development pressures

Recreational pressure

Heathland fires

Land reclamation

Erosion and coastal squeeze

Accretion

Grazing

Overfishing

Coastal defence

Water quality

Human disturbance

Non-active species

Sea level rise

Dredging for commercial exploitation

Scallop dredging

Damage from anchor and mooring chains

Eutrophication

Water flow obstruction

Erosion

Coastal protection

Built development

Agriculture

Recreational use

Introduced species

Cold winters

Shoreline development

Trampling

Competition



**Key Habitats**

[Reason for inclusion]

*Supporting BAP species*

Sub-littoral sand and gravels

[UK Phase II Marine BAP]

**Potential threats**

Pollution

Physical disturbance

Aggregate dredging

Some fishing activities

Land reclamation

Oil exploration

Shipping accidents

**6.5 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 future use, and we use them as a basis for setting consents for new discharges and planning future water quality improvements.

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

We have set RQOs using a classification scheme known as the River Ecosystem (RE) Classification which was introduced by the former National Rivers Authority, following public consultation, in 1994. It replaced a former scheme introduced by the water authorities in the late 1970s and used by the National Rivers Authority until 1994. The RE Classification comprises five hierarchical classes as summarised below.

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

Where we have been unable to identify resources to resolve current water quality problems, we have 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 developments will not prevent us from achieving our long-term objectives.

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.

## 6.5.1 Classified stretches

River	Stretch boundaries	RQO	Dated
Dorset Frome	Burl Farm to confluence with the Wraxall Brook	2	
	Confluence with the Wraxall Brook to confluence with the Hooke	2	
	Confluence with the Hooke to Frampton	2	
	Frampton to confluence with the Cerne	1	
	Poundbury to downstream of the Dorchester bifurcation	2	
	Confluence with the Cerne to Frome Whitfield	2	
	Frome Whitfield to downstream of the Dorchester bifurcation	2	
	Downstream of the Dorchester bifurcation to Dorchester sewage treatment works	2	
	Dorchester sewage treatment works to confluence with the South Winterbourne	2	
	Confluence with the South Winterbourne to East Burton	1	
	Downstream of Pallington to downstream of Golden Springs fish farm	1	2000
	Downstream of Golden Springs fish farm to confluence with the Tadnoll Brook	1	2000
	Confluence with the Tadnoll Brook to East Burton	1	
	East Burton to downstream of the Water Barn bifurcation	1	
	Upstream of the Water Barn bifurcation to downstream of the Water Barn bifurcation	1	
	Downstream of the Water Barn bifurcation to East Stoke (South)	2	
	Upstream of the Wool bifurcation to East Stoke (North)	2	
	East Stoke to Holme Bridge	2	
	Holme Bridge to Wareham (estuary)	2	
Hooke	Upstream of Hooke fish farm to downstream of Hooke fish farm	2	
	Downstream of Hooke fish farm to Hooke	2	
	Hooke to Kingcombe	2	
Sydling Water	Kingcombe to confluence with the Frome	2	
	Up Sydling to downstream of Huish fish farm	1	
	Downstream of Huish fish farm to Shearplace Hill	1	
	Shearplace Hill to Lower Magiston	1	
	Lower Magiston to downstream of Lower Magiston fish farm	1	2000
Cerne	Downstream of Lower Magiston fish farm to confluence with the Frome	1	2000
	Cerne Abbas to upstream of Nether Cerne fish farm	1	
	Upstream of Nether Cerne fish farm to downstream of Nether Cerne fish farm	1	
	Downstream of Nether Cerne fish farm to confluence with the Frome	1	
South Winterbourne Tadnoll Brook	Source to confluence with the Frome	1	
	Broadmayne to the confluence with Empool Bottom	2	
	Confluence with Empool Bottom to Ryclose	2	
	Ryclose to Moigne Combe	2	
	Moigne Combe to confluence with the Frome	2	
Piddle	Manor House to Alton Pancras	1	
	Alton Pancras to confluence with the Druce Stream	2	
	Confluence with the Druce Stream to Burleston Bridge	1	
	Burleston Bridge to Brockhill	1	
	Brockhill to Chamberlaynes Farm	1	
	Chamberlaynes Farm to downstream of the Trigon bifurcation	1	
	Upstream of the Trigon bifurcation to upstream of 8 Hatch fish farm	1	
	Upstream of 8 Hatch fish farm to 8 Hatch fish farm	1	
	8 Hatch fish farm to downstream of the Trigon bifurcation	2	
	Downstream of the Trigon bifurcation to Wareham (estuary)	2	
Devil's Brook Bere Stream Corfe Sherford River	Ansty to Burleston Bridge	1	
	Milborne St Andrew to confluence with the Piddle	1	
	Bucknowle House to Estuary	2	
	Upstream of Morden Park Lake to Organford	2	
	Organford to Estuary	2	



