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local environment agency plan

OLD BEDFORD

INCORPORATING THE MIDDLE LEVEL & OUSE WASHES

FIRST ANNUAL REVIEW

MAY 1999



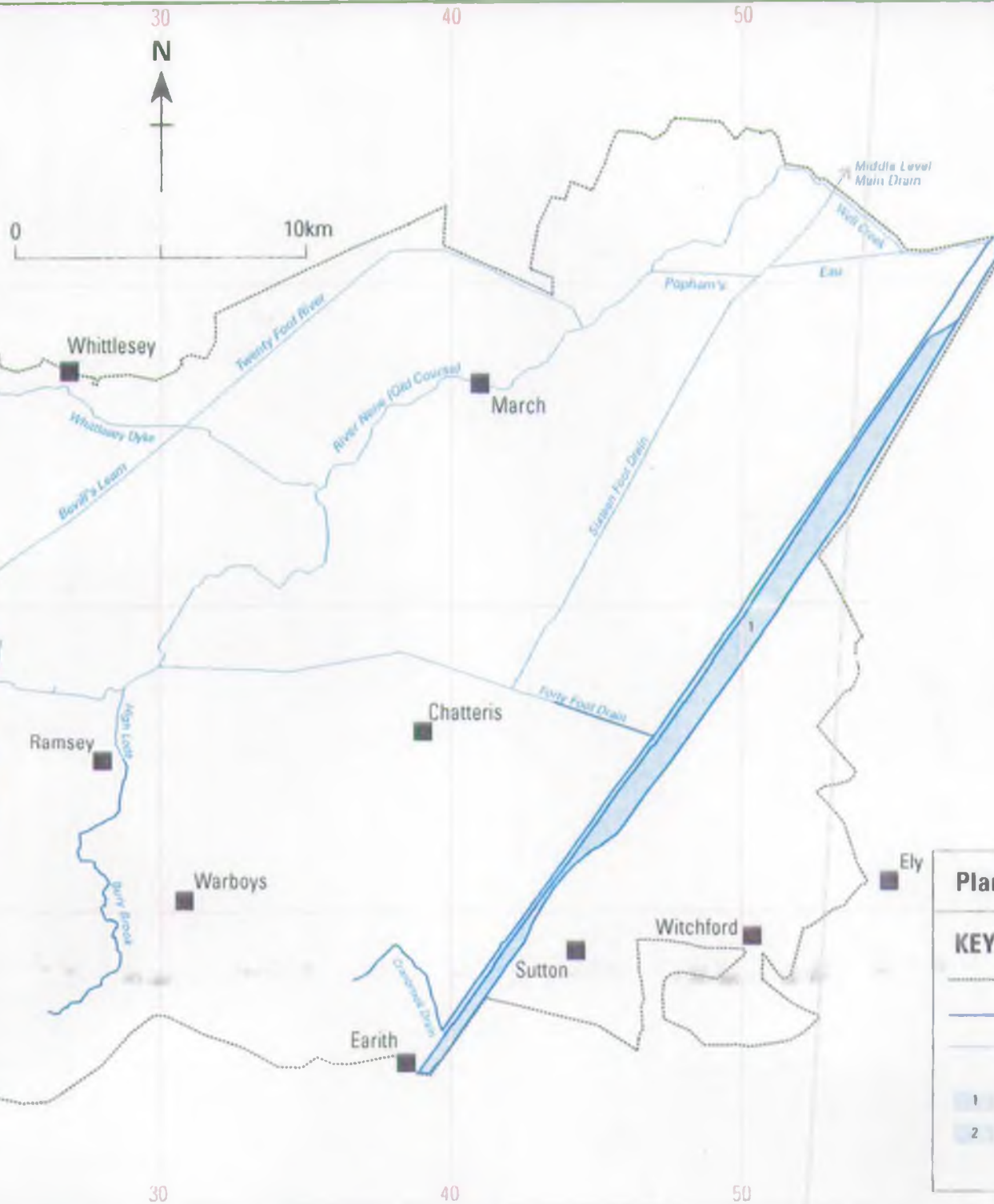
**ENVIRONMENT
AGENCY**

Old Bedford LEAP First Annual Review

Map 1



ENVIRONMENT AGENCY



Plan Area

KEY

- Area Boundary
- Main River
- Middle Level Commissioners Main Drains
- 1 The Ouse Washes Conservation Area
- 2 Woodwalton Fen Conservation Area

VISION FOR THE LEAP AREA

Most societies want to achieve economic development to secure a better quality of life, now and in the future. They also seek to protect their environment. The concept of sustainable development tries to reconcile these two objectives. The Agency's remit is to contribute to making this concept a reality. As a statutory consultee in the Town and Country Planning process, we will encourage planned developments and infrastructure to be sustainable. Our Vision for the LEAP area also addresses a number of other aspects.

In the long-term (25 years) this Vision encompasses:

- developing partnerships with, for example, agriculture, industry, local authorities, environmental groups and educational establishments;
- regulating the movement, treatment, storage and disposal of controlled wastes to protect and enhance the environment, by setting and enforcing consistent standards for waste management practice;
- managing water resources in a sustainable way to balance the needs of the water environment with the overall demand for water from all sectors of the community;
- realising opportunities to improve the biodiversity/conservation value of the plan area;
- maintaining and, if necessary and viable, improving flood protection along all main rivers.

More specifically and in the short-term (5 years) it encompasses:

- managing the Ouse Washes and associated watercourses to balance their flood defence, land drainage, water supply, fisheries and navigation roles within the constraints of designation as a candidate Special Area of Conservation and Site of Special Scientific Interest;
- supporting and developing sites likely to be identified under the Habitats Directive as Special Areas of Conservation, i.e. the Ouse Washes and Woodwalton Fen;
- resolving issues raised concerning waste management in the LEAP area, and encouraging the development of waste minimisation initiatives;
- achieving an improvement in water quality, particularly where targets are not presently being met; and
- enhancing opportunities for recreational activities such as navigation, angling and walking.

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

1.0 INTRODUCTION

1.1 THE ENVIRONMENT AGENCY

The Environment Agency has a wide range of duties and powers relating to different aspects of environmental management. The duties, together with those areas where we have an interest but no powers, are described in more detail in Appendix 1. We are required and guided by the Government to use these duties and powers in order to help achieve the objective of sustainable development. The Brundtland Commission defined sustainable development as *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*.

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

Taking a longer-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.

