

3696

EA ANGLIAN LEAPS - BOX 4



# local environment agency plan

## NORTH NORFOLK

### ACTION PLAN

MARCH 1997



ENVIRONMENT  
AGENCY

## WATER QUALITY

Compliance with River Ecosystem targets (km) for the three years to September 1996.

	RE1	RE2
Total Length	31	42.5
Pass	9	31.5
Marginal Failure	15.5	3
Significant Failure	6.5	8

Currently there are no target grades RE3 - RE5 for the rivers within this Plan area.

## INTEGRATED POLLUTION CONTROL

There are currently four Integrated Pollution Control authorisations for the gas processing terminals at Bacton.

## WASTE MANAGEMENT

One major landfill site at Edgefield (34,000 tonnes per annum).

## FLOOD DEFENCE

Length of Designated Main River

Fluvial 75 km Tidal 18 km

Length of Environment Agency maintained sea defences 41 km

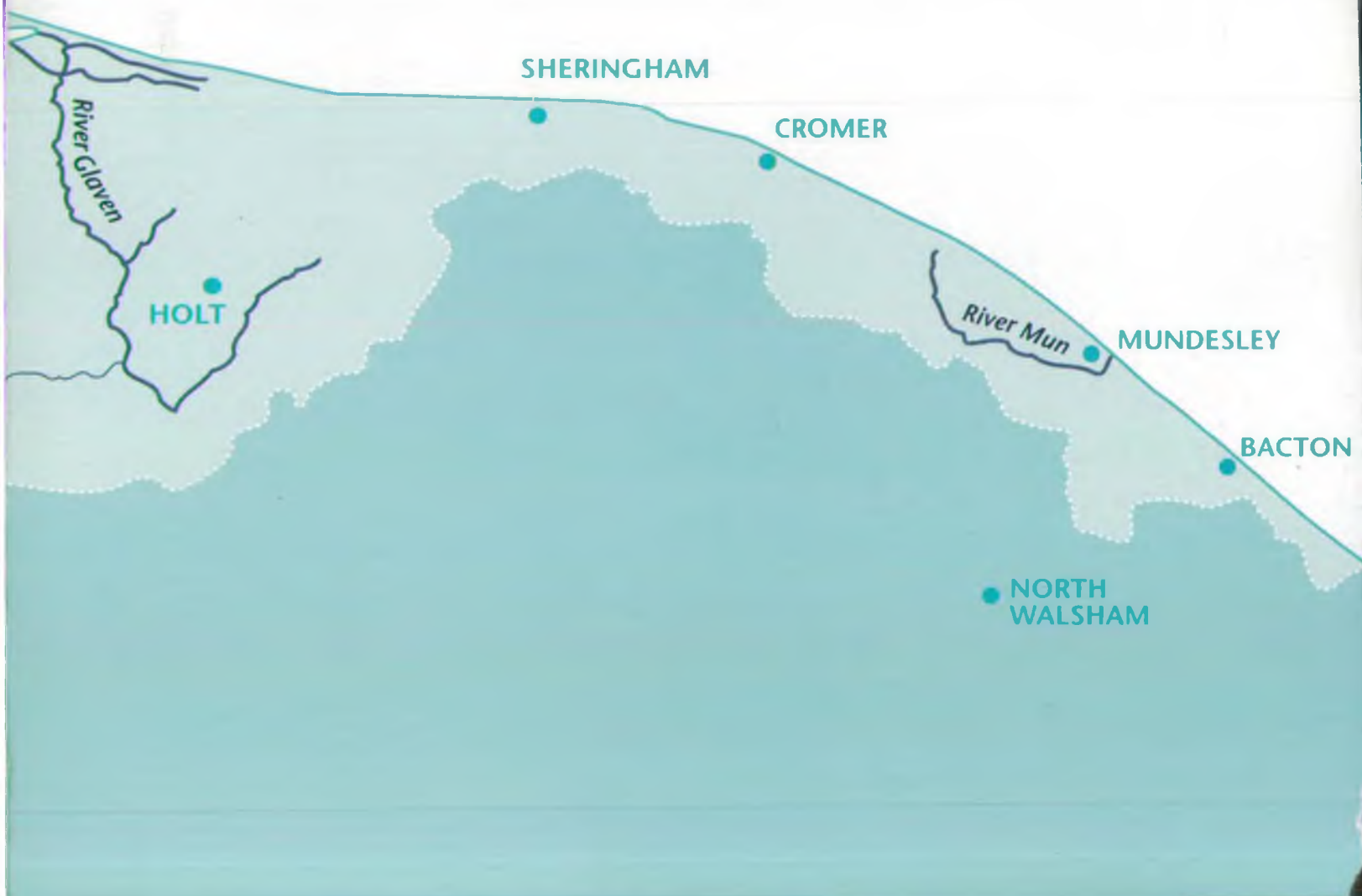
## CONSERVATION

Numbers of:

SSSIs	24
NNRs	3
Ramsar Sites	1
SPAs	2
candidate SACs	3
CWSs	87
Scheduled Ancient Monuments	39

## NAVIGATION

The Environment Agency has no statutory Navigation responsibility within this Plan area.





## EXECUTIVE SUMMARY

This Action Plan provides a blueprint for the future of this important Plan area within the county of Norfolk. The Environment Agency, in partnership with relevant organisations, will use this Plan to ensure that improvements to the local environment are achieved and that good progress is made towards our vision.

