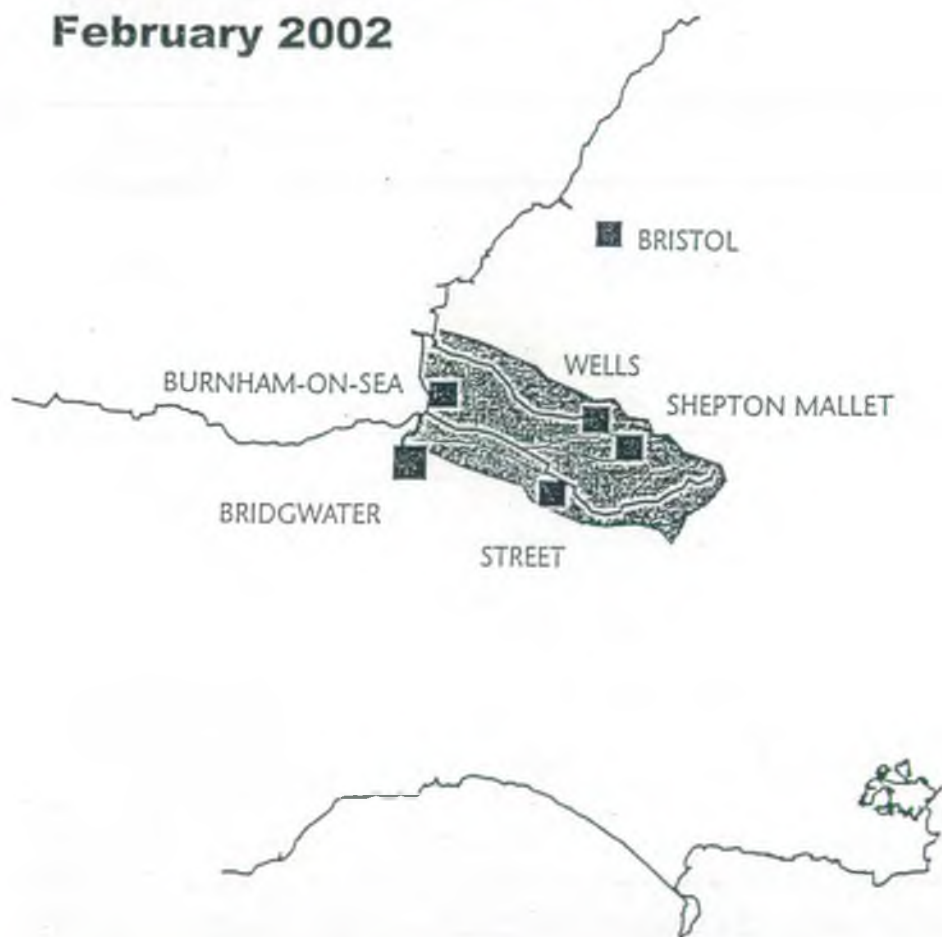


local environment agency plan

BRUE & AXE **THIRD ANNUAL REVIEW** **February 2002**



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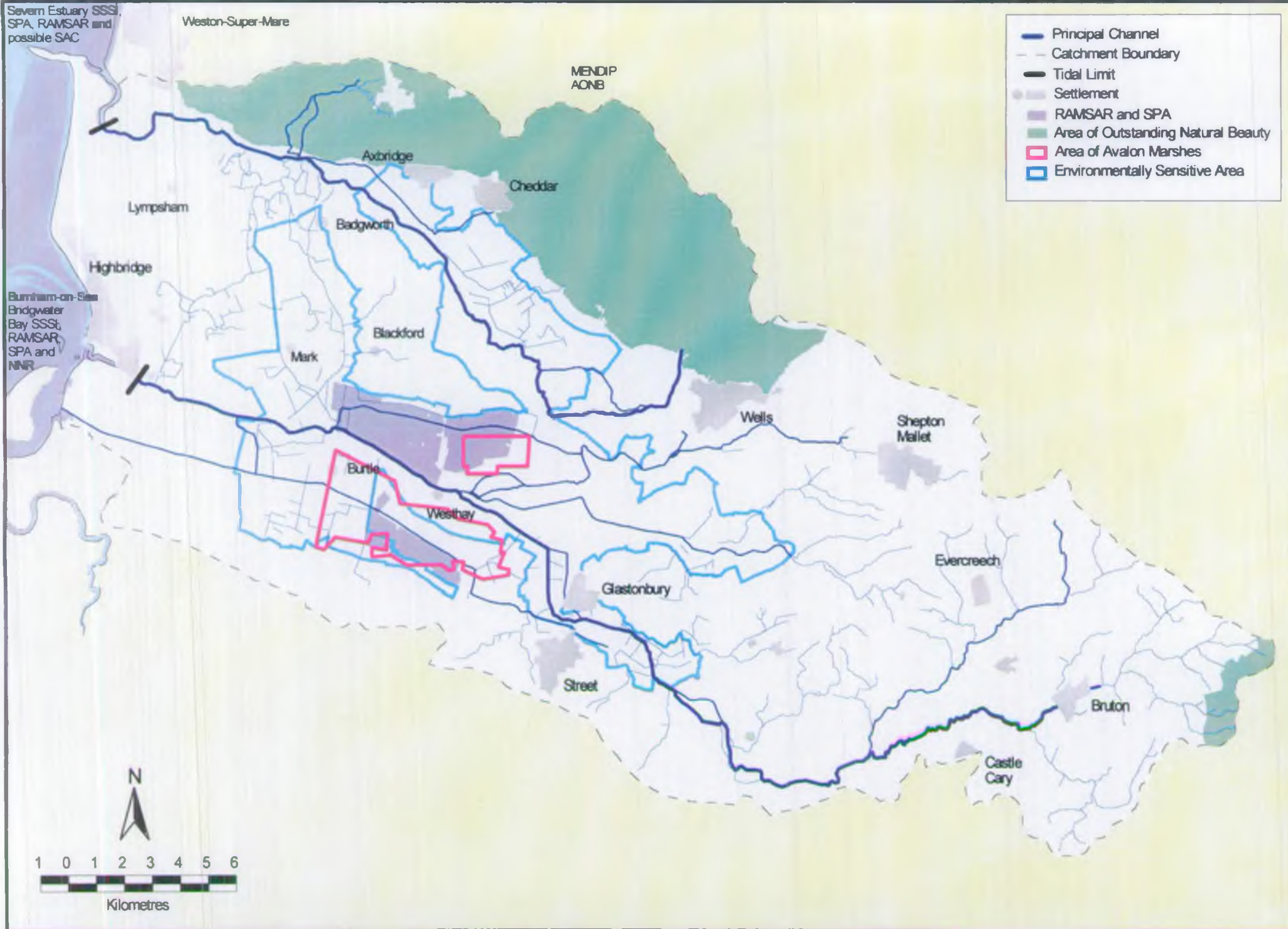
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Tel: 01278 457333

Severn Estuary SSSI,
SPA, RAMSAR and
possible SAC

Weston-Super-Mare

MENDIP
AONB

- Principal Channel
- Catchment Boundary
- Tidal Limit
- Settlement
- RAMSAR and SPA
- Area of Outstanding Natural Beauty
- Area of Avalon Marshes
- Environmentally Sensitive Area



1. Introduction

1.1. Brue & Axe Third Annual Review

This is the third Annual Review of the Brue and Axe Action Plan. It provides a summary of the Environment Agency's progress on actions set out in the Action Plan. More detailed background information is provided by the previous publications relating to this catchment:

- | | |
|-------------------------------------|----------------|
| • Brue and Axe Consultation Report | July 1997 |
| • Brue and Axe Action Plan | March 1998 |
| • Brue and Axe First Annual Review | July 1999 |
| • Brue and Axe Second Annual Review | September 2000 |

1.2. The Environment Agency

The Environment Agency is a non-departmental public body established by the Environment Act of 1995, and formed on 1 April 1996.

We have a wide range of duties and powers relating to different aspects of environmental management (these are given in detail in Appendix 2). Government requires that we help achieve the objectives of sustainable development, defined as *development that meets the needs of the present without compromising the ability of future generations to meet their own needs*.

Taking a long-term perspective will require us to anticipate risks and encourage precautions, particularly where irreversible or long term impacts on the environment are concerned. We must also develop our role to educate and inform society as a whole to think *globally* but act *locally*, as well as carrying out our prevention and enforcement activities. We also work in partnership with those who share common objectives, to ensure the continuing protection and enhancement of the environment.

In January 2001 the Environment Agency launched 'An Environmental Vision: The Environment Agency's contribution to sustainable development'. Copies can be obtained from our Bridgwater Office.

This Environmental Vision is based around nine themes for achieving 'a healthy, rich and diverse environment in England and Wales for present and future generations.'

These goals are:

- A better quality of life for the whole community.
- An enhanced environment for wildlife.
- Cleaner air for everyone.
- Improved and protected inland and coastal waters.
- Restored and protected land with healthier soils.
- A 'greener' business world.
- Wiser, sustainable use of natural resources.
- Limiting and adapting to climate change.
- Reducing flood risk.

LEAPs have played a part in working towards a more sustainable environment.

1.3. Local Environment Agency Plans

This plan is one of a series of Local Environment Agency Plans (LEAPs), which allow us to produce our local programme of integrated actions for environmental improvement.

LEAPs help us to identify and assess, prioritise and solve those local environmental issues within our remit and related to our functions. They also allow us to take into account the views of our local customers through a consultation process. As a result, LEAPs have helped us to deploy our resources to best effect and optimise benefit for the local environment. The LEAP process has several stages as outlined below.

- **LEAP Action Plan Consultation Report:**

The Brue and Axe Consultation Report was published in July 1997, beginning a three month period of public consultation. The purpose of the consultation period is to allow the Agency, external organisations and the public to liaise and reach a consensus about the management of the LEAP area.

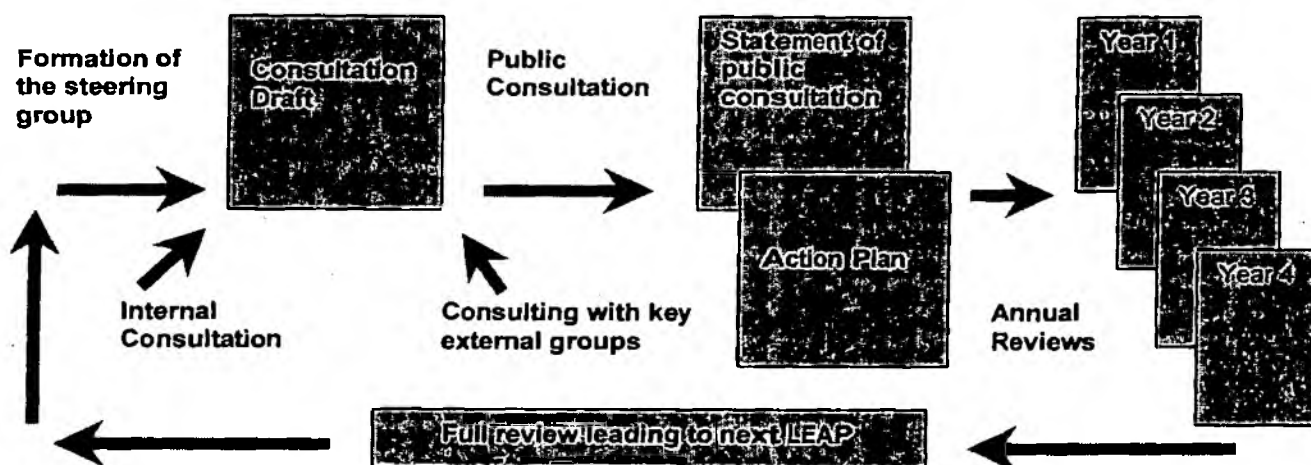
- **LEAP Action Plan:**

The Brue and Axe Action Plan was published in March 1998 and takes into account the views expressed during the consultation process. It outlines how the Agency and other organisations plan to deal with issues that affect the environment within the River Brue and Axe catchment.

- **Annual Reviews:**

This is the third annual review for the Brue and Axe Catchment, and reports on the progress in carrying out our planned actions. This is also an opportunity to address new issues and actions as they arise. This will be the last Annual Review of Brue & Axe Action Plan.

The LEAP Process:



We invite readers to contact us at any time to raise new issues or suggest new actions; this ensures the Environment Agency continually evolves to meet the changing needs of the local environment.

1.4. The LEAP Steering Group

The LEAP Steering Group represents a range of interests who endorse the Consultation Report and Action Plan prior to public release. They monitor the implementation of the Action Plan and provide the Agency with specific advice on the importance of issues within the Plan area.

The Steering Group acts as a communication link between the local community, the Agency and its committees, and also helps to promote and develop initiatives of benefit to the environment within the catchment. The Steering Group members for the Brue and Axe LEAP are:

Name	Representing
Mr I Ham	National Farmers Union
Mr M Berry	Bristol Water Company
Dr C Hancock	Somerset Wildlife Trust
Mr P Daniel	Wyvern Waste
Mr R Bradford	Somerset County Council
Mr R Shearwood-Porter	Inveresk Plc, St Cuthberts Paper Mill
Mr D Hooper	Mendip District Council
Vacancy	Local Flood Defence Committee
Captain P Lee	Harbour Master
Mr N Gibson	British Canoe Union
Mr J Mathrick	Angling
Mr J B H Watkis	Internal Drainage Boards
Mr M Venning	Wessex Water
Mr R Bond	Somerset Peat Producers Association
Mr M Jones	English Nature
Mr R Martin	General
Miss J Milling	Mendip District Council
Mrs A Lennox	Ramblers Association
Mrs G Shaw	Dept. for Environment, Food & Rural Affairs (DEFRA)

1.5. Making It Happen – Local Contributions

The Environmental Vision (see section 1.2.) has set out what we want to see in the long term. *Making It Happen* sets out what we are going to do in the next five years towards achieving these goals.