Our Vision is:

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

Our aims are:

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

We will do this by:

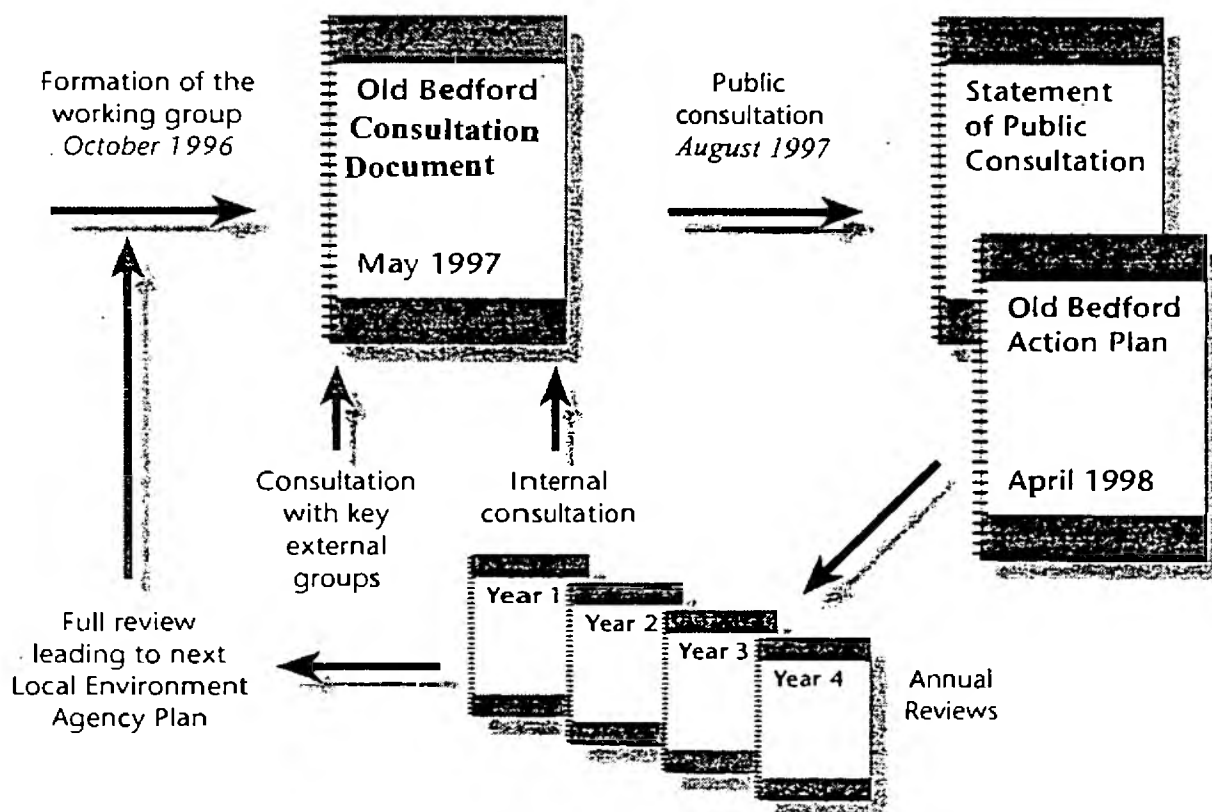
- being open and consulting others about our work
- basing our decisions around sound science and research
- valuing and developing our employees, and
- being efficient and businesslike in all we do

1.2 LOCAL ENVIRONMENT AGENCY PLANS (LEAPs)

One of the key outcomes of the United Nations "Earth Summit" held in Rio de Janeiro in 1992 was agreement by governments that, in order to solve global environmental problems, local action is crucial. Agenda 21 is part of that global action plan, bringing together economic, environmental and social concerns into a 'blueprint' for a more sustainable way of life for everyone. In the UK, local Agenda 21 plans are being produced by Local Authorities, and the Agency is contributing to these throughout England and Wales. In addition, we are committed to a programme of LEAPs in order to produce a local agenda of integrated action for environmental improvement.

LEAPs help us to identify and assess, prioritise and solve local environmental issues related to our functions, taking into account the views of our local customers. As a result LEAPs allow us to deploy our resources to best effect and optimise benefit for the local environment.

The LEAP process involves several stages, as illustrated by the flow chart below. Together, these make up a five-year plan for the area in question.



The Consultation Report for the Old Bedford Plan Area, published in May 1997, described the vision for the LEAP area (repeated at the beginning of this document), identified the issues and was the focus for discussion. Consultees' views and Agency responses were published in the Statement of Consultation Responses in February 1998, prior to preparation of the Action Plan. The latter document was published in April 1998 and detailed the issues to be taken forward, and actions to address them.

This is the first Annual Review for the Old Bedford (incorporating Middle Level and Ouse Washes) LEAP. Its purpose is not only to report on progress with activities described in the Action Plan, but also to identify any new issues, additional actions that may have become necessary or those that may no longer be relevant. We hope that publication of this Annual Review will encourage communication between interested parties and those responsible for action, to ensure that the momentum of the activity programme is maintained and that the Plan continues to address relevant and significant issues in the LEAP area.

Implementation of the Plan will continue to be monitored and reviewed annually, until the whole process begins again after five years.

2. THE LEAP AREA – An Environmental Update

2.1 INTRODUCTION

The Plan area is described in detail in the Old Bedford LEAP Consultation Report, which was published in May 1997, and in summary in the Action Plan published in April 1998. The following is therefore a brief description of key factors only, with particular reference to the year in view.

Falling mainly within Cambridgeshire, the fastest growing county in the country, the LEAP area nonetheless contains some of the most important nature conservation areas and arable land in the UK. It comprises a combination of the Ouse Washes and the Middle Level river systems (Map 1).

The Ouse Washes (32 km from Earith to Denver) were created in the 17th Century to prevent flooding of the low-lying fenland of the Middle and South Levels. The system is described in Figure 1, and pumping stations and sluices are identified in Figure 2. Lying to the west of the Ouse Washes, the Middle Level is subdivided into 39 Internal Drainage Districts, most of which are administered by the Middle Level Commissioners (MLC). Almost 70% of the Middle Level is fenland and lies below mean sea level. The Ouse Washes are now an internationally recognised site for conservation of migrant birdlife, and the Levels have some of the most productive soils in the UK for agriculture.

The climate is typical of East Anglia in that evaporation during the summer months normally exceeds rainfall, and water resources are limited. Prolonged periods of below average rainfall led to severe drought conditions between April 1995 and November 1997. In 1998 wetter weather returned, most dramatically during April when exceptionally heavy rainfall caused widespread flooding in the Anglian Region.

2.2 DEVELOPMENT AND INDUSTRY

There have been few changes to the uses, activities and pressures described in the Action Plan. However, the 1997 planning application for the redevelopment of RAF Alconbury was refused by Huntingdonshire District Council (DC), and the Council's Local Plan Review is now at the Deposit Plan stage. In East Cambridgeshire, the proposed development at Witchford is complete, as is the new sales area for Cambridge Machinery Sales at Elean Business Park in Sutton. Also on this site, the proposed straw burning power plant is now under construction.

The Royal Society for the Protection of Birds (RSPB) has proposed that the present low level restoration proposals for Needingworth Aggregate Quarry, situated very close to the LEAP area, be modified to allow for the establishment of a large wetland/reedbed. The Agency has participated in the consideration of these outline proposals, with the RSPB, Hanson Aggregates and the minerals licensing authority (Cambridgeshire County Council).