Investigations of the coastal flood defences within the Plan area have been identified as part of our Long Term Plan. The capital schemes proposed within the next five years include studies of the coastal defences at Wells, Holme and Salthouse. The Shoreline Management Plan has established a strategy for the future management of this sensitive stretch of coastline.

The water resources within the catchment are also considered. They are of concern to us at the moment due to the recent drought conditions and the subsequent pressure on rivers, wetlands and groundwaters. Issues identified in this Action Plan include the perceived impact on river flows due to licensed abstractions and water resource management around wetlands and conservation areas. The former issue is being investigated by the Environment Agency and a model is being developed for the River Burn. With regard to water resources and wetland protection the Environment Agency is continuing its monitoring of four key sites as part of the Anglian Region's Wetland Monitoring Programme, and we are currently developing our abstraction licensing methodology to protect wetlands. Applications to abstract water will be considered where the resources are not, at present, fully committed, although for areas of particular concern the applicant will be required to carry out a detailed environmental assessment for consideration in support of an application.

Of particular note are the issues related to bacteriological quality in the North Norfolk estuaries. To address the concerns in respect of Blakeney Harbour, Anglian Water Services have agreed to install ultra-violet treatment at Cley sewage treatment works. We shall continue to monitor the shellfish in this area to determine long-term water quality trends. In addition, North Norfolk District Council are investigating the feasibility of imposing bylaws to control discharges of sewage from boats within the harbour.

We have identified that habitat diversity within rivers, their floodplains and headwaters needs to be assessed and river and coastal habitat enhancement schemes implemented, where appropriate, whilst having due regard to current flood defence needs. We will seek to incorporate habitat restoration projects into the flood defence maintenance programme as opportunities arise. With respect to the east coast salmonid fishery, we will continue to monitor the netting of sea trout along the North Norfolk coast to identify unlawful activities, and our monitoring frequency will increase.

The existing North Sea gas processing facilities at Bacton are regulated by us under Integrated Pollution Control. These are required, as a condition of authorisation, to seek and implement improvements towards meeting new plant standards considered to be best available techniques not entailing excessive costs (BATNEEC) aimed at reducing the environmental impact arising from their activities. Any application for new processes will have to take into account forthcoming legislation regarding Air Quality Standards as part of a supporting environmental impact assessment.

The Activity Plan table in Section 4.0 forms an integral part of this Action Plan and establishes a timetable of actions to resolve the catchment's environmental issues.

ENVIRONMENT AGENCY



038300

## KEY DETAILS

### GENERAL

Land Area	522 km <sup>2</sup>
Population	24,967 (mid 1993)

### MAIN TOWNS AND POPULATIONS

Hunstanton	4,900
Wells-next-the-Sea	2,455
Sheringham	6,345
Cromer	7,400
Holt	3,475

### ADMINISTRATIVE DETAILS

County Council	Norfolk
Borough/District Councils	Kings Lynn & West Norfolk North Norfolk
Environment Agency	Anglian Region Eastern Area
Water Utilities	Anglian Water Services (AWS)

Sewage Treatment Works	AWS:	20
	Private:	5
		(>10m <sup>3</sup> /day)

Significant Sewage Works	AWS:	10
		(>250 people)

Internal Drainage Boards	North Norfolk IDB
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Flood Defence Committees	Norfolk & Suffolk Flood Defence Committee
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### WATER RESOURCES

#### Public Water Supply Abstractions:

There are four licensed Public Water Supply abstractions at: Wighton, Houghton St. Giles, Glandford, Sheringham and Mundesley (the latter two sites being under one licence).





## VISION

The Environment Agency's vision is to maintain a better environment in England and Wales for present and future generations. We will protect and improve the environment as a whole by effective regulation, by our own actions and by working with others. This vision will be achieved on a local scale by promoting Sustainable Development and working in partnership to implement actions that are of real benefit to the local environment.

The North Norfolk Plan area is a predominantly rural catchment with a small population. However, the population fluctuates seasonally due to the increased demands of tourism during the summer months. The coastal fringe is susceptible to flooding and the small rivers are vulnerable to environmental pressures. The majority of the low-lying coastal land is of national and international importance in terms of nature and landscape conservation, which is reflected in the number of conservation designations.

Our challenge is to ensure the correct balance is struck between the many uses and activities within the catchment and the protection of the environment. This will be achieved by implementing the varied pollution prevention and control legislation to ensure that the waste materials that enter the mediums of land, air and water (both surface and groundwaters) are minimised. At the same time, water resources will be protected, appropriate and effective flood defences will be provided and opportunities to improve recreation and conservation will be actively sought.

Over the next ten years, our prime aims for the North Norfolk Plan area are to:

- seek opportunities to improve the conservation and fisheries value of the Plan area particularly with respect to protecting and enhancing wetland and coastal features;
- manage water resources to achieve the proper balance between the needs of the environment and those of the abstractors and other users;
- provide effective and sustainable flood defences, and where possible raise protective standards, to maintain the integrity of the catchments coastal fringe and freshwater rivers, through the implementation of the North Norfolk Shoreline Management Plan (Snettisham to Sheringham) and through our maintenance programme;
- maintain and improve water quality, particularly where water quality targets are not being achieved;
- support Local Authorities over the management of local air quality; and to,
- implement the National Waste Strategy and seek partnerships to encourage the reduction, re-use and recovery of waste in preference to disposal.

