



# local environment agency plan

## BEDFORD OUSE

(Lower Reaches)

LEAP

DECEMBER 1999



ENVIRONMENT  
AGENCY

## KEY FACTS AND STATISTICS

**Total Area:** 1556 km<sup>2</sup>

**Ground Levels: Min level:** 2 m AOD **Max level:** 184 m AOD

### ADMINISTRATIVE DETAILS

**Environment Agency Organisation:** Anglian Region (Central Area) Area Office at Brampton and Catchment (South) Office at Bedford.

#### Main Towns

Bedford  
Biggleswade  
Flitwick  
Letchworth  
Hitchin  
Huntingdon  
St Ives  
St Neots

#### County Councils: (% of LEAP area)

Bedfordshire (47%)  
Cambridgeshire (40%)  
Hertfordshire (10%)  
Northamptonshire (3%)

#### District & Borough Councils:

Bedford BC  
East Northamptonshire DC  
Huntingdonshire DC  
Mid-Bedfordshire DC  
North Hertfordshire DC  
South Bedfordshire DC  
South Cambridgeshire DC  
Stevenage BC

#### Water Utility Companies: (% of LEAP area)

Anglian Water Services Ltd (77%)  
Cambridge Water Company (12%)  
Three Valleys Water Company (11%)

In addition, there are a number of properties which receive no mains supply and rely on private supply boreholes

#### Internal Drainage Boards:

Alconbury & Ellington  
Bedfordshire & Ivel  
Bluntisham  
Houghton & Wyton  
Over & Willingham  
Swavesey

#### Flood Protection

Length of statutory main rivers: 221 km  
Embanked main rivers: 32 km  
Area protected by embanked channel: 34.2 km<sup>2</sup>  
Area of natural floodplain: 59.7 km<sup>2</sup>

#### Fisheries

Game (trout) fishery: 3 km  
Cyprinid (coarse) fishery: 190 km

#### Environment Agency Consents 1998

Number of surface water abstractions: 260  
Number of licensed groundwater abstractions: 275  
Number of major consented sewage discharges: 62  
Number of major consented Crown discharges: 6  
Number of major consented industrial discharges: 19  
Water treatment works discharges: 2  
Sewage Treatment Works: 99

#### Navigation

Length of navigable rivers: 66.6 km

#### Conservation

Sites of Special Scientific Interest (SSSIs): 50  
Water dependent SSSIs: 26  
Candidate Special Areas of Conservation (cSACs): 1  
Special Protection Areas (SPAs): 0  
Scheduled Monuments (SMs): 136  
County Wildlife Sites: 300 approx

Total number of IPC authorisations: 12  
Number of RAS authorisations: 9  
Determined land drainage consents: 53  
Current waste management licences: 80  
(20 of which are closed)  
Number of exempt waste management sites: 273  
Number of former landfill sites: 161  
Number of working landfill sites: 12  
Nitrate Vulnerable Zones: 3

**'Natural and Character' Areas :** The map 'The Character of England: Landscape, Wildlife and Natural Features', produced in 1997, depicts the natural and cultural dimensions of our landscape. Drawn up by the Countryside Commission and English Nature (EN) with the help of English Heritage, this framework is intended for those organisations with an interest in wildlife and landscape whereby issues affecting our natural heritage can be strategically assessed in a single framework. Both the character and natural areas are described and tabulated in Chapter 2.

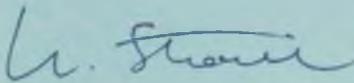
## FOREWORD

The Environment Agency is one of the most powerful environmental regulators in the world. By combining the regulation of air, land and water we have a unique opportunity to look at the environment in an integrated way.

This Local Environment Agency Plan (LEAP) sets out a vision for the environmental quality of the Bedford Ouse (Lower Reaches) area and how this vision may be achieved through appropriate management and partnerships. LEAPs are the cornerstone to how the Agency plans its business and are therefore strategic documents that will deliver real environmental improvements at a local level.

We would like to thank all the individuals and organisations that responded during the consultation period and hope that the importance we place on partnerships is recognised by all those involved. Overall the feedback on the Draft LEAP was both encouraging and positive and has helped to develop this much-improved LEAP.

We hope you will find this document a useful and informative read and look forward to working together to make this plan a reality.



Keith Stonell  
Central Area Manager



ENVIRONMENT AGENCY

**Information Services Unit**

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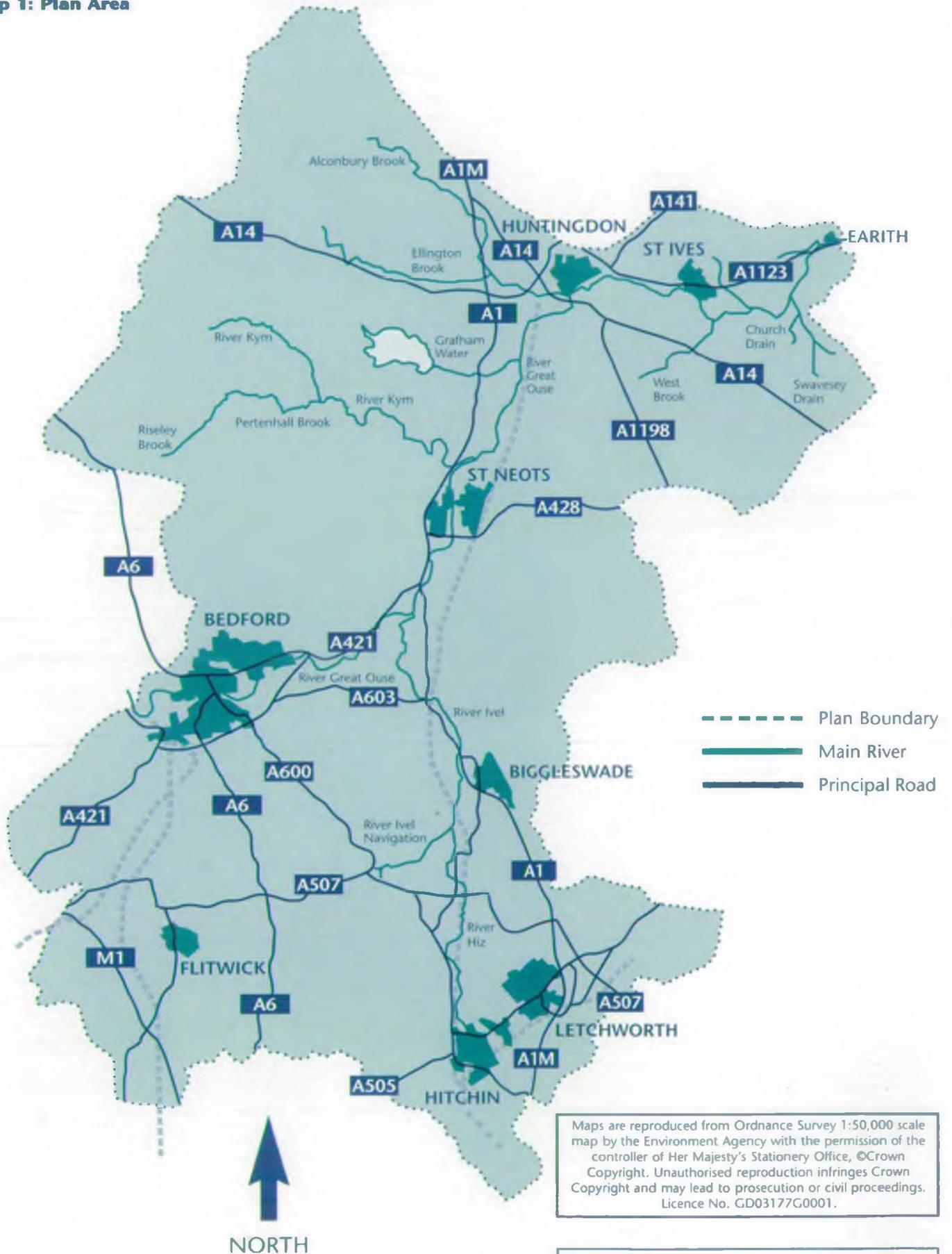
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Due Date	
18/AUG/04	

# PLAN AREA

Map 1: Plan Area



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## EXECUTIVE SUMMARY

The Bedford Ouse Local Environment Agency Plan (LEAP) is one of a series covering local environmental issues across the whole country. It concentrates on the actions required to enhance the local environment and describes the associated work that the Agency and others will undertake over the next five years.

The area covered by this LEAP comprises the lower reaches of the River Great Ouse, along with the Rivers Ivel, Hiz and Kym and tributaries. The towns of Hitchin, Letchworth, Biggleswade, Bedford and Huntingdon all lie within the Bedford Ouse area.

This area is predominantly rural, with undulating countryside supporting mixed arable farming and pasture in the south. In the north, the land is generally flat with large areas of flood meadow. The area has a history of use for the brick making industry, although only the Stewartby works remain in operation. The former clay pits are now a major feature, and many are used for waste disposal as landfill sites or have been left flooded for nature conservation interest.

### Issues Facing The Area

The following are some examples of what are believed to be the problems and challenges facing the Bedford Ouse area. These were identified and developed in conjunction with the Area Environment Group and key external partners.

### MANAGEMENT OF WATER RESOURCES

The report describes the conflicting interests that influence the management of water resources in the LEAP area. In some places the demand for water exceeds the resources available and this must be balanced against the ecological requirements to maintain river flows and support wetland habitats.

### ENHANCING BIODIVERSITY

Biodiversity is thought to be declining and in the UK alone, more than 100 species are believed to have become extinct this century. This report identifies the need to restore river and floodplain habitats to benefit both fish stocks and associated wildlife. We will strive to maintain and improve the quality of a river's fisheries by effective regulation and enforcement (in line with our fisheries duties) and measure our success by a commitment to a five-year rolling programme of survey work.

### ENJOYMENT OF THE WATERWAYS

We have a duty to promote the use of inland waters, through improved access and providing facilities for water-based recreational users. Limited land holdings are under Agency ownership in this area and we will therefore meet the majority of our objectives, for maintaining and improving the usage and enjoyment of the waterways, through collaborative project opportunities. The main concerns relating to navigation are the improvement of lock facilities to ease congestion and the prevention of vandalism of lock mechanisms.

### MANAGEMENT AND DISPOSAL OF WASTE MATERIAL

The availability and cost of disposal options influence the management of waste. However, the need to dispose of waste safely and in an environmentally sustainable way must not be neglected when considering these two factors. Waste disposal to landfill is a major activity within the LEAP area and there are a number of related issues that are causing public concern. The reasons for this concern need to be investigated and, where appropriate, action taken to deal with them.

### RISKS TO WATER QUALITY

The quality of groundwater, an important water resource, is at risk from a number of sources including landfill sites and contaminated land. River water quality in this area is generally good and most problems are associated with low river flows and high levels of nutrients (nitrate and phosphate) leading to eutrophication. Three Nitrate Vulnerable Zones (NVZs) have been designated in this area to reduce nitrate pollution from agriculture for both ground and surface waters.

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## NEED FOR MONITORING AND FURTHER INVESTIGATION

A recent European medical study reported that there was a significant increase in the proportion of birth defects to babies born within a two-mile radius of toxic waste landfills. The study did not confirm a causal link between congenital abnormalities and residence close to a landfill and recommended that further research be carried out.

The bacteria which causes Potato Brown Rot/Tomato Bacterial Wilt has been found in the Rivers Hiz, Ivel and Great Ouse. The disease can also affect aubergines and peppers. MAFF has been working to eliminate the hazard, and further monitoring is required to determine future actions.

## IMPROVING FLOOD DEFENCES

Following the exceptional flooding over Easter 1998, which affected parts of this Plan area, the Agency commissioned an independent investigation into our performance in response to the emergency. Peter Bye, former Chief Executive of Suffolk County Council, was appointed to chair this investigation, and the final report (Bye Report) was published in September 1998. The recommendations of the report need to be implemented. They include the need for better identification of flood risks and improvements to emergency response and flood warning systems. These floods also alerted us to the risk of flooding due to a lack of channel maintenance on non Main River.



## VISION

Most societies want to achieve economic development to secure a better quality of life, now and in the future, while still protecting the environment. The concept of sustainable development tries to reconcile these two objectives - meeting the needs of the present without compromising the ability of future generations to meet their own needs. We are working towards making this concept a reality.

We will undertake our activities, with others, to achieve protection and enhancement of the environment as a whole. Where possible we will take into account the effects of activities on water, air and land.

In general and in the long-term (20 years) the Vision encompasses:

- Developing partnerships with, for example, industry, Local Authorities, environmental groups and educational establishments (eg, Marston Vale Working Group);
- Setting and enforcing consistent standards for waste management practice to regulate the movement, treatment, storage and disposal of controlled wastes to protect and enhance the environment;
- Effectively managing the water resources of the LEAP area in a sustainable manner, to achieve secure water supplies for abstractors and a better water environment for future generations;
- Realising opportunities to improve the biodiversity/conservation value of the Plan area, with particular respect to river corridors and floodplains;
- Maintaining the high quality of the local rivers by monitoring to ensure continued compliance with river quality targets;
- Maintaining and, where necessary, improving flood protection along all Main Rivers, and ensuring that there is no inappropriate development in flood risk areas; and
- Protecting, improving and promoting recreation on or near water, as assets of environmental, economic and social value.

More specifically and in the short-term (five years) it encompasses:

- Providing an effective flood warning service for those properties believed to be at risk;
- Achieving an improvement in water quality, particularly where targets are not presently being met;
- Achieving a better water environment for the Rivers Hiz and Oughton by efficient operation of the river augmentation scheme to its maximum potential;
- Realising opportunities for recreational activities such as navigation, angling and walking;
- Restoration of degraded river habitats;
- Achieving improved fish stocks through better management, eg the investigation of fish mortalities and failure to meet fish biomass targets; and
- Working with Local Authorities to implement the UK Air Quality Strategy.

The successful future management of the Plan area requires the Agency to respond effectively to ever-increasing pressures exerted on the environment of the Bedford Ouse and to target resources where they are most needed.

Through our consultation exercise, we believe that this Vision can be shared by the local community. It is through establishing strong links with Local Authorities and communities, working together with industry and agriculture, and an increasing public awareness of the need to protect our environment that this Vision will become a reality.

## BACKGROUND

Local Environment Agency Planning is a process through which we are able to identify environmental problems and issues in a given area. To encourage interested parties to become involved in this process, a Draft Local Environment Agency Plan (LEAP) is produced and circulated. It is prepared as a basis for open consultation and discussion, both internally and externally. To facilitate feedback, the Draft LEAP for the Bedford Ouse (Lower Reaches) was widely circulated, with approximately 200 copies distributed externally, and promoted via items in local newspapers and local authority offices.

After the consultation period, which lasted three months, the responses were analysed, and a Statement of Consultation and this LEAP have been produced.

We value public consultation as it enables us to gain a better appreciation of different views on the environmental issues identified. The 'Statement of Consultation' (November 1999) contains a summary of the 27 responses received during the consultation period, together with our replies. The document was sent to all who made a formal response (refer to Appendix E).

Overall, the Draft LEAP was well received and favourable comments were made on its presentation and clarity.

The key messages coming through in the responses included:

- Concern about water resource issues for the environment, abstractors, recreational uses and increases in development;
- The need to give stronger emphasis to a wider range of recreational activities; and
- The importance of partnership working to maximise the benefits that can be achieved.

The Draft LEAP identified 22 issues; based on the consultation responses, all issues have been brought forward into the LEAP. In addition, one new issue has been identified. Table 1 lists all of the issues and shows the number of responses received for each.

## BACKGROUND

Table 1: LEAP and Draft LEAP Issues

LEAP No.	Draft LEAP No.	Issue Title	No. of Responses
1	1	Future demand for water abstraction above currently licensed quantities cannot be met from local groundwater resources or by using surface water in the summer	13
2	2	Ensuring that rivers and wetlands are not adversely affected by abstraction	8
3	3	Ensuring that the operation of the Rivers Hiz and Oughton Support Scheme is fully meeting its objectives to alleviate low flows	4
4	4	Failure of the River Bedford Ouse and associated tributaries to achieve fish biomass targets	2
5	5	Aquatic habitats need to be restored or improved to benefit fish stocks and other associated wildlife	5
6	6	River and floodplain habitats are degraded	9
7	7	Houghton structures require refurbishment to maintain river levels in line with WLMP recommendations	10
8	8	There is a lack of public access to the River Great Ouse for recreational activities	11
9	9	The impact of Cardington Canoe Slalom Channel on the ecology of surrounding watercourses	9
10	17	There is river traffic congestion at locks during the summer	9
11	18	There is a problem with vandalism of Agency lock structures	7
12	10	Public concern over brick making and waste disposal sites in the Marston Vale	3
13	11	The scale of misuse of exempt waste management sites is unknown	5
14	12	There is a lack of information on the land spreading of wastes	5
15	13	Eutrophication of Rivers Great Ouse, Ivel, Hiz and Grafham Water	10
16	14	A number of river stretches fail to meet their River Ecosystem Targets	5
17	15	Contamination of potable water supply by nitrates	6
18	16	Identification and remediation of contaminated land	5
19	19	Public concern over the findings of the Eurohazcon Study	4
20	New issue	The bacteria which causes Potato Brown Rot/Tomato Bacterial Wilt has been identified in the Rivers Hiz, Ivel and Great Ouse	-
21	20	Implementation of the Bye Report recommendations	6
22	21	Review of current standards of flood protection	4
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## Acknowledgements

We would like to thank all those Agency staff who invested many hours of hard work to create this plan, the members of the Great Ouse Area Environment Group who made an important contribution to the process, and the organisations and individuals who commented on the Draft LEAP.

### 1.0 Local Environment Agency Plans

#### 'Guardians of the Environment'

The Environment Agency came into being on 1 April 1996 to protect, monitor and improve the environment in its broadest sense - ultimately contributing to the world-wide goal of sustainable development. We have become one of the most powerful environmental regulators in the world. By exerting our influence on the regulation of air, land and water, we have a unique opportunity to look at our environment in an integrated and holistic manner.

#### Our Vision is

*A better environment in England and Wales  
for present and future generations*

#### Our aims are:

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

#### We will do this by:

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

The Agency has a wide range of duties and powers relating to different aspects of environmental management. It is required and guided by Government to use these duties and powers in order to help achieve the objectives of sustainable development. The Brundtland Commission defined sustainable development as '....development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

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

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

Although we only have duties and powers to protect some environmental resources, we will need to contribute to other aspects of environmental management even if these are, in the first instance, the responsibility of others. We can only do this effectively by working in partnership with and through others, in order to set common goals and to achieve agreed objectives.

Much of the UK's environmental legislation originates from the European Union. To date there have been five EC Environmental Action Programmes which have collectively given rise to several hundred pieces of legislation of relevance to environmental protection, one of the most recent being the Directive on Integrated Pollution Prevention and Control. A number of other directives are currently under consideration, covering issues such as water management, air quality and the management of waste using landfill.

We also have to work in a wider international context because it is now generally accepted that some environmental changes are occurring on a global scale. Individual countries contribute to these changes but respond to them in different ways. Our long-term strategy therefore has to reflect these global issues, and it has to be delivered within the framework of international and national commitments that has been developed to address them.

## 1.0 THE ENVIRONMENT AGENCY

Perhaps the most important international issue is that of climatic change. The UK is - like all nations - a contributor to the global emissions into the atmosphere of gases, such as carbon dioxide, which are believed to contribute to long-term climatic changes. The UK is likely to be affected in complex ways as, when and if the climate does change. It is therefore a signatory to the Framework Convention on Climate Change (as agreed at the Rio 'Earth Summit' in 1992), and is taking an active part in international negotiations to obtain commitments beyond 2000 for credible, effective and achievable reductions of greenhouse gas emissions.

Another outcome of the 'Earth Summit' was an agreement by governments that, in order to solve global environmental problems, local action is crucial: we must all therefore think globally and act locally. The Local Agenda 21 initiative set out actions needed to achieve sustainable development, including the need to make clear the links that exist between local lifestyles and environmental resources. In the UK, plans have now been formulated by local government and local communities, to identify and address a wide range of environmental issues including natural resource use, pollution, health, local amenities and quality of life. These programmes set out long-term solutions that take account of resources that affect the global environment and thus local communities in other parts of the world.

We are committed to a programme of Local Environment Agency Plans (LEAPs) in order to produce a local agenda of integrated action for environmental improvements. These LEAPs will also allow us to deploy our resources to best effect and optimise benefit for the local environment.

### 1.1 Local Environment Agency Plans

Delivering environmental improvement at the local level can be achieved through LEAPs. These plans will reflect our close contact with industry, the public and local government and will contribute towards achieving sustainable development.

The process of drawing up the plans will involve close consultation with all interested parties. It will promote the effective, accountable and integrated delivery of environmental improvements at the local level. The plans will translate policy and strategy into delivery on the ground and will result in actions, either for the Agency to fulfil, or for others to undertake through influence and partnership. We believe that the process will benefit local communities by influencing and advising external decision-makers and public opinion. It will build trust by being open

and frank when dealing with all issues. Nationally, we will complete all documents for consultation by the end of 1999, and all plans detailing activities to resolve the identified environmental issues will be published by the end of 2000.

### 1.2 The LEAPs Process

It is the duty of the Environment Agency to assess the allocation of all natural resources, within the land, air and water environments, which are in demand from many potential users.

LEAPs are published by the Agency to draw together aspects of environmental management and planning as part of the ongoing dialogue between ourselves and other organisations/people involved in the protection and management of the environment. They contribute directly to our aims as described in Section 3.0. LEAPs build on the former National Rivers Authority's (NRA) Catchment Management Planning initiative - addressing the integrated management of land and air as well as the water environment. Catchment Management Plans (CMPs) will co-exist with LEAPs until such time that they are updated to address all of the Agency's responsibilities.