Local Contributions are to be developed which will enable us to turn national priorities into action on the ground. Drawing up these local contributions will involve everyone in the Agency as well as key stakeholders externally. The target is to have the local contributions developed by July 2002.

- January – March 2002: Local outcomes and targets agreed, and contributions developed.
- April 2002: Required resources identified and prioritised.
- May 2002: Draft Local Contribution documents compiled.
- June 2002: Draft Local Contribution documents complete.
- June – September 2002: Local Contributions agreed.
- September – April 2003: Annual business plans and personal objectives developed.

Our objectives are a mix of ongoing responsibilities, carried out in new ways, and new work: both are equally as important.

The Local Environment Agency Plan (LEAP) process has already identified issues and actions needed to improve the local environment. The relevant issues and actions will be incorporated into the Local Contributions and the LEAP process itself will cease as it duplicates the Local Contribution.

1.6. Catchment Overview

The Brue and Axe catchment lies wholly within the County of Somerset. The River Brue rises in the clay uplands to the east of the catchment, flowing slowly through the flat lowlands of the Somerset Levels and Moors, often in man-made channels, before entering the sea at Highbridge.

The River Sheppey, the River Axe and its tributaries, the Cheddar Yeo and Lox Yeo, rise from limestone springs on the Mendips, before flowing through the Somerset Levels and Moors to the sea just north of Brean Down. The rivers are interconnected in several places by rhynes controlled by sluices, forming a very complex artificial drainage system.

The catchment is predominantly agricultural with an increasing amount of tourism including the Avalon Marshes Project to the west of Glastonbury. The Somerset Levels and Moors Environmentally Sensitive Area scheme is encouraging farmers to farm less intensively, with higher winter and spring water levels than over the past 50 years. Water levels are controlled by a system of rhynes, ditches and sluices, with pumping stations operated by the Agency to return excess water to the rivers.

The Royal Ordnance Factory is situated at Puriton just to the north of Bridgwater. Some light industry is centred around the main towns and there are two limestone quarries in the Mendips. There is cider making at Shepton Mallet, a paper mill at Wells and peat extraction to the west of Glastonbury.

The catchment is very important for wildlife. Of particular interest are the lowland wet grassland resource and freshwater ditch communities of the Somerset Levels and Moors, the largest remaining area of these habitats in Britain. Seven of the wetland Sites of Special Scientific Interest (SSSIs) have been designated as a Special Protection Area and Ramsar site of international conservation importance for over-wintering wildfowl and outstanding assemblages of aquatic invertebrate communities.

1.7. Resources

In the action tables the estimated costs of actions for the catchment have been given where possible. The costs are given as thousands of pounds (£k) and include staff time.

The following figures, presented in the Agency's North Wessex Area Business Plan, have been included to give an indication of available resources and expenditure on Agency functions by area to provide a context for spending priorities in the Brue and Axe catchment. Regrettably these figures are not available at a catchment level.

Figure 1: Area budgets for 2001/2002.

Function	Budget
Environment Protection	£3,202 (k)
Fisheries, Ecology and Recreation	£993 (k)
Flood Defence and Water Resources	£5,322 (k)

1.8. Priorities

A large proportion of the North Wessex Area budget is used to undertake work required of us by legislation and regulation, and by Agency 'national must-do's'. This includes committing substantial resources to everyday monitoring and management of the environment. Remaining resources are used to undertake other environmental works throughout the area on a priority basis, reviewed annually as part of our business planning process.

The issues identified in this plan have arisen despite our considerable statutory work and the work of other organisations. Some issues can be resolved by reprioritising and redirecting our resources within our statutory work programme, sometimes requiring the help and co-operation of other bodies. Other issues require action over and above our statutory work and funding; resources for this work are not certain. Matched project funding is usually required in these cases.

Some issues require solutions beyond the scope of our existing budgets or technology. However, these are still valid issues and so are included in this plan in the hope that a solution may be found in the future.

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. Our priorities, policies and budget may change, thus changing our action programme. For example, development pressures within the catchment have resulted in a significant increase in workload, responding to both planning applications and general information requests. The outlook is for such development to continue, maintaining the pressure on staff resources and so affecting the prioritisation of non-routine actions.

The non-statutory actions in this plan have been prioritised, together with those from our other LEAP areas and other proposed actions. Those actions, which do not receive funding from statutory budgets, have been given a priority number of 1-3, with 1 being the highest priority. The priority of these unfunded actions is listed next to each one in the progress report in Section 4. Our Managers take into account the priority of LEAP actions when producing our Annual Business Plan.

1.9. The Department for Environment, Food and Rural Affairs (DEFRA)

On 8 June 2001 the Department for Environment, Food & Rural Affairs (DEFRA) was formed. DEFRA is a new Government Department bringing together responsibilities for:

- Environmental protection from the former Department of the Environment, Transport and the Regions (DETR).
- Wildlife and countryside, including the rural economy, from the former DETR.
- Certain animal welfare issues and hunting with hounds from the Home Office.
- All the functions of the former Ministry of Agriculture, Fisheries and Food (MAFF).

Environmental, rural, food, farming and related issues have become more complex and interconnected. DEFRA was formed so that the Government can handle these issues more effectively within one Department. DEFRA's formation underlies the Government's long-term strategies on food, farming, the environment, rural communities and sustainable development – issues which lie at the heart of the work of this Department.

At the time of publication of the Brue & Axe 2nd Annual Review the Ministry of Agriculture, Fisheries and Food (MAFF) was still in existence and was a partner of some of the actions in the Brue & Axe Action Plan. The action update tables in this document (Section 4) state DEFRA as the partner where MAFF was cited in 2000.

2. Legislation

2.1. The Habitats Directive

The European Community Birds Directive (79/409/EEC) and the Conservation of Natural Habitats and of Wild Flora and Fauna Directive (92/43/EEC) (known as the Habitats Directive) place responsibilities on the Agency in addition to our normal conservation duties. Both Directives were made UK legislation by the Conservation (Natural Habitats, & c.) Regulations 1994 (the 'Habitats Regulations').

The aim of the legislation is to protect and conserve certain threatened species and habitats throughout Europe, which is being achieved through the establishment of a network of nature conservation sites, known as the Natura 2000 Network. Natura 2000 sites are Special Protection Areas (SPAs) which are designated under the Birds Directive, and Special Areas of Conservation (SACs) which are designated under the Habitats Directive. It is Government policy that RAMSAR wetland sites (sites identified under the Convention on Wetlands of International Importance, which was ratified by the United Kingdom Government in 1976) will also be considered under the Habitats Regulations. The Government has decided that once a possible Special Area of Conservation (pSAC) has been submitted to Brussels (i.e. it has become a candidate Special Area of Conservation or cSAC) the Regulations will apply. Natura 2000 sites are also Nationally designated as Sites of Special Scientific Interest (SSSIs).

Figure 2: Summary of the Assessment Process under the EC Habitats & Birds Directives.

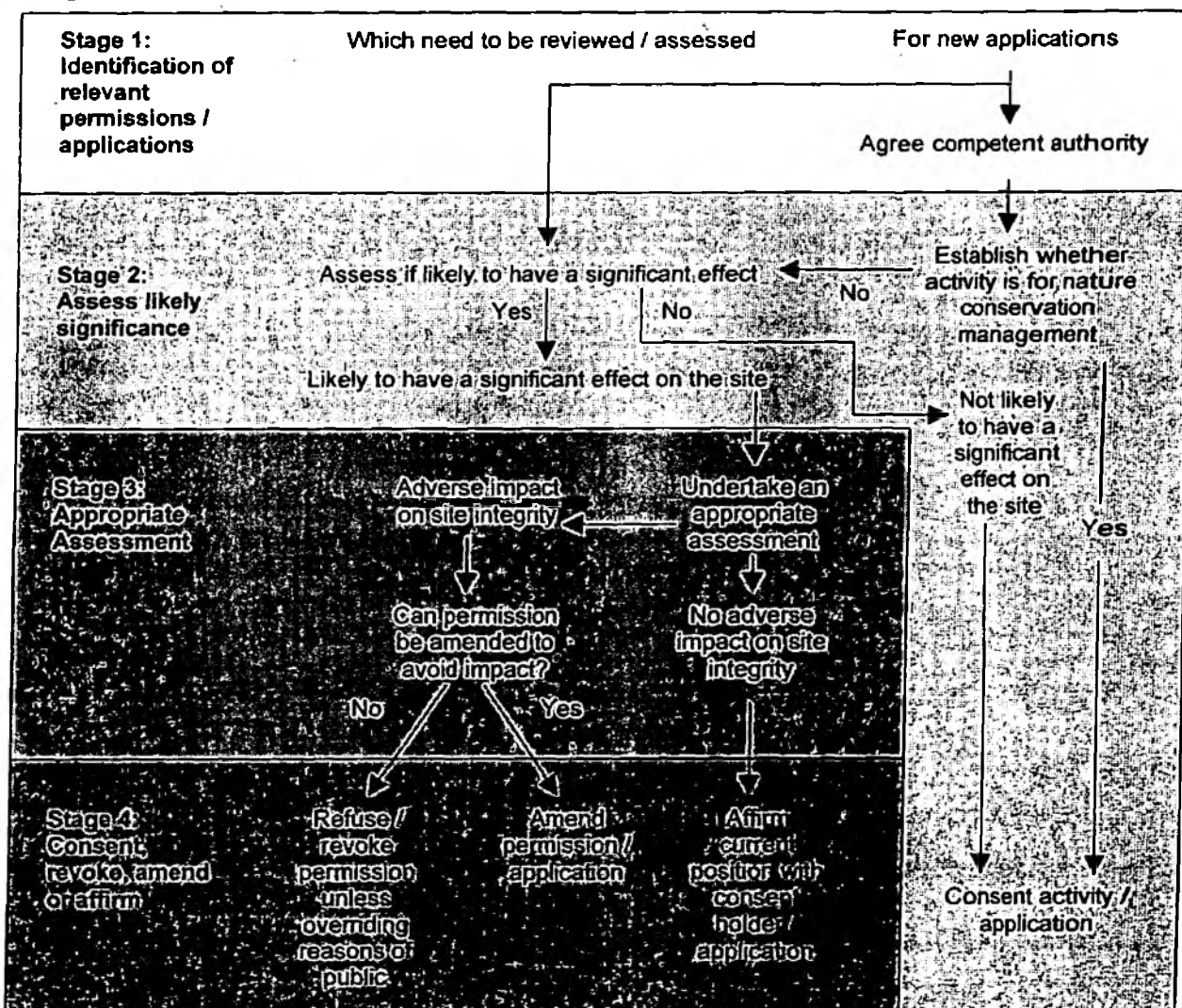


Figure 2 summarises the identification and authorisation process under the Regulations. The assessment of the effect of a new or existing activity or authorisation on a Natura 2000 site must take place in the light of conservation objectives supplied by English Nature. The authorisation or activity can only be allowed where the assessment has demonstrated that it will not adversely affect the integrity of the site. The Government will decide where it is considered that there are imperative reasons of overriding public interest.

There are currently over 180 candidate SACs and 91 SPAs in England and Wales, covering a wide range of habitats and species on land and at sea. Additional sites and revisions to existing sites are being discussed in a meeting in the Netherlands in early March 2002, as the UK Government was asked by the EU to increase the number of Natura 2000 sites and features. The Government has also undertaken to ensure that all SSSIs will be in a favourable condition by 2010. There are five sites in the Brue and Axe catchment, which are part of the Natura 2000 network (see Figure 3).

Figure 3: Natura 2000 Sites in the Brue and Axe Catchment.

Site	Designation	Qualifying Interests
Somerset Levels and Moors	Special Protection Area, Ramsar Site	Bewick's swan, golden plover, teal, lapwing, wintering waterfowl numbers in excess of 20,000 and the outstanding assemblage of ditch flora & fauna, particularly water beetles.
Severn Estuary	Special Protection Area, Possible Special Area of Conservation, Ramsar Site	Bewick's swan, Gadwall, European white-fronted goose, Dunlin, Shelduck, Redshank, Whimbrel, and wintering waterfowl numbers in excess of 20,000. The Severn Estuary is one of the best areas in the UK for subtidal sandbanks, estuaries, migratory fish, Atlantic salt meadows and intertidal mudflats and sand flats, and is also designated for reefs, submerged marine habitats and its immense tidal range.
Mendip Woodlands	Candidate Special Area of Conservation	Mixed woodland on alkaline soils associated with rocky slopes for which this is considered to be one of the best areas in the UK.
Mendip Limestone Grasslands	Candidate Special Area of Conservation	Mixed woodland on alkaline soils associated with rocky slopes and semi natural dry grasslands and scrub on alkaline soils, for which this is considered to be one of the best areas in the UK for caves, dry heaths, and Greater and Lesser Horseshoe bats.
North Somerset and Mendip Bats	Candidate Special Area of Conservation	Greater and Lesser Horseshoe bats, mixed woodland on alkaline soils associated with rocky slopes, semi natural dry grasslands and scrub on alkaline soils, and caves, for which this is considered to be one of the best areas in the UK.

The Agency, as a 'Competent Authority', has extra responsibilities to safeguard these sites. Any application for a new authorisation (e.g. consents to discharge, abstraction licences, waste licences, land drainage consents, Integrated Pollution Prevention and Control permits, or Radioactive Substances Authorisations) or activity (e.g. flood defence work), that is likely to have a significant effect on a Natura 2000 site, will be subject to an appropriate assessment of the likely impact on the conservation interests of the site. We are also obliged to review all existing authorisations and activities that may be affecting the sites by 2010. These authorisations can be either inside or outside the site, as those outside the boundary may still have the potential to impact on the site's qualifying interests.

2.2. The Countryside & Rights of Way Act 2000

The Countryside and Rights of Way Act 2000 (CRoW Act) came into force on 30 January 2001. The CRoW Act presently applies only to England and Wales, but Scotland is expected to develop similar legislation.