We seek to reconcile the conflicting demands on the North Norfolk environment and target resources where they are most needed. It is through establishing strong links with local communities, working together with agriculture, conservation bodies and industry, and increasing public awareness of the need to protect our environment, that this vision will become reality.

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## 1.0 INTRODUCTION

### 1.1 THE ENVIRONMENT AGENCY

The Environment Agency is one of the most powerful environmental regulators in Europe. We exist to provide high quality environmental protection and improvement. This is achieved by an emphasis on prevention, education and vigorous enforcement wherever necessary. Our overall aim of protecting and enhancing the whole environment contributes to the world-wide environmental goal of Sustainable Development, which has been defined as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

The Environment Agency's corporate aims are to:

- **achieve significant and continuous improvement in the quality of air, land and water, actively encouraging the conservation of natural resources, flora and fauna;**
- **maximise the benefits of integrated pollution control and integrated river basin management;**
- **provide effective defence and timely warning systems for people and property against flooding from rivers and the sea;**
- **achieve significant reductions in waste through minimisation, re-use and recycling and to improve standards of disposal;**
- **manage water resources to achieve the proper balance between the needs of the environment and those of abstractors and other water users;**
- **secure, with others, the remediation of contaminated land;**
- **improve and develop salmon and freshwater fisheries;**
- **conserve and enhance inland and coastal waters and their use for recreation;**
- **maintain and improve non-marine navigation;**
- **develop a better informed public, through open debate, the provision of soundly based information and rigorous research; and,**
- **set priorities and propose solutions that do not impose excessive costs on society.**

### 1.2 THE LOCAL ENVIRONMENT AGENCY PLAN PROCESS

The second of our corporate aims sets out our intention to maximise the benefits of integrated river basin management. Local Environment Agency Plans (LEAPs) are the mechanism to achieve this on a local scale. The LEAP process is a forward planning process which builds on Catchment Management Plans, developed by the former National Rivers Authority (NRA). We have taken the principle of Catchment Management Plans and developed LEAPs on a river catchment basis throughout England and Wales.

Local Environment Agency Plans integrate planning initiatives relevant to the Environment Agency's responsibilities within the geographical boundaries of a catchment. We take a lead role in Shoreline Management Plans and Water Level Management Plans whilst also working closely with external organisations on developing plans such as Structure, Local and Estuary Management Plans. All of these inform and are influenced by the development of a particular LEAP.

The Local Environment Agency Planning process within the Environment Agency includes the production of a range of documents; a Consultation Report, a Statement of Consultation and an annually reviewed Action Plan. The Consultation Report describes a vision for each catchment, identifies issues and acts as a focus for consultation between us and other partners. Following consultation, the Statement of Consultation document identifies the main views expressed by all the consultees and our response to those views. Prior to the publication of this Action Plan the Statement of Consultation for the North Norfolk LEAP was circulated to all who had submitted formal responses.

This Action Plan now forms the basis for improvements to the environment, primarily the water environment, over a timescale of five years, from March 1997 to April 2002.

Progress will be reviewed every twelve months and further consultation will allow the development of new objectives. Our Norfolk & Suffolk Area Environment Group (AEG) will assist in the process of consultation and in the development of partnerships across the whole array of Environment Agency responsibilities.

The North Norfolk Plan area is bordered by two other Environment Agency Plan areas, namely for the North-West Norfolk and the Yare catchments. The former NRA prepared Catchment Management Plans for both these areas and these will be re-written as LEAPs within the next three years.

Your opinions and suggestions are welcomed, and they should be addressed to the Area Planning & Customer Services Manager at the address given on page 25.

## 1.0 INTRODUCTION

### 1.3 THE WORK OF THE ENVIRONMENT AGENCY

We take a much wider view of environmental regulation than was possible for our predecessors, though remaining an independent, impartial and firm regulator in their best traditions.

In England and Wales we have responsibilities for:

- regulating over 2000 industrial processes with the greatest polluting potential, using the best available techniques not entailing excessive cost (BATNEEC) to prevent or minimise pollution;
- advising the Secretary of State for the Environment on the Government's National Air Strategy, and providing guidance to Local Authorities on their Local Air Quality Management Plans;
- regulating the disposal of radioactive waste at more than 8000 sites, including nuclear sites, the keeping and use of radioactive material and the accumulation of radioactive waste at non-nuclear sites only;
- regulating the treatment and disposal of controlled waste, involving 8000 waste management sites and some 70,000 carriers so as to prevent pollution or harm to human health;
- implementing the Government's National Waste Management Strategy for England and Wales in its Waste Regulation Work;
- preserving and improving the quality of rivers, estuaries and coastal waters through its pollution control powers, including 100,000 water discharge consents and regulation of more than 60,000 sewage treatment works;
- action to conserve, redistribute and augment to secure proper use of water resources, including 50,000 licensed water abstractions;
- supervising all flood defence matters, involving over 43,000 kilometres of defence works;
- maintenance and improvement of salmon, trout, freshwater and eel fisheries, including the issue of some 1,000,000 angling licences;
- conserving the water environment, including areas of outstanding natural beauty or environmental sensitivity extending to nearly four million hectares, and promoting its use for recreation where appropriate;
- maintaining and improving non-marine navigation, including licensing of some 40,000 boats;
- providing independent and authoritative views on a wide range of environmental issues which may involve analysis and comment beyond the Environment Agency's specific regulatory remit; and,
- liaison with international counterparts and governments, particularly within the European Union, to help develop consistent environmental policies and action world-wide.