This is one of six LEAPs in the Central Area (refer to Map 2). In line with the National target, public consultation on five documents has been completed and this is the fifth plan to be produced, detailing activities to resolve the environmental issues identified.

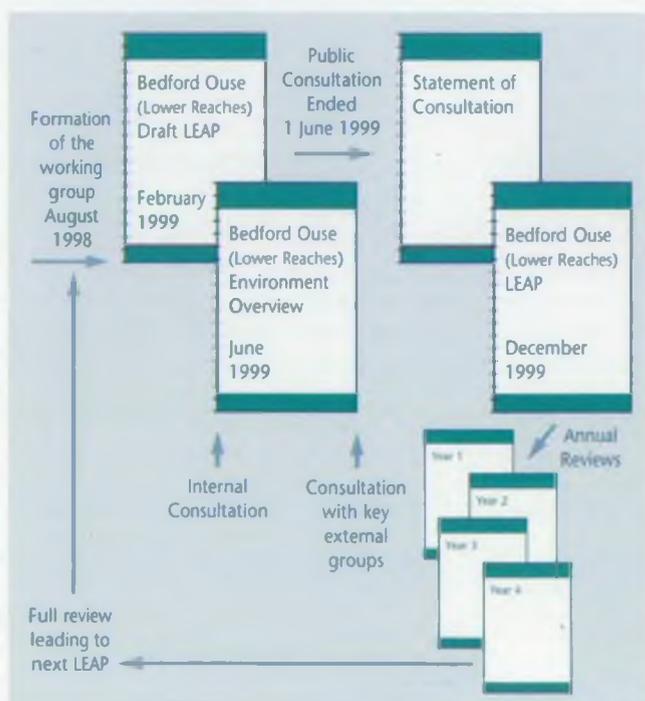
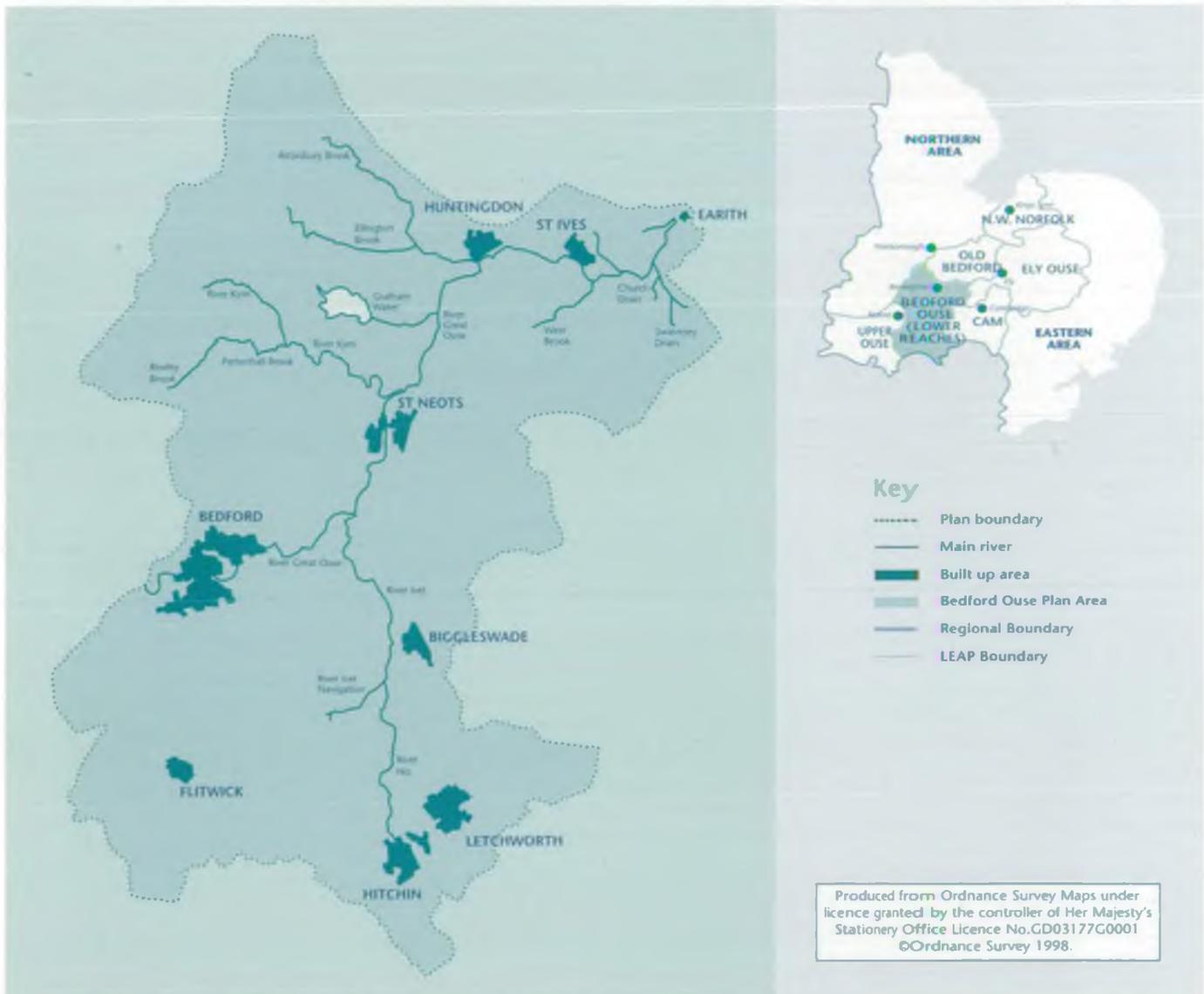


Figure 1: The Bedford Ouse LEAP Process



**Map 2: Local Environment Agency Plans**

## 1.3 Environmental Education Strategy

Education has to be a priority if sustainable environmental improvements are to be achieved. With this in mind we published our own education strategy, 'Green Shoots', in January 1997. In the long-term, education on environmental issues could ease the regulatory burden and associated costs.

Our education programmes are to be aimed at those working in education, industry and the community at large. The strategy acknowledges that environmental improvement and sustainable development can only be achieved with the involvement of society as a whole. It also recognises the need to share expertise and resources with other organisations in collaborative ventures in order to develop a more responsible and environmentally-aware society. It contains six objectives, which are:

- to build positive partnerships;
- to help educate young people;
- to improve the understanding of environmental issues through such schemes as work placements;
- to work with industry to promote the prevention of pollution;
- to foster public awareness of environmental issues; and
- to build on current, and develop new, international relationships to further sustainable development.

The focus for action is on youth and partnership. The plan will not be to use such media as schools packs and talks, but rather to focus on more innovative and empowering activities. These will include, for example, the CREST Award Scheme - Environment Research Challenge (project-based research on real issues for the 11-18+ group),

## 1.0 THE ENVIRONMENT AGENCY

schools conferences to elicit potential answers for the future based on current environmental issues and 'hands-on' projects to restore and maintain environmentally damaged areas (with youth clubs). The programme for future years will build upon these initiatives to help deliver the other objectives, but the focus will change year-on-year.

This will not be an easy task, nor one achieved by the Agency alone. We do, however, have various opportunities to exploit, particularly where LEAPs provide local focus. The concept of educating by empowering people to make choices is both valuable and under-used. Our plans, Local Agenda 21 and other such avenues will be fully exploited in the future.



## 2.0 THE BEDFORD OUSE AREA

*Note: This chapter provides a general description of the area only. A more detailed account of the state of its environment can be found in the Bedford Ouse (Lower Reaches) Environment Overview, which was published in June 1999 and is available from the Agency.*

### 2.0 The Bedford Ouse Area

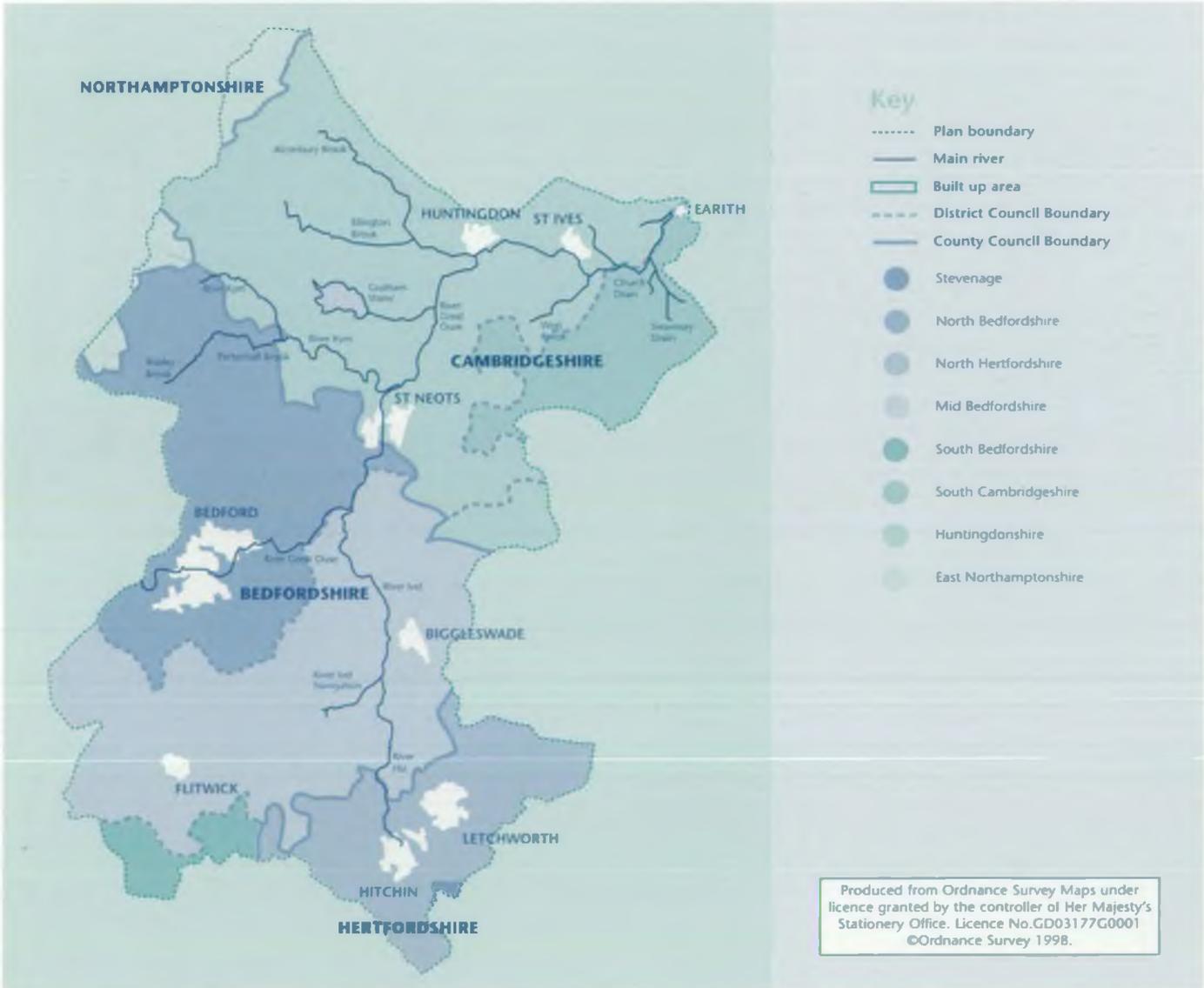
The Bedford Ouse (Lower Reaches) LEAP area covers the catchment of the River Great Ouse between Kempston and Earith (also known as the Bedford Ouse). Much of its 1556 km<sup>2</sup> area is in the counties of Bedfordshire and Cambridgeshire (refer to Map 3). It has a diversity of landscape types: between Bedford and St Neots, the countryside is gently undulating and supports predominantly arable farming; between St Neots and Huntingdon, there are extensive river valley floodplains; further downstream, around St Ives, the land is generally

flatter, with large areas of flood meadow on either side of the river.

In general, the land is 25 to 50 m above sea level with the lowest-lying land found at Earith (2 m above sea level). The upper reaches of the sub-catchments are around 100 m above sea level, with the maximum elevation of 183 m being found at Telegraph Hill south-west of Hitchin. The rivers generally flow through clay-covered catchments, apart from the Hiz, Flit and Upper Ivel, which flow over Chalk and Greensand rocks.

The area is well served by major road and rail networks, which carry large volumes of through and commuter traffic (refer to Map 1, inside front cover).

It has a long association with the military, with Ministry of Defence (MoD) related establishments found at Bampton, Wyton, Molesworth, Chicksands, Cardington and Henlow. Two non-



Map 3: Local Authorities

## 2.0 THE BEDFORD OUSE AREA

operational military air bases are situated at Thurleigh and Alconbury.

The Stewartby brickworks in Bedfordshire dominates local industry and is reputed to be the largest in the world as it has a maximum capacity of 375 million bricks per year.

### CULTURE AND TOURISM

Oliver Cromwell, Lord Protector of England from 1653-1658, was born and brought up in Huntingdon and later lived in St Ives. The Cromwell Museum and the ancestral home of the Cromwells, Hinchingsbrooke House, can be found in Huntingdon. Another location with historical resonance is Bedford, the home of John Bunyan, author of 'The Pilgrim's Progress'. A pedestrian trail, linking key Bunyan sites in Bedford, is popular with visitors. His birthplace is nearby, in Elstow, which also attracts its share of visitors.

In Bedfordshire, Marston Vale Forest area is being developed as a water-focused environment by creating and enhancing wetland habitats and water-based recreational facilities.

The natural beauty and unspoilt nature of much of the environment means that ecotourism is important to the local economy. The headquarters of the Royal Society for the Protection of Birds (RSPB), including a nature reserve, is located at Sandy.

Other popular attractions include Standon Car Museum in Henlow, with its display of historic vehicles, the Shuttleworth Collection of veteran aeroplanes at the Old Warden Aerodrome, near Biggleswade, and Huntingdon Racecourse.

## 2.1 Summary of Environment Overview

### 2.1.1 Environmental Resources

#### WATER RESOURCES

The average rainfall is low in the Bedford Ouse area, at 605 mm (compared with a long-term average for Great Britain of 1089 mm). During most summers, as with other areas in the Anglian Region, evaporation far exceeds rainfall and as a result there is a limited water resource for environmental and abstraction needs. Most current predictions for future years are that summers will become warmer and drier and winters wetter and stormier, with the possibility of greater variability between years. The direct effects on water resources will be of most concern during summer periods, when increased pressure on the environment will result from a

combination of higher temperatures, lower river flows and increased demand for water.

#### HABITATS

The area covered by this Plan is rich in habitats, although many have changed over time as a result of man's activities. As the dominant land use is agriculture, cereal field margins, hedgerows and pastures predominate and are particularly important habitats for farmland birds (such as skylarks), terrestrial invertebrates and fauna (such as field mice and brown hares). Watercourses and wetlands give rise to important habitat types; as well as the clay- and/or alluvial-based rivers such as the Bedford Ouse River itself, there is the River Hiz (an important chalk stream) and the canalised River Ivel. Water storage reservoirs (e.g. Grafham Water) and flooded gravel and clay pits (e.g. Little Paxton Pits) have added considerably to the amount of open water and marginal wetland habitat for plants, birds, dragonflies and aquatic wildlife. Fens (swamps and reedbeds) and wet grassland are also important habitats; Portholme Meadow Site of Special Scientific Interest (SSSI) (a seasonally flooded meadow) is additionally designated a candidate Special Area of Conservation (cSAC). In total, there are 50 SSSIs in the LEAP area (of which 26 are water dependent) and one cSAC.

### 2.1.2 Flood Defence and Land Use

#### FLOOD DEFENCE

The valleys of the River Great Ouse and its tributaries offer little gradient to the rivers and are generally flat adjacent to both banks. Accordingly, the almost continuous floodplain within these valleys is regularly inundated during periods of high river flows. Particularly extensive floodplains exist around Bedford, Tempsford, St Neots, Huntingdon and St Ives.

Rivers serving clay uplands are known to be vulnerable to flooding, for example the Alconbury, Riseley and Ellington Brooks. This was all too apparent following the extreme rainfall during Easter 1998 (which had a return period of 1:70 years in the Bedford area).

Within the LEAP area there is 221 km of designated Main River. Formal flood defences exist to offer some protection along 32 km, and there are numerous weirs and sluices for river level management. We undertake regular inspections and surveys of these assets and carry out routine maintenance where appropriate. Further capital improvements are carried out where sufficient flood defence benefits can be proven.

## 2.0 THE BEDFORD OUSE AREA

Many of the low-lying lands in the area are within Internal Drainage Board (IDB) boundaries. IDBs are statutory bodies charged, under the Land Drainage Act 1991, with providing a flood protection and water level management service to both developed and agricultural areas within their defined drainage districts. IDBs maintain and control an extensive network of tributaries and minor watercourses, formally designated as Main Drain, that outfall into the Rivers Bedford Ouse, Hiz and Upper Ivel. The River Flit is Main River (known as the Ivel Navigation) from its confluence with the River Ivel up to the railway line (disused) at Shefford, where it falls under the control and responsibility of the Bedfordshire and River Ivel IDB.

### AGRICULTURE

The dominant soil types comprise low-permeability calcareous clayey soils and some non-calcareous clayey soils. These soils are ideally suited to growing winter cereals and some other arable crops. 42.9% of the area is Grade 1 & 2 land (most of which is Grade 2), compared to England as a whole which comprises only 16.1% of these top-quality grades. This high-quality land is most suitable for the growing of arable crops such as cereals and potatoes and horticultural salad crops.

### DEVELOPMENT

The continual development of our cities, towns and countryside is the single most significant influence on the environment. Development includes most construction works including buildings and roads, mineral extraction and waste management facilities and certain changes of use.

Historically, development and land use have been guided to a large extent by the physical characteristics of the area including the geology, hydrogeology, topography and rainfall. For example, Bedford, St Neots and Huntingdon are market towns located at crossing points of the River Great Ouse. More latterly, social and economic factors have become increasingly important in deciding land use and the location of development at both national and local levels. Perhaps the best local example is Letchworth, which has the distinction of being the world's first 'Garden City', based on Ebenezer Howard's concept of combining the best of urban and rural living.

The Bedfordshire and Hertfordshire Structure Plans make provision for 114,300 new dwellings between 1991 and 2011; approximately one-third of these dwellings will be in this LEAP area. Two major provisions have been made; one at Elstow and one to the west of Stevenage. Central Government

forecasts indicate that in excess of 38,000 new dwellings may be required in these two counties between 2011 and 2016.

The development site to the west of Stevenage straddles the administrative boundaries of Stevenage Borough Council and North Hertfordshire District Council and the Regional divide between the Agency's Anglian and Thames Regions. During the consultation period on the Structure Plan we raised a number of concerns, including water supply, surface water drainage and the protection of habitats. These concerns were further addressed in an environmental appraisal report, which detailed the research and mitigation measures required to reduce the environmental effects as well as detailing environmental enhancements. Towards the beginning of 1999 (after the Structure Plan was adopted) Topic Groups and the Garden City 21 Project were established to ensure the new development would meet new standards of social, environmental and economic sustainability. A recent change of local Government in Hertfordshire County Council and North Hertfordshire District Council has resulted in a decision to review the Structure Plan to reassess the housing development required. A Public Examination of the Regional Planning Guidance for the South East Regional Planning Conference (SERPLAN) area, which includes Hertfordshire, may give revised housing figures. We will be involved in the review of the Structure Plan and have already met with Hertfordshire County Council to discuss our involvement in this process. This will be an exciting opportunity for us to influence the location of future development but will inevitably require substantial Agency resources.

Within Cambridgeshire, the Government-predicted household growth levels would indicate a need for an additional 45,000 dwellings by 2016. To address this issue the County Council undertook a capacity study and a Cambridge sub-region study. These included various development scenarios that included large-scale development options at St Neots, Huntingdon, St Ives and in the St Ives-Cambridge corridor. Recent proposed housing figures for Bedfordshire suggest an increase of 26,000 dwellings above that already planned for in the County Structure Plan.

### WASTE MANAGEMENT

The area is dominated by the large landfill sites that utilise the former brick pit voids in Bedfordshire. These sites are of major regional significance, accepting waste for landfilling from London and other SERPLAN counties. This regional importance exerts pressure on other existing waste

## 2.0 THE BEDFORD OUSE AREA

management facilities and waste management arrangements within Bedfordshire. As a result, there is rapid depletion of licensed landfill capacity in the area. Actual figures on waste arising and remaining disposal capacity are not readily available by LEAP area, as they are currently prepared on a county basis to inform the development planning process.

### 2.1.3 Key Biological Populations, Communities and Biodiversity

#### FISHERIES

There are 190 km of coarse fishery and 3 km of trout fishery in the Plan area; angling is concentrated on the River Ivel and the Bedford Ouse from Bedford to St Ives. The Bedford Ouse has a healthy fish population dominated by roach and common bream, although pike and perch are also common; in total, 15 different species are found. Chub and pike are common in the Elstow Brook, and dace, bream and chub are widespread in the River Ivel. In the Ivel Navigation, the numbers of chub, pike and roach have all increased

in recent years; its habitat is generally limited, being more akin to a 'straightened' canal, which results in fish forming shoals around isolated features, especially during the winter months. Some of the tributaries of the Bedford Ouse (such as the Alconbury Brook and the River Kym) are key spawning areas for coarse species, and backwaters such as Lees Brook and Cooks Backwater provide a refuge during winter floods.

#### FRESHWATER BIOLOGY

Invertebrate and plant species are good indicators of the state of rivers and lakes. Diverse invertebrate fauna and plant flora demonstrate our success in meeting water protection and water management objectives. Good water quality, water quantity and habitat are all vital for flora and fauna. The overall objective is to sustain flora and fauna populations appropriate to the river catchment. The Bedford Ouse itself has a fauna dominated by damsel and dragon flies, caddis flies, beetles, water bugs and snails – indicative of slow flowing, enriched water. In the faster flowing tributaries, mayflies also tend to predominate.