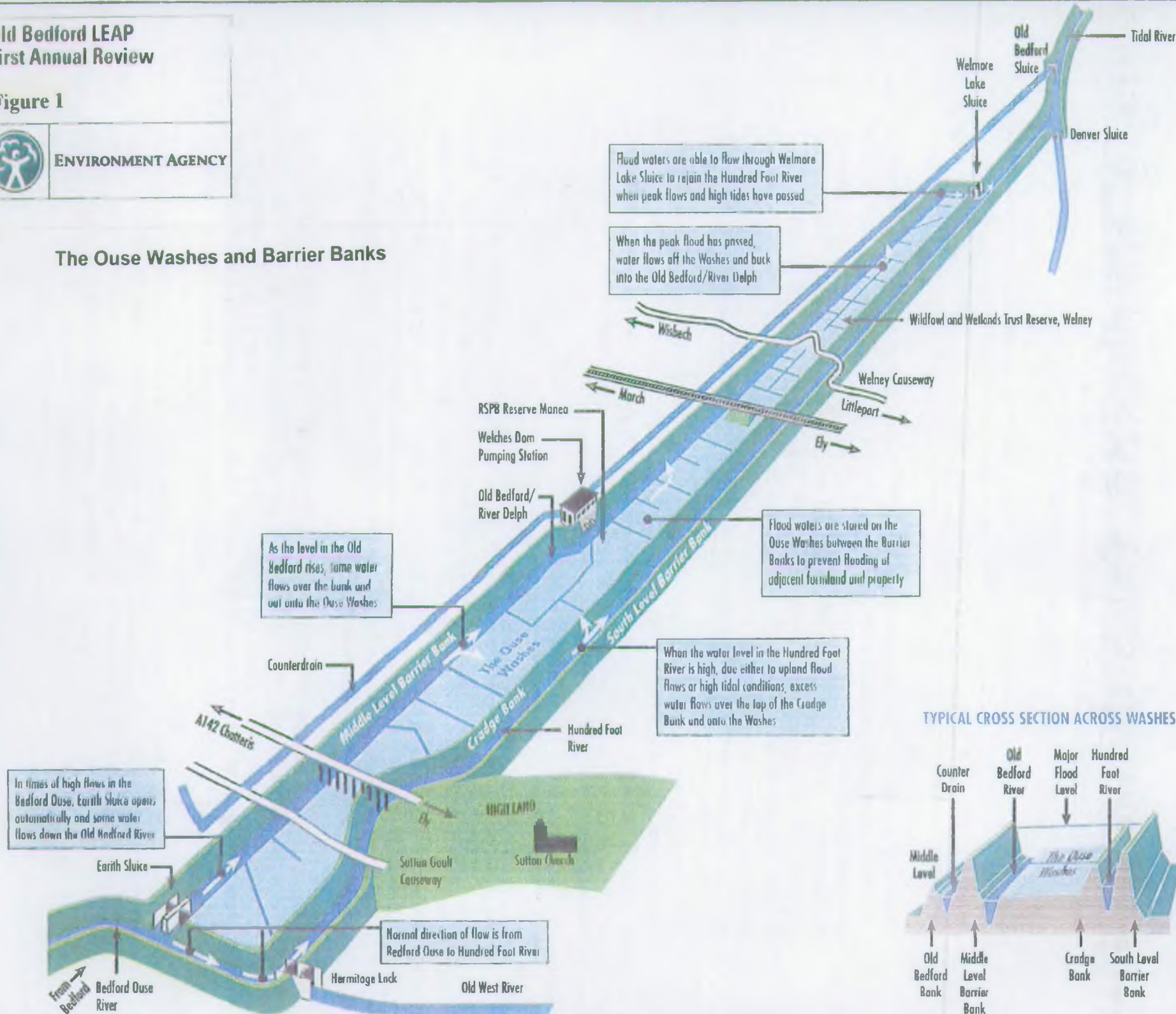
Both industry and the environment in the LEAP area will benefit from a new waste minimisation initiative. On 17 March 1999, Fenland District Council launched a waste minimisation club called 'Business for Sustainability Network'. Local businesses were well represented at the meeting, and the majority of club members are from industry within

Figure 1

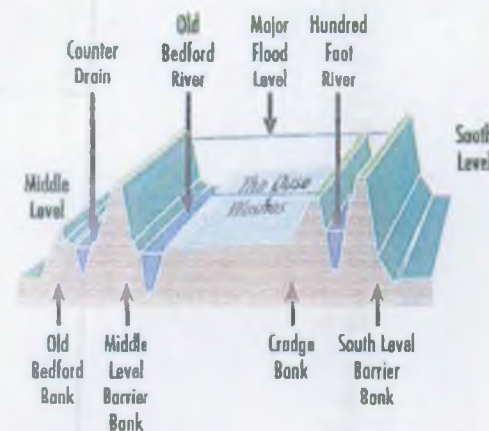


ENVIRONMENT AGENCY

The Ouse Washes and Barrier Banks



TYPICAL CROSS SECTION ACROSS WASHES



Old Bedford LEAP
First Annual Review

NOT TO SCALE

Figure 2



ENVIRONMENT AGENCY



SECTION A-A



Sluices:

- 1 Old Bedford
- 2 Welmore Lake
- 3 Welney
- 4 Horsey Lock
- 5 Welches Dam Lock
- 6 Earith
- 7 Black Sluice
- 8 Denver Sluice
- 9 Salters Lode Lock

Pumping Stations:

- 1 Upwell IDB
- 2 Manea and Welney DDC
- 3 Welches Dam
- 4 Littleport and Downham IDB
- 5 Sutton and Mepal IDB
- 6 Haddenham IDB

Flood Defence Control Structures

KEY

- Sluice
- Pumping Station

the LEAP area. Having links with both Fenland DC and Peterborough Chamber of Commerce/Training & Enterprise Council, the goal is to conserve scarce resources, reduce the cost and impact of waste disposal and encourage more efficient and clean processes.

It is planned to integrate the Business for Sustainability Network with an existing business club this summer. Once this is achieved, we will be working closely with Fenland DC to plan future seminars to keep momentum and interest high, so as to see waste minimisation in action. The Agency will be actively involved in advising and educating waste producers on the efficient use of resources, how to comply with relevant legislation and how to manage environmental impacts. We have also forged links with the East Anglian Business Environment Club, and automatic subscription will be given to members of the Business for Sustainability Network.

2.3 TRANSPORT

Of the transport activities highlighted in the Action Plan, only one has been progressed in the last year. Construction works on the A1 between Alconbury and Norman Cross were completed towards the end of 1998, when this section was upgraded to motorway status (A1M). Pollution prevention and storm-water balancing measures were incorporated into the design, to mitigate against the potential for adverse environmental effect. The system has proved effective and there have been no problems to date. However, we shall continue to monitor the situation.

2.4 WASTE TREATMENT AND DISPOSAL

Solid Waste

During the year under review, a number of complaints were received about smells emanating from the Warboys Landfill Site. The odours tend to be transient, dictated by wind speed and direction, and are often only detectable in a narrow band. The current licence for the deposit of waste at this site was issued in 1995, and modified in 1997 and 1998 to allow the site to accept a wider range of wastes. However, these wastes are subject to loading and quantity restrictions

One source of the problem was odorous wastes, such as waste paper pulp and chicken feathers, entering the site. Changes in site operation have already improved the situation. For example, a voluntary restriction has been agreed between the Agency and the site operator, so that waste paper pulp is no longer accepted.

Gases produced during decomposition of landfilled wastes give rise to unpleasant odours. Measures taken to mitigate these odours include improved covering of wastes, installation of a gas pump and flare system, and the use of deodorising sprays. Completed areas have been covered with an additional thick layer of clay to seal in the gases.

Investigations are continuing and the Agency will be amending the waste management licence for the site, to impose tighter controls in respect of odour migration. The matter has been added to Section C (Land Use and Development Pressures) of the Activity Plan as Issue 22.