## 2.0 THE NORTH NORFOLK PLAN AREA

### 2.1 CHARACTERISTICS OF THE CATCHMENT

This rural and predominantly agricultural catchment comprises a relatively narrow strip of land along the North Norfolk coast. The freshwater rivers are the Hun, Burn, Stiffkey, Glaven and Mun, together with their tributaries which drain into the outer Wash and the North Sea. These Main River channels generally pass through agricultural land, predominantly pastoral, before entering the floodplain of the river valleys. This floodplain is an essential part of the fluvial flood protection regime.

The North Norfolk coastal area, much of which remains in its natural state, now constitutes one of the largest expanses of undeveloped coastal habitat of its type in Europe. The habitats of the coast consist primarily of intertidal sands and muds, saltmarshes, shingle banks and sand dunes, with extensive areas of brackish lagoons, reedbeds and grazing marshes either behind seawalls or natural sea defences. It is recognised as one of the most outstanding areas for wildlife and natural features in England. The diversity of habitats, the associated plant communities and the breeding and wintering bird populations are unparalleled in Britain and are also of international importance. Coastal wetlands are fed by numerous springs, which in turn feed the marshes. Protecting these water resources and coastal habitats is an important function of the Environment Agency.

The recreational and amenity potential of the North Norfolk coast has long been recognised and tourism is a major industry. The vast expanse and variety of coastal habitats, the rural and unspoilt hinterland and the small river valleys form a diverse and valuable landscape. As such the coastal strip has been designated an Area of Outstanding Natural Beauty and is part of the Heritage Coast. Tourism plays a major role in the catchment and influences many aspects of the environment of concern to the Environment Agency.

The catchment lies wholly within the county of Norfolk, and embraces parts of the administrative areas of North Norfolk District Council and the

Borough of King's Lynn and West Norfolk. There has been historical urban development within the floodplain and around the villages on the Rivers Burn, Stiffkey, Glaven and Mun. People and property in these areas remain vulnerable to exceptional flood events. Throughout history, the danger of inundation by North Sea surge tides has been an ever-present threat to the people living in low lying areas along the coast in North Norfolk. Not only tidal and freshwater flooding events, but erosion and landslides have threatened their homes, livelihoods and sometimes, their lives. For centuries, the vulnerable low-lying coastal fringe has been protected by seawalls, whilst tidal saltmarsh was reclaimed from the sea to provide valuable agricultural land.

In terms of geology the Plan area consists of chalk which is overlain by thin layers of glacial sand and gravels and boulder clay. In the river valleys themselves, much of the boulder clay and glacial gravels have been eroded and the



*The River Burn upstream of Burnham Thorpe*



## 2.0 THE NORTH NORFOLK PLAN AREA



rivers flow on exposed chalk or river gravels. The chalk represents the principal aquifer although some water is also stored in crag deposits to the east, and in sand and gravels. The chalk catchments are characterised by many natural dry valleys. These are valleys where the chalk water levels are normally below ground level and only rise to the surface during very wet periods (eg. the River Burn). Summer flows in all the rivers are naturally low due to the small size of each catchment, and flows during dry weather are maintained by base flow from the surrounding aquifers.

The Plan area has a diverse range of fisheries with varying fish communities and species. Angling for brown trout is carried out on the Rivers Glaven and Burn and several river stretches and stillwaters are managed for course fishing. A diverse range of saltwater fish species are caught along the coast.

In terms of pollution prevention and control the pressures on the North Norfolk environment are limited due to the small population and restricted industry. Within the Plan area, there are currently only four Integrated Pollution Control processes. These are the North Sea gas processing facilities at Bacton and represent the only significant industrial releases to the environment within the area. There is one large landfill site within the Plan area receiving industrial, commercial and household waste. This site at Edgefield takes waste from Sheringham, Cromer and Holt, as well as more rural areas. The water quality within the

North Norfolk freshwater rivers is generally very good. Estuarial waters within the catchment are widely used for recreation and four bathing waters are identified under the *EC Bathing Waters Directive (79/923/EEC)*; these are at Wells, Sheringham, Cromer and Mundesley. Several commercially important shellfisheries are found within the Plan area. Such uses demand a high standard of water quality.

Agriculture plays an important role within this catchment. Forty-three thousand hectares of agricultural land lie within the Plan area, approximately 80% of which consists of Grades 1, 2 or 3 agricultural land. Cereals production represents over 60% of agricultural land (i.e. wheat and barley), with breakcrops (i.e. sugar beet, potatoes and field beans) and livestock farming representing a smaller proportion of the total agricultural land. Good agricultural practice is important to ensure diffuse inputs of pollution are minimised (i.e. substances such as nitrogen, phosphorus and pesticides). Erosion from agricultural land is a continuing problem resulting in sediment deposition in many river reaches.

There are a number of small former commercial ports along the North Norfolk coast. Shipping movements have declined as other forms of transport now dominate the trade. The remaining port with commercial navigation is Wells-next-the-Sea, although its use has steadily declined in recent years.



## 2.0 THE NORTH NORFOLK PLAN AREA

### 2.2 SUMMARY OF USES, ACTIVITIES, PRESSURES AND STATUS

#### WATER QUALITY

One of the primary duties of the Environment Agency is to ensure that the water quality of the rivers, estuaries and coastal waters are maintained or improved so that an appropriate and balanced ecosystem is achieved. The waters in this catchment have many uses and attract a number of activities for which water quality is of paramount importance. Uses for which water quality is important include, shellfish production, bathing, angling, livestock watering, irrigation, amenity, etc. Groundwater is used for public and private water supply so its quality is also of great importance.