**Table 2: Fisheries Biomass Results From the 1998 and 1999 Surveys**

SURVEY NAME (SURVEY DATE)	BIOMASS (g/m <sup>2</sup> )	CLASSIFICATION
Bedford Ouse between Bedford and Brampton (Aug – Oct 1998)	17.4	B (maintained)
New Cut and Cardington Canoe Stream (July 1998)	42.5	A (maintained)
Elstow Brook (July 1998)	26.6	A (improved)
River Ivel (May – Aug 1998)	26.3	A (improved)
Ivel Navigation (May 1998)	20.9	A (improved)
Hiz (May 1998)	18.5	B (declined)
Flit (May 1998)	4.7	D (declined)
Hit (May 1998)	3.3	D (declined)
River Kym (June 1998)	15.2	B (declined)
Bedford Ouse between Brampton and St. Ives (July 1999)	7.8	C (declined)
Alconbury Brook (July 1998)	11.2	B (improved)
Lees Brook (Oct 1998)	13.4	B (maintained)
Cooks Backwater (Sept 1998)	4.2	D (maintained)
Bedford Ouse between St. Ives and Earith (July 1999)	72.7*	A (improved)
St Ives Chub Stream (Dec 1998)	34.7	A (maintained)

\* This included 450 large bream weighing almost a tonne, caught from a single site. If this is excluded, the recalculated biomass is 9.4 g/m<sup>2</sup>; class C.

## 2.0 THE BEDFORD OUSE AREA

### BIODIVERSITY

One of our immediate concerns is to enhance biodiversity in this area. We will play a full part in implementing the EC Habitats Directive, including completing the review of consents by 2004. The Bedfordshire, Hertfordshire and Northamptonshire Biodiversity Action Plans (BAPs) are not yet complete. The Cambridgeshire BAP contains objectives and targets for habitats and species for which the Agency is the lead partner. They are the fens, floodplains, grazing marsh and reedbeds. The Agency is also the contact point or lead partner for chalk rivers, fluctuating water-bodies and eutrophic lakes.

The LEAP area contains a wide variety of habitats and species of national and international importance. Table 3 lists the species for which the Agency is the lead organisation and/or contact.

To meet the Agency's statutory conservation duties and strategic objectives, river corridor and species surveys have been undertaken to describe, classify and monitor the conservation resources of all Main Rivers in the Bedford Ouse (Lower Reaches) area. The surveys, which include otter, water vole, bird and plant species, enable the biodiversity resource to be assessed and targets set for restoration, enhancement and/or conservation measures.

**Table 3: UK Priority Biodiversity Species**

SPECIES	LATIN NAME	CONTACT	LEAD PARTNER
Allis Shad	<i>Alosa alosa</i>	MAFF	Agency/MAFF
White-Clawed Crayfish	<i>Austropotamobius pallipes</i>	Agency	Game Conservancy
Depressed River Mussel	<i>Pseudodanodonta complanata</i>	Agency	Agency
Freshwater Pea Mussel	<i>Pisidium tenuilineatum</i>	Agency	Agency
Freshwater Pearl Mussel	<i>Margaritifera margaritifera</i>	SNH	Agency
Marsh Warbler	<i>Acrocephalus palustris</i>	Agency	RSPB/Wildlife Trust
Glutinous Snail	<i>Myxas glutinosa</i>	Agency	Agency
Little Whirlpool Ram's Horn Snail	<i>Anisus vorticulus</i>	Agency	Agency
Otter	<i>Lutra lutra</i>	Agency	Agency/Wildlife Trusts
Cut Grass	<i>Leersia oryzoides</i>	English Nature	Agency
Triangular Club-Rush	<i>Scirpus triquetra</i>	English Nature	Agency
Greater Water Parsnip	<i>Sium latifolium</i>	English Nature	Agency
Burbot	<i>Lota lota</i>	English Nature	Agency
Ribbon Leaved Water Plantain	<i>Alisma graminea</i>	Agency	Agency/English Nature
River Jelly Lichen	<i>Collema dichotomum</i>	Agency	Agency
Shining Ram's Horn Snail	<i>Segmentina nitida</i>	Agency	Agency
Southern Damselfly	<i>Coenagrion mercuriale</i>	Agency	Wildlife Trusts
Twaite Shad	<i>Alosa fallax</i>	MAFF	Agency/MAFF
Vendace	<i>Coregonus albula</i>	Agency	Agency
Water Vole	<i>Arvicola terrestris</i>	Agency	UK Water Vole Group

## 2.0 THE BEDFORD OUSE AREA

### 2.1.3 Compliance with Targets and Standards

#### WATER RESOURCES

The following table summarises the main water resources targets and the standards achieved in this LEAP area.

**Table 4: Summary of Water Resources Targets and Standards Achieved**

TARGETS	STANDARDS ACHIEVED
Meet reasonable demands	There is no evidence that water resource targets for public water supply are not being met. There are no issues relating to reliability or supply for industry. A national review of water resources and demands is now underway. Water companies have been required to submit water resource plans to the Agency, detailing sustainable water resource development up to 2024/2025. These plans embody a twin-track approach, where new resources will not be developed before leakage reduction and demand management measures are in place.
Protect resources	Cessation clauses are in place on most surface water abstraction licences to protect the water environment during periods of low flows.  Water Level Management Plans will be produced for Berry Fen, Little Paxton Pits and St Neots Common.  Review of permissions will be carried out under the Habitats Directive.  As part of the AMP3 process and National Environment Programme, water companies will invest in environmental investigations and improvement schemes over the next five years.
Ensure proper use	Time-limited licences allow periodic review.  Water companies are to achieve reasonable levels of leakage reduction and promote responsible use of water through demand management measures.  The Agency promotes good irrigation practice.
Conserve	Winter storage, to meet new demands or replace summer abstraction, is encouraged by the Agency for uses such as spray irrigation.  Climatic changes are to be kept under constant review.

#### WATER QUALITY

The General Quality Assessment Scheme is a national scheme that grades the different types of river across England and Wales. It provides an absolute measure of quality and is also designed to show trends. As shown in the table and graphs below, for biological water quality between 1992 and 1997 there has been an increase of 91.5 km in the length of river monitored. This may have contributed to the increase in a-c grades. There are no grade f rivers. Very little change has occurred in chemical water quality between 1993 and 1998, with none of the downgrades being statistically significant.

## 2.0 THE BEDFORD OUSE AREA

Figure 2: Change in River Biological Quality

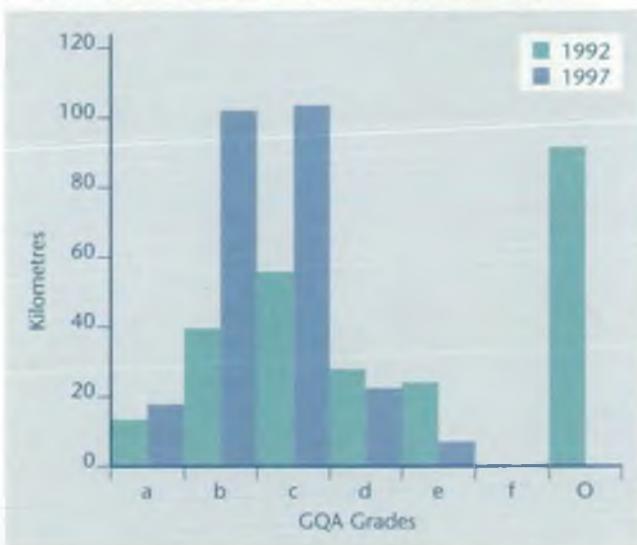


Figure 3: Change in River Chemical Quality

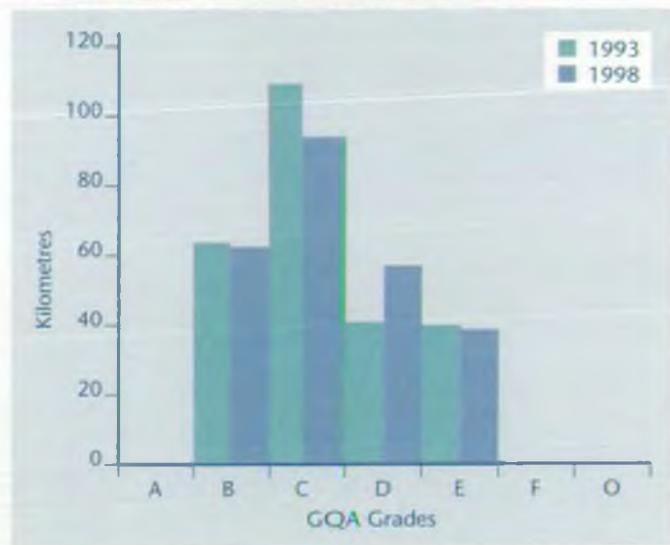


Table 5: River Biological and Chemical Quality Grades

BIOLOGICAL QUALITY GRADES (1997) *		CHEMICAL QUALITY GRADES (1998)	
GRADE	LENGTH OF RIVER (KM)	GRADE	LENGTH OF RIVER (KM)
a (very good)	9.0	A (very good)	0
b (good)	101.3	B (good)	62
c (fairly good)	102.7	C (fairly good)	93.6
d (fair)	22.2	D (fair)	56
e (poor)	6.0	E (poor)	38.1
f (bad)	0	F (bad)	0
O (unclassified)	0	O (unclassified)	0

\* The 1998 biology data was not available when this document was printed.

### AIR QUALITY

The LEAP area is essentially rural, with the major urban centres being Hitchin/Letchworth, Bedford, Eaton Socon/St Neots, Huntingdon and St Ives. Air quality is not of concern and therefore little information is available from monitoring of air quality. Using data from other rural monitoring sites elsewhere in the country, it can be assumed that the quality of the air is generally very good. Under adverse meteorological conditions, the Marston Vale area suffers from the characteristic odour of Fletton brickmaking. This odour has no known health concerns but can be unpleasant to some people. There is ongoing research and trials are taking place to reduce the odour caused by the use of Oxford clay in the process. The effects of

releases from other sources, such as roads (including the A1, A14, A421 and A428) and urban areas (such as Bedford and Huntingdon) may have an impact, especially under certain meteorological conditions.

### TRANSFRONTIER WASTE SHIPMENTS

In the year April 1997 to March 1998, we granted consent to one notification. This authorised a maximum of 75 tonnes of ashes and residues containing metal or metal alloy waste, in three shipments, to be exported from the area for recovery in Belgium. A further notification was granted from April 1998 to the end of January 1999, authorising the exportation of 80 tonnes of the same material, also for recovery in Belgium.

## 2.0 THE BEDFORD OUSE AREA

### 2.1.4 The Health of the Environment

#### LAND AND GROUNDWATER CONTAMINATION

In the LEAP area there are three designated Nitrate Vulnerable Zones (NVZs), at Slip End, Weston and Great Offley. The objective of this designation is to reduce nitrate pollution from agricultural sources. We will encourage activities with groundwater pollution potential to be sited on non-aquifer areas. In addition, Source Protection Zones (SPZs) have been designated for each public water supply source in the area.

The Groundwater Directive 80/98/EEC exists to protect groundwater by preventing the entry of the most toxic (List I) substances into groundwater and restricting entry of other harmful (List II) substances. The Regulations were fully implemented into UK law on 1 April 1999. The agricultural sector is affected where farmers dispose of waste pesticides, from sheep dipping and arable usage, and pesticide tank washings to land.

Two groundwater areas in the locality are known to be contaminated and, under the Agency's existing powers, are likely to be investigated. One is at the Baldock Road borehole in Letchworth (which supplies water for Three Valleys Water Company), and the other is at the former landfill site at High Street, Flitwick. The Baldock Road borehole

continues to be out of use as a public water supply source, due to chlorinated solvent concentrations that exceed the water supply regulations standard. The most probable source of this is the historical industrial presence in the local area causing contamination of the groundwater. Investigations into the impact of Flitwick landfill site are being carried out in partnership with Mid Bedfordshire District Council.

### 2.1.5 Aesthetic Quality

#### LANDSCAPE AND ARCHAEOLOGY

The Countryside Agency and English Nature, with the help of English Heritage, have assessed the current state of the landscape and classified it into Character Areas. A Character Area is defined as a geographic area with a distinct pattern or combination of landscape elements that occurs consistently within a defined area. The country has also been divided into a series of Natural Areas, with boundaries based on the distribution of wildlife and natural features and the land use patterns and human history of each area.

The landscape of the area covered by this Plan is composed of several distinct types. A description of the relevant Character and Natural Areas is given in Table 6 below and illustrated in Map 4.

**Table 6: The Character of the Bedford Ouse (Lower Reaches) LEAP Area**

CHARACTER AREA (No.)	NATURAL AREA	CHARACTER AREA DESCRIPTION
Bedfordshire and Cambridgeshire Claylands (88)	West Anglian Plain (part of)	The Bedfordshire and Cambridgeshire Claylands lie between the Fens and the Chilterns with the Upper Thames Clay Vales to the south west and the Yardley-Whittlewood Ridge and Northampton Vales to the north. Chalk and limestone till, which gives rise to calcareous clay soils, underlies the area. To the east of Bedford and north of Shefford, the broader river valleys comprise well-drained soils over marine alluvial and river terrace gravels. The area has a gently undulating relief with plateaux divided by broad, shallow valleys and is characterised by arable cultivation. Woodland cover is generally sparse, resulting in an open landscape, although there are some plantations within the river valleys and small ancient woodlands scattered infrequently on the plateaux. The effects of clay extraction for the brick industry dominate a broad valley at Marston Vale. Chimney-stacks punctuate the skyline and large pits are often flooded for nature conservation value after extraction has ended.

## 2.0 THE BEDFORD OUSE AREA

CHARACTER AREA (No.)	NATURAL AREA	CHARACTER AREA DESCRIPTION
Bedfordshire Greensand Ridge (90)	Bedfordshire Greensand Ridge	The Bedfordshire Greensand Ridge is a narrow elongated area that extends in a north-east to south-west direction from below Leighton Buzzard in Buckinghamshire, across Bedfordshire, to Gamlingay in Cambridgeshire and is encompassed by the Bedfordshire and Cambridgeshire Claylands. The outcrop of Greensand, interspersed with sandstone, forms a natural island that contrasts with the vales and low hills of the surrounding claylands, and gives rise to a variety of sandy, acidic soils. Boulder clay is located mainly on the crest of the ridge, but also forms a complicated mix with sandy soils in some other areas, giving rise to poorly drained soils. Both types of soils have a strong influence on the vegetation that occurs in the area.
Chilterns (110)	Chilterns	The Chilterns form a belt of high ground stretching from Oxfordshire in a north-easterly direction, through Buckinghamshire and Hertfordshire to Bedfordshire. The area includes substantial low-lying settlements such as Luton, Dunstable, Hemel Hempstead and High Wycombe. The Chilterns are formed from an outcrop of chalk that is exposed on the smooth slopes of the valleys and on a steep scarp slope above Aylesbury Vale. The chalk strata of the plateau are overlain by extensive deposits of clay with flints and glacial drifts which give rise to acidic and calcareous soils. These soils contrast with the chalk soils of the valley floors and sides. A series of parallel river valleys flowing to the south east, together with numerous dry tributary valleys, dissect the plateau to form roughly rectangular blocks.
The Fens (46) (part of)	The Fens (part of)	The Fens cover the large area of Cambridgeshire, Lincolnshire, Norfolk and Suffolk that drains slowly towards the Wash, its boundaries typically drawn along a series of catchwater drains, dykes and canalised rivers. Glaciation is responsible for the scouring of the Fen Basin and the area now occupied by the Wash. The ice sheet deposited glacial sands and clays across the area, leaving a shallow basin in which peat and marine clays accumulated. These peat and clay deposits have largely given the area its distinctive character. The Upper Jurassic clays and limestones are rich in fossils and are of particular geological interest. With the subsequent rise in sea level since the last Ice Age and reclamation of land from the sea from Roman times, the balance of habitats and settlements found within the area have altered. Soils over the central and coastal fens are fertile, stoneless calcareous silty soil, while those associated with inland fens consist of dark, friable fen peat. All the Fens have artificial canalised courses, which run in straight lines for miles and are bounded by high embankments built to contain the watercourses from lower adjacent fields.
East Anglian Chalk (87) (part of)	East Anglian Chalk (part of)	The East Anglian Chalk lying within Cambridgeshire, Bedfordshire, Hertfordshire and Essex forms a narrow, easterly extension of the Chilterns. The area is bounded to the north-west by The Fens and the Bedfordshire and Cambridgeshire Claylands, and to the south-east by the South Suffolk and North Essex Clayland. Breckland and the Chilterns form the northern and southern boundaries of this area respectively.
Yardley-Whittlewood Ridge (91) (part of)	Yardley-Whittlewood Ridge (part of)	The Yardley-Whittlewood Ridge area is located between Northampton and Bedford, running on a south-west to north-east axis. The Northamptonshire Vales bound the area to the north with the more open landscape of the Bedfordshire and Cambridgeshire Claylands to the south. The underlying geology is dominated by glacial till with a high chalk content giving rise to fertile soils suitable for the extensive arable cultivation that dominates the area. River valleys of the Ouse tributaries bisect the area and provide a contrast to the landscape of the gently undulating ridge. The area is well endowed with historic parklands and broad-leaved woodlands, historically used for hunting deer.



## 2.0 THE BEDFORD OUSE AREA

### TRANQUIL AREAS

According to the Tranquil Areas Analysis carried out by the Council for the Protection of Rural England in the 1990s, tranquillity has declined by around 10% in this area as a whole since the 1960s. This is the result of new developments, including the construction and upgrading of new roads, such as the A14 and A1, and the general increase in traffic on the road network. The expansion of settlements and industrial sites into their rural hinterland has also contributed to the overall loss of tranquillity.

### RECREATION AND NAVIGATION

There is over 66 km of navigable river available to boaters in the Bedford Ouse LEAP area, allowing them to explore some of the most traditional landscapes of East Anglia. Popular destinations include the attractive market towns of St Neots, Huntingdon and St Ives. Britain's first artificial white-water slalom course for canoes is located on the Bedford Ouse near Cardington Lock. In Bedford, the river is heavily used by rowers from local schools and clubs. There are annual rowing and dragon boat regattas, and a major river festival is held every other year.

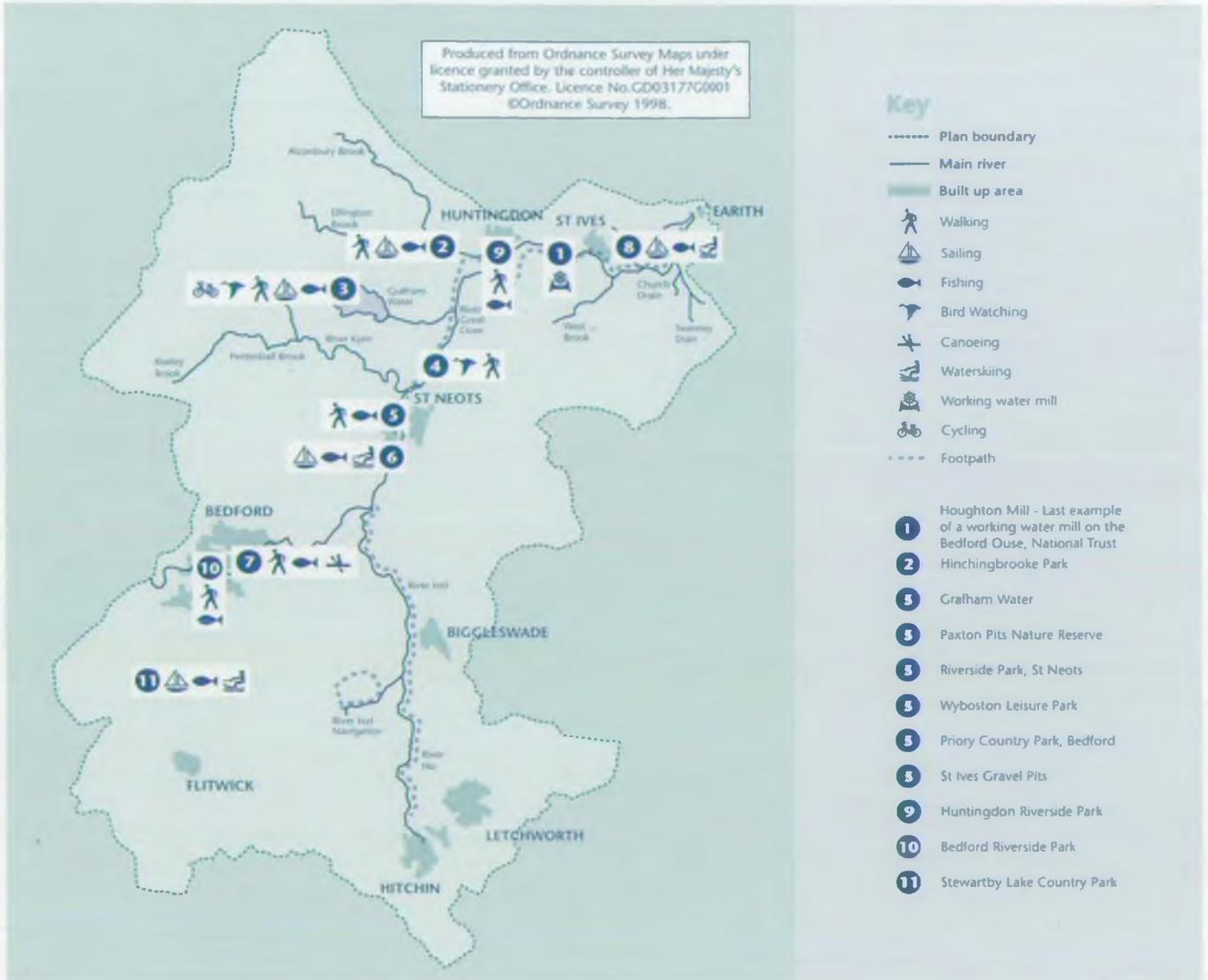
There are a number of nature reserves, parks, gardens, riverside walks and nature trails in the area, offering a range of recreational activities, such as fishing, sailing, walking and bird watching. These include Grafham

Water and Little Paxton Pits Nature Reserves, Hinchingsbrooke and Priory Country Parks and Stewartby and Wyboston lakes. Two long distance footpaths are readily accessible: The Ouse Valley Way runs from Eaton Socon to Earith, and the Kingfisher Way runs from Baldock to Tempsford. Other walks include the Greensand Ridge and Navigator's Way. Water-related leisure pursuits are particularly popular, with many marinas, boatyards and boat clubs; water-skiing, yachting and windsurfing are also widely practised. Map 5 gives an indication of the type and extent of water-related recreation that can be found in this area.