## 6.6 National Air Quality Strategy

The table below gives further details on the seven pollutants for which air quality objectives have been set in the National Air Quality Strategy (see Section 3.19).

Pollutant	Comment
Nitrogen Dioxide	Gas produced by the reaction of nitrogen and oxygen in a two-stage reaction which initially results in the formation of nitric oxide, which is then oxidised to nitrogen dioxide in the atmosphere. Both are oxides of nitrogen and together they are referred to as NO <sub>x</sub> . The main source of oxides of nitrogen is from motor vehicles; other sources include non-nuclear power stations and industrial activity
Carbon Monoxide	Gas produced by the incomplete combustion of organic substances. The common sources are motor vehicles and combustion related industries
1,3 Butadiene	Used in industry mainly in the manufacture of synthetic rubber and in the petroleum industry
PM <sub>10</sub>	Particles of less than 10 mm in diameter. Particles arise from both man-made and natural sources
Sulphur Dioxide	Gas produced from the combustion of fossil fuels, sources include power stations and other combustion industries
Benzene	Not naturally produced and commonly reaches the atmosphere through the combustion of petroleum fuels and the processing and transportation of these fuels
Lead	The main source of airborne lead is from the combustion of petrol in motor vehicles. The other main sources are from industry and waste disposal

## 7. Glossary

**Abstraction** - removal of water from surface or groundwater

**Algae** - a diverse group of simple aquatic plants, which can grow in rivers and in the sea in great profusion (blooms)

**Area of Outstanding Natural Beauty** - an area designated by the then Countryside Commission under the 1949 National Parks and Access to the Countryside Act for its particularly attractive landscape and unspoilt character, which should be protected and enhanced as part of the national heritage

**B of P** - Borough of Poole

**BAP** – Biodiversity Action Plan

**Blue-green algae** - ubiquitous, usually microscopic, plankton with properties characteristic of bacteria and algae. They can grow to excess to form dense blooms and scums, and are known to produce chemicals toxic to mammals

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

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

**Circular 30/92** - circular published by the then Department of the Environment requiring local authorities and the Agency to liaise on flooding and surface water runoff matters to ensure that flooding risks that might arise from a development are recognised. The circular directs local authorities to use their planning powers to guide development away from areas that may be affected by flooding and to restrict development that would itself increase the risk of flooding

**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)

**Cost-benefit analysis** - a methodology to ensure the benefits of a particular project or scheme outweigh the costs

**cSAC** - candidate Special Area for Conservation

**Cumec** - a measure of flow equating to one metre cubed per second (1m<sup>3</sup>/s)

**DCC** – Dorset County Council

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

**DHA** - Dorset Health Authority

**Diatoms** - a type of benthic (attached to the river bed, sea floor or aquatic weed) algae

**Dissolved oxygen (DO)** - oxygen dissolved in water; suitable levels are essential for the maintenance of aquatic life



**DRWG** – Dorset Reedbed Working Group

**DWT** – Dorset Wildlife Trust

**EBP** – Education Business Partnership

**EC** - European Community

**EN** - English Nature

**Escapement** - the stock (fish stock) remaining after exploitation

**EU Life Fund** - exists to support the development of and implementation of the EC's environmental policy. One part of the programme, LIFE - Nature, funds the protection of endangered habitats and species, particularly projects that contribute to the conservation of sites protected under the EC Habitats Directive and sites classified as Special Protection Areas under the EC Birds Directive