To protect these uses and activities target standards have been developed or incorporated in UK legislation and are collectively known as River Quality Objectives. These are either statutory or non-statutory and may be all encompassing or specific to individual stretches of water. The *EC Dangerous Substances Directive (76/464/EEC)* sets limits for specific substances and applies to all waters while other EC directives, for example *EC Bathing Water Directive* and *EC Freshwater Fisheries Directive (78/659/EEC)*, apply to specific areas or river stretches. The principal non-statutory

objective is the River Ecosystem (RE) classification system which comprises of five classes and reflects the chemical quality requirements of river ecosystems. Each of the significant stretches of the rivers Hun, Burn, Glaven, Stiffkey and Mun have been assigned a RE target. They were derived by combining the previous Regional River Quality Objectives and National Water Council target class. Routine chemical and biological monitoring is undertaken at many points within the catchment to determine water quality. The results of the chemical monitoring are used to determine compliance with water quality targets.

The failure to meet RE targets is illustrated by the Compliance Against River Ecosystem Targets Map below and may be due to several reasons (See Issue No. 3). In this catchment the principal reason is that these targets are too stringent and do not properly reflect the natural characteristics and conditions of the river. Historically sample point locations have been at easy access points such as mills and sluices where the rivers tend to be influenced by local conditions and may be slow moving or impounded.

Another use to which the river and sea are put is the disposal of sewage and trade effluents. Larger towns and villages are usually served by a sewage treatment works and the treated effluent is discharged to the local river, estuary or sea (See Pollution Control Map below). The Environment





## 2.0 THE NORTH NORFOLK PLAN AREA

Agency regulates these discharges by means of consents which stipulate limits on material released. Ideally, we would wish that the discharge limits had been calculated to fully protect all the uses of the receiving watercourse but historically for Anglian Water Service's discharges this has not been the case. Their capital programme has been agreed with OFWAT and detailed within AMP2. Within this catchment no AMP2 capital investment was identified so any tightening of their discharge consents will have to wait until the next round of negotiation. The coastal discharges at West Runton and Mundesley will be subject to control under *Urban Waste Water Treatment Regulations 1994*. As a result primary treatment will be necessary and the comprehensive studies due to be completed will shortly determine whether additional treatment will be necessary (See Issue No. 19).

### INTEGRATED POLLUTION CONTROL / RADIOACTIVE SUBSTANCES

The *Environmental Protection Act 1990* assigned responsibilities for regulation and control of releases to the environment from a variety of industrial processes, and introduced a regulatory approach to Integrated Pollution Control. The regulation of releases from the 2500 (nationally) most potentially polluting processes is assigned to the Environment Agency; these are known as Part A prescribed processes. We are required to establish that such processes meet the objective of ensuring that the best available techniques not entailing excessive cost (BATNEEC) are used to prevent, minimise and render harmless releases of prescribed substances to any environmental medium for which the substance is prescribed, and to render harmless all other substances that may be released. A further requirement is to have regard to the Best Practicable

Environmental Option (BPEO) available in respect of those substances which may be released. In this context, consideration of BATNEEC and BPEO are, primarily, site specific.

Part A processes under the *Environmental Protection Act 1990* are controlled by the Environment Agency through Integrated Pollution Control authorisations. This catchment has a number of Part A processes that require such authorisations and these are located as shown on the Pollution Control Map. The table below lists the processes shown by this map and identifies the type of processes involved in each authorisation:

Company	National Grid Reference	Process Type
Amoco (UK) Exploration Co. Natural Gas Terminal Bacton Norwich NR12 0JF	TG 3291 3446	Gasification
Phillips Petroleum Co. UK Ltd Natural Gas Terminal Bacton Norwich NR12 0JG	TG 3270 3450	Gasification Combustion
Shell (UK) Ltd Head of Terminal Paston Road Bacton Norwich NR12 0JE	TG 3334 3450	Gasification



Bacton Gas Terminals



## 2.0 THE NORTH NORFOLK PLAN AREA

Within the Plan area there are also other smaller, less polluting processes which are controlled, for releases to air only, by the Local Authorities under Part I of the *Environmental Protection Act 1990*. Regulation of discharges to water from such processes remain our responsibility under the *Water Resources Act 1991*.

The only current *Radioactive Substances Act 1993* authorisations are for the accumulation and disposal of naturally occurring radioactive materials which are removed from some natural gases at the Bacton gas terminals. This waste is disposed outside of the Plan area in specified depositories. There are only a few registrations within the area. These are for measuring instruments and self-illuminating signs which at the end of their useful life are required to be disposed of outside of the Plan area by returning the source to the manufacturers. The presence and use of these radioactive substances within the Plan area does not result in any measurable increase in exposure to radiation above the natural background.

### WASTE MANAGEMENT

The one large landfill site within the catchment is at Edgefield. This receives 34,000 tonnes per annum of waste from Sheringham, Cromer and Holt, as well as more rural areas. Household, industrial and commercial waste from the west of the Plan area tends to be exported out of the catchment for disposal at the landfill site at Docking. The Edgefield site began operation in 1988. There is a network of seventeen groundwater monitoring boreholes both down-gradient and up-gradient of the site. The boreholes are sampled every three months and are analysed for a suite of parameters agreed between the Environment Agency and the site operators. Present evidence indicates that the site is not impacting on the groundwater. On completion, each phase of the site will be capped with low permeable

material to prevent water ingress and therefore reduce the potential for the site to produce leachates.