This new Act covers several areas that are potentially important for the Environment Agency and is encapsulated by two of the nine themes in the Agency's Environmental Vision: A Better Quality of Life and An Enhanced Environment for Wildlife. Specific key measures include:

Access and Rights of Way:

- Giving the public a new right of access to mountain, moor, heath, down, and registered common land, whilst protecting the rights of landowners and managers.
- Improving the rights of way legislation by encouraging the creation of new routes and clarifying uncertainties about what rights already exist.
- Local Authorities will be required to review and publish plans for improving rights of way.

Wildlife Protection:

- A new duty on Government Departments to have regard to biodiversity conservation and maintain lists of species and habitats for which conservation measures should be taken or promoted.
- A statutory duty for public bodies to further the conservation and enhancement of Sites of Special Scientific Interest (SSSIs) and have regard for Areas of Outstanding Natural Beauty (AONBs).
- Better protection for wildlife habitats by introducing higher penalties for those who damage SSSIs, and more incentives for positive land management.
- A stronger legal protection for threatened species by updating the Wildlife and Countryside Act 1981.

There is a duty for all public bodies to 'further the conservation of SSSIs, and enhance the natural features for which they were notified' (section 28G). The Environment Agency, as a s28G authority, has an important duty when exercising statutory functions that may effect SSSIs. Where Agency operations are likely to damage a SSSI or when granting permission to other parties to carry out works that are likely to damage a SSSI, the Agency must notify and consult with English Nature. This duty applies whether or not the operation would actually take place on the SSSI.

The CRoW Act sets out a general duty on all Government Departments to further the UK commitment to global conservation, by having regard to the Convention on Biological Diversity. This is translated by domestic legislation into Biodiversity Action Plan targets, and other provisions aimed at delivering key EU Directives such as the Habitats and Species Directive and the Birds Directive.

2.3. The Water Framework Directive

The European Water Framework Directive (2000/60/EEC) was introduced in the UK in December 2000. This date signified the beginning of a three-year consultation process. The Directive has to be transposed into domestic legislation by 2003. The new directive will replace a variety of issue specific directives, which have governed water management in the UK for the last three decades.

It will introduce a more integrated approach, including both water quality and quantity issues, ecological and chemical standards. It will also take a more holistic approach to river catchments and introduce the concept of River Basin Districts; administrative areas based on the catchment rather than political boundaries. All inland waters will be covered including surface, ground, transitional and coastal waters.

The key objectives are to:

- Prevent further deterioration and protect and enhance the status of aquatic ecosystems and associated wetlands.
- Promote sustainable water consumption.
- Contribute to mitigating the effects of floods and droughts.

The Directive is significant for taking a holistic approach to water management and for introducing monitoring and assessment strategies common to all Member States in the European Union. The Directive sets out arrangements for river basin administration and planning based on common objectives for water status. Implementation will require member states to develop "River Basin Management Plans" as a statutory planning process subject to public consultation and review on a six-year cycle.

2.4. The Landfill Directive

The European Union Landfill Directive (1999/31/EEC) requires that a number of changes to the waste industry and waste regulation take place.

The main requirements of the Directive are:

- Biodegradable Municipal Waste going to Landfill nationally must be reduced to 75%, 50% and 35% of that produced in 1995 by 2010, 2013 and 2020 respectively.
- All landfills must be classified as either for hazardous waste, non-hazardous waste or inert waste.
- With few exceptions, all waste must be treated before going to landfill.
- Co-disposal of hazardous wastes with other wastes will not be permitted.
- Liquid wastes, explosive, corrosive, oxidising, highly flammable and flammable wastes will be banned from all landfills, as will some hospital and other clinical wastes and whole and shredded tyres.

Sites must also have:

- Detailed operations and monitoring plans.
- Plans for closure and aftercare including adequate financial provision.
- Plans to prevent accidents and limit their consequences.
- Operators and their staff to be technically competent.
- Prescribed engineering requirements to protect ground- and surface waters or an auditable site risk assessment to demonstrate equivalent environmental protection.
- Controls on the migration of landfill gas and measures to use or flare it.

3. Summary of progress

3.1. Development Pressure

Following the floods of Easter 1998 and winter 2000/01, the Government introduced a 'step change' in attitudes to flood risk and land use, which is articulated in the PPG (Planning Policy Guidance note) 25: Development and Flood Risk. This came into force in July 2001 and will be reviewed in July 2004.

The PPG 25 promotes sustainable location and sustainable design, and provides advice on how to consider flood risk at all stages of the planning process. The need for partnerships in land use planning is implicit in the PPG 25. Partnerships are vital to the achievement of sustainable development and the Government expects the Environment Agency to play a positive role in the preparation of Development Plans. This will require early involvement, together with timely provision and interpretation of flood risk data. Integrated thinking and action is required to reduce flood risk and thus strategic partnerships with Local Planning Authorities and other organisations must be established.

The Local Planning Authorities covering the Brue and Axe catchments are North Somerset Council, Mendip District Council, Sedgemoor District Council and South Somerset District Council. The Agency has issued all Local Planning Authorities with plans of indicative flood risk areas as part of our role as formal advisor to the Local Planning Authorities on Development and Flood Risk (Section 105 plans).

The two authorities that cover the majority of the catchment, Mendip and Sedgemoor, have both included Section 105 flood data on their Local Plan Deposit maps. The Agency considers this to be most helpful as it not only informs the readers of the plan on this aspect but also demonstrates to other Local Planning Authorities that it can be practically achieved without over burdening the maps.

We have an ongoing programme of producing detailed flood maps targeted at areas likely to be allocated for development within the current round of Local Plan Reviews to 2011. In conjunction with the Section 105 programme, the Agency also advises Local Planning Authorities on appropriate planning policies to deal with flood risk and surface water disposal. The Agency is seeking to influence all Local Planning Authorities in the take up and presentation of the Section 105 data. This helps inform the readers of the plan at an early stage of the problems likely to be encountered in such areas and therefore help dissuade developers from pursuing sites in such locations.

North Wessex Area has produced a document entitled 'Environmental Planning Issues in the North Wessex Area'. The document is intended as an invitation to planning authorities to seek the Agency's involvement rather than as a substitute for discussion. It is designed to be useful to all of the planning authorities whose areas are within the North Wessex Area, though the information should also be of interest and use to all concerned with making a better environment, and contributing to greater sustainability.

The document explains how the Agency believes that the environmental issues it deals with affect the matters planning authorities deal with, and how best they can be taken into account.

3.2. Flood Defence

The LEAP actions identified form only part of the Flood Defence commitment within the catchment. Core maintenance activities in the summer include weed cutting, application of herbicide and grass cutting of flood banks whilst in the winter dredging, fence repairs and tree/blockage removal is carried out. Asset and water level management is carried out all year round. This involves operation and maintenance of pumping stations and sluices which maintain summer water levels and evacuate winter floodwater. Most of this work is carried out by the in-house Emergency Workforce who also routinely respond to flood events and pollution incidents when they occur.

Other measures we have taken to lessen the impact of flooding include providing all local authorities with flood risk maps, producing a Major Incident Plan for Bruton with the help of Somerset County Council and the Police, and sending out thousands of letters to property owners advising them they may be at risk from flooding.

3.3. Catchment Flood Management Plans (CFMPs)

In April 2002, The Department for Environment, Food and Rural Affairs (DEFRA) will publish guidelines for the production of CFMP for the whole country by 2004.

A CFMP considers flood risks on a whole catchment basis, and identifies the processes that lead to those risks. It considers the impact of future changes, i.e. climate change, land use, on existing and possible future flood risks. It also considers the sensitivity of the flood risks to a series of possible scenarios including detention, improvement, embanking and flood warning. This results in a high level policy for flood warning to influence the planning process, and future investment in works and further studies to improve understanding of the processes.

The CFMP process includes periods of consultation. To aid in this, the Local Flood Defence Committee has set up a Steering Group of representatives of interested bodies. Work is currently underway on the Brue & Axe CFMP. A scoping report will be put out to consultation in September 2002, and the full report is programmed for consultation in September 2003.

3.4. Flood Warning

Absolute flood protection is not possible and so effective warnings are essential, especially where a flood defence scheme cannot be justified. We issue warnings through the media, the Agency's Floodline telephone service, and directly to people in some areas by telephone, fax or pager, or by local flood wardens or sirens.

During 1998 much of England and Wales were seriously hit by floods, both at Easter and again in October. An independent report was commissioned to look at how we dealt with these floods; the result was the Bye Report, published on 1 October 1998. In response we published our own Easter Floods Action Plan.

Findings from both these reports and consultation with the Government set new priorities to ensure the delivery of an improved Flood Warning Service, "A seamless and integrated service of flood forecasting, warning and response."

One of the key developments resulting from the review of flood warning is the implementation of a new flood warning code system. Under the new system there are four stages of warning:

- **All-clear:** No flood watches or warnings currently in force in the area; flood water levels receding; check all is safe to return; seek advice.
- **Flood watch:** Flooding is possible; be aware; be prepared; watch out.
- **Flood warning:** Flooding of homes, businesses and main roads is expected; act now.
- **Severe flood warning:** Severe flooding is expected; imminent danger to life and property; act now.

In September 2001 the Environment Agency launched a National Public Awareness Campaign calling on people to "**Wise Up**" to flooding. The campaign had two main aims. Firstly to motivate those complacent to the threat of flooding to take personal action to prepare for the risk. Secondly, the campaign looked to support those already aware with practical help and advice. Over half a million homes received direct mailings in support of this campaign. A new flood directory covering the Avon and Somerset Area was published and is available to the public.

As part of the integrated approach to flood warning the **Floodline** service has been improved. The service is now available 24 hours a day on **0845 988 1188**, providing real time flood warning information, advice, and a route to report flooding issues. In addition to Floodline, real time flood warning information is now available through the Internet on the Agency's web site: **www.environment-agency.gov.uk/floodwarning**. The site, designed to withstand one million hits a day, is linked directly to the Agency's direct flood warning system so is updated every 15 minutes with the latest flood warning situation.

An additional significant change to the flood warning service has been the creation of a flood warning team based at Bridgwater. This, and the associated move of the delivery of the flood warning service to Bridgwater, will result in a better targeted flood warning service more suited to the needs of those at risk of flooding. Part of this improved delivery has included installation of a new Automatic Voice Messaging system (AVM) at the Bridgwater office. It is this machine that delivers the pre-recorded flood warning messages to those at risk of flooding at a rate of 1000 calls an hour. This more local service became operational on 11th September 2001 and provides 24 hour a day cover, 365 days a year.

4. Action Plan monitoring report

The following tables show the progress we have made on specific actions. The actions have been identified as:

N	New Action	C	Completed action
S	Started / ongoing action	D	Delayed / no action

Water Resources

Most of this LEAP area lies within the Bristol Water area of supply with small parts along the southern and eastern boundaries falling within the area supplied by Wessex Water. Both companies supply water to the area using integrated networks of pipes and abstraction sources extending over large areas well beyond the LEAP area. These are known as "resource zones". Maintaining reliable water supplies over the whole LEAP area is therefore partially dependent upon sources of water lying outside this area.

Water resources management and maintaining reliable 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, determined and administered by the Agency. This system of licensing is common to England and Wales and was reviewed during 1997/98 and a number of changes were proposed.

Catchment Abstraction Management Strategies (CAMS)

The Environment Agency is responsible for managing the licence system for water abstraction in England and Wales. In March 1999 following a consultation period the Government published *"Taking Water Responsibly"* which proposed changes to the water abstraction system. The most important change to come out of this document was a proposal for the introduction of Catchment Abstraction Management Strategies (CAMS).

In April 2001 the Environment Agency published *"Managing Water Abstraction"* which sets out the context and purpose of CAMS.

The principal objectives of CAMS are:

- To make information about water availability and licensing readily available to the public.
- To balance the needs of the abstractors for a reasonable quantity of water with the needs of the environment.
- To increase the opportunities for public involvement in the management of abstraction at catchment level.
- To provide a management structure for time limited licences.
- To facilitate licence trading.

Sustainability appraisals will take place on each CAMS to ensure that the potential social, environmental and economic impacts of each strategy are assessed. Information gathered in the appraisal will also be used to classify the water level status of each catchment and therefore decide what level of abstraction will take place.

Consultation is considered to be an important part of the CAMS process. Stakeholder groups will be selected to contribute to the sustainability appraisal and the early stages of CAMS development, from this a consultation document will be produced which all interested parties will have the opportunity to comment on before the strategy is finalised.

The Brue & Axe CAMS.

Catchment Abstraction Management Strategies will be published one at a time on a six-year rolling cycle. In North Wessex we hope to publish our first Strategy in 2003 which will cover the River Tone catchment, with the Brue and Axe CAMS coming later.

Key dates for the Brue & Axe CAMS:

- Summer 2004: Work begins on the Brue & Axe CAMS.
- Summer 2005: Publication of the Brue & Axe CAMS Consultation Document.
- Autumn 2005: Deadline for receipt of written responses to the CAMS Consultation.
- Winter 2005/6: Publication of Response Statement.
- Spring 2006: Publication of the Brue & Axe CAMS (final strategy).
- Year 2010: Likely start date for the Brue & Axe CAMS Review.
- 31 March 2013: Common end date for new time-limited licences in the Brue & Axe CAMS area.

Water Resources Strategy

The Environment Agency is the statutory body with a duty to secure the proper use of water resources in England and Wales. In accordance with this duty, we published a water resources strategy for the Agency's South West Region in March 2001. It is one of a suite of eight regional strategies, plus the overall national strategy for England and Wales. The strategies look some 25 years ahead. The strategy considers the needs for water, both for the environment and for society, and examines the uncertainties about future water demand and its availability.

The strategy is part of a framework of integrated water resources planning carried out by the Agency and water users. Water companies play an important part in this framework, each having a published plan for the next 25 years that is kept under annual review. Our strategy sets a structure within which these plans can be refined, allowing them to meet the wider objectives of society. The strategy identifies demand management and water resource development options that are able to help ensure adequate supplies of water across all sectors and shows that we can manage water resources over the next 25 years in a way that will allow an improvement to present levels of environmental protection.