**Floodplain** - all land adjacent to a watercourse over which water flows in times of flood or would flow but for the presence of flood defences where they exist

**FRCA** - Farming and Rural Conservation Agency; an executive Agency of MAFF and the Welsh Office. They assist the Government in the design, development and implementation of policies on the integration of farming and conservation, environmental protection and the rural economy

**Highways Authority** - The Department of the Environment, Transport and the Regions is responsible for motorways and trunk roads. County Councils and Unitary Authorities are the Highways Authorities with responsibility for maintenance, improvement and creation of public highways under the Highways Act

**LAs** - Local authorities

**Macrophyte** - plants

**MAFF** - Ministry of Agriculture, Fisheries and Food

**MI/d** – a measure of flow equating to one million litres per day

**MoD** – Ministry of Defence

**Multi-Sea Winter salmon** - adult salmon which have spent more than one winter at sea (2 Sea Winter, two winters at sea, 3 Sea Winter, three winters at sea)

**National Rivers Authority** - one of three predecessor bodies to the Environment Agency

**NT** – National Trust

**Nutrient** - chemical essential for plant growth, for example nitrate, phosphate

**pa** - per annum

**PDC** – Purbeck District Council

**Perennial** - lasting all year

**PHABSIM** - Physical Habitat Simulation system, a methodology that predicts the amount of habitat available to the species and/or life stage under investigation at a given river flow

**Population Equivalent (PE)** - a measure of the polluting load of an organic discharge. One population equivalent is defined as the organic degradable load with a BOD of 60 g 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

**Ramsar** - sites identified by the UK Government under the convention of wetlands of International Importance

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

**RSPB** - Royal Society for the Protection of Birds

**Salmonids** - salmon, brown and sea trout and rainbow trout

**Secondary treatment** - the treatment of sewage, usually after the removal of suspended solids

**Section 105 survey** - 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

**South West Regional Planning Conference** - this was a group made up of strategic planning authorities, County Councils and Unitary Authorities, with a specific remit to prepare regional planning guidance for the South West. It has now merged with the Regional Assembly and incorporates all local authorities and a number of other partner organisations

**SPA** - Special Protection Area

**Spring-running salmon** - fish that are caught or enter the river before 1st June. These are more generally referred to as **early-running fish**. Those caught or entering the river from 1st June onwards are often described as **late-running fish**

**Site of Special Scientific Interest (SSSI)** - a site of national importance designated under the Wildlife and Countryside Act 1981. Habitats, sites for individual species, geology and land forms may be designated

**Stream augmentation** - the pumping of water into a watercourse to increase its flow

**STW** - sewage treatment works

**SWWMG** - South Wessex Waste Minimisation Group

**Total ammonia** - nitrogen present as ammonia and ammonium ion

**Tributary** - a stream or river which feeds into a larger one

**Watercourse** - the term includes all rivers, streams, ditches, drains, cuts, dykes, sluices, sewers (other than public sewers) and passages through which water flows