Landfill gas is a complex mixture, with major constituents of methane and carbon dioxide, which is generated by the anaerobic breakdown of putrescible wastes in a landfill site. At sites which are known to, or expected to generate landfill gas, control can be exerted by positive extraction and flaring of the gas. It is possible to use the gas as a source of energy either directly, or indirectly by generating electricity. At the Edgefield site a power generation scheme is in the process of being installed.

Norfolk County Council produced a *Waste Management Plan* for the county which was adopted in February 1996. It recognises the existence and need for landfill in Norfolk. However, there are no proposals in the *Waste Management Plan* for the development of any major waste disposal facilities in the Plan area.

The remainder of the operational sites in the Plan area accept only Category 1 or Category 2a waste and are not generally perceived as posing a major risk to the environment. There are a small number of closed sites in the area which have the potential to cause problems. Most notable of these is the closed domestic landfill at Old Wood, Upper Sheringham.

In addition, Regulation 15 of the *Waste Management Licensing Regulation 1994* requires us to review all licences which permit the disposal of wastes which have the potential to generate List I and II substances. This review was undertaken for the Edgefield landfill site and the licence is liable to modification to require the engineered containment of the wastes in future phases of the site.



Edgefield landfill site



## 2.0 THE NORTH NORFOLK PLAN AREA

### LANDFILL SITES



### WATER RESOURCES

Our present licensing policy for the Plan area states that no further summer surface water will be licensed. Groundwater and winter surface abstractions may still be considered where water resources are identified as available, subject to technical appraisal of the local impacts. All licence applications will require the applicant to carry out an environmental survey to identify water features within a certain radius of the proposed abstraction. In the case of a groundwater abstraction, a pump test will be required to assess the local impact on these features. Licences will only be granted if they do not have an unacceptable impact on wetlands, river flows or neighbouring abstractions.

Meanwhile, the current policy with respect to water availability for licensed abstraction in the North Norfolk Plan area is:

- Groundwater resources within the Stiffkey, Glaven and Mun sub-catchments are fully committed. The Hun and Burn sub-catchments in contrast, still have nominal water available for licensing, subject to the licence applications passing strict environmental checks.
- There is no further summer surface water available.

- Some additional surface water may be available during winter periods when river flows are naturally higher. Abstractors are encouraged to store this in reservoirs for summer use. These abstractions would again have to pass the strict checks to ensure that the abstraction does not detrimentally affect existing users or the environment. New licences will be subject to hands-off-flow allowing for downstream entitlements plus requisite minimum flows or River Flow Objectives when defined.

There are four licensed public water supply abstractions in the Stiffkey, Glaven and Mun catchments, with water being abstracted at Wighton, Houghton St Giles, Glandford, Sheringham and Mundesley by Anglian Water Services. Water from these sources is predominantly fed into the Sheringham supply area, which extends southwards to the northern part of the Wensum and Bure catchments. There are seven industrial licences in the Plan area, all abstracting from the Chalk aquifer.

Spray irrigation is widely practised within the Plan area. Abstractions occur from surface and groundwater sources, most of which are concentrated in the Mun and Glaven catchments. There are currently 58 groundwater spray irrigation abstractions in the area. Future spray irrigation

### WATER RESOURCE ABSTRACTIONS









## 2.0 THE NORTH NORFOLK PLAN AREA

*Flooding at Salthouse, February 1996*



shingle bank was breached by a spring tide and the marshes at Cley and Salthouse were inundated for a fortnight. On frontages, where it is economically viable to protect people and property from flooding, a hard engineering solution has been the preferred option. Communities such as Cley and Wells have been protected in this manner.

A Shoreline Management Plan (SMP) is a document which sets out a strategy for sea defence for a specified length of coast taking account of natural coastal processes and human and other environmental influences and needs. There are two Shoreline Management Plans for Norfolk that have implications for the Plan area; Snettisham to Sheringham - sub cell 3(a) and Sheringham to Lowestoft - sub cell 3(b). We are the lead authority for the production of the Snettisham to Sheringham SMP whilst North Norfolk District Council are the lead authority for the preparation of the Sheringham to Lowestoft SMP.

Our powers relating to sea defences are permissive. The Local Flood Defence Committee are the executive body responsible for raising and approving the annual flood defence budget and the Long Term Plan (LTP). The LTP prioritises the future needs of the catchment which arise out of the Shoreline Management Plan, for approving and replacing flood defences, involving capital expenditure (See Issue No. 13).

### **Fluvial Rivers**

Fluvial flooding in freshwater river valleys has affected both property, communications and infrastructure, in addition to the agricultural industry, which have all developed over the years in the floodplain. Flooding events in 1912 and 1993 affected numerous properties and severed communications, the earlier event resulting in the loss of human life. There has been historical urban development in the floodplains, with sites at Little Walsingham, Stiffkey, North and South Creake, Burnham Thorpe, Wiveton and Mundesley, being some examples. People and property in these areas remain vulnerable to exceptional flood events.

These fluvial rivers are generally of a natural channel section, (with the exception of embanked sections upstream of mills) and require little more in the way of maintenance, other than annual weed cutting, selective de-silting and the removal of obstructions. An essential element of the annual maintenance works is the requirement to design and implement these in a sensitive and environmentally acceptable way. Whilst carrying out flood defence works and in liaison with our conservation section, opportunities are sought to incorporate environmental enhancement features wherever possible, in relation to the extent and expenditure of the flood defence maintenance scheme.