Issue 5.1: Securing future public water supplies

Action 5.1.3: Manage resources	Progress S
We will encourage the companies to actively reduce leakage to economic levels.	Routine leakage liaison meetings are held with Bristol Water. Leakage is also considered for both companies within reviews of water resources plans and progressing solutions to National Environment Programme sites.
Cost: 0.2k	Time scale: 1999-2001
Action by: Agency, Bristol Water, Wessex Water, Office of Water Services	Contact: Regional Water Resources
Action 5.1.4: Manage resources	Progress S
We will encourage the joint use of sources in order to increase the amount of water deliverable without requiring physical development of new sources.	This is being actively discussed with both companies.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency, Bristol Water, Wessex Water, other water companies	Contact: Regional Water Resources
Action 5.1.6	Progress C
Revise the Regional Water Resources Strategy including use of information received in the Water Companies Water Resources Plans.	The Agency published it's Water Resources Strategy for the South West in March 2001. (see page 15 for details).
Cost: 2k	Time scale: 2000
Action by: Agency	Contact: Regional Water Resources
Action 5.1.7	Progress S
We will investigate causes for the River Sheppey going dry in a reach upstream of Shepton Mallet.	A summary technical report has been prepared in conjunction with the Regional Hydrogeology team to look at the possible links between the River Sheppey and the local groundwater abstractions. Dye tracing fieldwork has been carried out to determine the surfacewater hydrological links between channels in the River Sheppey. A final technical report is now being prepared to summarise the findings of the fieldwork and desk studies.
Cost: 2k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader Area Water Resources

New/Action 5.1.8 - Manage demand	Progress S
Monitor progress that companies make towards implementing their water resource plans and continue to work with the companies to ensure that the plans are reviewed and updated to achieve and maintain an acceptable balance between supply and demand.	Annual updates of Water Resources Plans were submitted by the water companies in September 2000 and September 2001. The Agency published comments on these plans.
Cost: 0.2k	Time scale: 2000-2002
Action by: Agency, Bristol Water, Wessex Water	Contact: Regional Water Resources

New/Action 5.1.9 - Manage demand	Progress S
Monitor and encourage implementation of water efficiency measures.	The Agency's Water Resources Strategy published in March 2001 supports water efficiency measures as an integral part of future water resources management.
Cost: 0.1k	Time scale: 2000-2002
Action by: Agency, Bristol Water, Wessex Water	Contact: Regional Water Resources

New/Action 5.1.10	Progress S
Liaise with companies to prioritise their expenditure between water resource management and development.	Routine liaison meetings, targeted discussions and communication with the companies take place to address leakage, annual reviews of water resources plans, progressing action for National Environment Programme (NEP) sites and abstraction proposals.
Cost: 0.2k	Time scale: 2000-2002
Action by: Agency, Bristol Water, Wessex Water	Contact: Regional Water Resources

Biodiversity

Biodiversity, the variety of life on earth, is being lost. The conservation of biological diversity is a key indication of the achievement of sustainable development. In the United Kingdom alone over a hundred species have been lost this century. However there are some signs of encouragement locally as otter populations are increasing in this area following their serious decline.

The United Kingdom Government signed the Biodiversity Convention at the 1992 Rio Earth Summit. This committed the United Kingdom to playing its part in halting and reversing the decline in numbers of species and areas of key habitats. The United Kingdom Biodiversity Action Plan lists habitats and species which require conservation action, through Regional and Local Biodiversity Action Plans. *The Regional Biodiversity Audit Plan for the South West* was published in April 1996 and was followed by *Action for Biodiversity in the South West* in June 1997 – a series of habitat and species plans to guide delivery.

Over the next five to ten years, we will work with a number of organisations that are formulating and implementing habitat and species actions at both regional and local levels. These Biodiversity Action Plans include:

- South Somerset District Council
- Mendip District Council
- Sedgemoor District Council
- North Somerset Council

Organisations like Wessex Water are also producing Biodiversity Action Plans. We are also developing National Species and Habitat Action Plans and have agreed to be the lead agency or contact point for four habitats; chalk rivers, coastal saltmarsh, fluctuating water bodies and eutrophic lakes, and forty species of animals and plants. The Agency is also responsible for a number of key actions associated with the delivery of other Species and Habitat Action Plans.

The Brue Valley

A recent survey by the Bees, Wasps & Ants Recording Society has revealed that the Brue Valley is one of only 5 sites holding populations of the shrill carder bee (*Bombus sylvarum*). Whilst this is not a target species for the Agency, it would appear that Agency owned land needs to be carefully managed to preserve habitat which may be important for this species' survival.

Issue 6.1: Maintaining and enhancing biodiversity

Action 6.1.1	Progress
Following advice from English Nature, review current abstraction licences and consents to discharge in relation to SPA/Ramsar/cSAC designations as required by the EC Habitats Directive.	We are currently listing relevant consents and deciding which are likely to have a significant effect on SPA/Ramsar/cSAC designated sites.
Cost: 50k	Time scale: 2000-2004
Action by: Agency, English Nature	Contact: Team Leader Conservation

Action 6.1.2	Progress: S
Rhynes and ditches – in the light of earlier survey work develop a revised programme to monitor water quality and biological conditions in SSSI's to investigate causes of eutrophication and duckweed blooms.	An increased level of monitoring currently takes place on Tealham and Tadham Moors SSSI. There is also additional monitoring for phosphate levels in the River Brue.
Cost: 10-15k	Time scale: 2000-2002
Action by: Agency, English Nature	Contact: Levels and Moors Project Officer

Action 6.1.3	Progress: S
Upland acidic heaths, limestone heath complexes (e.g. Cheddar Gorge SSSI, cSAC), fen meadows and raised mire communities. Continue national programme to reduce emissions of sulphur and nitrogen oxides from major power plants and thereby reduce pollution from fallout onto these sites.	There are no major power plants in this area. Normal regulatory action continues, at other sites with a reduction in releases of oxides of nitrogen from the Bronzeoak cattle carcass incinerator at Dimmer, Castle Cary. Hanson Aggregates' application for a PPC permit to operate its lime kiln at Cheddar is currently being determined, and releases of oxides of nitrogen will be considered in the determination.
Cost: 0k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader PIR/RSR

Action 6.1.4	Progress: S Unfunded – Priority 1
We are continuing to contribute to the implementation of Water Level Management Plans within the Brue and Axe catchment.	The conservation objectives for the internationally important sites require a review of the Water Level Management Plans. We will assist English Nature and the Drainage Boards with the implementation of the issues from the Water Level Management Plans and we are now reviewing our operational activities to see if we can alter any of these operations in order to help deliver these objectives.
Cost: 0.5k	Time scale: 2001-2010
Action by: Agency, Internal Drainage Board, landowners, English Nature.	Contact: Team Leader Flood Defence Improvements

Action 6.1.5	Progress: S
Lowland wet grassland. Implement the Somerset Levels & Moors Water Level Management Strategy.	We have made good progress and will be looking to integrate our flood management and water level management activities over the next 2-3 years.
Cost: See Action 8.1.2	Time scale: Ongoing
Action by: Agency, Internal Drainage Boards, landowners, English Nature and the Department for Environment, Food and Rural Affairs (DEFRA)	Contact: Team Leader Levels & Moors

Action 6.1.6	Progress S Unfunded Priority 1
Provide technical advice for reedbed creation.	We are continuing to provide advice as and when required.
Cost: 0.4k	Time scale: 2000-2004
Action by: Agency, Royal Society for the Protection of Birds, English Nature, Somerset County Council	Contact: Team Leader Conservation

Action 6.1.7	Progress S Unfunded Priority 1
Tufa depositing springs and headwater streams. Survey to assess values and develop conservation strategy.	The survey has been completed by SERC. Conservation of Tufa features is in part addressed by the collaborative project for the Upper Brue and Alham, partners include Somerset Farming and Wildlife Advisory Group, Mendip District Council South Somerset District Council and Somerset Wildlife Trust.
Cost: 2k	Time scale: 2000-2002
Action by: Agency, Somerset Environmental Records Centre (SERC), Somerset Wildlife Trust	Contact: Team Leader Conservation

Action 6.1.8	Progress S Unfunded Priority 1
Water voles. Increase our knowledge of distribution, in partnership with others.	We are continuing to encourage sympathetic management of banks in areas like the South Drain and Huntspill River where Water Vole populations are apparently thriving.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency, Somerset Wildlife Trust, Somerset Environmental Records Centre (SERC)	Contact: Team Leader Conservation

Action 6.1.9	Progress S Unfunded Priority 2
Otters. Develop partnership to monitor otter populations, enhance habitats and take steps to reduce road deaths.	Work with Somerset Otter Group is still ongoing. Work which was taking place with Exeter University regarding Otter DNA has been temporarily suspended.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency, Somerset Wildlife Trust	Contact: Team Leader Conservation

Action 6.1.10	Progress S Unfunded Priority 3
Otters. Collect carcasses of otter road casualties and send for tissue analysis.	The collection of carcasses is continuing to take place.
Cost: 2k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader Conservation

Actions 6.1.11 & 6.1.12	Progress S Unfunded Priority 1
Barn owls. Extend scheme to provide nest boxes and manage habitat to encourage voles on Agency owned land. Explore possibility of developing, in partnership with others, corridors with long grass suitable for linking owl populations.	Nest boxes continue to be monitored by the Hawk and Owl Trust although a reduced amount of monitoring has taken place this year due to Foot and Mouth Disease. In 2000 ten owlets fledged from the boxes, a record number. We are continuing to work to achieve targets set in the Huntspill Management Plan.
Cost: 2.5k	Time scale: 2000-2004
Action by: Agency, Hawk and Owl Trust, Internal Drainage Boards (IDBs)	Contact: Team Leader Conservation

Action 6.1.13	Progress S
Native crayfish. Continue to support survey work within the Alham catchment to enable the formulation and implementation of a conservation strategy.	This action will be addressed by the collaborative project with the Farming & Wildlife Advisory Group (FWAG) etc. We have identified suitable specific projects and funding to support them.
Cost: 1k	Time scale: 2000-2004
Action by: Agency, Somerset Environmental Records Centre (SERC)	Contact: Team Leader Conservation

Action 6.1.14	Progress S
Depressed river mussel. We will seek funds to determine its distribution in the river Parrett, Tone, Brue and Axe catchments. We will investigate the way management techniques influence its distribution and population size.	A Cambridge University research team spent a week in August looking at the River Brue in particular and we have recently received their report. Pending the recommendations of the report we may need to seek funds to investigate and carry out management techniques and further determine the species' distribution.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency, Cambridge University	Contact: Team Leader Conservation

Fisheries

The legislative review of fisheries was reported in 2000 and during 2001 the Government published its response. Many of the review groups recommendations were accepted in principle though changes in legislation will be required to progress some.

The Agency has completed its consultation on its proposed national eel fishing byelaws and charging system. These are currently awaiting approval from the Department for Environment, Food and Rural Affairs (DEFRA) before implementation.

Following on from our existing national strategies for salmon, coarse fish, and eels respectively the Agency publicly consulted on its National Trout and Grayling Fisheries Strategy. The consultation ended in October 2001 and the responses are currently being considered. This strategy defines policies for the Environment Agency to guide it in its statutory duty to maintain, develop and improve trout and grayling fisheries in England and Wales.

Issue 7.1: Eel and elver fishery

Action 7.1.1	Progress S Unfunded Priority 2
Implement recommendations of Barriers to Migration survey.	No structures within this LEAP area have so far been modified for eel passage. During 2001 a tilting weir structure on the River Parrett system was modified to help elvers pass upstream. This trial using 'low tech' solutions may have more widespread use.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader Fisheries

Action 7.1.2	Progress S
Assessment of adult stock in routine fisheries surveys.	Our review of fisheries monitoring has been carried out and subject to matching the correct resources a draft programme has been formulated. Certain sites within the Brue and Axe catchment will be monitored every year (Temporal) and a smaller number every five years (Sentinel). Due to Foot and Mouth Disease last year the monitoring was severely affected and only some sentinel sites within North Wessex were surveyed. No surveys occurred within this catchment.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader Fisheries

Action 7.1.3	Progress S
Research and Development – 'Eel and Elver Stocks in England and Wales, their Status and Management'.	This national Research and Development (R&D) project, jointly funded by the Agency and DEFRA, has been completed and produced as an R&D Technical Report. This reviewed current and historical data sets across the country. Though there does appear to be evidence for declines in glass eel recruitment and catches of yellow/silver eels, assessing changes in eel stocks has been hampered by a lack of good-quality data series. In the SW where the rivers are generally shorter than in the east it appears that the lower river reaches may receive sufficient recruitment to meet carrying capacity. The report considers many other aspects but as reductions in numbers are being reported in the UK and Europe wide, co-ordinated management actions will be required and this approach is being pursued at national level. The Agency contributes to two EU R&D projects on eels and DEFRA has proposed a 5 year project due to start this year which we also support. The National Eel Management Strategy was published in 2001 and will be followed by an eel management action plan with specific actions for each catchment/river.
Cost: 50k	Time scale: 2000-2002
Action by: Agency, Department for Environment, Food & Rural Affairs (DEFRA)	Contact: Team Leader Fisheries

Action 7.1.4	Progress S
Complete National Review of Licence Duties - Eels and Elvers.	The Agency has just completed a period of consultation on its draft national eel byelaws and new charging system. Statutory advertising will soon follow and it is hoped that the finalised package will have approval from DEFRA / NAW (National Assembly for Wales) later this year.
Cost: 0.5k	Time scale: 2000-2002
Action by: Agency	Contact: Team Leader Fisheries

Action 7.1.5	Progress S Unfunded – Priority 2
Continue liaison with police and parish councils to reduce poaching and rod licence evasion.	This continues as an ongoing practice as needs arise.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency, police, parish councils	Contact: Team Leader Fisheries

Integrated River-Basin Management - Somerset Levels and Moors

Following consultation on the draft action plan, the Somerset Levels and Moors Water Level Management Action Plan was launched by Sir John Harman in September 1999. The plan has wide support and is the Agency's vehicle for achieving balanced, sustainable management of the Levels and Moors. A dedicated officer has been appointed to implement the Plan on behalf of the Agency. To date, the Agency has completed its contribution to all Water Level Management Plans where Drainage Boards have requested input, and we are continuing to work to resolve issues and seek implementation of these plans. A Project Officer is now in place to progress this.