The Regional Strategy for Water Recreation has a number of objectives: to achieve a realistic balance for water-related sports, to identify user shortfalls and recommend appropriate enhancements and to publicise water recreation needs to all partner agencies. Zone 1, which covers the River Great Ouse and associated waters, was updated by the Sports Council (Eastern Region) in 1996. The Agency fully supports the Strategy and has adopted the recommendations as a basis for policy formation and when considering improvement projects for this area's watercourses.

A more detailed account of the State of the Environment for the Bedford Ouse (Lower Reaches) can be found in the Environment Overview for this area.

## 2.0 THE BEDFORD OUSE AREA



**Map 5: Water Related Recreation**

## 3.0 ISSUES AND ACTIVITIES

### 3.0 Introduction

The Activity Plan specifies:

- The organisation(s) which will implement the proposed activities, either in a lead role or as a key supporter; and
- The timetable for the activity.

The following table outlines the agreed actions for each issue identified via the consultation process for this LEAP area.

NB: The issues and activities are not presented in any order of priority and are in summary.

#### SUMMARY OF ISSUES

Some issue numbers have changed from those used in the Draft LEAP and there is one additional issue (issue 20). Table 1 in the 'Background' section of this document shows where changes have been made. Map 6 shows the site-specific issues.

#### a) Management of Water Resources

- 1: Future demand for water abstraction above currently licensed quantities cannot be met from local groundwater resources or by using surface water in the summer.
- 2: Ensuring that rivers and wetlands are not adversely affected by abstraction.
- 3: Ensuring that the operation of the Rivers Hiz and Oughton Support Scheme is fully meeting its objectives to alleviate low flows.

#### b) Enhancing Biodiversity

- 4: Failure of the Bedford Ouse and associated tributaries to achieve fish biomass targets.
- 5: Aquatic habitats need to be restored or improved to benefit fish stocks and other associated wildlife.
- 6: River and floodplain habitats are degraded.
- 7: Houghton structures require refurbishment to maintain river levels in line with WLMP recommendations.

#### c) Enjoyment of the Waterways

- 8: There is a lack of public access to the River Great Ouse for recreational activities.
- 9: The impact of Cardington Canoe Slalom Channel on the ecology of surrounding watercourses.
- 10: There is river traffic congestion at locks during the summer.
- 11: There is a problem with vandalism of Agency lock structures.

#### d) Management and Disposal of Waste Material

- 12: Public concern over brick making and waste disposal sites in the Marston Vale.
- 13: The scale of misuse of exempt waste management sites is unknown.
- 14: There is a lack of information on the land spreading of wastes.

#### e) Risks to Water Quality

- 15: Eutrophication of Grafham Water and the Rivers Great Ouse, Ivel and Hiz.
- 16: A number of river stretches fail to meet their River Ecosystem Targets.
- 17: Contamination of potable water supply by nitrates.
- 18: Identification and remediation of contaminated land.

#### f) Need for Monitoring and Further Investigation

- 19: Public concern over the findings of the Eurohazcon Study.
- 20: The bacteria which causes Potato Brown Rot/Tomato Bacterial Wilt has been identified in the Rivers Hiz, Ivel and Great Ouse.

#### g) Improving Flood Defences

- 21: Implementation of the Bye Report recommendations.
- 22: Review of the current standards of flood protection.
- 23: Non Main River flooding.

### 3.0 ISSUES AND ACTIVITIES

#### ENVIRONMENTAL STRATEGY

We recognise that environmental problems invariably are inter-related and need to be dealt with in an holistic manner. Our 'An Environmental Strategy for the Millennium and Beyond' (Sept 1997) adopted an integrated approach to understanding, managing, regulating and improving the quality of air, land and water by introducing nine themes, namely:

-  Addressing climate change;
-  Regulating major industries;
-  Improving air quality;
-  Managing waste;
-  Managing our water resources;
-  Delivering integrated river-basin management;
-  Conserving the land;
-  Managing freshwater fisheries; and
-  Enhancing biodiversity.

The issues identified below have been cross-referenced to between one and three environmental themes by using the appropriate symbols within the table.

#### KEY TO CODES USED IN THE ACTIVITY TABLES

##### Costs/Timing

- K Thousand
- R Routine or Revenue budget
- tbd To be determined
- u/k Unknown
- # Costs will be borne by an organisation other than the Agency
- \* Year work to be carried out

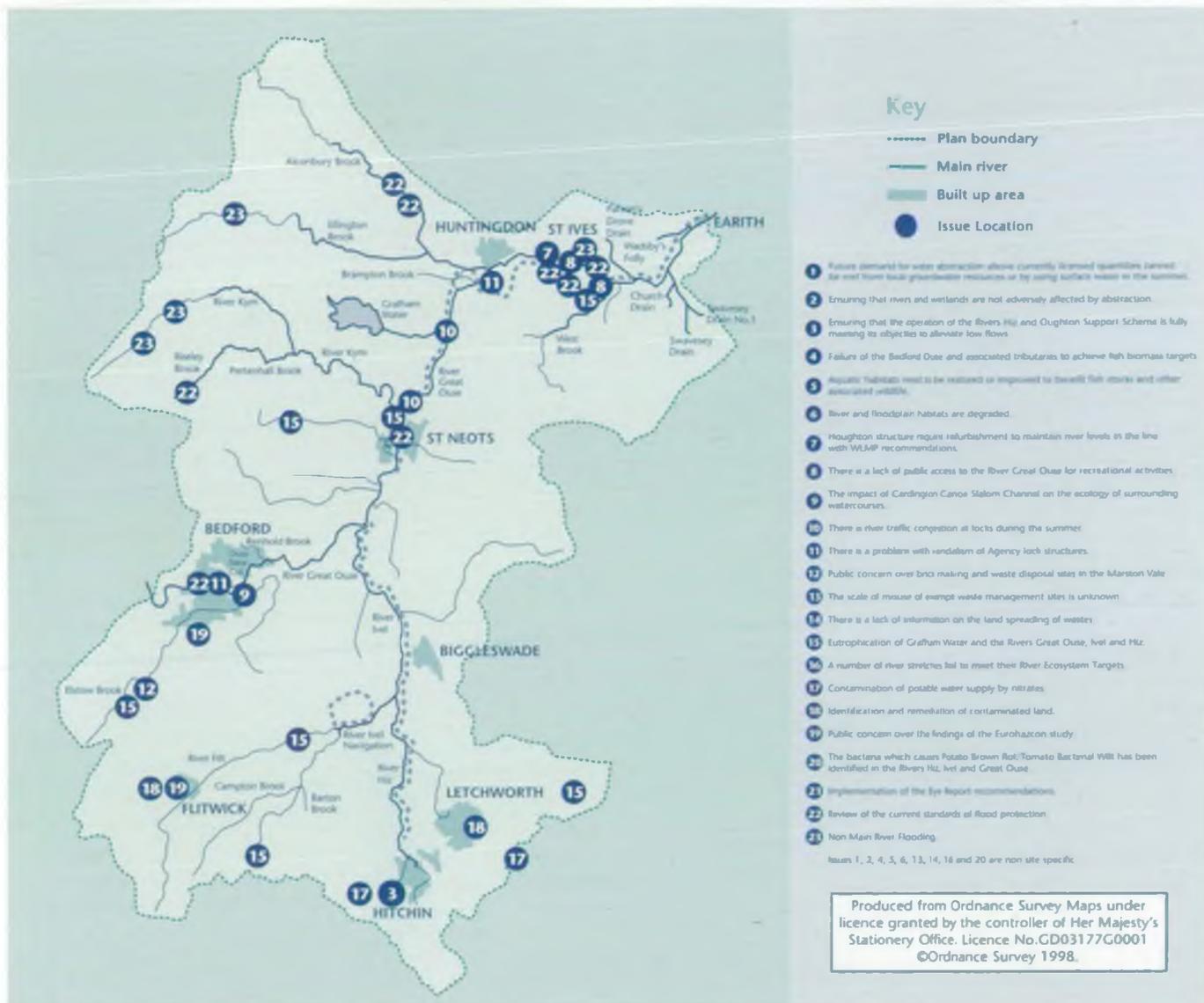
##### Agency Staff Responsibilities

- CSm Area Customer Services Manager
- EPLm Area Environment Planning Manager
- EPRm Area Environment Protection Manager
- FDm Area Flood Defence Manager
- FERm Area Fisheries, Ecology and Recreation Manager
- WRm Area Water Resources Manager

Activities that were identified in the Draft LEAP but have since been completed are shown in shaded boxes. They are included for reference only.



## 3.0 ISSUES AND ACTIVITIES



Map 6: Issues

### 3.1 Management of Water Resources

We seek to manage water resources in a sustainable manner to balance the needs of the environment with the need of abstractors. We monitor river flows, groundwater levels, rainfall and climate to assess the available water resource. We issue abstraction licences if there is sufficient water available, the need for water is justified, all rights of existing users are protected and the water environment (rivers and wetlands) is not unacceptably affected.

We are committed to reviewing our Water Resources Strategy by December 2000. This will consider projected water demands and supply until 2025. It will highlight the need for the Agency, Water Companies, OFWAT, Local Authorities, the farming community and Industry to continue to

work together to ensure efficient water use and protection of the water environment.

We intend to issue Catchment Abstraction Management Strategies (CAMS), separate from LEAPs, which will describe the abstraction policies for LEAP areas but will be catchment based. The CAMS will be drawn up in consultation with interested parties. This concept was part of the DETR review and does not require a change in legislation. We have drawn up a programme, which includes national trials of the concept in 1999, formal consultation in 2000 and production of local CAMS documents commencing in 2001.

### 3.0 ISSUES AND ACTIVITIES

Issue 1									
Future demand for water abstraction above currently licensed quantities cannot be met from local groundwater resources or by using surface water in the summer.									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Store water from rivers during high flows in winter.	Farmers Water Companies All PWS users MAFF County Councils Agency IDBs  <i>WRm</i>	*	*	*	*	*	*	Groundwater resources are fully committed to existing abstractors and the environment in this area. Summer surface water resources are also fully committed. Any additional demand must therefore be met by using surface resources in the winter. The Agency considers all the impacts of winter abstraction and storage proposals.	
2) Redistribute water from areas of surplus to areas of deficit.	Farmers Water Companies All PWS users Agency  <i>WRm</i>	tbd	*	*	*	*	*	This is a general concept that we support; it could be at any scale, from local farm level to UK-wide. It could also apply to mains water or untreated water, and be via pipelines or river-to-river. Schemes to import water from areas of surplus would require a full environmental assessment into the impacts, and would only be considered if demand management and waste minimisation schemes were in place.	
3) Reduce demand by, for example, metering, recycling, waste minimisation, efficient irrigation, environmental best practice and more efficient use.	Farmers Water Companies All PWS users DETR Local Planners Building Regulation Agency  <i>WRm</i>	R	*	*	*	*	*	The Agency advises about water saving techniques and can influence development through the planning process and education. This activity is sustainable and reflects the 'twin-track' approach at the centre of water resource planning, which seeks prevention rather than cure.	
4) Carry out further studies on the Bedford Oolite aquifer to establish future groundwater licensing policy.	Agency  <i>WRm</i>	97.5	*	*				The Bedford Oolite project started in 1994/95, when six monitoring boreholes were constructed. The project is now part way through a five-year monitoring programme, which is ongoing.	
5) Collect field data for the Woburn Sands aquifer to enable future modelling.	Agency  <i>WRm</i>	140		*	*	*		The Woburn Sands Project, designed to examine these issues, commenced in 1996/97; Phase I (identification of data requirements) was completed in 1998. This identified that there is insufficient information available to develop a computer model of the aquifer. A field data collection phase over 2-3 years will therefore be necessary before modelling can be considered.	
6) Re-establish the groundwater licensing policy for the Woburn Sands.	Agency  <i>WRm</i>	R						This will be done when the results from the activities are collected.	

## 3.0 ISSUES AND ACTIVITIES

Issue 2										Ensuring that rivers and wetlands are not adversely affected by abstraction.
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme	
1) Promote 'in river needs' study.	Agency Wildlife Trusts <i>FERm/WRm</i>	R				*	*	We are awaiting the outcome of a National review of the way forward with respect to 'in river needs'. This will not provide answers quickly. In the meantime, we will take a precautionary approach to licensing policy and continue to use measures such as time-limiting, flow/level constraints and environmental monitoring.	 	
2) Produce WLMPs for Berry Fen, Little Paxton Pits and St Neots Common.	Agency English Nature IDBs MAFF <i>CSm</i>	tbd	*	*					 	
3) Implement actions identified in WLMPs.	Agency English Nature IDBs Landowners <i>FERm</i>	tbd		*	*			Start date will be determined once the plans are completed.	 	
4) Encourage Anglian Water Services (AWSL) to complete investigations into the impact of abstraction on sites designated by the Habitats Directive.	AWSL Agency English Nature <i>WRm/FERm</i>	R		*				This study was originally commissioned following the public enquiry into the Drought Order application by AWSL to reduce the winter residual flow at Offord as a precaution against the risk of a severe drought. The study also includes the importance of effluent discharges in maintaining river flows and wetlands, in particular Habitats Directive sites.	 	
5) Introduction of the proposed river gauging station at Brownhill, subject to a feasibility study and funding.	Agency <i>WRm</i>	tbd		*	*			A gauging station at this site would improve our knowledge of the flows of the whole Bedford Ouse system and in particular the lower reaches between Offord and Earith.		
6) Continue to assess fully the impacts of development and mineral extraction on water resources.	Agency <i>CSm/WRm</i>	R	*	*	*	*	*	As a statutory consultee in the planning process, the Agency reviews and comments on a large number of planning applications.	 	
Issue 3										Ensuring that the operation of the Rivers Hiz and Oughton Support Scheme is fully meeting its objectives to alleviate low flows.
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme	
1) Review operation of the scheme during recent drought years.	Agency TVWCo <i>WRm</i>	R	*	*				The Agency and TVWCo are currently reviewing the operation of the scheme with the aim of producing an operating agreement. A three-year monitoring programme examining the river flow, quality and ecology has been completed by Posford Duvivier Environment on our behalf. The final report is awaited and will form part of the above review.		
2) Implement any changes identified as a result of the review.	Agency TVWCo <i>WRm</i>	tbd		*	*	*	*	Future spend on the scheme will be identified following the reviews and may involve extra monitoring sites or repair to existing infrastructure.		

## 3.0 ISSUES AND ACTIVITIES

### 3.2 Enhancing Biodiversity

Biodiversity, the variety of life on Earth, is declining. In the UK alone, more than 100 species are believed to have become extinct this century.

The government's contribution to maintaining and enhancing biodiversity is being delivered at a national level through the UK Biodiversity Action Plan (BAP), published in 1994. This publication identifies and sets targets for those species and habitats considered both rare and in decline. The

Agency is the contact/lead organisation for 17 species and four habitats as discussed in 2.1.3 Key Biological Populations, Communities and Biodiversity.

Biodiversity will be a key indicator of the successful implementation of sustainable development in a plan area. The national BAP targets will be delivered at a county level and undertaken by environmental organisations, including the Agency and Local Authorities. (For more information refer to 4.2: Local Agenda 21 and Biodiversity Plans.)

Issue 4 Failure of the Bedford Ouse and associated tributaries to achieve fish biomass targets.										
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme	
1) Review the success of the barbel stocking.	Agency <i>FERm</i>	R	*					The review has been carried out on the River Great Ouse and the report was submitted to the Fisheries Liaison Group (FLG) in July 1999. We will undertake a similar investigation on the River Ivel this winter.		
2) Review the success of the dace stocking.	Agency <i>FERm</i>	R	*	*				Desk-top investigation to be carried out, to assess dace population, trends and success of restocking.		
3) Assess whether the excessive rainfall and resulting floods of Easter 1998 had an impact on the resident fish populations.	Agency <i>FERm</i>	R	*	*				The completed report was submitted to the FLG in January 1999. We will continue to monitor impacts of flooding during routine surveys.		
Issue 5 Aquatic habitats need to be restored or improved to benefit fish stocks and other associated wildlife.										
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme	
1) Investigate further opportunities to create off-river refuges in the Bedford Ouse.	Agency Landowners Angling Clubs <i>FERm</i>	10-15 per project	*	*	*	*	*	Main River flows potentially impact on fish populations. Marginal cover and backwaters are habitat features identified by both the Agency and Institute of Freshwater Ecology as being important features for a good quality lowland river fishery.		
2) Assess fish populations in tributaries and backwaters of the Bedford Ouse, and identify areas where habitat may be the limiting factor in the failure of the fishery to reach a healthy sustainable level.	Agency Landowners Angling Clubs <i>FERm</i>		*	*	*	*	*			

## 3.0 ISSUES AND ACTIVITIES

Issue 6 River and floodplain habitats are degraded.									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Creation of a large reed-bed adjacent to the River Great Ouse at Over and Willingham.	English Nature County Wildlife Trust Cams CC Agency Hanson Aggregates RSPB IDBs <i>FERm</i>	3	*					Reed-bed creation on this scale would fulfil a number of national and regional biodiversity objectives. In addition it would make a major contribution to the aims of the 'Wet Fens for the Future' project. The reed-bed would improve the conservation status both in-stream and across the floodplain, providing ideal habitat for a wide range of fauna.	 
2) Identify suitable sites for river and floodplain restoration in consultation with countryside management organisations.	Agency Ivel Valley Countryside Project Local Authorities IDBs Countryside Management Groups Wildlife Trusts <i>FERm/FDm</i>	3	*	*	*	*	*	River and floodplain restoration through partnership projects and increased conservation enhancement during routine maintenance works would help to mitigate against historic land drainage and flood defence activities which have had detrimental effects on riverine habitats.  The cost shown is for the first year only.	 
3) Seek further environmental enhancement in river maintenance and capital operations.	Wildlife Trust English Nature Environmental and conservation groups Agency IDBs <i>FERm/FDm</i>	10	*	*	*	*	*	The cost shown is for the first year only.	 
Issue 7 Houghton structures require refurbishment to maintain river levels in line with WLMP recommendations.									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Refurbish weirs: Fischers Dyke Rymers Old Mill (No 3) Trout Stream (No 5)	Agency English Nature MAFF <i>FDm</i>	135	*						 

### 3.3 Enjoyment of the Waterways

We have a duty to promote the use of inland waters, through improved access and providing facilities for water-based recreational users. However, in this area, land holdings under Agency ownership are limited. We shall therefore meet many of our objectives for maintaining and improving the usage and enjoyment of the waterways through collaborative project opportunities.

Of all the Great Ouse navigations, the river between St Neots and St Ives is the most popular amongst boaters. It is also the most congested in terms of the volume of boating traffic. This becomes apparent when boats have to queue to pass through certain locks. To address the issue, we have enlarged locks at Eaton Socon, Brampton, Houghton and St Ives, and further work is planned.

### 3.0 ISSUES AND ACTIVITIES

Issue 8 <b>There is a lack of public access to the River Great Ouse for recreational activities.</b>									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Provide canoe portage facilities around navigation structures.	Agency British Canoe Union Landowners <i>FERm</i>	10			*			The locations of canoe portage facilities will be decided in consultation with interested parties, eg British Canoe Union, Canoe Access Officers.	
2) Provide public slipway facilities.	Landowners Local Authorities Agency <i>FERm</i>	u/k	*	*	*	*	*	Local council has slipways at St Neots, Huntingdon and St Ives. Access is also available through numerous marinas. The Agency has little land in the area that is suitable for use.	
3) Investigate opportunities for walking and improved access for other water-based activities, including angling.	Agency Local Authorities Landowners <i>FERm</i>	5-10 per project	*	*	*	*	*	Appropriate projects should take account of: <ul style="list-style-type: none"> <li>● tourist and recreation strategies;</li> <li>● the needs of less able-bodied people; and</li> <li>● conservation value in and around the river corridor.</li> </ul> The Agency has a duty to review land in its ownership re access, usage and ancillary facilities.	
Issue 9 <b>The impact of Cardington Canoe Slalom Channel on the ecology of surrounding watercourses.</b>									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Formulate procedures for booking and usage of the slalom course.	Bedford Borough Council Agency Users <i>FDm/FERm</i>	u/k							
2) Commission alarm (previously installed) to warn when low water levels are of concern.	Agency <i>FDm</i>							The alarm has been commissioned.	
3) Monitor to determine the impacts and inform users of potential solutions.	Agency <i>FDm</i>	R	*						
4) Determine minimal actual flows for canoeists.		R	*					The ecology of the watercourses will naturally vary with different flows and levels and will be fully considered.	
Issue 10 <b>River traffic congestion at locks during the summer.</b>									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Lengthen St Neots (Paper Mills) Lock.	Agency GOBA CMIF	130						The timing of these medium term projects will depend on the priority of other navigation projects and finance available. Both sites have land ownership issues.	
2) Lengthen Offord Lock.	IWA <i>FERm</i>	80							
Issue 11 <b>Vandalism of Agency lock structures.</b>									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Install a further three security boxes, at Bedford, Godmanchester and Brownhill locks.	Agency GOBA CMIF IWA <i>FERm</i>							The three security boxes have been installed.	
2) Investigate other security mechanisms for lock slackers.	Agency <i>FERm</i>	10	*	*					

## 3.0 ISSUES AND ACTIVITIES

### 3.4 Management and Disposal of Waste Material

The availability and cost of disposal options influence the management of waste. However, the need to dispose of waste safely and in an environmentally sustainable way should not be neglected by consideration of those two factors. The best option is not to produce waste in the first place, but as this is inevitable we all have a responsibility to reduce the amount of waste we produce. The DETR's white paper 'Making Waste

Work' sets out the Government's policy framework for the management of waste. It identifies ways in which waste can be managed in more sustainable ways and sets targets for achieving that aim. The strategy is based on three main objectives:

- to reduce the amount of waste produced;
- to make the best use of waste produced; and
- to choose waste management practices which minimise the risk of immediate and future environmental pollution and harm to human health.