All these river systems discharge by gravity through sluice structures set in the floodbanks, into the tidal channels which ultimately flow into the North Sea. The discharge of







## 2.0 THE NORTH NORFOLK PLAN AREA

provides the best example of soft cliff habitat in the British Isles. The cliffs are up to 70 metres high and exhibit a wide range of stability which is reflected in a diverse range of sub-maritime habitats of considerable geological and ecological importance. The West Runton SSSI is an important geological feature exhibiting the Cromerian Inter-glacial, famous for its vertebrate fossils (eg. the recently excavated mammoth).

The North Norfolk river valleys are of considerable archaeological interest as the soils and ready access to water facilitated early settlement. At present there are several hundred sites within the catchment, representing settlements and finds from the Palaeolithic period (pre 10,000 BC) to the post-medieval period (AD 1500 onwards). However, the Norfolk Sites and Monuments Record is not comprehensive and it is probable that many more sites exist within the Plan area. Further sites may be designated as Scheduled Ancient Monuments over the next few years as a result of English Heritage's Monument Protection Programme. Of particular interest are the areas around Burnham for the post-Roman period, the Stiffkey Valley for Iron age, Bronze age and Roman remains and the Glaven valley for prehistoric cooking sites.

### Fisheries Maintenance and Development

We have statutory responsibilities for the maintenance, development and improvement of freshwater fisheries. This role is of critical importance to the conservation of river environments, to the sport of angling and to the protection of inland stocks from excessive or damaging exploitation. Our responsibilities also include the regulation of coastal eel and salmonid fisheries.

Within the Plan area, there is a diverse range of fisheries with varying fish communities and species. Sections of the Rivers Stiffkey, Glaven and Burn have established wild brown trout populations which are supplemented by stocked fish. The fisheries of the Stiffkey and Glaven are dominated by eel with significant numbers of brown trout and bullhead found in the Glaven. Approximately nine to ten species are regularly recorded in these rivers during our routine surveys. Both rivers have good populations of brook lamprey, a species listed in the *EC Habitats Directive (92/43/EEC)*.

In comparison, the Burn and the Hun have relatively poor species diversity. In 1992 only eel were caught in the River Burn during routine surveys (thought to be due to the impact of the drought) but brown trout, dace and three spined stickleback have been recorded in previous surveys. The River Hun has a limited population of fish due to saline conditions, and is dominated by flounder, eels and stickleback. The Hun has a limited coarse fishery around Gimingham.

Lakes and ponds supporting fish stocks occur throughout the area. Little precise data exists on these stocks, although it is clear that they represent an important resource.

Future improvement of these stocks will depend on the development of sustained and suitable water quality conditions, good pollution control, enhancement of flows and improved habitat characteristics. If rivers are satisfactory in both physical and chemical respects, there is reason to believe that good quality fish stocks will persist naturally, obviating or minimising any need for management intervention. This represents the ultimate goal of any environmental improvement programme.

Fisheries habitat improvements are incorporated into flood defence maintenance works whenever possible, and increasingly as a matter of routine. Many of these improvements will be of benefit to all components of the river ecosystem, and not just to the fish stocks themselves.

A Net Limitation Order for the East Coast Fishery, proposed by the Environment Agency in support of its policy of phasing out migratory salmonid fisheries exploiting predominantly mixed stocks, was confirmed by MAFF following a Public Inquiry in May 1995. The Order came into effect on 1 January 1996, from which date net licences could only be issued to fishermen who held licences in 1995. As existing licensees leave the fishery no new licences will be issued, reducing the number of licences and ultimately eliminating the fishery. In order to monitor the netting of sea trout along the coast we are arranging a Service Level Agreement with the Eastern Sea Fisheries Joint Committee. They are currently authorised to monitor the Net Limitation Order as part of their routine monitoring programme, but we intend the agreement to increase bailiff activity and the total number of authorised bailiffs. It is envisaged that this will identify unlawful activity and monitor east coast fishing for migratory salmonids.

### Recreation Opportunities

The Norfolk coast has long been popular for recreation and as a holiday destination for visitors. The influx of visitors, particularly in the summer season, dramatically increases the population of coastal towns and villages. Most visitors take part in quiet recreational activities such as walking, cycling, horse riding, swimming and beach recreation or birdwatching, but many also enjoy more active pursuits such as water sports.

Environment Agency activities have the potential to influence and enhance recreation through both our regulatory duties and, in particular, flood defence operations. In places, recreation can cause pressure on sea defences and the conservation interest of sensitive areas in the catchment. We will seek to address these pressures and issues in a positive manner and where possible, and environmentally acceptable, promote recreational use.

### Navigation

The Environment Agency has statutory responsibilities for certain river navigations. However, within this particular catchment we have no navigation responsibilities.



## 3.0 REVIEW OF THE CONSULTATION PROCESS

### 3.1 THE CONSULTATION PROCESS

Local Environment Agency Planning is a process through which the Environment Agency sets out to identify all the environmental problems and issues in a catchment. This is achieved through public and internal consultation, to identify possible courses of action for solving these issues and to produce an "Activity Plan" to resolve them.

#### TIMETABLE:

Preconsultation	September, 1995
Public Consultation	June, 1996
Action Plan	March, 1997
Annual Review	June 1998, 1999, 2000, 2001
Five Year Review	June 2002

The co-operation required from other environmental organisations and the public cannot be overstated. We aim to work in partnership to balance interests and seek to improve the wider environment in an integrated manner.