A programme of survey work has taken place to investigate water quality issues on the Levels and Moors, the results of which have been disseminated via the levels and Moors monitoring group.

The widespread concern about flood events is recognised by the Agency, and we are carrying out a major review of flood management practices as part of the Action Plan and as a requirement of the Habitats Directive. The first phase of the Review of Flood Defence Practices was published for consultation in July 1999. Since then, the review has developed into a Water Management Strategy Action Plan for the Parrett and Tone catchment, which will be published in February 2002. Work will commence on developing a similar plan for the Brue and Axe catchment in April 2002. The process will be taken forward through a series of workshops involving key community and organisation representatives.

Issue 8.1: Water level management on the Levels and Moors

Action 8.1.2	Progress S
Implement agreed actions from the review of the Somerset Levels and Moors Strategy.	This continues as an ongoing practice as needs arise.
Cost: 650k p.a	Time scale: 2000-2004
Action by: Agency, English Nature, IDBs, Somerset County Council, National Farmers Union, RSPB, Rural Development Service,	Contact: Levels and Moors Project Officer
Action 8.1.3	Progress S
Review control of penning structures summer and winter water levels, and the operation of the summer supply network, through our role in contributing to the development of Water Level Management Plans for Sites of Special Scientific Interest.	Work has continued and the latest phase is expected to be reported by March 2002.
Cost: 36k	Time scale: 2000-2004
Action by: Agency, Internal Drainage Boards	Contact: Levels and Moors Project Officer
Action 8.1.5	Progress S Unfunded Priority 1
In partnership with others explore the feasibility of creating additional storage volume to provide more summer irrigation water.	This option is being explored as part of the Parrett Catchment Project although the findings will have wider applications.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency, Internal Drainage Board, landowners, conservation bodies	Contact: Levels and Moors Project Officer

Action 8.1.6	Progress S Unfunded - Priority 2
Review modifications to the structure of Bleadon sluice together with a review of the conditions attached to the Bristol Water licence.	Bleadon Sluice will be considered as part of the Agency's review of flood management practices for the area north of the Poldens. The review is programmed to start in 2002. Any outcomes of the review will then be assessed to ascertain if amendments are required to the Bristol Water licence.
Cost: 0.5k	Time scale: 2000-2005
Action by: Agency	Contact: Area Water Resources

Action 8.1.7	Progress S
Consider the feasibility of developing drought contingency plans to safeguard water-related nature conservation sites.	The Agency considered whether it was necessary to develop a drought contingency plan to manage this issue. Whilst it is appreciated that water resources in the Brue and Axe catchments are fully committed in most summers, it is not considered necessary to develop such a plan for specific conservation sites in this area. Under drought conditions there are issues which arise in the Somerset Levels and Moors Natural Area however these can also be seen during most summers. These issues will instead be addressed through the development of the Water Level Management Plans (see actions 8.1.3 - 6).
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency	Contact: Area Water Resources

Issue 8.2: The impact of river canalisation and maintenance

Action 8.2.1	Progress S Unfunded - Priority 2
Examine current weed removal practices to reduce risk of fish kills, ensure compliance with EC Freshwater Fish Directive, and provide benefits for wildlife conservation.	This is ongoing. Preliminary findings from the mussel survey have added weight to the need for the Agency to determine best practice in its weed removal. We have discussed with Flood Defence staff a number of options including the selection and development of machinery to assist with this objective. An investigation into the impact of ditch management including weed cutting is proposed for 2002.
Cost: 4k	Time scale: 2001-2004
Action by: Agency	Contact: Team Leader Conservation

Action 8.2.2	Progress S Unfunded - Priority 2
In consultation with landowners and farmers, explore tree planting opportunities in appropriate places to provide shade and reduce the need for aquatic weed cutting.	This particular avenue is being addressed by a close working relationship with Farming & Wildlife Advisory Group who are providing advice to farmers on a daily basis.
Cost: 3k	Time scale: 2000-2004
Action by: Agency, Farming & Wildlife Advisory Group	Contact: Team Leader Conservation

Issue 8.3: Eutrophication

Action 8.3.1	Progress S Unfunded - Priority 1
Promote best agricultural practice to minimise runoff.	See Action 8.2.2.
Cost: 10k	Time scale: 2000-2004
Action by: Agency, Department for Environment, Food & Rural Affairs, Farming and Wildlife Advisory Group, English Nature	Contact: Team Leader Conservation

Action 8.3.2	Progress C Unfunded - Priority 1
Rhynes and ditches.	This action is being removed. See action 6.1.2 for information regarding this issue.

Action 8.3.3	Progress S
Introduce Water Quality monitoring for the Special Protection Areas/RAMSAR sites to ensure they are maintained in a favourable conservation status.	Please see action 6.1.2 for details. We are currently working with English Nature to develop appropriate targets to achieve this, investigation is proposed for 2002. The use of ecological indicators is currently being investigated.
Cost: 15k	Time scale: 2000-2001
Action by: Agency	Contact: Levels and Moors Project Officer

Issue 8.4: Use of Environment Agency controlled land and water

Action 8.4.1	Progress D
Implement the Huntspill Conservation and Recreation Management Plan.	We have completed and are progressively implementing this Plan.
Cost: 0.5k	Time scale: 1999-2004
Action by: Agency, English Nature	Contact: Team Leader Conservation

Action 8.4.2	Progress D Unfunded - Priority 2
Produce a Conservation and Recreation Management Plan for the South Drain.	So far there has been no progress with this action due to constraints on staff time. However, we have been working closely with English Nature and the RSPB in areas where those bodies manage national nature reserves flanking the South Drain and associated watercourses. We have also contributed to discussions about the future of the Avalon marshes organised by the Levels and Moors Partnership (LAMP).
Cost: 3k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader Conservation

Action 8.4.3	Progress D Unfunded - Priority 2
Investigate feasibility of developing canoe access where appropriate.	No progress at present due to constraints on staff time.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency, British Canoe Union	Contact: Team Leader Conservation

Action 8.4.4	Progress
Continue to support access/transport funding to Somerset Environmental Education Forum for schools to access sites of 'hands on' environmental learning.	The funding support given to this project is no longer available therefore this action is being removed.
Cost: 8k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader LEAPs

Issue 8.5: The impact of peat extraction

Action 8.5.1	Progress
Enter discussions with peat industry and conservation groups with a view to reducing impact of peat extraction.	At present no external negotiations are taking place. However the Levels and Moors Team are working with the Environmental Planning team to assess the impact of discharges from peat workings.
Cost: 0.5k	Time scale: 2001-2002
Action by: Agency, peat industry, conservation groups	Contact: Levels and Moors Project Officer

Issue 8.6: The impact of agriculture

Action 8.6.2	Progress
Continue with farm visit campaign on the River Alham.	The Farming & Wildlife Advisory Group (FWAG) project has continued and has extended further across the catchment of the Alham and Upper Brue, mostly concentrating on reducing nutrient concentrations in the watercourses. A Project Officer is providing advice to farmers on better use and application of manures and inorganic fertilisers. It is hoped to trial a Dairy Stewardship Scheme in this area.
Cost: 3k	Time scale: 2000-2004
Action by: Agency, Farming & Wildlife Advisory Group	Contact: Team Leader Environment Protection

Action 8.6.4	Progress
Implement the Somerset Levels & Moors Water Level Management Action Plan.	Please see text on page 24.

Action 8.6.5	Progress
Work to establish water level management which sustains the hydrological integrity of peat soils.	We have established a project with Somerset County Council. The first phase has identified priority areas and a trial to tackle the issue is currently at the planning stage.
Cost: 0	Time scale: 2000-2004
Action by: Agency, Farming & Wildlife Advisory Group, English Nature, farmers	Contact: Levels and Moors Project Officer

Water Quality

A number of Wessex Water sewage discharges are known to cause or contribute to the exceedence of water quality targets. These discharges will be improved through the Water Companies' investment programme. Their investment programme for the period 2000-2005 is known as Asset Management Plan 3 (AMP3). This has been developed along guidelines agreed between the Environment Agency, the Department for Environment, Food and Rural Affairs (DEFRA), the water services companies (in this case Wessex Water) and the Office of Water Services (OFWAT).

In the Brue and Axe LEAP area improvements to the following sewage treatment works are to be carried out in Asset Management Plan 3 (2000-2005), some improvement works have been completed:

- Kingston Seymour – Completed October 2000.
- West Huntspill – Completed August 2001.
- Weston Super Mare – Completed December 2000.
- Ubley – Completed March 2001.
- Evercreech – Completed March 2001
- Portishead Beach – On target for completion in March 2002.
- Shepton Mallet – On target for revised completion date of 2002 (was March 2003).

General Quality Assessment (GQA)

The General Quality Assessment (GQA) classification system measures both chemical and biological components, which are measured against the previous year and a baseline year of 1990. The scheme has 6 classes and is used to report on chemical quality (A-F) and biological quality (a-f). Chemical water quality is measured annually while biological quality is measured every five years.

Figure 4: GQA Grade definitions

CHEMICAL & BIOLOGICAL GQA GRADE DEFINITIONS					
A a	B b	C c	D d	E e	F f
Very Good	Good	Fairly Good	Fair	Poor	Bad

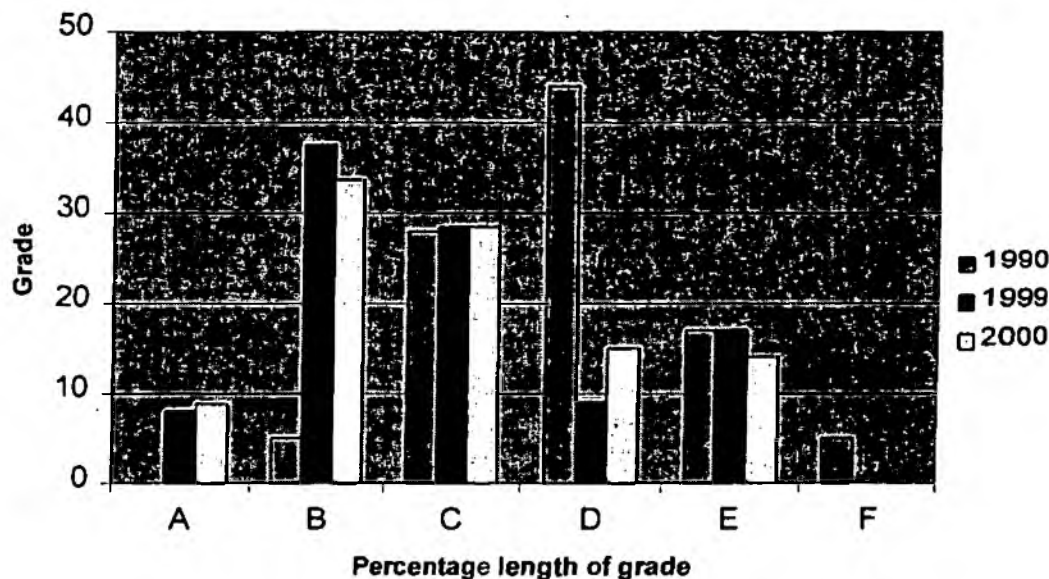
Water quality in North Wessex is improving, since 1990 there has been a significant and sustained improvement in water quality across the Area. Two thirds of river lengths have upgraded since 1990. In 2000 68% of river lengths were in the top two Grades ('very good' and 'good') compared with 49.2% in 1995 and 24.2% in 1990. This is an excellent achievement and a reflection of the success of various improvement initiatives, partnerships and enforcement actions.

The following section gives details of chemical GQA results for the Brue & Axe catchment (also see Appendix 1).

Brue and Axe Chemical General Quality Assessment (GQA) Results

The results shown in Figure 4 compare the 2000 data against both 1999 and 1990.

Figure 5: Percentage Length of Watercourse by Chemical GQA Grade.



When comparing 1990, 1999 and 2000 there appears to be an upward shift towards higher water quality. In 1990 the greatest percentage of stretches were grade D but in both 1999 and 2000 the greatest percentage are grade B.

Since 1990 there has been a progressive improvement in chemical water quality, with more river lengths now graded as "very good" or "good" (42.5%) and less are now graded as "fairly good" or "fair" (29%) and no watercourses are graded as "bad". In terms of biological quality since 1995 (19.6%) of river length has been upgraded and a high proportion of river lengths are now in the top two biological grades.

The only EC Freshwater Fish Directive failures in 2000 were on the designated North Drain; Hum Farm to confluence with River Brue and South Drain; Catcott Bridge to Gold Corner Pumping Station. Both are regular failures and relate to flow characteristics (sluggish and prone to algal problems) and impacts of the South Somerset Levels and Moors.

Bathing Water Quality

The EU Bathing Water Directive sets quality standards for bathing waters, requiring that each country designate their most popular bathing waters for testing. The Agency is required to sample and analyse bathing waters in accordance with the requirements of the Directive. The results are reported annually to the Department for Environment, Food and Rural Affairs and the National Assembly for Wales, who then assess compliance of individual bathing waters and transmit the results to the European Commission.

The Directive sets quality standards for a number of substances, the most important being the coliform group of bacteria. The mandatory coliform standards which are used to assess compliance require there to be no more than 10 000 total coliforms per 100ml and no more than 2000 faecal coliforms per 100ml. In order for bathing waters to comply, 95% of samples taken from each site during the bathing season (15 May to 30 September) must meet these standards.