Issue 12 Public concern over brick making and waste disposal sites in the Marston Vale.									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Identify the factors giving rise to environmental complaints.	Agency Local Authority Health & Safety Executive (HSE)	R	*	*					 
2) Identify a strategy to ameliorate the factors giving rise to the complaint.	Companies concerned <i>EPRm/EPLm</i>	tbd		*	*			The costs and timing of these two actions depend on the outcomes of the first action.	 
3) Implement the identified strategy.		tbd			*	*	*		
Issue 13 The scale of misuse of exempt waste management sites is unknown.									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Undertake a survey of waste contractors and those involved in the management of waste regarding the current level of usage of exempt activities.	Agency Waste Contractors Landowners Local Authorities <i>EPRm</i>	R	*	*					
2) Identify a strategy to bring the scale of misuse under control.		tbd		*	*			The costs and timing of these two actions depend on the outcomes of the first action.	
3) Commence enforcement action where the circumstances justify such action.		tbd			*	*	*		

### 3.0 ISSUES AND ACTIVITIES

Issue 14										There is a lack of information on the land spreading of wastes.
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme	
1) Investigate the extent of land spreading of wastes now and possible increase in the future.	Agency Waste Disposal Contractors Landowners Waste Producers <i>EPRm</i>	R		*	*				 	
2) Identify a strategy to ensure the suitability of land spreading within the LEAP.		tbd			*			The costs and timing of these two actions depend on the outcomes of the first action.	 	
3) Implement the identified strategy.		tbd			*	*	*		 	

### 3.5 Risks to Water Quality

Water is a fundamental requirement for all forms of life. It is a vital component of our environment and essential to society. The management of water quality for sustained use can only be achieved by effective policies to influence and regulate those activities that impact upon it.

The water environment includes rivers, lakes and canals, groundwater, estuaries and coastal waters.

Society makes use of the water environment in many varied ways, including water abstraction for drinking water, agricultural and industrial use, disposal of treated effluent, development of fisheries and a wide range of recreational uses. Our role is to resolve these conflicting uses and ensure that water is of suitable quality to support them and to maintain diverse aquatic ecosystems. We will protect, manage and, where possible, enhance the quality of all these controlled waters and thereby contribute to sustainable development.

Issue 15										Eutrophication of Grafham Water and the Rivers Great Ouse, Ivel and Hiz.
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme	
1) Install phosphate stripping at the following STWs: St Neots, Huntingdon, St Ives, Uttons Drove, Letchworth, Hitchin, Clifton, Poppy Hill, Biggleswade, Sandy and Flitwick by 2005.	AWSL	#	*	*	*	*	*	These works are dependent on the AMP3 programme, and will be paid for by AWSL.	 	
2) Investigate further ways to reduce eutrophication.	Agency <i>EPLm/EPRm</i>	tbd	*	*	*	*	*	This will be addressed by the National Eutrophication Strategy, which is currently out for consultation. Phosphate, nitrate, diffuse and point source pollution will all be considered.		

Issue 16										A number of river stretches fail to meet their River Ecosystem Targets.
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme	
1) Continue routine monitoring at: New Inn Brook Millbridge/Common Brook River Kym Brampton Brook Alconbury Brook	Agency <i>EPRm/EPLm</i>	R	*	*	*	*	*	All the sites being monitored have failed due to low Dissolved Oxygen concentrations caused by low flow conditions, excessive plant growth and algal blooms.		

### 3.0 ISSUES AND ACTIVITIES

Issue 17 Contamination of potable water supply by nitrates.									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Manage the application of fertilisers and manures to agricultural land within NVZs, through implementation of statutory Action Programme Measures, to reduce nitrate pollution.	Farmers and their advisers Agency <i>EPRm</i>	tbd		*	*	*		The measures are based on Good Agricultural Practice and require farmers to control the timing and rate of application of nitrogen fertilisers and manures in order to reduce the amount of nitrate leached from farmland.	 
2) Visit all farms within NVZs to assess farmers' compliance with, and to enforce, Action Programme Measures.	Agency <i>EPRm</i>	R	*	*	*	*	*	The Agency is the statutory enforcement authority for The Action Programme for NVZ (England and Wales) Regulations 1998.	 
3) Monitor and examine data collected to assist with the review of NVZ designations.	DETR MAFF Agency <i>EPLm</i>	R	*	*	*	*	*	The EC Nitrate Directive requires that for the purpose of designating and revising designations, NVZs are subject to a 4-yearly review, the most current of which started in 1997.	 
4) Install nitrate removal plants.	TVWCo	#	*	*	*			These actions are under the water company's control and budget, but have been brought forward from the Catchment Management Plan.	 
5) Blending with low nitrate water at water treatment works.	TVWCo	#	*	*	*				 
Issue 18 Identification and remediation of contaminated land.									
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Investigate extent of contaminated land at Baldock Road Industrial Estate, Letchworth, with twice-yearly monitoring.	Agency <i>EPRm</i>							We have been unable to establish the source of contamination at this site and further monitoring has been stopped.	
2) Investigate the impact of leachate at Flitwick.	Agency Local Authority <i>EPLm</i>	18	*					We are working with the Local Authority to resolve the groundwater pollution issue and to find a way to restore the site to beneficial use.	 
3) Undertake remediation at Flitwick, if required.		tbd		*	*	*		This activity will be dependent on the results of the above investigation.	 
4) Liaise with Local Authorities to identify contaminated land and advise on appropriate action.	Agency Local Authorities <i>EPLm/EPRm</i>	tbd						The extent and timing of these activities will not be known until Section 57 of the Environment Act 1995 comes into force in April 2000.	
5) Regulate the 'clean up' of land already identified as contaminated.	Agency Local Authorities Landowners <i>EPLm/EPRm</i>	tbd							
6) Cause polluters to 'clean up' contaminated land.		tbd							

### 3.0 ISSUES AND ACTIVITIES

#### 3.6 Need For Monitoring and Further Investigation

When a LEAP is prepared, we are tasked with assessing the state of the environment. To do this we use certain indicators of its health, eg how much nitrogen dioxide is in the air, how many

species of fish are in a river. In some instances we do not know enough about the environment to assess its state. Under this topic we have highlighted the need for further research in connection with the Eurohazcon Study and the work necessary to eliminate the risk posed by the bacteria which causes Potato Brown Rot/Tomato Bacterial Wilt.

Issue 19		Public concern over the findings of the Eurohazcon Study.							
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Support any further research that may be carried out in relation to Elstow and Flitwick or for other known hazardous waste landfills in the area.	Agency Local Authorities Health Authorities DETR <i>EPRm/EPLm</i>	1	*					Sites at Elstow and Flitwick were included in a European medical study of birth defects to babies born within a two-mile radius of toxic waste landfills. It reported that, of the sites investigated, there was a significant increase in the proportion of birth defects compared to those outside the investigation zone. The study did not confirm a causal link between congenital abnormalities and residence close to a landfill and recommended further research is carried out. Elstow landfill, which closed recently, was not licensed to accept hazardous waste and the Flitwick site, which closed many years ago, no longer has an enforceable licence.	 
2) Continue to provide support for the Bedfordshire Eurohazcon Officers Group.		1	*	*					 
Issue 20		The bacteria which causes Potato Brown Rot/Tomato Bacterial Wilt has been identified in the Rivers Hiz, Ivel and Great Ouse.							
Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Removal of host plant <i>Solanum dulcamara</i> (Woody Nightshade), where this is growing with its roots in a watercourse, by controlled spraying with the herbicide Glyphosate.	MAFF	#	*	*				This bacterial disease can affect potatoes, tomatoes, aubergines and peppers. MAFF is the lead organisation. The Agency's consent is needed for the use of herbicides and we will also provide advice and information as required by MAFF. Treatment was carried out in 1998 and 1999. A programme of re-testing of the rivers is planned; activities for 2000 and beyond are dependent on the results.	

#### 3.7 Improving Flood Defences

The threat from flooding is always with us. However, while flood risks can never be eliminated completely, they can be reduced. Through our regional and local flood defence committees, we deliver a 24-hour service managing flood risk throughout England and Wales, which costs some £260 million annually. A major part of this service

involves carrying out works ourselves, such as maintaining and improving river and sea defences, along with associated structures. Other important roles include providing advice to prevent the creation or extension of flood risks and delivering a national flood warning service. We seek to reduce the risk from flooding in order to safeguard lives, sustain economic activity and protect and enhance the environment.

### 3.0 ISSUES AND ACTIVITIES

#### Issue 21

#### Implementation of the Bye Report recommendations.

Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Create a Flood Defence Asset Database.	Agency FDm	3.5	*					Following the exceptional floods over Easter 1998, the Agency commissioned an independent investigation into its performance in response to this emergency. Peter Bye, former Chief Executive of Suffolk County Council, was appointed to chair the investigation. The final report was published in September 1998.  In total, over 100 recommendations were proposed. The Agency has recognised these and is seeking to implement improvements on both a national and local basis.  Activities 2 and 3, relating to Self-Help and Automatic Voice Messaging Systems, have been completed.	 
2) Implement Self-Help Systems at Alconbury, Hemingford Grey and Alconbury Weston.	Agency Parish Councils FDm								
3) Implement Automatic Voice Messaging System in Alconbury and Alconbury Weston.	Agency FDm								
4) Review flood monitoring, forecasting and warning arrangements for the Bedford Ouse area that was affected by flooding at Easter 1998. This may lead to the identification and implementation of improvements.	Agency Local Authorities Parish Councils FDm	R	*	*					 

#### Issue 22

#### Review of the current standards of flood protection.

Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Carry out a feasibility study to identify flood defence improvements at St Neots, Bedford, St Ives, the Hemingfords, Riseley, Alconbury and Kimbolton.	Agency Local Authorities FDm	47.5	*					This feasibility study has been completed.	 
2) Carry out feasibility studies to identify flood defence improvements at Spaldwick and Godmanchester, and standards of service at Swavesey, Earith, Buckden, Blunham and Little Paxton.	Agency FDm	30	*						 
3) Implement flood defence improvements as identified in above studies.	Agency FDm	tbd						The costs and timing of this activity are dependent on the outcomes of the feasibility studies.	 

#### Issue 23

#### Non Main River flooding.

Activity	Responsibility	Cost (£k)	99/00	00/01	01/02	02/03	03/04	Comments	Theme
1) Investigate schemes and maintenance to alleviate flooding.	Local Authorities Riparian owners IDBs FDm	#	*	*	*	*	*	The number of non Main River urban flooding events during Easter 1998 has alerted us to the risk of flooding due to a lack of channel maintenance. This causes local drainage to be overwhelmed during extreme weather, eg, at Yeldon, Molesworth, Upper Dean and St Ives (Victoria Terrace and Houghton Field Drain).	 
2) Consider taking legal action under the WRA91 to require riparian owners to carry out works.	Agency FDm	R	*	*	*	*	*		 

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

Activities that were identified in the Draft LEAP but have since been completed are shown in shaded boxes. They are included for reference only.

### 4.0 Introduction

The Agency is well placed to influence many of the activities affecting the environment through the Environment Act 1995 and other associated legislation. For example, we are the lead regulator for the water environment and have regulatory powers over waste management activities. In addition, we share with Local Authorities the regulation of emissions to the air. However, we have little direct control over land use, which is primarily the responsibility of Local Authorities. We will prepare LEAPs to demonstrate and reinforce our commitment to integrated environmental management and the partnership approach.

#### Why Partnership?

Partnership is a much-abused term, but it essentially means a number of different interests willingly coming together, formally or informally, to achieve some common purpose in the spirit of trust and commitment. Partnerships are desirable because they provide accountability, reduced duplication between agencies, a pooling of scarce resources and combined funding. However, any partnership takes time to develop.

This chapter examines the major opportunities for the Agency to address environmental issues through partnerships with others. It also highlights broader, long-term issues and outlines partnerships required to address them. We are currently involved in many projects and activities that rely on partnerships. Close links are already established with Local Authorities, water companies, industry, farmers, landowners, conservation bodies, angling clubs and recreation groups. Partnerships with these organisations will be strengthened and new links sought with other bodies. It is hoped that this LEAP will help us to achieve even more by working closely with others to address issues in the Bedford Ouse (Lower Reaches) area and secure a stronger basis for environmental protection and enhancement.

The chapter is divided into three main parts:

- Strategic Environmental Issues;
- Local Agenda 21 (LA21) and Biodiversity Action Plans; and
- Education and Awareness.

We have made every effort throughout to apply these concepts to the local communities of the Bedford Ouse LEAP area.

### 4.1 Strategic Environmental Issues

By long-term we mean well beyond the five-year horizon of this Plan and over the next 20-25 years. The Agency has published 'An Environmental Strategy for the Millennium and Beyond' (September 1997) which highlights the following nine main themes for our work (and a number of key activities necessary to address them).

We have attempted to illustrate how working with others can contribute to achieving these aims, giving, where possible, activities focusing on the Bedford Ouse LEAP itself.



#### Theme 1: Addressing Climate Change

The UK, like all nations, emits greenhouse gases into the atmosphere and is affected by these emissions. In becoming a signatory to the agreements made at the Framework Convention on Climate Change held in Rio de Janeiro in 1992 and the Kyoto and Buenos Aires summits in 1998, the UK is playing an active part in obtaining effective and achievable reductions in greenhouse gas emissions.

Most computer models of the climate system suggest that, in the future, winters are likely to become wetter and summers drier. A report of the UK Climate Impacts Programme, published in September 1998, predicts increased rainfall right across the UK, although the North West is expected to see a greater increase than the South East. Greater variability of rainfall, with increased storminess and more droughts, is also predicted.

The consequences of climatic change could have far reaching implications for the Agency's responsibilities. The possibility of increased rainfall and temperatures, resulting in more frequent flooding and sea level rise, could add pressures on Flood Defence, whereas changes in rainfall distribution are likely to affect Water Resources and Water Quality.

*Key issue towards 'Addressing Climate Change': We need to ensure that we incorporate any anticipated changes in climate into our assessments of flood risk, the design of flood defences and the options for water resources management.*

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

Burning fossil fuels in cars, power stations and in industrial processes emits greenhouse gases into the atmosphere such as carbon dioxide, which are believed to contribute to long-term climate change. Locally, the Agency's main influence on climate change will be to help ensure that the Government's greenhouse gas reduction targets are met by regulating emissions from major industrial processes. We are also setting an example by reducing our own energy and fossil fuel consumption.

Landfill gas is collected and used to generate electricity in power stations at three sites in the Bedford Ouse area: Arlesey, Brogborough and Stewartby ('L-Field'). The power so generated is sold to the National Grid at a guaranteed price under the Non Fossil Fuel Obligation in yearly tranches. As well as generating electricity, the carbon dioxide which is produced by burning the landfill gas has, gram for gram, 21 times less Greenhouse Warming Potential than the original methane (the dominant combustible component of landfill gas), thus reducing the net greenhouse gas effect. There are no significant landfill gas migration problems at licensed landfill sites within this LEAP area.



### Theme 2: Regulating Major Industries

Pollution from industrial sources can harm people and the living world. One of the Agency's key responsibilities is to prevent the release of pollutants into the air, water or land through Integrated Pollution Control (IPC). Where releases do occur, we have a duty to make sure they are minimised and made as harmless as possible.

The Integrated Pollution Prevention & Control (IPPC) EC Directive 96/91/EC has been implemented into UK law by the provisions of the Pollution Prevention and Control Act 1999, and should be fully implemented by the end of 1999. The introduction of the supporting regulations will set out a Europe-wide policy to improve the standard of environmental protection. IPPC is similar to the IPC regime operated by the Agency since 1991, but regulates more industrial sectors and takes into account more environmental concerns than IPC, including energy conservation and the return to the original condition of the site when activities cease.

In accordance with sustainable development, IPPC consists of preventing, reducing and eliminating

pollution. It will do this by giving priority to pollution prevention at source and ensuring prudent management of natural resources, in compliance with the 'Polluter Pays' principle. The Directive covers emissions to all media (air, land and water), as well as heat, noise and vibration, energy efficiency, environmental accidents and site remediation.

*Key issue towards 'Regulating Major Industries':  
Protection and enhancement of the environment as a whole by preventing or minimising pollution from the most technically complex and potentially most polluting industrial processes in England and Wales.*

A trial has been initiated to ensure that the Agency and Industry are alerted to key issues of implementing the IPPC Directive. This is taking place at Stewartby landfill site in Bedfordshire. A cross-functional team from the Agency was formed and met with representatives of Shanks and McEwan to identify issues relating to the implementation of IPPC, including:

- Environmental assessments of the nature, quantities and effects of emissions;
- Permit conditions relating to nature, quantities and effects of emissions; and
- Technology and techniques to prevent or reduce emissions.

The effective regulation of industries such as those in the Marston Vale and the activities of water companies such as Anglian Water can ensure that the whole environment can be protected from pollution whilst respecting economic and employment considerations. We can do this backed by legislation but ultimately success is achieved by developing good relationships with industry and also by the will of the industries themselves to instigate environmental improvements.



### Theme 3: Improving Air Quality

We are committed to helping Local Authorities implement the National Air Quality Strategy in collaboration with industry through liaison and the exchange of air quality data and information. The main sources of air pollutants are transport and industry. Control of air pollution from transport is the responsibility of Local Authorities and not the Agency, although we are reducing emissions from our own vehicles by reducing

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

mileage and encouraging the use of public transport. We are also encouraging the public to consider the impact their travel has on the environment.

*Key issue towards 'Improving Air Quality': The need for the Agency and others to be involved in Local Authority air quality management fora so that data and expertise can be pooled to help address the issues.*

It is anticipated that the Government's recently published White Paper entitled 'A new deal for transport - better for everyone' (1998) will lead to greater consideration of the environmental impact of transport on air quality at the planning stage.

The Agency would anticipate being involved wherever environmentally sensitive areas or sites are involved and the balance between transport and the environment has to be achieved.



### Theme 4: Managing Waste

Sustainable development as discussed in Chapter 1 is at the heart of the Agency's plans for the management of waste. There has been and always will be discussion concerning waste management facilities such as what type they should be and where they are best located. The two main issues regarding waste are firstly the efficient use of the resources needed to produce the goods, the volumes we produce and consume and secondly the minimisation of the impact caused by the management/disposal of waste that is unavoidably generated. The preferred waste management solution is the minimisation of waste which sits at the top of the hierarchy, followed by options which recoup value and finally disposal (refer to Figure 4).

The adoption of the Landfill Directive in April 1999 means that we must achieve the progressive diversion of biodegradable municipal waste away from landfill. There should be a diversion from landfill of 25%, 50% and 65% of the waste produced in 1995 (as a baseline year) within 5, 8 and 15 years respectively of the implementation date.

Compliance with the Directive will see a major shift in the way we approach the management of waste in the UK. There will need to be a reducing use of landfill in favour of recycling materials at recovery facilities, composting at home and at Local Authority sites as well as the more extensive use of incineration with energy recovery facilities.

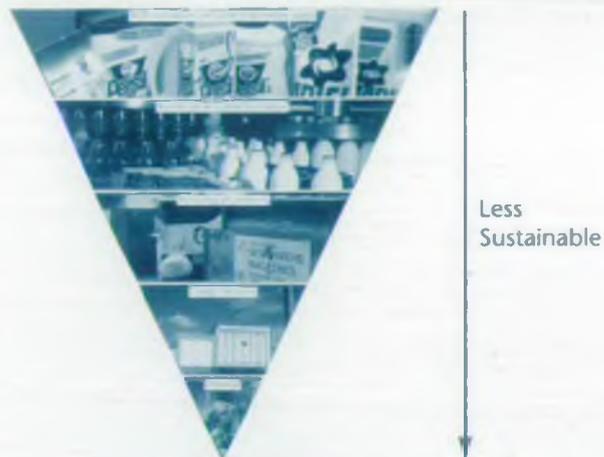


Figure 4: Waste Hierarchy

*Key issue towards 'Managing Waste': Obtain information on fly-tipping and devise means of combating it. Although we have no clear evidence that fly-tipping has increased since the introduction of the Landfill Tax, concern about fly-tipping has been expressed at county planning level.*

We will investigate all fly-tipping incidents relevant to the Agency, in accordance with the Memorandum of Understanding with Local Authorities, within two days of notification. Enforcement action will be taken whenever evidence is available and such action is in the public interest.