Water Quality

Since publication of the Action Plan, 1997 chemical and biological data, which are used to determine the condition of watercourses, have been confirmed. Figure 3 compares 1997 data with 1992's.

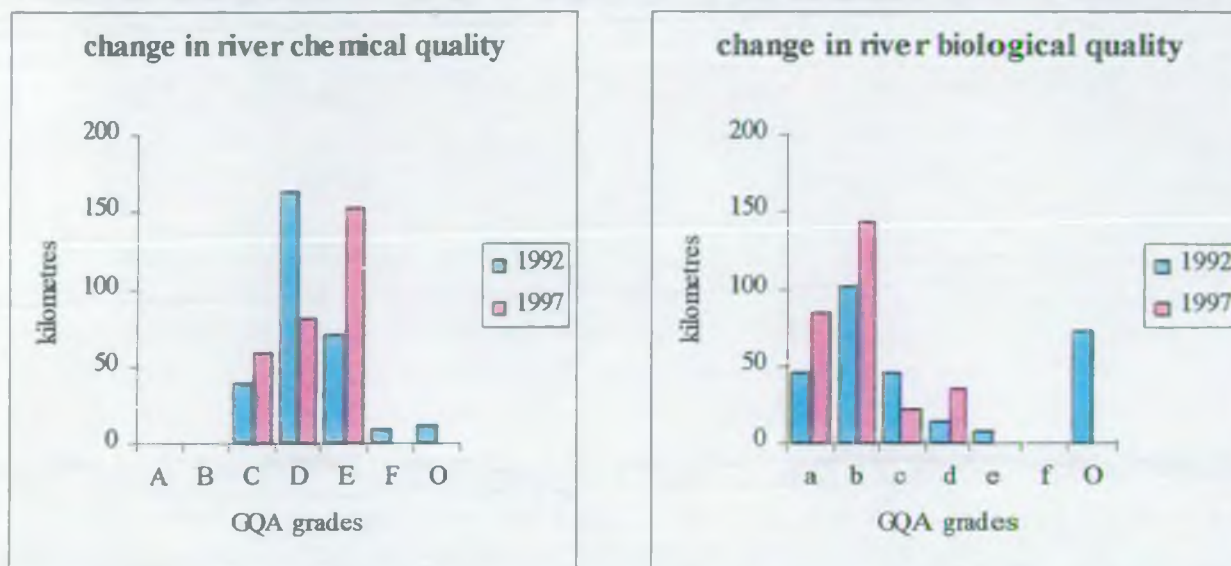


Figure 3: Five-Year Trend In River Water Quality

The General Quality Assessment (GQA) is a national scheme that caters for the different types of river throughout England and Wales. It provides an absolute measure of quality and is designed to show trends. The above graphs depict the changes in chemical and biological water quality over the five-year period. The GQA grades A to F, or a to f, indicate the following standards of water quality:

A/a	Very good
B/b	Good
C/c	Fairly Good
D/d	Fair
E/e	Poor
F/f	Bad

The GQA grade O indicates the length of river that was not classified in 1992. Since that time, these stretches have been monitored, resulting in a 10 km increase in the length of river assessed for chemical quality, and a 72.7 km increase in the length of river assessed for biological quality.

The graphs indicate that there has been a general improvement in the trend for river biological quality but a degrading of the chemical quality. As discussed in Issue 13 (see Chapter 3.4 – Activity Plans), there are localised problems with low flow and algal growth which affect the dissolved oxygen (DO) and biochemical oxygen demand (BOD) levels, resulting in lower GQA grades. These are naturally occurring events which will continue to be monitored.

In addition, consideration is being given to the initiation of a research project to investigate the high levels of dissolved salts, particularly ammonia, in naturally occurring groundwater, and their effect on the chemical quality of the rivers in the LEAP area.

2.5 RECREATION

The Ouse Washes provide a focus for recreational activities in the LEAP area; the annual influx of migrating birds attracts many bird watchers, and footpaths are used by ramblers and the general public.

Navigation

Navigation has been improved in the area during 1998/99 by the extension of Ashline Lock, on Whittlesey Dyke, which can now accommodate boats up to 80 feet long. This follows similar improvements at Stanground and Marmont Priory Locks, with the result that narrow boats can now navigate the Middle Level link between the Rivers Nene and Great Ouse.

During 1998, the tidal river between Salters Lode and the Ely Ouse at Denver was dredged three times; 777 boaters made the crossing. The siltation problem has been studied comprehensively as part of a review carried out by consultants employed by the Agency. However, latest information suggests that the extended period of high flows over the winter of 1998/99 has lowered bed levels by up to one metre at this location, by removing accumulated silt.

Siltation at the tidal doors, which form the northern entrance to the Old Bedford/Counter Drain, has also been problematical. In addition, it is not normally possible to maintain navigable water levels in the Forty Foot Drain between Welches Dam and Horsey Lock throughout the year, and this stretch of the watercourse is filled on pre-arranged weekends. Few boaters have used this navigation.

Fisheries

As mentioned in the introduction to this chapter, 1997 was the third consecutive 'drought' summer. Nevertheless, fish deaths were kept to a minimum in the Main Drains through selective weed removal and routine maintenance activities carried out by the MLC. One significant incident occurred when over 2,000 mixed coarse fish died as a result of low DO in the Old River Nene at Benwick, caused by the warm weather and the natural decay of algae. Restocking has taken place.

The Easter floods of 1998 had no effect on fisheries in the Middle Level system. However, when floodwater drained from the Ouse Washes area, we received reports that stranded fish were spawning in fields; we believe that these fish found their way back to a watercourse.

In July 1998, poor quality water draining off the Washes killed approximately 1.5 tonnes of large fish in the River Delph, downstream of Welney. Of particular concern was the loss of over 700 large bream; our routine fisheries surveys had never previously located this shoal, so it is possible that the entire spawning stock has been lost. The Agency is

seeking consent from English Nature for restocking, but the decision is likely to be delayed by discussions on water quality and weed growth (see Issue 5 in Section 3.4).

Results of fisheries surveys carried out in 1997 were mixed. The Old Bedford/Counter Drain, in 1994 a Class 'B' (good) biomass fishery, was reclassified as Class 'C' (moderate). The numbers of roach caught fell; their spawning and survival appears to be particularly poor between Mepal and Welney. Pike now represent 40% of the total biomass, which could suggest an imbalance between predator species and prey. By comparison, the Old Bedford/River Delph improved from Class 'B' to Class 'A' (excellent). 4,300 roach greater than 10 cm in length were caught near Earith, which equates to about 330 kg of fish from just over 100 m of the watercourse.

Both rivers form part of the candidate Special Area of Conservation for the spined loach. The most recent fisheries surveys did not encounter this species, probably because these fish characteristically bury themselves in the river's silty bed and are unlikely to be netted when using normal survey techniques.

All the major drain fisheries in the Middle Level System will be surveyed in 1999.

2.6 FLOOD DEFENCE

Following three drought years, widespread and exceptional rainstorms during Easter 1998 caused major flooding in the LEAP area, particularly the Ouse Washes, with levels almost as high as those of 1947. Unusually, both the Agency and the MLC asked the IDBs to stop pumping water into the Old Bedford/Counter Drain and the Middle Level main drains. This was because levels continued to rise despite both organisations pumping at full capacity to discharge water at Welches Dam and St Germans. The magnitude of this flood event proved the value of the works carried out in the 1990s, at a cost of £20,000,000, to raise and stiffen the Middle and South Level Barrier Banks. Neither was breached or overtopped.