Compliance is measured against 'Imperative' and 'Guideline' standards, the latter, stricter, limits being the ultimate aim. The Environment Agency has been set a target by Government of improving bathing water quality to 97% compliance with mandatory (Imperative) standards by 2005. Compliance in the South West in 2000 was nearly 96%. The Directive also gives more stringent guidelines requiring that 80% of samples must not contain more than 500 total coliforms or 100 faecal coliforms per 100ml, and 90% of samples must not contain more than 100 faecal streptococci bacteria per 100ml.

The Tidy Britain Group, on behalf of the Foundation for Environmental Education in Europe, administers European Blue Flag awards in the UK. Beach operators must apply to the Tidy Britain Group for a Blue Flag award, and compliance with the more stringent Directive guidelines is only one of a number of criteria that are taken into account. Figure 5 shows the survey results for the designated bathing waters in the Brue and Axe Catchment.

The Agency also regulates discharges to controlled waters with respect to water quality objectives. The EC Urban Waste Water Directive (91/271/EEC, amended by 98/15/EEC) specifies minimum standards for levels of sewage treatment and collection systems. The Directive specifies secondary treatment for all discharges serving population equivalents greater than 2000 to inland waters and estuaries, and those greater than 10 000 to coastal waters. Discharges below these population equivalents receive appropriate treatment through Asset Management Plans. The Agency is responsible for ensuring that discharges receive the level of treatment specified.

Figure 6: Bathing Water Survey Results 1998-2001 (Mandatory Standards).

Bathing Water	1998	1999	2000	2001
Bréan	Pass	Fail	Pass (I) *	Pass (I)
Berrow North of Unity Farm	Pass	Pass	Pass (I)	Pass (I)
Burnham Jetty	Fail	Pass	Pass (I)	Pass (I)

* Imperative Pass

None of the bathing waters in the catchment met the more stringent Guideline standards, and therefore cannot qualify for a Blue Flag award.

From time to time we receive complaints about sewage debris washed up on beaches. We carried out a survey of beach debris in July 2000 as part of a national project. The two largest Sewage Treatment Works discharging into the Severn Estuary (Weston and Kingston Seymour) were improved under Asset Management Plan 2 (1995-2000).

Improvements to Avonmouth Sewage Treatment Works have now also been completed. Although situated outside the catchment its discharges are likely to affect the beaches in the catchment. Overall it is hoped that these improvements will reduce the problem of beach debris.

We also encourage responsible disposal of waste by individuals. For example, personal hygiene products such as sanitary protection and cotton buds should be disposed of in the bin rather than flushed down the toilet.

Issue 8.7: The impact of sewage treatment works

Action 8.7.1	Progress
Shepton Mallet – continue to monitor the performance of the sewage treatment works and its impact on water quality in the River Sheppey.	AMP3 improvement work due for completion in March 2002.
Cost: 10k	Time scale: 2000-2004
Action by: Agency, Wessex Water	Contact: Team Leader Environment Protection

Action 8.7.2	Progress
Wells – assess water quality data from the new monitoring locations on the Keward Brook in order to gauge the impact of Wells sewage treatment works on downstream water quality.	This area will be considered under AMP4.
Cost: 0.3k	Time scale: 2005-2010
Action by: Agency	Contact: Team Leader Tactical Planning

Issue 8.8: The impact of septic tanks and soakaways

Action 8.8.1	Progress
Identify problematic septic tank discharges particularly those discharging to Sites of Special Scientific Interest. Through negotiation and legislative powers including the Habitats Directive where necessary, ensure that owners improve the discharges.	Problems have been identified in the villages of North Wootton and Lamyatt, but they are not yet resolved. Though they are not affecting SSSI's.
Cost: 4k	Time scale: 2000-2004
Action by: Agency, owners	Contact: Team Leader Environment Protection

Action 8.8.2	Progress S
Investigate and report on septic tank/package plant impact in support of first time sewerage schemes.	We have identified water quality problems in the village of West Horrington caused by a package treatment plant. We are now in liaison with local residents and Wessex Water over a timetable for the installation of a first-time sewerage scheme.
Cost: 2.5k	Time scale: 2001-2002
Action by: Agency	Contact: Team Leader Environment Protection

Issue 8.10: Unknown causes of water quality standards non-compliance

Action 8.10.1	Progress S
Investigate causes of non-compliance and take appropriate action.	We have recruited a Campaigns Officer for six months to visit farms and advise on reducing diffuse pollution. The River Sheppey is on the list of watercourses that may be targeted. For further details on this issue please see the new actions below, Actions 8.10.2 – 8.10.5.
Cost: 16k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader Environment Protection

Action 8.10.2	Progress N
Assess and map existing data on diffuse pollution to identify gaps in knowledge, identify major sources and inform the way forward.	We have mapped all sites that regularly receive those industrial wastes that cause pollution or have the potential to do so. Nutrient status has also been assessed and priority areas for work identified.
Cost: £0.5k	Time scale: 2001-2002
Action by: Agency	Contact: Team Leader Environment Protection

Action 8.10.3	Progress N
Set up flow monitoring at all sites where required for load analysis of nutrients to address areas where we currently have insufficient information.	Equipment has been purchased using Habitats Directive money. There is a device in place on the North Drain to measure flows onto the moor. There is also monitoring for phosphate levels in the River Brue.
Cost: Unknown	Time scale: 2002-2005
Action by: Agency	Contact: Team Leader Environment Protection

Action 8.10.4	Progress: N/A Unfunded - Priority 3
Set up a database of all land spreading activities registered for exemption from Waste Licensing and map the sites used frequently. This will be used to promote better practices in off-farm waste spreading.	We hope to create a database in the future, if funding arises. We currently have an informal database for internal use and, in partnership with the Farming and Wildlife Advisory Group (FWAG), we encourage better farming practices.
Cost: £4k	Time scale: 2001-2005
Action by: Agency	Contact: Team Leader Environment Protection

Action 8.10.5	Progress: N/A
Deliver best practice advice through farm visits, advisory leaflets and other media. This will be achieved through partnership working to make best use of resources, training and to co-ordinate actions.	A start has been made discussing common ground with other organisations, identifying where collaboration could be beneficial. Future activity will also focus on the need for funding for regulatory visits to land spreading operations. ADAS are promoting the use of Farm Effluent Plans in a large part of the mid and lower Brue, are offering free advice to assist farmers in developing their own plans.
Cost: Unknown	Time scale: 2001-2005
Action by: Agency, Farming & Wildlife Advisory group (FWAG), National Farmers Union (NFU), Country Landowners and Business Association (CLBA), DEFRA, land agents, Soil Association, Rural Land Use Group, ADAS	Contact: Team Leader Environment Protection

Waste

The Waste Strategy 2000 continues many of the principles of its predecessor 'Making Waste Work'. The overarching principle is that decisions regarding waste management should be consistent with the Best Practicable Environmental Option (BPEO). The Best Practicable Environmental Option considers the protection and preservation of the environment in the long and short terms and is likely to be different for each waste stream in each location.

The 'proximity principle' advocates that waste should be managed as close to the area of production as possible. This is sometimes considered to be the link between the Waste Hierarchy and the Best Practicable Environmental Option. Where the Best Practicable Environmental Option for a particular waste stream is towards the lower end of the Hierarchy, this could be due to any environmental impact of transporting waste to a more distant facility.

The Waste Strategy contains statutory targets for the recycling of household waste by local authorities: 25% by 2005, 30% by 2010 and 33% by 2015. An aspirational target to reduce landfilling of commercial and industrial waste to 85% of 1998 levels by 2005 is also presented. The strategy also identifies the roles of interested parties in achieving these targets and includes Local Authorities, industry, non-government or community organisations and the Environment Agency. We are a member of the Environment Business Consortium, which works in partnership to deliver sustainable environmental improvement in local businesses, particularly the minimisation of waste.

The Producer Responsibility Obligations (Packaging Waste) Regulations place an obligation to recycle and recover certain amounts of packaging on those companies that supply more than 50 tonnes of packaging per annum and also have an annual turnover greater than £2 million. Proof of recycling and recovery is required by the Agency and can be provided by an Accredited Reprocessor (a company that voluntarily registered with the Agency and has had the process of packaging recycling and recovery checked by the Agency). Producer Responsibility will be extended in the next few years to include end of life vehicles, waste electrical and electronic equipment and batteries. The Waste Strategy includes the possibility of including junk mail.

As a requirement of Waste Management Licence conditions we receive data from site operators relating to the amount of waste each site has managed in a set period, usually quarterly. This data is amalgamated to provide statistics on how much waste is being managed at licensed sites within a particular area, district or country. This data, combined with data from the National Waste Production Survey, can then be used for planning purposes. In particular it can be used in the production of the Agency's own Strategic Waste Management Assessments (SWMAs). These advise regional planning functions such as Regional Technical Advisory Bodies, and advise local authorities about the provision of land and resources for waste management, particularly regarding Waste Local Plans, but also other plans which include waste as a factor. The Agency's South West Region Strategic Waste Management Assessment was published at the end of 2000.

Waste Local Plans are prepared by the Waste Planning Authority (in this case part of Somerset County Council). The Waste Local Plan sets out the proposals for managing the waste in the authority and policies by which other proposals will be judged. It is required to take into account relevant local, regional and national policy. This includes, for example, the National Waste Strategy, Planning Policy Guidance Note 10 (both prepared by Government) and Regional Planning Guidance as prepared by the Regional Assembly.

Once "special sites" have been identified we will liaise with the land owner/polluter to ensure remedial work is undertaken where required. We are currently working with Mendip and Sedgemoor District Councils regarding the identification of contaminated land and Special Sites within the Brue and Axe area.

Issue 10.1: Waste

Action 10.1.2	Progress
Advise waste disposal and planning authorities and local industry on the best practice for waste reduction and disposal. Collect, collate and provide relevant data for waste planning purposes, such as local authority Waste Local Plans and Waste Strategies and the Agency's own SWMAs.	We continue to give advice on waste minimisation programmes. An Annual Update of the Regional Strategic Waste Management Assessment will be produced in spring 2002 and will be available on the Agency's website.
Cost: 90k	Time scale: 2000-2002
Action by: Agency	Contact: Team Leader Tactical Planning

Action 10.1.3	Progress
Implement and enforce the new Producer Responsibility Obligations Regulations.	We are continuing to both offer advice to companies and monitor compliance.
Cost: 60k p.a.	Time scale: 2000-2002
Action by: Agency	Contact: Team Leader Tactical Planning

Integrated Pollution Prevention and Control

The Integrated Pollution, Prevention and Control (IPPC) Directive is designed to prevent, reduce and eliminate pollution at source through the prudent use of natural resources. It is intended to help industrial operators move towards greater environmental sustainability.

The Pollution Prevention Control Act 1999 provides for the implementation of EC Directive 96/61 on Integrated Pollution Prevention and Control and consequently the introduction of a single pollution control regime for England and Wales, through the implementation of the Pollution Prevention and Control (England and Wales) Regulations 2000. Under the regulations, the Agency has an essential role in regulating specified types of activity and installation.

There are four sites in the catchment that come under the IPPC regime, BAE Systems Royal Ordnance, Puriton; Hanson Quarry Products, Cheddar; Bronzeoak Thermal Processing, Castle Cary; and Inveresk, St Cuthberts Mill, Wells. Operators need to show that they will run their installations in a way that prevents emissions to the land, air and water or where that is not practicable, reduces them to a minimum.

Operations must apply the following general principles:

- Use Best Available Techniques in controlling discharges to air, soil and water and address other issues such as odour, noise and vibration.
- Minimise waste and recycle it where they can.
- Conserve energy.
- Prevent accidents and limit their environmental consequences.
- Return the site to a satisfactory state after the operation ceases.

The Environment Agency is also the enforcing authority in England and Wales of the Radioactive Substances Act 1993, regulating the use of radioactive sources and the disposal and accumulation of radioactive waste.

Issue 11.1: The impact of the Royal Ordnance factory

Action 11.1.1	Progress C
Continue monitoring the effluent quality to ensure the problem of acidity will not allow an unexpected return to the safety hazard that existed in the early 1990's and before.	Monitoring continues. The acidity issue is no longer a safety problem, therefore the action is being removed.
Cost: 0k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader PIR/RSR

Issue 11.2: The impact of St Cuthberts Paper mill

Action 11.2.4	Progress S
Assess the impact of the effluent on the River Axe.	Further monitoring of the thermal impact the discharge from St Cuthbert's Mill has on the River Axe is planned for 2002.
Cost: 5k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader Environment Protection

Air Quality

The Air Quality (England) Regulations 2000 set air quality objectives to be achieved within the next few years. Responsibility lies with District Councils (or Unitary Authorities) to review and assess air quality, but County Councils are expected to work in partnership with the District Councils throughout the process.

We have been working with local authorities to help achieve the objectives, principally through our regulation of emissions from controlled (Part A) major industrial processes under Integrated Pollution Control. Local authorities are responsible for the regulation of smaller, less complex (Part B) industrial processes, and for reducing traffic pollution.

Sedgemoor District Council has declared an air quality management area for part of Bridgwater over its concern that the objective for sulphur dioxide will not be achieved by 2005.

Royal Ordnance, Puriton:

The authorised release of oxides of nitrogen (Nox) from this site was shown by Sedgemoor District Council not likely to breach the Air Quality standards and objectives and did not proceed to Stage 3 under their Review. The company's COMAH Safety Report is due in February 2002 and will require careful assessment by the Agency and the HSE as Competent Authority.

Bronzeoak Thermal Processing, Castle Cary:

This animal carcass incinerator underwent a major refurbishment, including replacement filters, during 2000 and began operating again in January 2001. Since then performance has improved and complaints much reduced, so that whilst it is inevitable the plant will remain a difficult process to operate, needing close supervision, problems should now be confined to very immediate effects such as malodours locally within the "bad neighbour" planning zone at Dimmer. Under most conditions even these can be minimised to non-offensive levels, compliant with the authorisation conditions

Issue 12.1: Air quality

Action 12.1	Progress/C1
Include air quality data in future Annual Reviews.	Air quality data is collected by Local Authorities. We have no plans to report this data and readers should approach the Environmental Health Department of their Local Authority.
Cost: 5k	Time scale: 2000-2004
Action by: Agency	Contact: Team Leader LEAPs

Recreation

The Agency aims to develop the amenity and recreational potential of inland and coastal waters and associated land, where appropriate. The Agency supports local initiatives to improve recreational opportunities and will work closely with Local Authorities for routes that cross wetlands and rivers or involve Agency owned land.