Litter in watercourses can cause blockages, which may cause subsequent flooding and reduce the aesthetic value of a watercourse, eg the River Ouse at Aspects Leisure Centre in Bedford. Riparian owners need to be aware of their responsibilities to keep the river clear of litter and the public need to be persuaded of the importance of maintaining channel capacity and visual appearance. Littering laws need to be enforced by the relevant authorities where appropriate.

The increased disposal costs, brought about by the introduction of the Landfill Tax, have led to inert soils being diverted to sites exempt from waste management licensing where they are being used for many purposes including landscaping. There are a number of possible methods for addressing this problem. These include extending the landfill tax to exempt sites or imposing an annual registration fee to exempt facilities, which could fund inspection of these sites.

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

The Landfill Tax generates finances, which are being fed into environmental improvement schemes through the Entrust Initiative, which will lead to enhancement of habitat, recreation and education opportunities. The March 1998 Budget increased the Active Waste Landfill Tax from £7 to £10 per tonne, effective from April 1999, which will increase funds available to the environmental bodies. There will be no change in landfill tax for inert waste, which will remain at £2 per tonne.

It is proposed that inert materials used for the restoration of old mineral workings will become exempt from Landfill Tax in autumn 1999. Currently old quarries are being filled very slowly as inert material is diverted to tax exempt sites and, in some cases, planning permission can expire before filling is complete. This change in legislation will encourage the accelerated restoration of such sites satisfying both the regulatory authorities and local residents.

We are currently working with Bedfordshire County Council, Luton Borough Council and the Bedfordshire District Councils to develop a waste strategy. The Government's recent Draft National Waste Strategy 'A Way With Waste' has provided a timely and positive steer to this process. Radical changes need to be made to both the way we manage waste and our attitude towards the waste we produce (as individuals and as a society) if we are to meet the challenges set out in the draft strategy to address sustainable development and comply with the Landfill Directive.

The Strategy contains some very tough targets for waste reduction and recovery for household, commercial and industrial wastes that reflect the need to recover more value from the waste we produce. The Landfill Tax and Producer Responsibility Regulations discourage waste generation and disposal via landfill sites. With the introduction of further Producer Responsibility Regulations (like those in place for packaging) to cover vehicles, batteries and electrical equipment, we are likely to see an increase in the number of waste recovery and recycling facilities needed in the LEAP area.

With the need for more waste recovery and recycling sites (energy from waste and composting sites for example) there may be more pressure on the planning system in the near future when these types of development proposal (which have long lead times) begin to be looked at.

*Key issue towards 'Managing Waste': Provision of waste management facilities for producers of small quantities of waste within the LEAP area.*

There is a general lack of facilities in some parts of the catchment for the disposal of bulky household waste, especially cement asbestos waste and small quantities of general industrial waste from small businesses.

The Hitchin and Baldock areas of North Herts are not served by a Household Waste and Recycling Centre. Waste Disposal Authorities (usually County Councils) provide these sites for the disposal of items of household waste not collected by the District Council waste collection service. District Councils provide recycling banks at numerous locations and other bodies but these cannot be used for materials requiring special disposal.

Changes to the legislation on the categorisation of waste have increased the fees payable by licence holders who accept small quantities of cement asbestos from householders. As a result these facilities were withdrawn. This has caused great concern to members of the public who have no viable alternative disposal option and may contemplate fly-tipping. We have responded by reintroducing a lower charging rate to remove this disincentive but licence holders have not come forward with applications to reinstate cement asbestos to their licences. Small businesses that produce small or infrequent wastes for disposal also have difficulty in finding local facilities to accept their general wastes.

We wish to promote recycling, reduce travelling distances, and reduce fly-tipping by supporting the provision of suitable facilities where demands are justified.

*Key issue towards 'Managing Waste': To achieve a continuing and overall reduction in the impact of wastes on the environment.*

The best option is not to produce waste in the first place and we all have a role to play in reducing the amount of waste produced. Therefore, we are keen to stage waste minimisation awareness campaigns with green business clubs, county 'Business Link' groups, Local Authorities etc. We support proposals to create the Bed-lvel Waste Minimisation Group and to work with others on initiatives linked to producer responsibility obligations and promotion

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

of recycling. We will encourage organisations to implement waste minimisation action plans and other projects aimed at changing people's attitudes and behaviour towards waste.



### Theme 5: Managing Our Water Resources

We seek to manage water resources in a sustainable manner, to balance the needs of the environment with the needs of abstractors. In Anglian Region, the demands for water are progressively rising. We therefore need to promote the use of water in a sustainable manner, with more efficient use of existing supplies by water companies, the public, industry and agriculture.

We can achieve this by supporting the water companies in their new duty, contained in the Environment Act 1995, to promote efficient use of water by their customers. The duty is regulated by OFWAT, in consultation with the Agency, and has required water companies to produce water efficiency plans and an appropriate level of customer charging. Water companies have also produced Water Resources Plans, to indicate projections for managing demand and reducing leakage to economic levels as well as planning for development of new resources.

We also encourage Local Authorities and housing developers to work with the local water suppliers and explore the issue of more efficient use of water in the home. Measures such as water metering, low-flush toilets, low-flow showerheads and water butts in the garden are encouraged, as well as source control and sustainable urban drainage (see also Theme 7: Conserving the Land).

Finally, we also actively promote the increased use of winter-stored water by both industry and agriculture and agricultural techniques such as irrigation scheduling and rain harvesting.

**Key Issue towards 'Managing our Water Resources':**  
*Ensuring the proper use of the water resources in the Bedford Ouse area.*

We are committed to reviewing our water resources strategy by December 2000. This review will consider our needs up until 2025. It will highlight the need for the Agency, water companies, OFWAT and Local Authorities to continue to work together to encourage awareness of water conservation and

promote efficient water use and supply.



### Theme 6: Delivering Integrated River Basin Management

Integrated river basin management is the need to look at the river corridor habitats as a whole, through an integrated approach, rather than looking at individual uses or users in isolation, with the aim of balancing conflicting needs. This aim is both intellectually and practically challenging to fulfil. We will examine opportunities for co-operation with other bodies such as IDBs for the collection and exchange of data for mutual benefit. However, our overall success is wholly dependent on the influences of all river users and riparian owners.

#### WATER QUALITY

Examples of long-term initiatives include increasing the length and, where appropriate, width of bankside buffer strips. These areas of wilderness not only enhance bankside habitats but can also attenuate pollution from the land before reaching rivers and reduce silt input to the rivers. There is a need to identify practical steps to implement this policy.

First time rural sewerage connection is normally requisitioned by the Local Authority from the relevant sewerage undertaker. This will be done if private treatment poses a threat to the environment or amenity value of an area. Anglian Water Services (AWS) is the relevant sewerage undertaker in this LEAP area. Pollution data from the Agency can be supplied to the Local Authority to assist in its submission. Only factual data is supplied, not opinions, as we may have to adjudicate between the Local Authority and the sewerage undertaker in the event of a disagreement.

We will continue to investigate complaints due to sewage pollution in unsewered areas; the results of our investigations are available for use when considering the need for mains sewerage.

The unsewered villages in the LEAP are: Barham/Woolley, Bythorn, Covington, Hamerton, Hemington, Luddington, Newton Bromswold, Old Weston, Stow Longa, Thurning, Tilbrook, Upton and Winwick.

Section 101A applications (applications for first time rural sewerage) have been received by AWS for Tilbrook and Covington. Assessment is underway for the Tilbrook application; the Covington application has been accepted and appraisal is underway.

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

### FLOOD DEFENCE AND FLOOD WARNING

In September 1996, we became responsible for taking the lead role for flood warning with two main targets by the year 2001:

- 80% of properties which are covered by the flood warning service to receive a warning prior to any flooding; and
- For people living and working in 52% of properties covered by the flood warning service to take appropriate action (e.g. sand-bagging).

The exceptionally heavy rainfall experienced during Easter 1998 caused widespread flooding over much of the LEAP area. Although no river structures or defences failed, some were overtopped on occasions by the sheer volume of water.

We have learned much from this recent experience; an improved understanding of the river system, its floodplain and the river catchment's response to high intensity rainfall events. Engineering investigations have already been undertaken to identify improvements in flood defences and further investigations are planned. Local Planning Authorities have been issued with 1999 Indicative Floodplain Maps. Sharing this information should help protect flood risk areas from inappropriate development.

The recent floods have also tested our flood warning systems, and the Independent Review into the Agency's performance after the Easter 1998 floods called for improvements in this area. Some have already been implemented, including greater use of Automatic Voice Messaging (AVM) and self help groups. The activities in this LEAP will bring about more local improvements. In addition, and on a national basis, we are seeking to develop an improved warning system in consultation with public groups and other organisations.

The need to improve communications with other organisations is important and the publication of this LEAP is an essential part of the process. Local Authorities and other agencies have also gained a greater awareness of the problems of flooding over recent years and this is assisting in the development of improved communications and partnership projects.

*Key issue towards 'Delivering Integrated River Basin Management': Provide an effective flood warning system. In addition to the Agency's flood warning role, the defences are patrolled, structures are checked for blockages and any emergency repairs carried out. This is particularly important in the LEAP area as many of the centres of the population are located within the floodplain. County Councils, District Councils and the Fire Service may also offer assistance during floods. The Agency has set up a telephone information service known as 'Floodline' (0845 988 11 88).*

### RECREATION

We have a duty to review and improve public access to inland waters and should, where feasible, make Agency land available for appropriate recreational use. We have recently produced a National Action Plan for Recreation and this is to be supplemented by a Regional Water Recreation Strategy.

We actively seek partnership projects to improve public access, through the provision of facilities such as stiles and kissing gates. These can benefit a range of users, such as walkers, ornithologists and anglers. We are particularly keen to provide amenities for less able-bodied people.

The need to improve angler access in the Bedford Ouse area was first identified in the Catchment Management Plan. In 1997, seven platforms were installed on the River Great Ouse at Over, which allowed anglers access to a river section where angling was previously not possible. Angling platforms are constructed at locations after consultation with fishing interests, Local Authorities and the landowners. Special consideration has been given to the provision of angling facilities for disabled anglers; 1999 saw the installation of four fishing pegs at Riverside Park in Huntingdon, which have been specifically designed to accommodate the needs of disabled people. Huntingdonshire District Council is assisting by improving access to the river bank from the nearby car park. We intend to identify further suitable sites for similar facilities.

A good example of a partnership project has been our involvement with the National Trust in the restoration of Houghton Mill. This £1.5m project has attracted Heritage Lottery funding; the waterwheel has been reinstated and a state-of-the-art water turbine installed nearby, providing an

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

interesting comparison of old and new water use. The visitor facilities within the Mill building have been refurbished to enhance the visitors' understanding and enjoyment of this unique riverside attraction.

### NAVIGATION

'An Action Plan for Navigation' was published by the Agency in 1998. It describes how we intend to take forward our integrated and long-term approach to navigation. Our principal aim is to maintain and improve navigation as assets of recreational, environmental, economic and social value. We are broadly supportive of groups who are interested in furthering navigation beyond the current statutory navigation, where justified. However, it should be noted that the Agency already struggles financially to maintain its current navigation responsibilities before considering restoration of other waterways.

Navigation of the River Ivel from Roxton on the River Great Ouse to Shefford was abolished in 1876 by the Ivel Navigation Abandonment Act. Although several of the original lock structures exist, others have been demolished and replaced by weirs. Restoration of approximately 19 km of navigation has been identified by a recent waterway restoration priority report published by the Inland Waterways Amenity Advisory Council (IWAAC). This restoration may be achievable in the longer term through partnership, but would be subject to a full feasibility study.



## Theme 7: Conserving the Land

### LAND USE PLANNING

Land use is the single most important influence on the environment, and land use change has important implications for the environment. The control of land use change is primarily the responsibility of Local Planning Authorities (LPAs). Their development plans (Structure and Local Plans) provide a framework for land use change and are key considerations in the determination of planning applications. The Agency has a responsibility to protect and enhance the environment; however, we have limited control over the way that land is developed. Therefore we have to work closely with LPAs in order to achieve our environmental aims (refer to Figure 5). This is of particular relevance to land use planning in Cambridgeshire, as it is the fastest growing county in the UK.

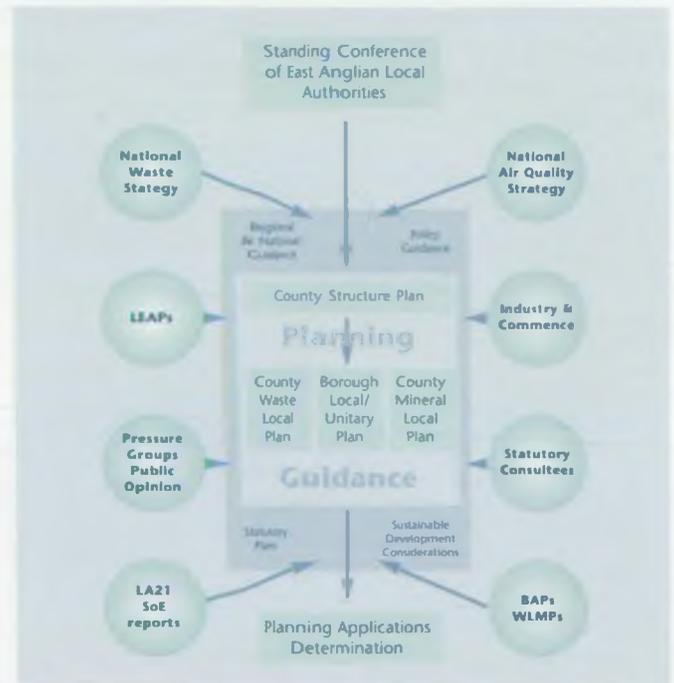


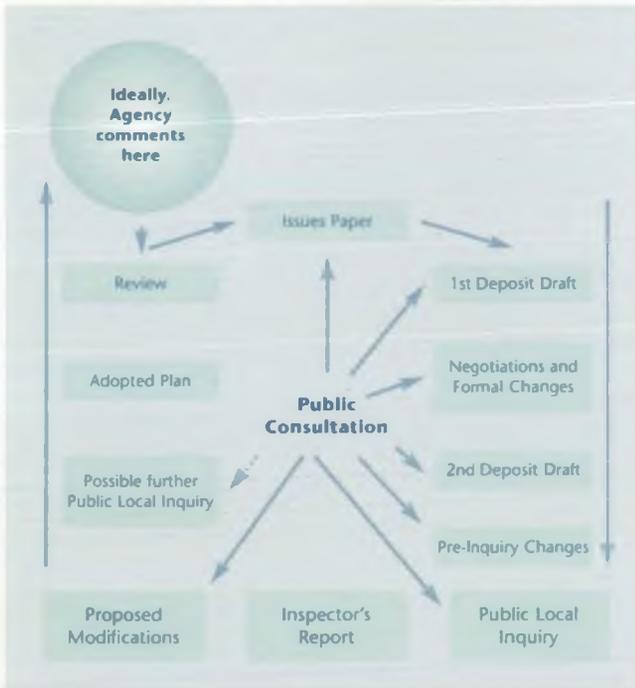
Figure 5: Influences On Land Use Change

The policies in these plans will guide the way that land is developed. We advise planning authorities to help them to implement plans that protect the environment from harmful development. We reinforce these policies, where possible, when we comment (as a statutory consultee) on planning matters (refer to Figure 6). The plans relevant to this area are listed in Table 7.

It is evident from the table that the development plans are at various stages of review. We welcome the opportunity of involvement at the earliest possible stage.

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

### LOCAL PLANS



### STRUCTURE PLANS

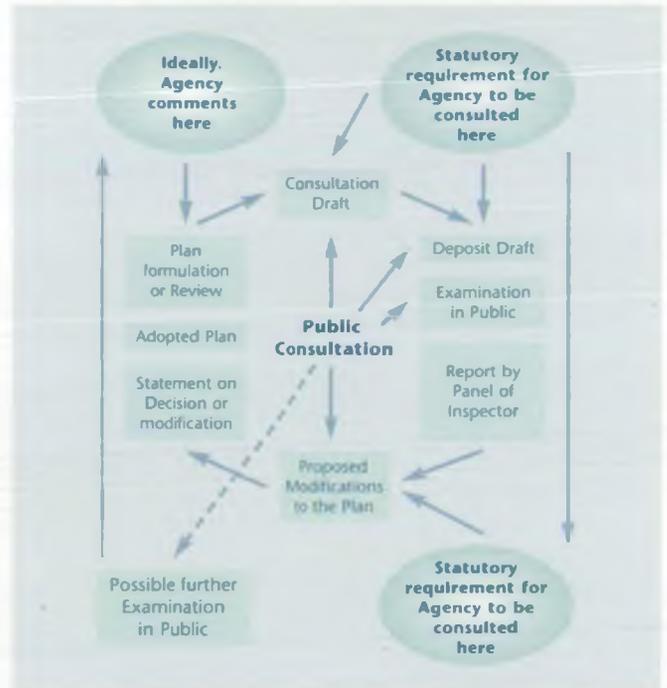


Figure 6: Simplified Development Planning Cycles

Table 7: Development Plans

STRUCTURE PLANS	CURRENT STATUS
Bedfordshire County Council	Adopted March 1997. Internal review under way.
Cambridgeshire County Council	Adopted December 1995. Review with Peterborough City Council commenced during autumn 1999.
Hertfordshire County Council	Adopted April 1998.
Northamptonshire County Council	Alteration No 1 adopted January 1992, Deposit Plan produced April 1999.
MINERALS/WASTE PLANS	CURRENT STATUS
Although LEAPs can play a role in informing Local Authorities of local waste management practices and pressures, they will not be driving our strategic waste planning work or seeking to identify locations for waste management facilities. We hope to be in a position to assist Local Authorities and regional planning conferences by producing Strategic Waste Management Assessments and local waste management statements for development planning purposes.	
Bedfordshire Minerals and Waste Local Plan	Adopted Plan February 1996.
Cambridgeshire and Peterborough Waste Local Plan	Draft July 1998.
Cambridgeshire (Aggregates) Minerals Local Plan	Adopted August 1991, the Plan is likely to be reviewed after the Government has reviewed its Minerals Planning Guidance note 6, Aggregates Provision in England.
Hertfordshire Waste Local Plan	Adopted January 1999.
Hertfordshire Minerals Local Plan	Adopted June 1998.
Northamptonshire Waste Local Plan	Consultation Draft November 1995.
Northamptonshire Minerals Local Plan	Adopted December 1996.

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

**Table 7: Development Plans**

LOCAL PLANS	CURRENT STATUS
Bedford Borough Council	Adopted Plan 1993. Deposit Draft February 1997. Public Local Inquiry ongoing.
East Northamptonshire District Council	Adopted November 1996.
Huntingdonshire District Council	Adopted December 1995. Deposit Draft Alteration December 1998.
Mid Bedfordshire District Council	Adopted Plan 1993. Deposit Draft review produced November 1997. Public Local Inquiry ongoing.
North Hertfordshire District Council	Adopted April 1996. Topic Papers August 1998.
South Bedfordshire District Council	Adopted Plan December 1995. Issues Paper produced April 1998. Deposit Draft May 1999.
South Cambridgeshire District Council	Adopted June 1993. Deposit Draft Plan published in February 1999.
Stevenage Borough Council	Adopted October 1994. Key issues paper produced July 1998.
Milton Keynes*	Adopted Plan January 1995. Issues Papers (as part of Local Plan review) consultation period ended June 1998.

\* Milton Keynes Borough is now a Unitary Authority. It will, however, continue to use the Buckinghamshire Structure, Minerals and Waste Plans along with its borough-wide Local Plan for development control purposes until those plans are reviewed.

We take a holistic approach to developments.

Major development is currently proposed in the Elstow Brook area to the south of Bedford, and this may result in land use activities and those which can have significant impact on the environment, such as alterations to the surface water drainage system. We therefore support county and district strategic planners and strategic planning initiatives, and will promote through partnership the adoption of the Agency's Flood Plain Policy in resisting inappropriate development in flood risk areas.

The Bedfordshire and River Ivel IDB has formed a partnership with the Forest of Marston Vale (FMV) project group. Through the Marston Vale Working Group (MVWG), the IDB and FMV have recruited the support of all the planning and drainage authorities in the area to review issues identified in a report entitled 'Water Management and the Environment in the Marston Vale' (July 1998). The MVWG sees the LEAP as an important document where the Agency can support the work of the Group.

### LOCAL PLANNING GUIDANCE

The NRA (one of our predecessors) produced a set of statements in a document entitled 'Guidance Note for Local Planning Authorities on the Methods

of Protecting the Water Environment through Development Plans' (1994), which provide a general guide to the policies we believe should be included and why they are important. This guidance will be updated to cover all our functions. We have also produced a document entitled 'Environment Agency - Liaison with Local Planning Authorities' (March 1997) which explains our role and contribution to the land use planning system and is included to help Local Authority planners in their day-to-day contact with us.

We take a proactive approach to our involvement in the planning system - as well as commenting on regional guidance, structure and local plans, we also consider individual planning applications in detail.

We are required under Section 105 of the Water Resources Act 1991 and Circular 30/92 'Development and Flood Risk' to carry out a survey of flood defences within our area. This includes determining the 1:100 year return period floodplain line or worst recorded event, whichever is the greater. A pilot study to determine how best this could be achieved has been carried out in the Milton Keynes area. Bedford, St Neots, Huntingdon, the Alconburys, Kimbolton, Riseley and Hitchin are the larger settlements in the LEAP area, and are incorporated in a priority programme

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

which identifies the sites most at risk. The programme is scheduled for completion by March 2002. The results of the survey will ultimately be available to Local Authorities to aid the production of their strategic Development Plans. Until this survey information is available, existing flood level records will continue to be used to help guide development. The data may also assist in our flood warning and maintenance strategies.