Flood Defence staff coped well with the event and, as a result, in this LEAP area, there was only small-scale flooding from the Bury Brook at Ramsey and Broughton.

The timing and severity of the Easter flood event caused a significant delay in the draining down of the Ouse Washes to the normal summer level (0.5 m above Ordnance Datum Newlyn (aODN)). It was not until mid July 1998 that a reduction to this level was achieved.

The winter of 1998/1999 was also very wet, with constant high flows down the Hundred Foot River and the Tidal River. This has had the beneficial effect of reducing siltation in the Tidal River downstream of Denver by as much as 1.0 m in places. Consequently, in the spring of 1999 there was a considerable increase in the rate that water was drained from the Ouse Washes by gravity, via Welmore Lake Sluice. The natural fall in level was 0.4 m greater than had occurred in spring 1998, so that pumping was not required until after the level reached 0.9 m aODN, rather than at 1.3 m aODN the year before.

In an effort to ensure that floodwater is removed from the Ouse Washes at the optimum rate in future, a partnership project has been initiated. This Ouse Washes Habitat Protection and Funding Project will be managed by Keith Stonell, Area Manager (Central)

for the Environment Agency. The Project Team will comprise representatives of a number of organisations, including English Nature (EN), Royal Society for the Protection of Birds (RSPB), Wildfowl and Wetlands Trust (WWT), IDBs, Inland Waterways Association (IWA), Norfolk County Council, and the Environment Agency's Engineering, Operations and FER Sections and Finance/External Funding Manager. The aim of the project is to promote and fund works that will enable faster removal of floodwater from the Ouse Washes and thus reduce the risk of environmental damage to this Habitats Directive site.

2.7 WATER ABSTRACTION

The primary use of water in this LEAP area is spray irrigation for the production of vegetable and salad crops (55% of the total quantity licensed). To conserve the limited water supplies that were available during the recent 'drought' summers, 1995 to 1997, it was necessary to limit both the hours when spray irrigation from surface water sources could take place and the quantities that could be taken.

With the return of wetter weather, abstraction for summer spray irrigation was not restricted in 1998. During that year, 473 mm of rain was recorded at Woodwalton Fen between 1 April and 31 October (the summer irrigation season). This was significantly more than the amounts that had fallen during the same period in 1995, 1996 and 1997, which were 239 mm, 204 mm and 342 mm respectively.

A new issue for agriculture in the Middle Level is the discovery in the watercourses of the bacteria (*Ralstonia solanacearum*) which can cause potato brown rot/tomato bacterial wilt if the water is sprayed on the crops. The Ministry of Agriculture, Fisheries and Food (MAFF) is the regulatory body in this matter and is working with the MLC to eradicate the disease. The Agency has a role in respect of consenting the use of herbicides; otherwise we are advisory to MAFF. This matter has been added to Section F of the Activity Plan (Need for Monitoring and Investigation) as Issue 21 (see chapter 3.4). MAFF intend to survey the Old Bedford, Delph and New Bedford watercourses during summer 1999, to determine whether bacteria are present there also.

Another aspect that will affect all abstractors, including those using water for agriculture, is the national review of the legislation that directs how water is licensed for abstraction in this country. The Department of the Environment, Transport and the Regions, (DETR) issued a Consultation Paper entitled 'The Review of the Water Abstraction Licensing System in England and Wales' in June 1998. They received over 200 written replies and, in March 1999, they published their decisions in the document 'Taking Water Responsibly'.

Issue 4 in this LEAP refers to the possible change of legislation as an option to help control abstraction currently made using slackers (pipe and valve systems through which water is transferred between high-level and low-level watercourses). There is indication in 'Taking Water Responsibly' that slacker transfers will be subject to authorisation by the Agency. However, there may be small, localised transfers within IDB areas which, at the Agency's discretion, could continue to be managed without formal authorisation. None of these changes can take place without amendment of the relevant legislation, and discussions and decisions about which slacker abstractions will require authorisation will occur in the future.

In the meantime, we are aware that not all slacker abstraction is made to meet irrigation needs, for instance some is necessary to maintain flows in watercourses. In particular, there are natural watercourses that have been cut off from the original source by land drainage works, carried out over the last 500 years, but where water is still required.

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

In advance of AMS, we are producing National and Regional Water Resource Strategies, starting in 1999. The Anglian Region document will replace 'Water Resources in Anglia: A Sustainable Strategy for Secure Water Supplies and a Better Water Environment', which was produced in 1994. It will be published in December 2000.

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Map 2



ENVIRONMENT AGENCY



0 10km



3.1 Summary of Issues (See Map 2)

Two new issues have been identified, and these have been added to the relevant sections. They are Issues 21 and 22, printed in *italics* in the list below.

Issue 1	Need to maintain flood defence capacity.
Issue 2	Need to improve our management of flooding on the Ouse Washes.
Issue 3	Water levels cannot be maintained in the Old Bedford/Counter Drain in summer.
Issue 4	Abstraction by IDBs not controlled by licences, hence posing risk to river levels.
Issue 5	Control weed growth in the Old Bedford/Counter Drain and the Old Bedford/Delph.
Issue 6	Access to the Ouse Washes via Cradge Bank is causing serious deterioration and hence increases flood risk.

Issue 7	Support and develop candidate SACs:	i) Support the Ouse Washes cSAC ii) Support Woodwalton Fen cSAC
Issue 8	Scope for habitat protection and improvement.	

Issue 9 Tyre dump posing pollution risk.
Issue 22 *Complaints about smells emanating from Warboys Landfill Site.*

Issue 10	Improvement to sewage treatment works.
Issue 11	Adverse impact of combined sewer overflows in March town.
Issue 12	Adverse effects of eutrophication.
Issue 13	Failures to meet water quality objectives.
Issue 14	Unsewered villages – Upwell and Outwell.

Issue 15	Review and promote appropriate public access to inland waters.
Issue 16	Review the Old Bedford navigation.
Issue 17	Siltation in the Hundred Foot River and the Tidal River.

Issue 18 Lack of biodiversity data.

Issue 19 Lack of monitoring of slacker flow out of the Tidal River.

Issue 20 Lack of water quality data in the Hundred Foot River, Old Bedford River and Counter Drain.

Issue 21 Outbreak of Potato Brown Rot/Tomato Bacterial Wilt in the Middle Level.

3.2 Notable Achievements

- Woodwalton Fen cSAC – The Woodwalton Fen reedbeds are being restored under a project involving partnership between the Agency, EN and MLC (see Issue 7(ii) in Section 3.4).
- Polluting discharges at March – Anglian Water Services has successfully carried out major civil engineering works under the town. As a result, two outfalls to the River Nene (Old Course) that have suffered sewage contamination in the past are now clean, and river water quality will improve.
- Navigation in the Middle Level – With the extension of Ashline Lock, three locks have now been improved in the Middle Level, and narrow boats can navigate the whole of the Middle Level link between the Rivers Nene and Great Ouse.
- Habitat Protection – A Project Team has been established to promote and fund works that will enable faster removal of floodwater from the Ouse Washes and minimise the risk of environmental damage. Partners in the scheme include the Agency, EN, RSPB, WWT, IDBs, IWA and Norfolk County Council.
- Angling safety – In order to ensure that anglers using Agency-owned river banks in the Ouse Washes are aware of the dangers of overhead powerlines, we have undertaken a study to map their location. Warning signs will be erected on areas of bank at risk and at access points. Eastern Electricity will be contributing to the funding of this project.
- Access to fisheries – Two angling platforms, an access path and benches have been installed on the Old River Nene at March, by Fenland District Council in partnership with the Agency. This popular fishery is now accessible to less able-bodied anglers.