Issue 13.1: Recreation

Action 13.1 Promoting Recreation	Progress D/A Unfunded Priority 3
We will use our local knowledge of the Levels & Moors to assess potential circular routes for canoeists.	There has been no further progress on this action.
Cost: 0.5k	Time scale: 2000-2004
Action by: Agency	Contact: Levels and Moors Project Officer

Climate Change

We have developed an Environmental Management System to monitor our own environmental performance. This is a systematic way of managing the environmental impact of an organisation. A successful system will deliver a continual improvement in environmental performance, and create potential for substantial cost savings.

Our targets for 2001/2002 are set out in Figure 6. The targets set are national targets to be achieved within a timescale of five years. Achievement of the targets will fulfil the Agency's commitments under the Greening Government Initiative and will also result in real business benefits.

Figure 7: Environmental Performance Targets 2001/2002.

Aim: A greener business world
Develop and externally certify the EA Management System to ISO9001/14001 by April 2002
Aim: Limiting and adapting to climate change
To reduce buildings energy consumption by 10% from a 1999/00 baseline by the end of March 2005
<ul style="list-style-type: none"> We will progress this through the achievement of site specific targets at 65% of sites by the end of March 2002
To purchase 6 million kWh of renewable generated electricity by the end of March 2005
<ul style="list-style-type: none"> We will progress towards this by purchasing an additional 1.2 million kWh from a baseline of 2000/01 by the end of March 2002
Aim: Improve and protect inland and coastal waters
To reduce buildings water consumption by 10% from a 1999/00 baseline by the end of March 2005
<ul style="list-style-type: none"> We will progress towards this through the achievement of site specific targets at 65% of sites by the end of March 2002
Aim: Wiser, sustainable use of natural resources
To reduce office waste by the end of March 2005 in the following areas:
<ul style="list-style-type: none"> residual waste from offices by 20% (5% per annum) from a 1999/00 baseline reduce the purchase of paper by 10% (2.5% per annum) from a 1999/00 baseline
Aim: Cleaner air for everyone
To reduce total vehicle emissions by 10% from a 1999/00 baseline by the end of March 2002
<ul style="list-style-type: none"> 9% mileage reduction from a 1996/7 baseline focusing on office based staff and miles driven in private cars the purchase of an additional 40 alternatively fuelled badge vehicles

The Agency will support continuous environmental improvement by the establishment of demanding but achievable and measurable environmental performance targets, determined and reviewed annually. These targets cover aspects of energy and resource use, waste minimisation and recycling.

Issue 14.1: The impact of energy and fossil fuel use on climate

Action 14.1.1	Progress N&S
Reduce buildings' energy consumption by 10% from a 1999/00 baseline by the end of March 2005.	We will progress towards this by reducing consumption by a minimum of 2% on baseline by the end of March 2002. We are in fact meeting the more stringent targets. This is being achieved through special automatic lighting and a general awareness of staff throughout their work.
Cost: Unknown	Timescale: 2000-2004
Action By: Agency	Contact: Area Business Services Manager

Action 14.1.2	Progress N&S
Reduce total vehicle emissions by 10% from a 1999/00 baseline by the end of March 2002.	We are striving to achieve this target through our Green Transport Plan to reduce business mileage. Video-conferencing is used where possible, and car sharing is strongly encouraged. We saved around 100,000 miles from April to December 2001 by reducing attendance at non-essential meetings. In the future we aim to reduce emissions to atmosphere, rather than business miles <i>per se</i> . Therefore, the type, age and emission percentage of the vehicle will be considered.
Cost: Unknown	Timescale: 2000-2004
Action By: Agency	Contact: Area Business Services Manager

Appendices

Appendix 1: Water Quality

River Quality Objectives (RQO)

We manage water quality by setting targets called River Quality Objectives (RQO). 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 planned future quality improvements. River Quality Objectives are assigned to all significantly sized rivers based on river flow.

River Quality Objectives are based on the River Ecosystem Classification Scheme that consists of five classes. It sets standards for dissolved oxygen, biochemical oxygen demand, total ammonia, free ammonia, pH, dissolved copper and total zinc. Class RE5 has lower limits and does not in any way denote the worst water quality possible.

Figure 8: River Ecosystem (RE) Classification.

River Quality Objective	River Ecosystem Classification
RE1	Water of very good quality suitable for all fish species
RE2	Water of good quality suitable for most fish species
RE3	Water of fairly good 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

We show failures to achieve River Quality Objectives as significant and marginal failures. Significant failures are those where we are 95% certain that the river stretch has failed to meet its River Quality Objective. Marginal failures are those where we are less certain (between 50% and 95%) that the stretch has failed to meet its River Quality Objective.

The RQO compliance of river stretches is usually reported in the LEAPs under the Public stretch name. The Public stretches are made up of a number of sub stretches which are not normally referred to in the LEAP, but, for the purposes of reporting GQA information for the Brue & Axe catchment, sub stretches are being included in Figure 8 where the sub stretches of a given public stretch have different GQA values (for example the South Drain). For all other stretches it can be assumed that the GQA was consistent along the length of the public stretch.

Figure 9: River Quality Objective (RQO) Compliance for 2000 and Chemical General Quality Assessment (GQA) Results for 1990, 1995 & 2000.

RIVER	1990	1995	COMPLIANCE	STRETCH NAME	1990	1995	2000
South Drain	4	Marginal	Avalon Fm Conf With Gold Corner				
			Sub stretch: Avalon fm Westhay Heath		D	F	E
			Westhay Heath - Chiltern Moor		D	E	E
			Chiltern Moor - Conf with Gold Corner		E	E	E
North Drain	4	Compliant	Conf With North Drain-Conf With Cripps		D	D	C
Brue	3	Compliant	D/S Baltonsborough Bif D/S Glastonbury Mill Str Bif				
			Sub stretch: D/S Baltonsborough Bif - U/S GMS Bif		C	C	B
			U/S GMS Bif - Little Ranch		C	C	B
			U/S Baltonsborough Bif		C	B	B
			Baltonsborough Bif (Stn)				
Brue	3	Compliant	D/S Glastonbury Mill Str Bif-Conf With Sheppey		D	C	C
Brue (ditch)	4	Compliant	U/S Glastonbury Mill Str Bif-Conf With Sheppey		D	C	C
Harlake	3	Sig Failure	Redlake/Whitelake Conf-Conf With Sheppey		F	D	D
Sheppey	3	Compliant	Dulcote-Garside Fm		C	C	C
Redlake	3	Sig Failure	Redlake/Whitelake Conf-Conf With Sheppey		F	D	D
Whitelake	3	Compliant	Conf With Whitelake Fm Conf With Redlake		E	E	E
Sheppey	3	Marginal	Whitelake/Redlake Conf-Conf With Sheppey		E	E	E
Sheppey	3	Compliant	Dulcote-Garside Fm		D	C	C
South Drain	4	Compliant	Source-Avalon Fm		D	C	B
Avalon	3	Compliant	Avalon Fm Conf With Gold Corner				
			Sub stretch: Avalon fm Westhay Heath		D	F	E
			Westhay Heath - Chiltern Moor		D	E	E
			Chiltern Moor - Conf with Gold Corner		E	E	E
Aham	2	Sig Failure	Conf With Aham Fm Conf With Brue		C	C	D
Aham	2	Marginal	Source-Avalon Fm		C	E	C
Brue	2	Marginal	Garside Mill Cole		C	B	C
Brue	2	Compliant	Whitelake/Redlake Conf-Conf With Sheppey		E	E	E
Axe	4	Compliant	Conf With Mark Yeo-Breen (estuary)		D	D	D
Axe	4	Compliant	Conf With Mark Yeo-Breen (estuary)		D	D	D
Axe	4	Compliant	Conf With Cheddar Yeo-Conf With Lox Yeo		E	C	B
Lox Yeo	3	Compliant	Source-Winscombe Bif		D	C	B
Lox Yeo	4	Compliant	Winscombe Bif-Loxton		C	D	B
Axe	3	Marginal	Winscombe Bif-Loxton		C	D	B
Cheddar Yeo	3	Compliant	Hythe Footbridge-Conf With Axe		E	C	B
Axe	3	Compliant	U/S Winscombe Bif		E	C	B
Axe	2	Compliant	U/S Wockey Bif U/S Wockey Bif		D	D	A
Axe	1	Compliant	U/S Wockey Bif U/S Wockey Bif		D	D	A
Axe	2	Compliant	Paper Mill-U/S Wockey Bif		D	C	A
Axe	2	Compliant	U/S Wockey Bif U/S Wockey Bif		D	D	A
			Sub stretch: Wockey dy-U/S Wockey Bif		E	B	A
			U/S Wockey Bif-U/S Wockey Bif		E	B	A
Cheddar Yeo	1	Compliant	Source-Hythe		B	A	A
Cheddar Yeo	3	Compliant	Hythe Footbridge-Conf With Axe		E	C	B

Significant GQA Upgrades

1. River Axe;

Paper mill – U/S Wookey Bif, where the GQA has gone from D in 1990 to C in 1995 to A in 2000.

U/S Wookey Bif – D/S Wookey Bif, where the GQA has gone from E in 1990 to B in 1995 to A in 2000.

Both enhancements have been due to improvements in effluent treatment and management regime at St Cuthberts Paper Mill.

2. Sheppey;

Croscombe STW – Dulcote, E-D-C, where the GQA has gone from E in 1990 to D in 1995 to C in 2000.

This enhancement is due to improved housekeeping by a trade discharger to Shepton Mallett STW, and the Agency's trading estate campaign has resulted in improvements at Crown Industrial estate.

Example of poor quality stretch

1. River Brue;

Confluence with Cripps to Highbridge remains in Grade E and among other things is being tackled as part of the Somerset levels and Moors project.