**WDDC** - West Dorset District Council

**Winterbourne** - a stream which only flows seasonally, usually in winter

**WW** - Wessex Water Services Ltd



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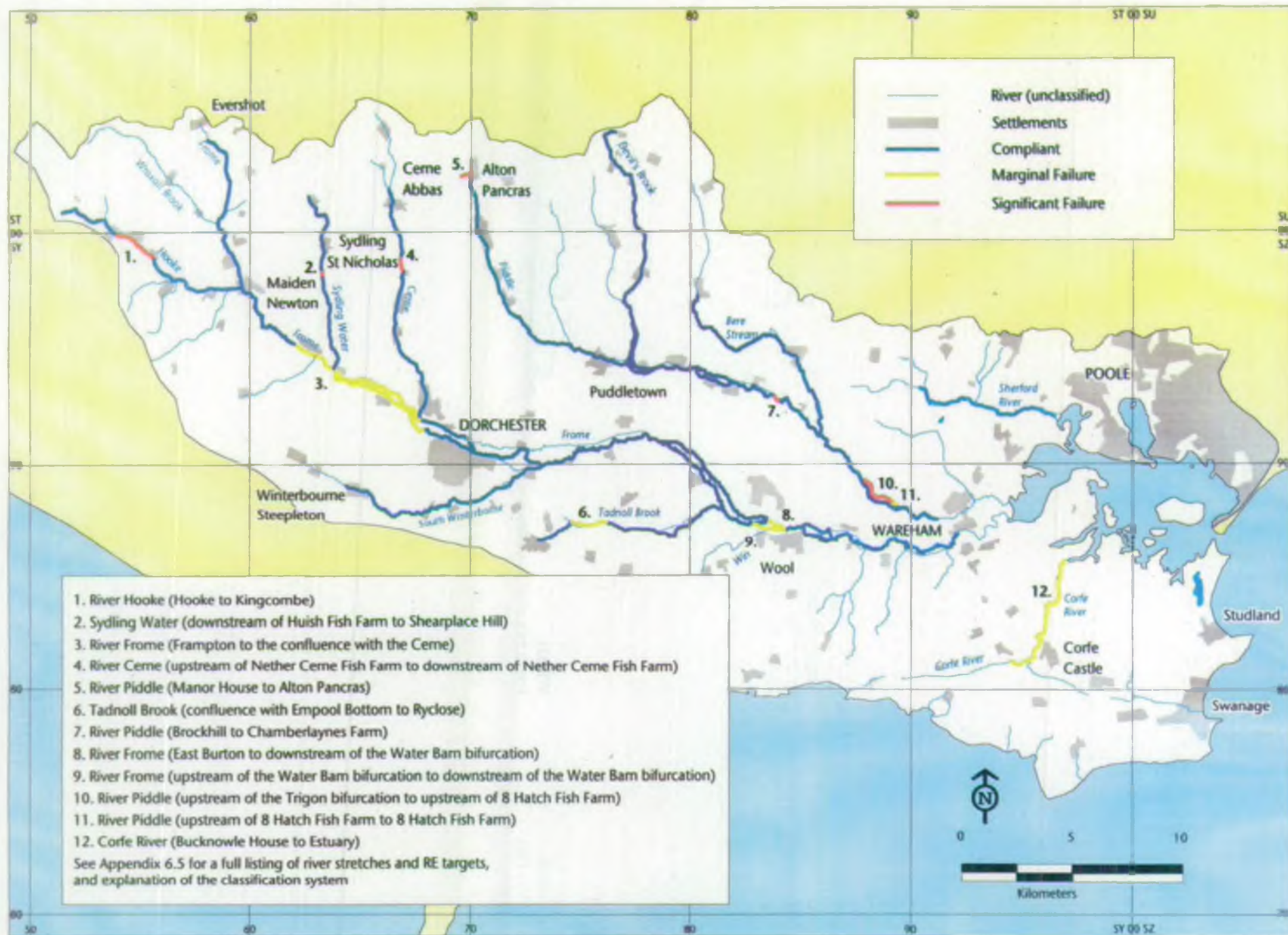








**Map 2 - 1999 Compliance with River Quality Objectives  
(River Ecosystem Classification)**





## MANAGEMENT AND CONTACTS:

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

Head Office is responsible for overall policy and relationships with national bodies including Government.

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For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

#### ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

**0645 333 111**

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

#### ENVIRONMENT AGENCY EMERGENCY HOTLINE

**0800 80 70 60**

For general information about flooding.  
BECAUSE FLOODS DON'T JUST  
HAPPEN TO OTHER PEOPLE

#### ENVIRONMENT AGENCY FLOODLINE

**0845 988 1188**



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