3.3 Disappointments

- Some of the activities identified in the Action Plan have been delayed and the timescales extended. This has been caused by the need to reprioritise workloads, partly as a result of the Easter 1998 floods. Details are given in Section 3.4 – Activity Plans.
- The discovery of *Ralstonia solanacearum* in the watercourses of the Middle Level has implications for abstractors using water for the irrigation of potatoes, tomatoes, peppers or aubergines. Host plants must be eliminated. (See Section 2.7 – Water Abstraction, and Issue 21)
- Siltation has prevented normal access for navigators into the Old Bedford. It also hindered boat users who wanted to make the tidal crossing between Salters Lode and Denver. These matters are being addressed in the Activity Plans.

3.4 Activity Plans

We recognise that environmental problems 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 tables.

The text in the tables has been developed from the Old Bedford (incorporating the Middle Level and Ouse Washes) Action Plan, and should ideally be read in conjunction with that document. It has been updated to show the progress and changes that have occurred since the Action Plan was published in April 1998.

A) Managing the Ouse Washes

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
1	Need to maintain flood defence capacity	Refurbishment of Welches Dam Pumping Station, following a detailed appraisal of the Counter Drain System.	Agency (MLC, IDB) FDm	230k	*						Although final adjustments have yet to be made, the project is almost complete.
2	Need to improve the management of flooding on the Ouse Washes It is desirable that summer flooding is limited and that the washes are drained rapidly after winter inundation. Summer flooding is undesirable because it makes it more difficult to maintain open grassland and to manage the Washes for conservation, wildfowling and grazing.	Re-construction of Welmere Lake Sluice to improve the gravity discharge capacity by 50% and seek to avoid excessive siltation.	Agency, 100 Foot Washes IDB FDm	5200k	*	*					We anticipate that the new sluice will become operational in summer 1999. The entire project is due for completion before the end of the year. It is anticipated that the increased rate of run-off from the Washes will reduce the likelihood of de-oxygenation of the Old Bedford/River Delph. Comment was made in the Action Plan about 'raising the Earith Sluice summer drawmark. As this could only be authorised by act of parliament, the matter will not be taken forward for annual review.

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
2	<i>continued</i>	Seek adoption of the Wash River Outfall Strategy. Undertake a Denver Operational Review.	Agency <i>FDm</i>	5910k	*	*	*	*	*	*	A detailed appraisal by Consultants is due to be published at the end of May 1999. The initial report considered several options, including dredging and training walls, but decided neither was sustainable. A preferred option, on technical and environmental grounds, was to narrow the channel between 5 km and 10 km downstream of Denver. However, this is not economically viable on flood defence grounds only. A multi-partner project team (see Chapter 2.6) will be reviewing options and sources of funding, so as to achieve an agreed way forward.
		Carry out minor dredging on the Hundred Foot River to provide extra channel capacity.	Agency <i>FDm</i>	200k	*	*					Dredging is being carried out in the Hundred Foot River between Welmore and the Wildfowl and Wetlands Trust footbridge at Welney. This is part of the Agency's rolling programme for dredging works.
		Divert 5 m ³ /s of water into the Old West (to relieve pressure on Old Bedford) by undertaking engineering works near Hermitage Lock. It is envisaged that this will open before Earith Sluice and so reduce the frequency of flooding of the Ouse Washes.	Agency <i>FDm</i>	800k			*	*			This matter is being considered as part of the Ouse Washes Summer Flooding Report, commissioned by the Agency and due for publication later this year.
3	Water levels cannot be maintained in the Old Bedford/ Counter Drain in summer	Review water resources management rules for transfer into the Old Bedford/ Counter Drain.	Agency <i>WRm</i>	R			*	*			This issue was evaluated in the Ouse Washes Water Level Management Plan (WLMP), which was published in June 1998. This element of the Plan has been delayed by our need to complete other higher priority WLMPs. Therefore, the timescale for this activity has been extended.

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
4	Abstraction by IDBs not controlled by licences, hence posing a risk to river levels	Raise inlet levels of slackers (in Counter Drain voluntarily) to prevent abstraction when river levels are too low to sustain it.	Agency/IDBs <i>WRm</i>	R							New cill levels have been incorporated within the main inlets from the river. Discussions continue with IDBs about management of water levels and abstraction within IDB areas, and they are installing gauge boards.
		Adopt cessation levels on slackers to prevent abstraction when river levels are too low.	Agency/IDBs <i>WRm</i>	R	*	*	*	*			
		Encourage a change in the law so that licences will need to be issued for slacker abstraction so that we can determine abstraction quantities and enforce conditions, as necessary.	DETR, Agency <i>WRm</i>	R	*	*					Ongoing. The period of consultation on the government's national review of licensing legislation ended in August 1998. The DETR published their proposals in a document entitled 'Taking Water Responsibly' in March 1999. This document indicates that slacker transfers will be subject to authorisation by the Agency. However, there may be small, localised transfers within IDB areas which, at the Agency's discretion, could continue to be managed without formal authorisation.
5	Control weed growth in the Old Bedford/Counter Drain and Old Bedford/Delph This is a necessary activity, for both flood defence and navigation. Consultation identified the need to review weed cutting timing and arrangements. Consensus between EN and the Agency through liaison with others is key.	Conduct a review of weed cutting arrangements with English Nature towards identifying best practice and emergency planning.	Agency, English Nature (EN), Ouse Washes Management Strategy Group <i>FDm/FERm</i>	R							The review has taken place. The following was agreed. 1) All factors that influence aquatic plant and algae growth must be taken into account when considering maintenance operations and water management. 2) Early weed cutting is not practicable because spined loach spawn between April and June. EN will consider the need for cutting heavy growth after 1 July, as other factors such as land drainage, navigation and fisheries need to be taken into account. 3) Weedraking in the Old Bedford, downstream of Welney, can be undertaken 1 September to 30 November. EN has requested a study into nutritional inputs and eutrophication in and around the Washes; the costs and benefits are being investigated.
		Assess and employ the most effective methods, eg cut by weed boat, use of weed rake machine, cott control with barley straw, etc.	Agency <i>FDm/FERm</i>	56K	*	*	*	*	*	*	

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
6	Access to the Ouse Washes via the Cradge Bank is causing serious deterioration of the bank and hence increases flood risk Consultation responses supported the Agency taking a tougher line to ensure enforcement of the management guidelines and how vegetation is managed.	Undertake continued liaison with the Management Strategy Group to seek ways to resolve the issue satisfactorily.	Agency, Ouse Washes Management Strategy Group <i>FDm</i>	R	*	*	*	*	*	*	In the newsletter issued by EN, the Management Strategy Group has published a reminder to landowners to abide by the agreed rules. Signs have yet to be erected on the gates at Mepal and Welney to remind landowners. The Agency has undertaken an R&D project to assess the Recreational Use of Agency-Owned River and Flood Banks. The report was published mid-April 1999, and the recommendations will be assessed with a view to benefitting the management of access to the Cradge Bank and similar areas of Agency land. As noted in the Action Plan, future works may have to consider any recommendations made as part of the inspection of the Ouse Washes under the Reservoirs Act 1975.