Appendix 2: Duties, Powers and Interests of the Agency

The Environment Agency has a wide range of interests in the areas of water management, waste management and pollution prevention and control. Whilst many of these interests are supported by statutory duties and powers, much of the Agency's work is advisory, with the relevant powers resting with other bodies such as local planning authorities. The following table therefore summarises the Agency's duties, powers and interests and their relationship to land-use planning.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in:	Partnerships
<p>Water Resources</p> <p>The Agency has a duty to conserve, redistribute, augment and secure the proper use of water resources.</p>	<ul style="list-style-type: none"> • Grant or vary water abstraction and impoundment licences on application with appropriate conditions imposed to safeguard the needs of the environment whilst allowing reasonable and justified use of available and sustainable water resources – with the aim of achieving an equitable balance between competing demands. • Revoke or vary existing licences to reinstate flows or levels to surface waters or groundwater 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 de-watering activities. 	<ul style="list-style-type: none"> • The more efficient use of water by water companies, developers, industry, agriculture and the public and the introduction of water efficiency measures and suitable design and layout of the infrastructure. • Protecting the water environment from any adverse impact due to proposed major developments. 	<ul style="list-style-type: none"> • The Agency uses its position as a statutory consultee to the planning authorities to secure conditions and agreements that protect the water environment and that encourage water conservation measures. The Agency also seeks to influence planning decisions for new development by ensuring that planning authorities allow for any lead-time required for resource development. • The Agency is committed to water-demand management and will work closely with water companies, 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.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in :	Partnership
<p>Flood Defence</p> <p>The Agency has a duty to exercise general supervision over all matters relating to flood defence throughout each catchment.</p>	<ul style="list-style-type: none"> • Control, through Land Drainage consents, development within 8 m of main river (16 m for tidal Thames and tributaries) (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 S105 of Water Resources Act 1991. • Undertake works to main rivers using permissive powers. • Issue flood warnings relating to main river to the public, local authorities and the police. • Consent mineral working within 16 m of main rivers. 	<ul style="list-style-type: none"> • Granting of planning permission throughout a catchment but especially floodplains where development can significantly increase flood risk. This permission is granted by local planning authorities. • Installation of surface water source control measures e.g. flood attenuation structures. • 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. 	<ul style="list-style-type: none"> • As a statutory consultee on planning applications within main river floodplains the Agency offers advice based on knowledge of flood risk. It also advises on the environmental impacts or 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 the civil authorities to prepare flood warning dissemination plans and supports their endeavours to protect communities at risk.
<p>Water Quality</p> <p>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.</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • The control of runoff from roads and highways. This is a Highways Agency duty. • The greater use of source control measures to reduce pollution by surface water runoff. • Prevention and education campaigns to reduce pollution incidents. 	<ul style="list-style-type: none"> • 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.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in:	Partnership
<p>Air Quality</p> <p>The Agency has a duty to implement Part 1 of the Environment Protection Act 1990.</p>	<ul style="list-style-type: none"> • Regulate the largest technically complex and potentially most polluting prescribed industrial processes such as refineries, chemical works and power stations including enforcement of, and guidance on, Best Available Technology Not Entailing Excessive Cost and Best Practicable Environmental Option. • Have regard to the government's National Air Quality Strategy when setting standards for the releases to air from industrial processes. 	<ul style="list-style-type: none"> • The vast number of smaller industrial processes which are controlled by local authorities. • Control over vehicular emissions and transport planning. 	<ul style="list-style-type: none"> • The Agency provides data on Integrated Pollution Control 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 their Air Quality Management Plans. The Agency will advise and contribute to the government's National Air Quality Strategy.
<p>Waste Management</p> <p>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.</p>	<ul style="list-style-type: none"> • Vary waste management licence conditions. • Suspend and revoke licences. • Investigate and prosecute illegal waste management operations. • Regulate Producer Responsibility Regulations. • Grant licences subject to conditions. • Refuse licence applications in certain circumstances. 	<ul style="list-style-type: none"> • The siting and granting of planning permission for waste management facilities. The waste industry and local planning authorities conduct this. The Agency, as a statutory consultee on planning applications, can advise on such matters. 	<ul style="list-style-type: none"> • The Agency will work with waste producers, the waste management industry and local authorities to reduce the amount of waste produced, increase reuse and recycling and improve standards of disposal.
<p>Contaminated Land</p> <p>The Agency has a duty to develop an integrated approach to the prevention and control of land contamination, ensuring that remediation is proportionate to risks and cost-effective in terms of the economy and environment.</p>	<ul style="list-style-type: none"> • Regulate the remediation of contaminated land designated as special sites. • Prevent future land contamination by means of its Integrated Pollution Control (IPPC), Water Quality and other statutory powers. • Report on the state of contaminated land. 	<ul style="list-style-type: none"> • Securing with others, including local authorities, landowners and developers, the safe remediation of contaminated land. 	<ul style="list-style-type: none"> • The Agency supports land remediation and will promote this with developers and local authorities and other stakeholders.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in:	Partnership
<p>Conservation</p> <p>The Agency will further conservation, wherever possible, when carrying out water management functions; have regard to conservation when carrying out pollution control functions; and promote the conservation of flora and fauna which are dependent on an aquatic environment.</p>	<ul style="list-style-type: none"> • The Agency has no direct conservation powers but uses its powers with regard to water management and pollution control to exploit opportunities for furthering and promoting conservation. 	<ul style="list-style-type: none"> • The conservation impacts of new development. These are controlled by local planning authorities. • Protection of specific sites or species, which is a function of English Nature. The Agency does, however, provide advice to local authorities and developers to protect the integrity of such sites or species. • Implementation of the UK Biodiversity Action Plan for which it is the contact point for over forty species and four habitats. 	<ul style="list-style-type: none"> • The Agency supports action to sustain or improve natural and man-made assets so that they are made available for the benefit of present and future generations. Many development schemes have significant implications for conservation. The Agency will work with developers, local authorities, conservation bodies and landowners to conserve and enhance biodiversity.
<p>Landscape</p> <p>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.</p>	<ul style="list-style-type: none"> • Further conservation and enhancement of natural beauty when exercising its water management powers and have regard to the landscape in exercising its pollution control powers. 	<ul style="list-style-type: none"> • The landscape impact of new development, particularly within river corridors. Local planning authorities control this. 	<ul style="list-style-type: none"> • The Agency produces River Landscape Assessments and Design Guidelines which it uses when working with local authorities and developers to conserve and enhance diverse river landscapes.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in:	Partnership
<p>Archaeology</p> <p>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.</p>	<ul style="list-style-type: none"> • Promote its archaeological objectives through the exercise of its water management and pollution control powers and duties. 	<ul style="list-style-type: none"> • Direct protection or management of sites of archaeological or heritage interest. This is carried out by local planning authorities, County Archaeologists and English Heritage. 	<ul style="list-style-type: none"> • The Agency will liaise with those organisations which have direct control over archaeological and heritage issues to assist in the conservation and enhancement of these interests.
<p>Fisheries</p> <p>The Agency has a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries.</p>	<ul style="list-style-type: none"> • Regulate fisheries by a system of licensing. • Make and enforce fisheries byelaws to prevent illegal fishing. • Promote the free passage of fish and consent fish passes. • Monitor fisheries and enforce measures to prevent fish entrainment in abstractions. • Promote its fisheries duty by means of land drainage consents, water abstraction applications and discharge applications. 	<ul style="list-style-type: none"> • The determination of planning applications which could affect fisheries. 	<ul style="list-style-type: none"> • Many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and local authorities to protect fisheries.
<p>Recreation</p> <p>The Agency has a duty to promote rivers and water space for recreational use.</p>	<ul style="list-style-type: none"> • The Agency contributes towards its recreation duty through the exercise of its statutory powers and duties in water management. 	<ul style="list-style-type: none"> • Promotion of water sports. The Sports Council and other sports bodies carry this out. 	<ul style="list-style-type: none"> • The Agency will work with the Countryside Agency, the Sports Council, British Waterways and other recreational and amenity organisations to optimise recreational use of the water environment.

Appendix 3: Useful Publications

British Geological Survey (1994)

Cordrey L (Ed): Action for Biodiversity in the South West; a series of habitat and species plans to guide delivery (1997)

Cordrey L (Ed): The Biodiversity of the South West; an audit of the South West biological resource (1996)

Department of the Environment Meteorological Office and Air Quality Division: Air Quality A to Z (June 1995)

Department of the Environment, Transport and the Regions: Less Waste More Value (1998)

Department of the Environment and The Welsh Office Making Waste Work (1995)

Department of Environment: Methodology for Designating Vulnerable Zones (Nitrates Directive) Consultation Paper (1993)

Department of Environment: Methodology for Identifying Sensitive Areas (Urban Waste Water Treatment Directive) Consultation Paper (1993)

Department of the Environment, Transport and the Regions: Taking Water Responsibly (1999)

EC Directive: Air Quality Standards for Nitrogen Dioxide (85/203/EEC)

EC Directive: Bathing Water Quality (96/160/EEC)

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

EC Directive: Discharges of Dangerous Substances (76/464/EEC)

EC Directive: Drinking Water (98/83/EEC)

EC Directive: Freshwater Fish (78/659/EEC)

EC Directive: Integrated Pollution Prevention and Control (96/61/EEC)

EC Directive: Landfill (1999/31/EEC)

EC Directive: Protection of Waters against Pollution caused by Nitrates from Agricultural Sources (91/676/EEC)

EC Directive: Species and Habitats (92/43/EEC)

EC Directive: Surface Water Abstraction (75/440/EEC)

EC Directive: The Protection of Groundwater against Pollution Caused by Certain Dangerous Substances (80/68/EEC)

EC Directive: Nitrates (91/676/EEC)

EC Directive: Urban Waste Water Treatment (91/271/EEC, amended by 98/15/EEC)

EC Directive: Water Framework (2000/86/EEC)

Forestry Authority: The UK Forestry Standard: The Government's Approach to Sustainable Forestry (1998)

Forestry Commission: England Forestry Strategy: A New Focus for England's Woodlands

Forestry Commission: Forests and Water Guidelines (3rd Edition) (1997)

HMSO: Biodiversity: the United Kingdom Steering Group Report London, 2 Vols. (1995)

HMSO: Control of Pesticide Regulations (1986) SI 1510

HMSO: Control of Pollution Act (1974)

HMSO: Control of Pollution (Amendment) Act (1989)

HMSO: Countryside and Rights of Way Act (2000)

HMSO: Environmental Protection Act (1990)

- HMSO: *Health and Safety at Work Act* (1974)
- HMSO: *Home Energy Conservation Act*
- HMSO: *Land Drainage Act* (1991)
- HMSO: *National Waste Strategy* (2000)
- HMSO: *Radioactive Substances Act* (1993)
- HMSO: *Reducing Emissions of Sulphur Dioxide: A Strategy for the United Kingdom* (1996)
- HMSO: *Salmon and Freshwater Fisheries Act* (1975)
- HMSO: *Sludge (Use in Agriculture) Regulations* (1989) SI 1263
- HMSO: *The Control of Pollution (Special Waste) Regulations* (1980) SI 1709
- HMSO: *The Environment Act* (1995)
- HMSO: *The Forests & Water Guidelines* (1993)
- HMSO: *The Producer Responsibility Obligations (Packaging Waste) Regulations* (1997)
- HMSO: *The Special Waste Regulations* (1996) SI 972
- HMSO: *Waste Management Licensing Regulations* (1994) SI 1056
- HMSO: *Water Resources Act* (1991)
- HMSO: *Wildlife and Countryside Act* (1981) HO-6/94-5k-CJTG
- Somerset County Council: *Making a Start – Somerset Waste Local Plan – Report of survey and key issues.*
- Ministry of Agriculture, Fisheries and Food: *Code of Good Agricultural Practice for the Protection of Air* (1992)
- Ministry of Agriculture, Fisheries and Food: *Code of Good Agricultural Practice for the Protection of Soil* (1993)
- Ministry of Agriculture, Fisheries and Food: *Code of Good Agricultural Practice for the Protection of Water* (1993)
- Ministry of Agriculture, Fisheries and Food: *Code of Practice for the Safe Use of Pesticides on Farms and Holdings* (1990)
- Ministry of Agriculture, Fisheries and Food: *Controlling Soil Erosion: an advisory booklet for the management of agricultural land* PB3280
- Ministry of Agriculture, Fisheries and Food: *Controlling Soil Erosion: an advisory leaflet for preventing erosion caused by grazing livestock in lowland England*
- Ministry of Agriculture, Fisheries and Food: *Controlling soil erosion: a field guide for an erosion risk assessment for farmers and consultants*
- Ministry of Agriculture, Fisheries and Food: *Controlling soil erosion: a manual for the assessment and management of agricultural land at risk of water erosion in lowland England*
- National Audit Office: *Inland Flood Defence, Report HC 299* (2001)
- Somerset Air Quality Steering Group: *First Stage Air Quality Review and Assessment* (1998)
- Somerset County Council, et al: *Avalon Marshes – Countryside Stewardship Proposal* (1996)
- Somerset County Council: *Structure Plan*
- Vincent Wildlife Trust: *The Water Vole (Arvicola terrestris) in Britain (1989-1990): Its Distribution and Changing Status* ISBN –0-94-6081-23-9
- United Kingdom Climate Change Impact Review Group: *A Review of the Potential Effects of Climate Change in the United Kingdom* (1996)

Appendix 4: Environment Agency Publications

A Guide to Information Available to the Public (1996)
A Guide to Sustainable Urban Drainage (1997)
A Price Worth Paying: The Environment Agency's Proposals for the National Environment Programme for Water Companies 2000–2005; a Submission to Government (May 1998)
Agreeing Access to Water for Canoeing (1999)
1998/99 Annual Environmental Report for the Agency's Own Activities (1999)
Aquatic Eutrophication in England and Wales: A Proposed Management Strategy Consultative Report (1998)
Aquatic Weed Control (1997)
Brue & Axe Action Plan (1998)
Brue & Axe Consultation Report (1997)
Brue & Axe First Annual Review (1999)
Brue & Axe Second Annual Review (2000)
Conservation Designations in England and Wales (1998)
Corporate Plan 2000/01 (1999)
Corporate Plan Summary 2000/01 (1999)
Educational Resources for Schools, Colleges and Environmental Centres (1997)
Education Resources for Teachers (1999)
Enhancing Biodiversity (1999)
Environmental Planning Issues in the North Wessex Area (2000)
Farm Waste Minimisation (1997)
Floodline (1999)
Flood Warning Information (1999)
Freshwater Crayfish in Britain and Ireland (1999)
Garden with Care and Protect the Environment (1996)
General Guide to the Prevention of Water Pollution (1998)
Green Shoots: Our Vision for Environmental Education
Groundwater Regulations (1999)
Guidance for the Control of Invasive Plants near Watercourses (1996)
Guidance Notes for Riparian Landowners (1996)
Identifying Freshwater Crayfish in Britain and Ireland (1999)
Integrated Pollution Prevention and Control (1998)
Lessons Learned: Autumn 2000 Floods (2001)
Liaison with Local Planning Authorities (1997)
Living on the Edge: a Guide to the Rights and Responsibilities of a Riverside Owner (1998)
Local Agenda 21 (1998)
Looking After Our Rivers (1996)
Make Your Own Compost (1997)
Making Your Home and Garden More Water Efficient (1998)

Managing Water Abstraction – The Catchment Abstraction Management Strategy process (April 2001)

Managing Water Abstraction: Towards a Shared Strategy – Consultation Response

Managing Maize: Environmental Protection with Profit (1997)

National Air Quality Strategy: The Role of the Agency (1998)

Nature's Way: A Guide to Surface Water Best Management Practices

Otters and River Habitat Management (1999)

Phytophthora Disease of Alder (1997)

Policy and Practice for the Protection of Floodplains (1997)

Policy and Practice for the Protection of Groundwater (1998) J40899 4/98

Ponds and Conservation (1998)

Producer Responsibility Obligations (Packaging Waste) Regulations (1999)

Reducing Air Pollution; Improving Air Quality (1999)

Review of Flood Defence Practices on the Somerset Levels and Moors (1999)

Saving Water: On the Right Track (1999)

Saving Water: On Your Farm (1999)

Saving Water: Taking Action (1997)

Somerset Levels and Moors – Review of Flood Management Practices (April 2001)

Somerset Levels and Moors Water Level Management Action Plan (1999)

Somerset Levels and Moors Water Level Management Strategy Review (1999)

State of the Environment of England and Wales – Coasts: A Summary Report (1999)

State of the Environment of England and Wales – Freshwaters: A Summary Report (1998)

Sustainable Urban Drainage (1999)

The Environment Agency and Sustainable Development (1996)

Understanding Buffer Strips (1996)

Understanding Riverbank Erosion (1998)

Waste Minimisation and Recycling Directory: North Wessex Area (1998)

Water Resources for the Future – A strategy for South West Region (March 2001)

For a copy of any of these publications or for information on other leaflets and documents that we produce, please phone our **Customer Contact team** on **01278 457333**.

The Agency and Public Information

We are committed to being an open organisation and will provide information about our decisions and actions, and ensure consultation for our customers on plans and reports. Our Customer Charter sets out how we aim to achieve this commitment. We must maintain a set of public registers that hold information on the activities we regulate and on the monitoring we carry out. In addition to the information we place in registers, we make available most other environmental information that we hold. We have produced an information guide available to the public that sets out what information is available and how to obtain it (see above list). Information is usually provided free of charge, but for large and complex requests we may charge for staff time and materials. Confidential information, incomplete or draft reports and information where disclosure may lead to environmental damage are generally not available. Other information is available from our website, including an up-to-date national 'State of the Environment Report' at: <http://www.environment-agency.gov.uk>.

Environment Agency leaflets and publications

Please tick the boxes next to the publications you require. To order, cut out this page, fill in your details overleaf, and return the whole page to:

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