Following the Easter 1998 floods, 1999 Indicative Floodplain Maps were produced for the whole of this LEAP area. These were based on best available information and show the full extent of the existing fluvial plain, irrespective of existing defences. The maps were circulated to LPAs in either hard copy or digital format in July 1999. The 'Section 105 maps' will improve accuracy of information and will result in further dissemination to LPAs as further plans are produced.

The planning system generally, and the use of planning conditions in particular, should not duplicate the controls imposed by the pollution control bodies e.g. the Agency and Local Authority Environmental Health departments. Clarification is provided in Planning Policy Guidance Note 23: Planning and Pollution Control.

*Our preliminary thoughts on the constraints to development in the Bedford Ouse LEAP area are given in a separate document, on a parish by parish basis, available on request from the Customer Services Manager (the address is on the back cover). Please note that it is an Agency document for Main Rivers, and where reference to the IDBs is made you must contact them.*

Strengthening the relationship between development planning and LEAPs is important to us. Although LEAPs are non-statutory plans, they can be useful for advice or guidance to LPAs in preparation of their development plans and in reaching decisions on planning applications. It is important that we work closely with LPAs in the preparation of LEAPs and seek to ensure the plans are widely recognised.

*We welcome feedback from Local Authorities on how this relationship can be strengthened to fulfil this aspiration.*

A critical long-term issue is the need to respond to Government guidance and allocate 40,000 houses in Cambridgeshire, a number of which will be accommodated in this LEAP area. Cambridgeshire County Council has begun a study on how such development could be directed and we have been involved in preliminary discussions. The key long-

term considerations include the availability of water supply, sewage disposal and considerations of flood risk and surface water management.

**Key issue towards 'Conserving the Land' and 'Managing our Water Resources':** There is a need to ensure that the ability to supply water to new developments is assessed before a decision on the location is made. This would best be facilitated by joint discussions between planners, water companies and ourselves at the earliest possible stage.

**Key issue towards 'Conserving the Land':** Source Control is the umbrella term for managing surface water run-off from developed areas in such a way that the water is returned to ground or stored in reservoirs or wetlands and released in a controlled manner. The aim is to minimise the risk of flooding and pollution, whilst working with nature. Examples include permeable pavements, swales and balancing ponds. There is a need to promote best practice in such techniques and encourage Local Authorities and developers to adopt them, whilst appreciating the need to consider their long-term maintenance. Our long-term aim is to be able to advise where such techniques are applicable as part of an overall drainage assessment.

Another issue with long-term implications is the management of contaminated land and 'brownfield' developments. In this case environmental protection can only be secured through successful collaboration between Local Authorities, the Agency, owners and developers.



### Theme 8: Managing Our Freshwater Fisheries

The Agency's vision for fisheries is for all waters of England and Wales to be capable of sustaining healthy and thriving fish populations to give everyone the opportunity to experience a diverse range of good quality fishing. To achieve this we are restoring fish to all rivers as required and seeking to improve river habitats so that fish populations prosper. Good water quality and adequate flows are a prerequisite for healthy fish populations. This means that many water quality and water resource issues have a link to this theme.

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

Issues such as the water company investment plans have the biggest potential benefits to fisheries. Construction of storage reservoirs, potable water abstraction and inter-river transfers may all impact on fisheries.

*Key issue towards 'Managing Our Freshwater Fisheries': We will identify and undertake appropriate habitat enhancement projects and wide consultation with angling and other interested parties will continue.*

More than one million anglers buy licences annually, thereby contributing over 60% of the cost of the fisheries service. Government contributes most of the remaining funding. Riparian owners, although not paying any of the Agency's fisheries costs, also have a major interest. Our key stakeholders are: Government, general public, netmen, anglers and fishery owners. The Agency works closely with a range of governmental organisations and a large number of non-governmental organisations to fulfil its responsibilities. Our closest partners/contacts in the Anglian Region are:

- Ministry of Agriculture Fisheries and Food (MAFF);
- Country Landowners Association;
- Salmon and Trout Association;
- National Federation of Anglers;
- Specialist Anglers Conservation Group; and
- English Nature.

In recent years the Agency has carried out a range of habitat projects within this LEAP area. We have worked with Local Authorities, landowners and angling clubs to achieve these fishery

improvements. Noteworthy examples are the dredging and reconnection of the back channel at Great Paxton and the New Cut flow deflectors. Protecting and improving the aquatic habitat for fish can also be addressed through liaison with flood defence to influence routine maintenance activities.



### Theme 9: Enhancing Biodiversity

Enhancing biodiversity is an aspiration that no single organisation can achieve alone. One way we can contribute is by playing our part in the local biodiversity action planning process. Local Authorities and environmental organisations make up working groups responsible for compiling Local Biodiversity Action Plans (LBAPs) which include targets for specific habitats and species (see Section 4.2).

The benefits of the partnership approach in enhancing biodiversity can be demonstrated by the progress of WLMPs in the LEAP area. These plans are developed with the co-operation of other environmental organisations, such as, English Nature and RSPB. The status of the plans in the Bedford Ouse area are set out below in Table 8.

We need to protect native species and habitats to increase the biological diversity within this LEAP area. Baseline surveys for otter, native crayfish and water vole have been undertaken throughout the area in a collaborative project between English Nature, Local Authorities, County Councils, County Wildlife Trusts and ourselves.

A major wetland creation initiative (Needingworth

**Table 8: Status of Water Level Management Plans**

COUNTY	SITE	NATIONAL GRID REFERENCE	STATUS
Cambridgeshire	Berry Fen	TL 378 745	Interim Management Statement (IMS) prepared
Cambridgeshire	Houghton Meadows	TL 293 717	WLMP complete and endorsed
Cambridgeshire	Little Paxton Pits	TL 200 637	IMS prepared
Cambridgeshire	Portholme Meadow	TL 238 708	WLMP complete and endorsed
Cambridgeshire	St Neots Common	TL 183 613	IMS prepared

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

Reedbed) in the LEAP area is being progressed by Hanson Aggregates and the RSPB. This involves the creation of a large reedbed adjacent to the River Great Ouse at Over/Willingham. The 650-hectare site, which will include up to 500 hectares of reedbed, could potentially support significant populations of BAP species such as the bittern. The Agency, along with other organisations such as English Nature, supports the restoration project.

### 4.2 Local Agenda 21 and Biodiversity Action Plans

#### LOCAL AGENDA 21

Agenda 21 came out of the 1992 Earth Summit at Rio de Janeiro and the concept is to set an agenda for action for the 21st century at a local level. It emphasises the need to encourage local action to implement the aims of global environmental policy; in other words, 'think globally, act locally'. This was one of a number of agreements signed by some 150 countries, which include conventions on climate change and biodiversity. It is intended to be a 'comprehensive programme of action needed throughout the world to achieve a sustainable pattern of development for the next century'.

In response to the Earth Summit, the Government has produced a number of strategy documents. These include the 'UK Sustainable Development Strategy' and more recently it has published 'Indicators of Sustainable Development in the United Kingdom'. This sets out a comprehensive list of aspects of sustainable development that should be measured and identifies indicators for each.

Local Authorities are seen to be the focus for promoting and encouraging local community action. Since the Earth Summit, Local Authorities have been charged with producing a Local Agenda 21 (LA21) for their area which aims to encourage wider access to information, greater community participation in decision-making and the adoption of sustainable development principles. We support that approach by providing information and expertise. Indeed, an Agency LA21 Information Pack has recently been launched.

At a local level, most councils are working with communities, employers and industry to produce their own Environmental Reports/Action Plans and subsequently their own LA21 programmes. For

example:

- Cambridgeshire County Council's Environment 2000 - a Strategy for Action (July 1997) included a review of the County's State of the Environment report and is now complete. Work and consultation on LEAPs is still ongoing;
- Cambridgeshire and Peterborough State of the Environment Report 1998 has now been published; and
- within the Bedford Ouse area, all County Councils have established LA21 round tables on which we are represented.

*Key issue towards achieving a 'Local Agenda 21': The need to determine with Local Authorities how we can appropriately link the issues being generated by LA21 and the Agency's routine work, including LEAPs. We are supporting the initiative but the long-term implications have not been considered and associated resource needs have not been secured.*

#### BIODIVERSITY

The UK Biodiversity Action Plan published in 1994 sets out the broad strategy for conserving and enhancing wild species and wildlife habitats in the UK for the next 20 years. The stated overall goal is 'to conserve and enhance biological diversity within the UK and to contribute to the conservation of global biodiversity'. Biodiversity will be a key indicator of the successful implementation of sustainable development in the plan area.

At a local level, Local Authorities and environmental organisations, including the Agency, are compiling Biodiversity Action Plans (BAPs) which will include targets for specific habitats and species (many of which are relevant to this LEAP area), such as fens, reedbeds, otter and water vole.

It is crucial to the success of the BAP process that a wide-ranging participation is achieved in a realistic timescale. The Action Plans should not only be the vision of participating organisations but should also be shared by others throughout each county. Plans will not be achieved unless landowners, farmers and managers are involved in the decision-making process so wider community involvement is encouraged.

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

**Table 9: Status of Biodiversity Planning in the Bedford Ouse LEAP Area**

COUNTY	PARTNERS	DOCUMENT	HABITATS TO BE CONSIDERED
Cambridgeshire	County Council District/Borough Councils English Nature Wildlife Trust RSPB Agency Landscape 2000 Anglian Water	Cambridgeshire's Biodiversity A Framework for Action	Rivers and Wetlands Trees and Woodlands Farmland Cities, Towns and Villages Dry Grasslands Refer to 'Cambridgeshire's Biodiversity - A Framework for Action' (1997) 28 Habitat and Species Action Plans completed by 1999
Bedfordshire	County Council District/Borough Councils English Nature Wildlife Trusts RSPB Agency BTCV Bedfordshire Natural History Society	Bedfordshire and Luton Biodiversity Action Plan The Way Forward	Waterways and Wetlands Woodland Farmland Urban Habitats Data and Monitoring and Public Awareness Community Involvement
Northamptonshire	County Council District/Borough Councils English Nature Wildlife Trust Farming and Wildlife Advisory Group RSPB Agency BTCV	Northamptonshire Biodiversity Action Plan – A Framework Document (March 1997)  (No further documents published. Work in progress on Species and Habitat Action Plans)	Wetlands Woodland Neutral Grassland Chalk Grassland Acid Grassland Farmland Urban
Hertfordshire	Hertfordshire and Middlesex Wildlife Trust Hertfordshire Environmental Records Centre Local Authorities English Nature	A 50-year vision for the Wildlife and Natural Habitats of Hertfordshire. (A local Biodiversity Action Plan)	Woodlands Wetlands Heathland Grassland (Acid, Neutral and Chalk) Farmland and Urban Work in progress on Species and Habitats Action Plans

## 4.0 A BETTER ENVIRONMENT THROUGH PARTNERSHIP

Local BAPs can be obtained from the Biodiversity Co-ordinator of the relevant County Council.

### 4.3 Education and Awareness

The Agency has a duty to promote the recreational use of inland waters and associated land. Local waterways offer considerable opportunities to access of natural beauty, historic interest and wildlife importance. Public enjoyment and interest can be enhanced through interpretation boards and visitor centres.

The production of information boards and leaflets are routinely undertaken through partnerships with Local Authorities, consultation groups and riparian owners.

The Agency is currently working with the National Trust on a project to refurbish Houghton Watermill (see Chapter 4, Theme 6). The planned displays will depict the fascinating history of the building and will also encourage people to use the footpaths in the surrounding river valley.

The Agency is continually seeking further collaborative projects, which promote public access and appropriate usage of watercourses in the Bedford Ouse area.

One of our key objectives for environmental protection and improvement is education. Damage is often caused not through malicious intent to harm the environment but through lack of awareness. Therefore, we feel we need to have a greater involvement in education at all levels. Our education strategy, 'Green Shoots' (1997), which considers education into the next century, outlines the following goals:

- to help educate young people through teaching aids and other initiatives;
- to improve understanding of environmental issues, through links with education, work placements and an awards scheme;
- to work with industry and produce marketing campaigns to promote prevention of pollution rather than its remediation;
- to foster public awareness of environmental issues to encourage responsibility for the environment and its challenges; and
- To build on established international relationships and create new ones to further sustainable development.

A range of education material is already available on request.

We perceive education to include all aspects of our society not just education through schools and colleges. We will be one of a number of organisations working in this realm and we are open to suggestions for joint approaches. We hope to see environmental topics dovetail into the National Curriculum and are committed to provide information to 'A' level and university students.

**We welcome any feedback on how the Agency could get more involved within the Bedford Ouse LEAP area.**

## 5.0 Future Review and Monitoring

### 5.0 Future Review and Monitoring

We will be jointly responsible, with other identified organisations and individuals, for implementing the actions identified in this LEAP. Progress will be monitored and normally reported annually. These Annual Reviews will examine the need to update the LEAP in the light of local change. The period between major revisions will normally be five years.



## APPENDIX A: 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 our work is advisory, with the relevant powers resting with other bodies such as Local Planning Authorities.

For example, we are not responsible for:

- noise problems (except if it is to do with our work);
- litter (unless it is restricting the flow of a river);
- air pollution arising from vehicles, household areas, small businesses and small industry;

- collecting waste in your local area;
- planning permission;
- environmental health; and
- food hygiene.

These are all dealt with by your local planning authority, who will contact us if necessary.

We are not responsible for the quality or supply of drinking water at the tap or for treating sewage waste, although we regulate discharges from sewers and sewage treatment works.

The following table summarises our duties, powers and interests and their relationship to land-use planning.

WATER RESOURCES: The Agency has a duty to conserve, redistribute, augment and secure the proper use of water resources.		
THE AGENCY HAS POWERS TO:	THE AGENCY HAS AN INTEREST (BUT NO POWERS) IN:	PARTNERSHIP
<ul style="list-style-type: none"> <li>● Grant or vary water abstraction and impoundment licences on application.</li> <li>● Revoke or vary existing licences to reinstate flows or levels to surface-waters or groundwater which have become depleted as a result of abstraction, and are subject to a liability for compensation.</li> <li>● Secure the proper use of water resources through its role in water-resources planning, the assessment of reasonable need for abstractions and promotion of more efficient use of water resources.</li> <li>● Monitor and enforce abstraction and impoundment licence conditions.</li> </ul>	<ul style="list-style-type: none"> <li>● 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</li> </ul>	<p>The Agency is committed to water-demand management and will work closely with water companies and developers, local authorities and relevant organisations to promote the efficient use of water. The Agency acknowledges that new resources may be needed in the future and supports a twin-track approach of planning for water resource development alongside the promotion of demand-management measures. The Agency seeks to influence planning decisions for new development by encouraging the inclusion of water-conservation measures in new properties, particularly in areas where water resources are under stress, and by ensuring that planning authorities allow for the lead time for resource development.</p>

## APPENDIX A: DUTIES, POWERS AND INTERESTS OF THE AGENCY

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

THE AGENCY HAS POWERS TO:	THE AGENCY HAS AN INTEREST (BUT NO POWERS) IN:	PARTNERSHIP
<ul style="list-style-type: none"> <li>● Control, through Land Drainage consents, development or construction of a structure that would affect the flow of an ordinary watercourse (Water Resources Act, 1991 Section 109, Land Drainage Act, 1991 Section 23).</li> <li>● Produce flood risk maps for all Main Rivers under S105 of Water Resources Act 1991.</li> <li>● Undertake works to Main Rivers using permissive powers.</li> <li>● Issue flood warning relating to Main River to the public, Local Authorities and the police.</li> <li>● Consent mineral workings within 16 metres of Main Rivers.</li> </ul>	<ul style="list-style-type: none"> <li>● Granting of planning permission throughout a catchment but especially floodplains where development can significantly increase flood risk. Local Planning Authorities grant this permission.</li> <li>● Installation of surface water source control measures e.g. flood attenuation structures.</li> <li>● Works improving ordinary watercourses and which are normally under Local Authority remit, but may impact on Main Rivers.</li> <li>● Installation of buffer zones which reduce flood risk and have significant environmental benefits.</li> <li>● Urban and rural land use and measures that can reduce flood risk or the need for watercourse maintenance.</li> </ul>	<p>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.</p> <p>The Agency will encourage best practice, including source-control measures and common standards, among Local Authorities, IDBs 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:** The Agency has a duty to monitor, protect, manage and, where possible, enhance the quality of all controlled waters including rivers, groundwater, lakes, canals, estuaries and coastal waters through the prevention and control of pollution

<ul style="list-style-type: none"> <li>● Issue discharge consents to control pollution loads in controlled waters.</li> <li>● Regulate discharges to controlled waters in respect of water quality through the issue and enforcement of discharge consents.</li> <li>● Prosecute polluters and recover the costs of clean-up operations.</li> <li>● Issue groundwater authorisations and notices.</li> <li>● Adjudicate in Section 101A (first-time sewerage) appeals.</li> <li>● Serve notice on a site owner or operator to conduct works to forestall pollution.</li> </ul>	<ul style="list-style-type: none"> <li>● The control of run-off from roads and highways. This is a Highway Agency duty.</li> <li>● The greater use of source-control measures to reduce pollution by surface-water run-off.</li> <li>● Prevention and education campaigns to reduce pollution incidents.</li> </ul>	<p>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.</p>
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## APPENDIX A: DUTIES, POWERS AND INTERESTS OF THE AGENCY

**AIR QUALITY:** The Agency has a duty to implement Part 1 of the Environment Protection Act 1990.

THE AGENCY HAS POWERS TO:	THE AGENCY HAS AN INTEREST (BUT NO POWERS) IN:	PARTNERSHIP
<ul style="list-style-type: none"> <li>● 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, BATNEEC and BPEO.</li> <li>● Have regard to the government's National Air Quality Strategy when setting standards for the releases to air from industrial processes.</li> </ul>	<ul style="list-style-type: none"> <li>● The vast number of smaller industrial processes which are controlled by Local Authorities.</li> <li>● Control over vehicular emissions and transport planning.</li> </ul>	<p>The Agency provides data on IPC processes and advice on planning applications to Local Authorities. The Agency is willing to offer its technical experience to Local Authorities on the control of air pollution.</p> <p>The Agency wishes to liaise with Local Authorities in the production of their Air Quality Management Plans.</p> <p>The Agency will advise and contribute to the government's National Air Quality Strategy.</p>

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

<ul style="list-style-type: none"> <li>● To issue certificates to users of radioactive materials and disposers of radioactive waste, with an overall objective of protecting members of the public.</li> </ul>	<ul style="list-style-type: none"> <li>● The health effects of radiation.</li> </ul>	<p>The Agency will work with users of the radioactive materials to ensure that radioactive wastes are not unnecessarily created, and that they are safely and appropriately disposed of.</p> <p>The Agency will work with MAFF to ensure that the disposal of radioactive waste creates no unacceptable effects on the food chain.</p> <p>The Agency will work with the Nuclear Installations Inspectorate to ensure adequate protection of workers and the public at nuclear sites.</p> <p>The Agency will work with the HSE on worker-protection issues at non-nuclear sites.</p>
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**WASTE MANAGEMENT:** The Agency has a duty to regulate the management of waste, including the treatment, storage, transport and disposal of controlled waste, to prevent pollution of the environment, harm to public health or detriment to local amenities.

<ul style="list-style-type: none"> <li>● Vary waste management licence conditions.</li> <li>● Suspended and revoke licences.</li> <li>● Investigate and prosecute illegal waste management operations.</li> </ul>	<ul style="list-style-type: none"> <li>● The siting and granting of planning permission for waste management facilities. This is conducted by the waste industry and Local Planning Authorities. The Agency, as a statutory consultee on planning applications, can advise on such matters.</li> </ul>	<p>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>
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## APPENDIX A: DUTIES, POWERS AND INTERESTS OF THE AGENCY

**CONTAMINATED LAND:** The Agency has a duty to develop an integrated approach to the prevention and control of land contamination ensuring that remediation is proportionate to risks and cost-effective in terms of the economy and environment.

THE AGENCY HAS POWERS TO:	THE AGENCY HAS AN INTEREST (BUT NO POWERS) IN:	PARTNERSHIP
<ul style="list-style-type: none"> <li>● Regulate the remediation of contaminated land designated as special sites.</li> <li>● Prevent future land contamination by means of its IPC, Water Quality and other statutory powers.</li> <li>● Report on the state of contaminated land.</li> </ul>	<ul style="list-style-type: none"> <li>● Securing with others, including Local Authorities, landowners and developers, the safe remediation of contaminated land.</li> </ul>	<p>The Agency supports land remediation and will promote this with developers, Local Authorities and other stakeholders.</p>

**CONSERVATION:** The Agency will further conservation, wherever possible, when carrying out water-management functions; have regard to conservation when carrying out pollution-control functions; and promote the conservation of flora and fauna which are dependent on an aquatic environment.

<ul style="list-style-type: none"> <li>● 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.</li> </ul>	<ul style="list-style-type: none"> <li>● The conservation impacts of new development. These are controlled by Local Planning Authorities.</li> <li>● 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.</li> <li>● Implementation of the UK Biodiversity Plan for which it is the contact point for 12 species and one habitat.</li> </ul>	<p>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>
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**LANDSCAPE:** The Agency will further landscape conservation and enhancement when carrying out water-management functions; have regard to the landscape when carrying out pollution-control functions; and promote the conservation and enhancement of the natural beauty of rivers and associated land.

<ul style="list-style-type: none"> <li>● The Agency must further the conservation and enhancement of natural beauty when exercising its water-management powers and have regard to the landscape in exercising its pollution-control powers.</li> </ul>	<ul style="list-style-type: none"> <li>● The landscape impact of new development, particularly within river corridors. This is controlled by Local Planning Authorities.</li> </ul>	<p>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.</p>
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## APPENDIX A: DUTIES, POWERS AND INTERESTS OF THE AGENCY

**ARCHAEOLOGY:** The Agency has a duty to consider the impact of all of its regulatory, operational and advising activities upon archaeology and heritage, and implement mitigation and enhancement measures where appropriate.