B) Biodiversity and Nature Conservation

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
7	Support and develop candidate SACs in the LEAP area	Designation of SAC sites and identification of conservation objectives.	European Commission, EN <i>FERm</i>	N/K	*	*					SAC candidates are being considered by the European Commission. The final designation process commenced in 1998. EN will have identified conservation objectives for the SACs by the end of 1999.
		Carry out a review of all consents and authorisations that may affect candidate SACs, as required under the Habitats Directive.	All "competent authorities", eg Agency, EN <i>FERm WRm EPm</i>	R	*	*	*	*	*	*	The Agency has initiated the review of consents and authorisations that may affect SACs and SPAs, as required under the Habitats Directive. A multifunctional working group (comprising Agency and English Nature staff) has produced a timetable up to 2004, including identification of 'priority' sites. Agency resource requirements for the review remain of concern.
7(i)		Support the Ouse Washes cSAC	Agency, EN, RSPB, WWT, Landowners <i>FERm</i>	R	*	*	*	*	*	*	The Ouse Washes consents review will be expanded to consider fishing, land drainage and flood defence activities (which include weed cutting and channel maintenance as detailed in Issue 5). The Agency currently leases the banks for angling and the eel fishing rights in the watercourses. The status of spined loach and other minor species designated by the EC will be monitored in the watercourses of the Ouse Washes and rivers throughout the LEAP area as part of our fisheries survey programme. Impacts on Agency activities are under review, as are the recommendations proposed in the ECON spined loach report.

C) Land Use and Development Pressures

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
9	Tyre dump posing pollution risk	Investigate interim measures such as placing the tyres in cells with fire breaks and access and placing bunds on the perimeter to protect local watercourses to restrict the impact of fire.	Agency, local authorities <i>EPRm / EPm</i>	10k		*	*	*			Delayed. Although no action has been taken on this matter in 1998/1999, work will commence in 1999/2000.

NEW ISSUE:

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Comments/Progress
22	Complaints about smells emanating from Warboys Landfill Site	Amend site licence to introduce legal control of odours.	Agency, Site Operator <i>EPRm/EPm</i>	R	*	*					The site has been licensed since 1995. Categories of waste authorised for disposal were amended in 1997 and 1998. Odours may be produced by odorous wastes entering the site and/or decomposition of emplaced wastes. They tend to be transient and dependent on wind speed and direction. A number of measures have already been taken to mitigate the odours. (See section 2.4 – Waste Treatment and Disposal.) Modifications to the site licence to improve odour control will be completed by late summer 1999.
		Investigate methods of odour control.	Agency, District Council, Site Operator <i>EPRm/EPm</i>	N/K							Action to date is described in section 2.4 of this Annual Review. Investigations are continuing. Costs and timescales have not yet been determined.

D) Impact of Sewage Treatment on Water Quality

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
10	Improvement to sewage treatment works	Works on Somersham STW to reduce ammonia levels in the Cranbrook drain.	AWS	600							Improvements to Somersham STW were completed December 1997.
		Works on Whittlesey STW to improve conditions in the Whittlesey Dyke.	AWS	N/K		*	*	*	*	*	Cost/benefit analysis has been undertaken for Whittlesey STW. There will be improvements to Whittlesey, Sawtry, Ramsey, Upwood, Manea (Town Lots) and March STWs to achieve River Needs Consent standards. All have had benefit assessments carried out. Phosphate removal will be provided at Sawtry STW, as it has been identified under the Habitats Directive as a principal source of phosphate entering the Great Raveley Drain, which feeds Woodwalton Fen SSSI. The above activities form part of AWS' AMP3 programme, for which funding has been agreed, and are timetabled for 2000-2005.
11	Adverse impact of combined sewer outfalls (CSOs) in March town. Eight CSOs in March have been identified as unsatisfactory and are included in the programme for improvements agreed with AWS and OFWAT by March 2000.	Completion of work to remove two of the polluted discharges.	AWS	2M	*						Completed. Hythe sewer has been reconstructed and two polluting discharges removed. This should result in improved water quality in the Old River Nene; confirmation should be forthcoming when further chemical and biological monitoring data becomes available.
		Identify and rectify any other problem storm overflows to the river.	Agency, AWS	2M	*	*	*				Ongoing. The programme to reduce the overflow frequency of storm overflows in other parts of March is making progress. The Agency is currently in discussion with Anglian Water, who have submitted draft consent applications for these discharges.

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
14	Unsewered villages: Upwell and Outwell	Upwell and Outwell have been identified as requiring a sewerage system under UWWTD by 2005.	AWS, Agency, Local Council	8M	*	*	*	*	*	*	The appraisal for Upwell and Outwell is complete. It is confirmed that both villages will have a sewerage system by 2005. As reported in the Action Plan, other unsewered villages may have a new sewerage system provided by the water company under Section 101A of the Water Industry Act 1991, as amended by Schedule 22 of the Environment Act 1995. This states that the water companies have a duty to provide a public sewer where certain conditions are satisfied. The Agency, through its planning liaison activity, continues to promote the provision of sewerage for all new developments.

EPm

E) Enjoyment of the Waterways

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
15	Review and promote appropriate public access to inland waters in conjunction with other organisations	Opportunities for walking and other water-based recreational activities (including angling) should be investigated in-line with agreed recreation/visitor and tourist strategies. To ensure that the needs of less able-bodied persons are also considered. Initiatives in the Ouse Washes should not conflict with existing uses and the conservation objectives of the area.	Agency collaboration with county and district councils, MLC, wildlife trusts and other external parties.	30k	*	*	*				In 1998/99 we have undertaken a project with Fenland District Council to install two angling platforms for the less abled on the River Old Nene in March. Adjacent to the town's recreation area, this is an extremely popular winter fishery. Work included an access path and benches. European 5b funding financed about 45% of the total cost (£19k). The Agency contributed £5k. The refurbishment of Ashline Lock has also attracted a European grant. The work was undertaken by the MLC. The Agency has provided £5k to the partnership. We attend quarterly Countryside Access Forums organised by Cambs County Council. This LEAP area is in the remit of the North Cambs group. A number of initiatives are of interest to the Agency. Our involvement in these multi-partner projects includes providing technical advice, improving access and usage on our land, or possibly financial support. Projects include the Fen Access Project, the Fen Waterways Regeneration Scheme, and potential for improvements for visitors at the Denver Complex.

FERm

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
17	Siltation in the Hundred Foot River and the Tidal River (See also Issue 2: Managing the Ouse Washes). The build up of silt downstream of the plan area, which is exacerbated by low flows, has resulted in problems in the operation of the Old Bedford Sluice. Navigation is difficult between Earith and Denver and especially the Denver to Salters Lode Lock link.	A number of amelioration activities are being instigated:	Agency (in consultation)		*						This item is covered as part of Issue 2. As previously noted, the Consultants' detailed appraisal of the initial report is awaited.
		a) complete the investigation into the operation of the Denver Sluice complex.									
		b) routine local dredging of silt banks in front of Salters Lode Lock and Old Bedford Sluice.		4k each time	*	*	*	*	*	*	Ongoing. We have allocated approx £50k per annum for dredging the tidal river between Denver Lock and Salters Lode Lock, to retain the link for boat passage.
		c) the rebuilding of Welmore Lake Sluice									See Issue 2 above.
			FERm/ FDm								

F) Need for Monitoring and Investigation

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Progress
18	Lack of biodiversity data There is currently a shortage of detailed conservation information on the watercourses of the Middle Level system. A review will help to target future resources.	Compile quality data on the Area's flora and fauna by the collaboration of interested parties. The use and effectiveness of the proposed biological records centre in Cambridgeshire should be assessed.	MLC Conservation Group Agency, EN, Wildlife Trust, Local Authorities <i>FERm</i>	R	*	*	*	*	*	*	Ongoing. the Agency is a member of the Cambridgeshire Biodiversity Steering Group, which recently funded a consultant's report into the feasibility of setting up a Biological Records Centre for the county. The Steering Group is now considering the recommendations in the report, to determine the best options for development.
19	Lack of information on slacker flows out of the Tidal River This information will allow us to determine a water balance for the system and hence help us make decisions on water resources licensing.	Assess the possibility of monitoring slacker flows	Agency, IDB, MLC <i>WRm</i>	10-20k		*	*				Delayed. It is important that we fully understand the water demands for this area, and a feasibility study is still required before we can programme monitoring. The start has been delayed by our need to complete other high priority WLMPs and work arising from the Easter 1998 floods. The timescale for this activity has therefore been extended.
20	Lack of water quality data for the Hundred Foot River, Old Bedford and Counter Drain	Carry out feasibility studies for the installation of water quality monitoring stations at Welney for the Hundred Foot River and at Welches Dam for the Old Bedford/Counter Drain.	Agency <i>EPm</i>	80k		*				*	It has not proved feasible to install multi-parameter monitoring stations. However, conductivity monitors have been installed at Welney and Earith on the Hundred Foot River. Dissolved oxygen monitors, with links to the Region's telemetry network, should be installed on the Old Bedford/River Delph at Welney and Welmore Lake within the next nine months.

NEW ISSUE:

No	Issue	Activity	Responsibility	Cost (£)	98/99	99/00	00/01	01/02	02/03	Future	Comments
21	The bacteria which causes Potato Brown Rot/Tomato Bacterial Wilt has been identified in the Middle Level	Removal of host plant <i>solanum dulcamara</i> (Woody Nightshade), where this is growing with its roots in a watercourse, by controlled spraying of glyphosate.	MAFF, MLC	-		*					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 and MLC. Where necessary, spraying of Woody Nightshade will commence in May. Further surveys will be carried out this summer, on the Old Bedford, River Delph and New Bedford. Consent will also be required from EN if spraying is needed in the Ouse Washes.

APPENDIX 1: WORK CARRIED OUT ROUTINELY BY THE ENVIRONMENT AGENCY

The Environment Agency has a number of roles and responsibilities, which it fulfils to protect and improve the environment. These include:

Water Quality:

- consenting to and charging for discharges to rivers
- responding to pollution incidents
- prosecuting polluters
- sampling water quality
- carrying out biological and bacteriological surveys
- setting water quality targets
- protecting groundwater quality

Flood Defence:

- maintaining free passage of water by dredging, bank trimming and rubbish clearance
- identifying and constructing flood defence works
- forecasting and warning of flood situations

Water Resources:

- measuring rainfall, river flows and groundwater resources
- licensing water abstractions
- promoting water efficiency and conservation measures

Fisheries, Ecology and Recreation:

- surveying the health and numbers of fish populations
- rescuing fish in emergency situations
- regulating fisheries licences
- protecting and enhancing natural riverine habitats, including banks and floodplains
- promoting public access to rivers and the general enjoyment of the riverside
- Navigation Authority for the day-to-day operation and management of the Great Ouse system

Planning:

- responding to planning application consultations
- promoting policies to protect and enhance the water environment in development plans
- ensuring that all development in or near rivers protects and enhances the water environment, by issuing Land Drainage Consents
- producing LEAPs to integrate the Environment Agency's work with activities being undertaken by other organisations

Integrated Pollution Control:

- regulating air quality by operating Integrated Pollution Control (IPC) for certain industrial processes
- authorising prescribed processes and ensuring operators comply with the pollution prevention and control standards laid down
- making appropriate checks to ensure IPC authorisations are being complied with, investigating any complaints and attending to serious pollution events
- regulating the holding, use and disposal of radioactive substances

Waste Regulation:

- licensing waste management activities through the imposition of appropriate conditions
- supervision of licensed activities and the operation of enforcement procedures
- regulating and monitoring the movement of Special Wastes, ie those that are considered dangerous to life and in need of cradle to grave monitoring
- the Registration of Waste Carriers, Waste Brokers and activities exempt from licensing
- collecting information about waste arisings, treatment and disposals to assist local authorities plan for future waste management in their areas
- promotion of Duty of Care

General:

- promoting rivers and valuable natural assets
- making information available through the Environment Agency's Public Registers
- monitoring and enforcement action to ensure that all the above are implemented and complied with

APPENDIX 2: ABBREVIATIONS

AEG	Area Environment Group
Agency	Environment Agency
AMP	Asset Management Plan
aODN	above Ordnance Datum Newlyn
AWS	Anglian Water Services
BOD	Biochemical Oxygen Demand
cm	Centimetre
CSO	Combined Sewer Outfall
DC	District Council
DDC	District Drainage Commissioners
DETR	Department of Environment, Transport and the Regions
DO	Dissolved Oxygen
EC	European Community
EN	English Nature
EPm	Environment Planning Manager
EPRm	Environment Protection Manager
FDm	Flood Defence Manager
FERm	Fisheries, Ecology and Recreation Manager
GQA	General Quality Assessment
IDB	Internal Drainage Board
IPC	Integrated Pollution Control
IWA	Inland Waterways Association
kg	kilogram
km	kilometre
LEAP	Local Environment Agency Plan
m	metre
m ³ /s	cubic metres per second
MAFF	Ministry of Agriculture, Fisheries and Food
MLC	Middle Level Commissioners
OFWAT	Office of Water Services
PE	Population Equivalent
R	Revenue (cost)
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation (c – candidate)
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
UWWTD	Urban Wastewater Treatment Directive
WLMP	Water Level Management Plan
WRm	Water Resources Manager
WWT	Wildfowl and Wetlands Trust

Note: A full glossary is provided in the Action Plan.

APPENDIX 3: AEG SUB-GROUP AND PROJECT TEAM MEMBERSHIP

Representatives of the Great Ouse Area Environment Group (AEG)

Colin Clare (Chairman of AEG)

Charles Bootle

Geoff Cave

Ian Garner

Richard Hall

Gary Mortimer

Michael Tassell

Project Team

Nigel Fawthrop	...	Area Customer Services Manager (Project Executive)
Jackie Sprinks	...	LEAPs Officer (Project Coordinator)
Julie Barker	...	Resource Planning Engineer - Water Resources
Neville Bussingham		Flood Defence Engineer
Roger Handford	...	Team Leader – Fisheries and Recreation
Clive Hughes	...	Environment Protection Officer
Pauline Jones	...	Tactical Planning Officer – Environment Planning
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