THE AGENCY HAS POWERS TO:	THE AGENCY HAS AN INTEREST (BUT NO POWERS) IN:	PARTNERSHIP
<ul style="list-style-type: none"> <li>● The Agency must promote its archaeological objectives through the exercise of its water-management and pollution-control powers and duties.</li> </ul>	<ul style="list-style-type: none"> <li>● Direct protection or management of sites or archaeological or heritage interest. This is carried out by LPAs, County Archaeologists and English Heritage.</li> </ul>	<p>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:** The Agency has a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries.

<ul style="list-style-type: none"> <li>● Regulate fisheries by a system of licensing.</li> <li>● Make and enforce fisheries bylaws to prevent illegal fishing.</li> <li>● Promote the free passage of fish and consent fish passes.</li> <li>● Monitor fisheries and enforce measures to prevent fish-entrainment in abstractions.</li> <li>● Promote its fisheries duty by means of land-drainage consents, water abstraction applications and discharge applications.</li> </ul>	<ul style="list-style-type: none"> <li>● The determination of planning applications which could affect fisheries.</li> </ul>	<p>Many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and Local Authorities to protect fisheries.</p>
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**RECREATION:** The Agency has a duty to promote rivers and water space for recreational use.

<ul style="list-style-type: none"> <li>● The Agency contributes towards its recreation duty through the exercise of its statutory powers and duties in water management.</li> </ul>	<ul style="list-style-type: none"> <li>● Promotion of water sports. This is done by Sport England and other sports bodies.</li> </ul>	<p>The Agency will work with the Countryside Agency, Sport England, British Waterways and other recreational and amenity organisations to optimise recreational use of the water environment.</p>
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## APPENDIX A: DUTIES, POWERS AND INTERESTS OF THE AGENCY

**NAVIGATION:** The Agency has a duty to maintain and improve navigation.

THE AGENCY HAS POWERS TO:	THE AGENCY HAS AN INTEREST (BUT NO POWERS) IN:	PARTNERSHIP
<ul style="list-style-type: none"> <li>● Maintain river navigation.</li> <li>● Maintain and operate locks and associated weirs and sluices whilst providing access to these sites.</li> <li>● Provide services such as moorings and pump-out facilities.</li> <li>● Maintain navigation by a system of licensing.</li> <li>● Enforce navigation legislation.</li> </ul>	<ul style="list-style-type: none"> <li>● The management and operation of British Waterways navigations and other navigations within the region.</li> </ul>	<p>The Agency will work with British Waterways, navigation authorities and navigation users to improve navigations generally as valuable environmental, recreational, commercial and heritage resources.</p>

## APPENDIX B: THE ROUTINE WORK OF THE AGENCY

On a day-to-day basis, the Agency carries out a huge environmental monitoring and regulatory operation, most of which is to achieve statutory requirements. The aim of regulation is to balance the needs of people and the environment. The Agency works to:

- save, redistribute and improve river, lake, reservoir and groundwater supplies;
- prevent and control pollution of air and water;
- reduce the risk of harm from contaminated land and bring it back into use;
- make sure waste is dealt with safely and legally;
- make sure radioactive materials are kept, used and disposed of safely; and
- make sure flood risks are not created or exacerbated.

Regulating the environment takes place through licensing. The Agency manages licences for abstraction of water from rivers and boreholes, releases to air and water, the carrying and disposal of waste and to carry out work in, over, under or near a watercourse. Within Central Area we manage over 3,200 water abstraction licences, 3,200 consents to discharge to water, 300 waste management licences, 77 authorisations under Integrated Pollution Control for processes which make releases to air and 70 permits for radioactive materials and waste. We determine approximately 400 applications each year to work on or near water.

We monitor the environment to ensure that pollution is controlled and resources are adequately protected. We regularly monitor the quantity and quality of rivers, estuaries and the sea and check emissions from the processes we regulate. Results are reported on a public register, which can be inspected at the Agency's main offices. We run a 24-hour service for receiving reports of and responding to flooding and pollution incidents and emergencies in the air, water or on land. We also work with others to reduce the risk of harm from contamination and to bring land back into good use.

We work to minimise waste and prevent pollution through advice and education, including national campaigns and through working with other environmental regulators. When necessary, we are prepared to enforce environmental legislation in a tough way. Those who show little regard for the law and who cause blatant and persistent damage to the environment can expect to be prosecuted.

The Agency also has the role of reducing risk to people and the environment from flooding by providing effective defences. Protecting life is our highest priority and to meet this aim we provide a flood forecasting and warning service and

discourage development in flood-risk areas. We also manage over 900 km of flood defences and aim to protect and improve the natural environment by promoting flood defences that work with nature.

We are responsible for maintaining, improving and developing fisheries. We regulate fisheries by issuing licences for rod angling and net fishing. We carry out improvements to fisheries by improving the habitat and fish stocks and providing advice to fishery owners. The Agency seeks to ensure that wildlife, landscape and archaeological heritage is protected in any work that we carry out and also in work carried out by others.

Our principal aim for recreation is to protect, improve and promote the water environment for recreational use. We do this by protecting existing use and creating opportunities in the course of our work and by maximising the use of Agency-owned sites for recreation.

Our principal tasks for navigation include maintaining river navigations and maintaining and operating locks, weirs and sluices (and providing public access at these sites). We also register and license boats using our navigations, provide services such as moorings and pump-out facilities and enforce local legislation and bylaws.

Although we operate an extensive regulatory framework, our actual control over development is limited. We therefore depend upon effective liaison with planning authorities. We liaise with planning authorities under the Town and Country Planning legislation and Government planning guidance by providing co-ordinated responses on development plans and planning applications in order to:

- advise on where proposed development may pose a risk to the public or to property from pollution and/or flooding;
- protect the environment from any possible adverse effects of development;
- wherever possible, enhance the environment in conjunction with development proposals;
- identify demands on our duties and responsibilities, including flood protection, water resource management, conservation and recreation; and
- avoid unnecessary conflict between the use of planning conditions and any possible consents or licences required by the Agency.

Close co-operation between planning authorities and ourselves is essential for effective environmental protection and progress towards more sustainable forms of development.

## APPENDIX C: GLOSSARY AND ABBREVIATIONS

### Glossary

**Abstraction** The removal of water from any source, either permanently or temporarily.

**Abstraction licence** A statutory document issued by the Agency to permit removal of water from a source of supply. It is usual for hourly, daily and annual limits to be set.

**Agenda 21** A comprehensive programme of global action to achieve a more sustainable pattern of development for the next century. The UK Government adopted the declaration at the UN Conference on Environment and Development (the Earth Summit) held in Rio de Janeiro in 1992.

**Algal blooms** Rapid growth of phytoplankton in marine and/or fresh waters, which may colour the water and may accumulate on the surface as a green scum. Decomposing cells consume large quantities of oxygen in the water, which may result in the water becoming anaerobic. Some blooms (such as certain species of blue-green algae) may also be toxic.

**Alluvial** Sedimentary deposits resulting from the action of rivers. Typically composed of fine-grained material (e.g. silt) carried by the river and deposited in areas such as floodplains.

**Above Ordnance Datum (AOD)** Land levels are measured relative to the average sea level at Newlyn in Cornwall. This average level is referred to as 'Ordnance Datum'. Contours on Ordnance Survey maps of the UK show heights in metres above Ordnance Datum.

**Aquifer** A water bearing-stratum situated below ground level. The water contained in aquifers is known as groundwater.

**Biodiversity** Diversity of biological life; the number of species present.

**Biomass** Total quantity or weight of organisms in a given area or volume - eg, fish biomass is measured as grams per square metre (g/m<sup>2</sup>).

**Borehole** Well sunk into water-bearing rocks.

**Boulder Clay** Rock-type deposited under glaciers as they move. It consists typically of a mixture of rock fragments, clay, sand and gravel.

**Brownfield site** Old housing or industrial area currently unused but which could be redeveloped for housing and ancillary development.

**Brundtland Report** Report of the 1987 World Commission on Environment and Development.

**Catchment** An area of land which collects and drains the water which falls on it. It is usually composed of a single river system and its tributaries.

**Catchment Abstraction Management Strategies (CAMS) Documents** that will be prepared by the Agency, outlining the present and future licensing policy for catchments.

**Coarse fish** Freshwater fish other than salmon and trout.

**Controlled waters** All rivers, canals, lakes, groundwater, estuaries and coastal waters to three nautical miles from the shore, including the bed and channel (which may be dry for periods of time).

**Dissolved Oxygen (DO)** The amount of oxygen dissolved in water. Oxygen is vital for life so this measurement is an important, but highly variable, indicator of the 'health' of the water. It is used to classify waters.

**Drift** Transported superficial deposits, especially those transported by ice.

**EC Directive Legislation** issued by the European Union that is binding on Member States in terms of the results to be achieved. It leaves to Member States the choice of methods.

**EC Regulation** European Community legislation having legal force in all Member States.

**Ecosystem** A functioning, interacting system composed of one or more living organisms and their natural environment, in biological, chemical and physical senses.

**Effluent** Liquid waste from industry, agriculture or sewage treatment plants.

**Eutrophic** A description of water which is rich in dissolved organic and mineral nutrients. At worst, such waters are sometimes beset with unsightly growths of algae.

**Fish biomass** A measure of the quality of a fishery as found in terms of surveys. It is measured as mass per area (g/m<sup>2</sup>).

**Floodplain** This includes all land adjacent to a watercourse over which water flows or would flow but for flood defences in times of flood.

**Fluvial** Relating to rivers.

**General Quality Assessment** A scheme replacing the National Water Council Classification system. It (GQA) provides a means of assessing and reporting environmental water quality in a nationally consistent and objective way. The chemical grades for rivers introduced in 1994 use BOD, Ammonia and Dissolved Oxygen limits for water quality between A (Very Good) and F (Bad).

**Habitat** The customary and characteristic dwelling place of a species or community.

**In river needs** The totality of requirements for the water environment and effluent dilution before abstraction is taken into account.

## APPENDIX C: GLOSSARY AND ABBREVIATIONS

**Integrated Pollution Control (IPC)** An approach to pollution control in the UK that recognises the need to look at the environment as a whole, so that solutions to particular pollution problems take account of potential effects upon all environmental media.

**Interim Management Statement** This sets out the general management practices which will operate at a WLMP site until such time as the Plan itself is drawn up.

**Internal Drainage Boards (IDBs)** These are statutory public bodies charged under the Land Drainage Act 1991 with providing a flood protection and water level management service to both developed and agricultural areas within their defined drainage districts.

**Leachate** Liquor formed by the act of leaching.

**Main River** The watercourse shown on the statutory 'Main River Maps' held by the Agency and MAFF. The Agency has permissive powers to carry out works of maintenance and improvement on these rivers.

**Office of Water Supply (OFWAT)** Regulator of water supply companies.

**Pesticides/herbicides** Substances used to kill pests such as weeds, insects or rodents.

**Potable water** Water of a suitable quality for drinking.

**Public Water Supply (PWS)** The supply of water by companies appointed as Water Undertakers by the Secretary of State for the Environment under the Water Industry Act 1991.

**Return period** Refers to the frequency of a rainfall or flooding event. Flood events are described in terms of the frequency at which, on average, a certain severity of flow is exceeded. This frequency is usually expressed as a return period in years: a 1 in 50 year flood event would be expected to occur, on average, once every 50 years. This could also be expressed as an event with a 2% probability of occurring in any one year.

**Riparian owner** Owner of riverbank and/or land adjacent to a river. Normally owns riverbed and rights to mid-line of channel.

**River corridor** The continuous area of river, river banks and immediately adjacent land alongside a river and its tributaries.

**Scheduled Monument (SM)** The key sites nationally for archaeology, designated by the Secretary of State for National Heritage, through English Heritage.

### S105 Surveys

Section 105 of the Water Resources Act 1991 allows for Standards of service, Assets and Flood Risk Surveys.

**Sewage** Liquid waste from cities, towns and villages which is normally collected and conveyed in sewers for treatment and/or discharge to the environment.

**Sewerage System** of sewers usually used to transport sewage to a sewage treatment works.

**Site of Special Scientific Interest (SSSI)** A site designated under the Wildlife and Countryside Act 1981 by English Nature or the Countryside Commission for Wales as a result of its nature conservation or geological value.

**(candidate) Special Area of Conservation (cSAC)** Sites designated under the EU Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (92/43/EEC). These sites are designed to protect important wildlife habitats or threatened species.

**Spray irrigation** The watering of crops by spraying, which can have high evaporative losses when compared with trickle irrigation or use of sluices.

**Statutory Consultee** In both the Agency's and other agencies' legislation there are requirements for consultation. Comments and objections that are received are noted but do not usually have the power, in themselves, to prevent the controlling authority from making a decision.

**Strata** A term applied to rocks that form layers or beds. Can also be applied to successive layers of any deposited substance such as the atmosphere, or biological tissue.

**Structure Plans** Statutory documents produced by County Councils outlining their strategy for development over a 10-15 year timescale.

**Surface Water** Water collecting on and running off the surface of the ground.

**Sustainable development** 'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland definition).

**Watercourse** A stream, river, canal or channel along which water flows.

**Water resource** The naturally replenished flow or recharge of water in rivers or aquifers.

**Wetland** An area of low lying land where the water table is at or near the surface for most of the time, leading to characteristic habitats.

**Winter storage reservoirs** Reservoirs built by farmers to store water during the winter months when there is generally more water available than in the summer. The water is used during the subsequent irrigation season.

**1:50 Year Drought/Flood** A drought/flood event with a statistical probability of occurring once in a fifty year period (other periods may be specified in a similar way). This can also be expressed as an event with a 2% probability of occurring in any one year.

## APPENDIX C: GLOSSARY AND ABBREVIATIONS

### Abbreviations - Acronyms

<b>AEG</b>	Area Environment Group	<b>EPA90</b>	Environmental Protection Act 1990	<b>MI/d</b>	Megalitres per day (flow rate of millions in litres per day)
<b>AOD</b>	Above Ordnance Datum	<b>EN</b>	English Nature	<b>mm</b>	Millimetre
<b>AWSL</b>	Anglian Water Services Ltd	<b>EQS</b>	Environmental Quality Standard	<b>MoD</b>	Ministry of Defence
<b>BATNEEC</b>	Best Available Techniques Not Entailing Excessive Costs	<b>FMV</b>	Forest of Marston Vale	<b>MVWG</b>	Marston Vale Working Group
<b>BC</b>	Borough Council	<b>gm<sup>2</sup></b>	Grams per square metre (a unit of biomass)	<b>NRA</b>	National Rivers Authority
<b>Beds</b>	Bedfordshire	<b>GQA</b>	General Quality Assessment	<b>OFWAT</b>	Office of Water Services
<b>BOD</b>	Biochemical Oxygen Demand	<b>ha</b>	Hectare	<b>PWS</b>	Public Water Supply
<b>BPEO</b>	Best Practicable Environmental Option	<b>Herts</b>	Hertfordshire	<b>R&amp;D</b>	Research and Development
<b>BTCV</b>	British Trust for Conservation Volunteers	<b>IDB</b>	Internal Drainage Board	<b>RAS</b>	Radioactive Substances
<b>CAMS</b>	Catchment Abstraction Management Strategies	<b>IMS</b>	Interim Management Statement	<b>REC</b>	River Ecosystem Class
<b>Cambs</b>	Cambridgeshire	<b>IPC</b>	Integrated Pollution Control	<b>RQO</b>	River Quality Objective
<b>CC</b>	County Council	<b>IWA</b>	Inland Waterways Association	<b>RSPB</b>	Royal Society for the Protection of Birds
<b>CMIF</b>	Cambridgeshire Marine Industries Federation	<b>IWAAC</b>	Inland Waterways Amenity Advisory Council	<b>(c)SAC</b>	(Candidate) Special Area of Conservation
<b>CMP</b>	Catchment Management Plans	<b>km</b>	Kilometre	<b>SM</b>	Scheduled Monument
<b>DC</b>	District Council	<b>km<sup>2</sup></b>	Square Kilometre	<b>SNH</b>	Scottish Natural Heritage
<b>DETR</b>	Department of the Environment, Transport and the Regions	<b>LEAP(s)</b>	Local Environment Agency Plan(s)	<b>SPA</b>	Special Protection Area
<b>DO</b>	Dissolved Oxygen	<b>LPA</b>	Local Planning Authority	<b>SSSI</b>	Site of Special Scientific Interest
<b>EH</b>	English Heritage	<b>m</b>	Metre	<b>STW</b>	Sewage Treatment Works
<b>EiP</b>	Examination in Public	<b>m<sup>3</sup>/s</b>	Cumec: cubic metres per second	<b>TVWCo</b>	Three Valleys Water Company
		<b>mg/l</b>	Milligrams per litre	<b>UWWTD</b>	Urban Waste Water Treatment Directive
		<b>MAFF</b>	The Ministry of Agriculture, Fisheries and Food	<b>WLMP</b>	Water Level Management Plan

## APPENDIX D: USEFUL AGENCY PUBLICATIONS

1997-1998 Annual Review (1998)  
1999/2000 Corporate Plan Summary (1998)  
A Guide to Information Available to the Public  
A Price Worth Paying: The Environment Agency's proposals for the National Environment Programme for water companies 2000-2005, a submission to Government (1998)  
An Environmental Strategy for the Millennium and Beyond (1997)  
Annual Environmental Report for the Agency's Own Activities 1997/8 (1997)  
Bedford Ouse Environment Overview  
Bedford Ouse (Lower Reaches) LEAP: Statement of Consultation  
Blue-Green Algae  
Complete Guide to Fishing in the Anglian Region  
Corporate Plan 1999-2000: Our Forward Look to 2002 (1998)  
Emergency Arrangements  
Fisheries Byelaws (Agency)  
Floodplain Policy  
Floodline: Flood Warning Information River Great Ouse and Ouse Washes in Cambridgeshire  
Floodline: Flood Warning Information River Great Ouse and tributaries in Northamptonshire, Hertfordshire, Bedfordshire and Buckinghamshire  
Flood Warning Service Strategy for England and Wales  
Groundwater Protection  
Guardians of the Environment - Environment Agency Corporate Brochure  
Guidance for the Control of Invasive Plants near Watercourses (1996)  
Integrated Pollution Control: An Introductory Guide (1997)  
Integrated Pollution Prevention Control (IPC/RAS series)  
Liaison with Local Planning Authorities (1997)  
Nitrate Vulnerable Zones  
Policy and Practice for the Protection of Floodplains (1997)  
Policy and Practice for the Protection of Groundwater (1998)  
Process Industry Regulation (IPC/RAS series)  
Prospects for Spray Irrigation  
Protecting the Environment  
Radioactive Substances Regulation (IPC/RAS series)  
Recreational Waterways Byelaws in the Anglian Region  
Regional Plan Summary  
Response to the Independent Report on the Easter 1998 Floods – Action Plan  
River Hiz - Alleviation of Low Flows  
State of the Environment - An IPC Perspective  
The Environment of England and Wales – A Snapshot (1996) (updated on Agency website)  
Using Water Wisely  
WASTE - Strategic Waste Management Survey Landfill within the East Midlands Planning Region  
Waterways - The Anglian Heritage  
Welcoming Waterways Navigation Pack  
Welcoming Waterways User's Guide

**More information is available from our website at <http://www.environment-agency.gov.uk> including an up-to-date national State of the Environment Report**

## APPENDIX E: CONSULTATION RESPONSES

26 letters and one telephone call were received in response to the Draft LEAP. These are summarised in the document entitled Statement of Consultation together with the Agency's comments. The respondents were:

Alconbury & Ellington IDB  
Anglian Water Services Ltd  
Bedford Group of Drainage Boards  
British Canoe Union  
Cambridgeshire County Council  
Carter, Mr W B  
CPRE (Bedfordshire County Branch)  
CPRE (Mid Bedfordshire District)  
East Anglian Waterways Association Ltd  
English Heritage (East of England Region)  
English Nature (Bedfordshire, Cambridgeshire & Northamptonshire)  
GOBA  
Huntingdon Canoe Club/Cambridgeshire Canoeing Association.  
Ivel Valley Countryside Project  
IWA (Cambridge Branch)  
IWA (Head Office, Rickmansworth)  
Lafarge Redland Aggregates Ltd  
Marston Vale Community Forest - now known as the Forest of Marston Vale  
Mid Bedfordshire District Council  
Ouse Valley River Club  
Priory Country Park Fisheries Warden  
RSPB  
South Bedfordshire District Council  
Sport England - previously English Sports Council (East)  
Swavesey IDB  
Three Valleys Water Company  
The Wildlife Trust for Bedfordshire, Cambridgeshire, Northamptonshire and Peterborough

## APPENDIX F: AEG SUB-GROUP AND PROJECT TEAM MEMBERSHIP

### Representatives of the Great Ouse Area Environment Group (AEG)

Tony Albone  
Charles Bootle  
Colin Clare  
Dennis Ford  
David Jones  
Derek King  
Richard Payne

### Project Team

Innes Jones	Environment Protection Manager (Project Executive)
Jackie Sprinks	LEAPs Officer (Project Co-ordinator)
Pauline Jones	Tactical Planning Officer
John Parkinson	Flood Defence Officer – Flood Warning
Alan Rich	Team Leader – Planning Liaison
Martin Slater	Team Leader - Conservation
Alison Whitehead	Resource Planning Officer
Liz Williams	Environment Protection Officer
Steve Wiltshire	Team Leader - Environment Protection

## MANAGEMENT AND CONTACTS:

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

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

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**ENVIRONMENT AGENCY  
GENERAL ENQUIRY LINE**

**0645 333 111**

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

**ENVIRONMENT AGENCY  
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