The North Norfolk Local Environment Agency Plan Consultation Report was published in June 1996. There was a presentation launch to an invited audience representing a wide range of organisations with an interest in environmental management. Further publicity for the plan was attained by television and press coverage as well as displays in prominent public sites within the catchment.

The volume and quality of response to the consultation document was good. By the end of the consultation process, approximately 320 of the full, and over 500 copies of the summary documents had been issued.

The Norfolk & Suffolk Area Environment Group have overseen the production of the North Norfolk LEAP. There are 23 independent members on this group. Each member has a particular interest in the local environment but none is an employee of the Environment Agency. Area Environment Group members are:-

#### Ms Sheila Ashford (Chairman)

Ms Jane Madgwick	Cllr Peter Baldwin
Mr John Brown	Mr George Alderson
Mr Richard Clements	Ms Janette Ward
Cllr Mrs Rita Carter	Ms Iris Webb
Mr Stan Alden	Prof. John Lester
Mr Paul Woodcock	Cllr Brian Morrey
Mr George Steele	Mr David Ritchie
Mr Tony Preston	Cllr Ms Julie Craven
Mr Colin Palmer	Dr Ian Shepherd
Mr Mark Williams	Cllr Mrs Viv Mason
Mr Trevor Jolley	Mr Anthony Duckworth-Chad

### 3.2 RESULTS OF CONSULTATION

A summary of the letters received by the Environment Agency during the consultation period is found in the document "Statement of Consultation". This document identified the main comments and views of the consultees and a response from the Environment Agency. The "Statement of Consultation" was circulated prior to the publication of this Action Plan to all consultees that formally responded in writing. A list of these consultees is shown by Appendix I.

As a consequence of the consultation process, we have gained a fuller appreciation of the different viewpoints on the environmental issues identified. This Action Plan has been adapted and the actions chosen to incorporate those views, where appropriate.

The consultation process also revealed some errors in the Consultation Report. We would like to thank the relevant organisations for bringing these to our attention. The corrections are listed as Appendix II.

### 3.3 FURTHER ACTION

There were 28 issues set out in the Consultation Report, of which 22 have been brought forward to this Action Plan. Of the original options suggested, the most appropriate have been adopted and become actions in the Activity Plan (Section 4.0). A number of issues have been deleted from the Activity Plan as they were too general and do not follow the "SMART" principal of Specific, Measurable, Agreed, Realistic and Time based (for example; Issue Nos. 6, 8, 13, 14, 15 & 24 from the Consultation Report). Two of these issues (13 & 15) involve work that is part of our routine business and therefore should not have constituted an issue within the LEAP. The other four issues (6, 8, 14 & 24) from the Consultation Report are longer-term management issues that we can only address by forming partnerships with others. The Environment Agency therefore does not have sole authority over time-scales or costings. Instead we seek to work with others and obtain a commitment by all to bring about benefits to the local environment. These four issues have therefore been removed from the Activity Plan, but will be addressed with other organisations, as set out in the "Protection Through Partnership" section (Section 5.0 in this Action Plan, from page 23).



## CROSS REFERENCE TO CONSULTATION REPORT ISSUES

Consultation Report No.	Action Plan No.	Issue Title in this Action Plan (Issue Title from the Consultation Report)
1	1	In-river-needs are not quantified for water flows and levels
2	2	River flows in some North Norfolk rivers are perceived to be unacceptably affected by licensed abstractions
3	3	A number of river stretches in this catchment fail to achieve their existing River Ecosystem (RE) target class
4	4	Catchment areas for wetland sites of conservation value need to be identified
5	5	There is a lack of habitat diversity within rivers and their floodplains
6	PTP *	<i>(Identify where the Environment Agency should assist in the implementation of agreed local and national Biodiversity Action Plan targets for relevant water dependent habitats and species)</i>
7	6	Ensure that Environment Agency activities comply with new EC Directives concerning nature conservation
8	PTP	<i>(Ensure water levels are managed appropriately on all important wetland sites where the Environment Agency is responsible for the control structures or influences water levels)</i>
9	7	Failures in fishery biomass targets
10	8	There is a need to assess and where appropriate protect the ecological status of headwaters
11	9	Monitor the netting of sea trout along the Norfolk coast to identify unlawful activities and monitor east coast fishing for migratory salmonids
12	10	Concern over bacterial contamination of the waters in Blakeney Harbour
13	Routine †	<i>(Improve Environment Agency archaeological database, awareness of archaeological sites throughout the Environment Agency and liaison procedures externally)</i>
14	PTP	<i>(Review public access to sea defences to identify problems, remedial actions and other opportunities)</i>
15	Routine	<i>(Promote appropriate public access to rivers for walking and water-based recreational opportunities (including angling) in conjunction with other organisations and in-line with agreed recreation / visitor / tourism strategies)</i>
16	11	Surface and groundwater monitoring network requires an increased number of observation sites
17	12	Identification of flood risk areas
18	13	Requirement to provide estuarial, coastal and fluvial flood protection
19	14	Impact of land-use on siltation, habitats and water quality
20	15	Contamination of groundwater in the vicinity of ex-RAF Sculthorpe at the head of the River Burn
21	16	Control of nitrate from agricultural sources
22	17	Concern over the flow to Burnham Market sewage treatment works
23	18	Potential for deterioration of river quality in the Glaven
24	PTP	<i>(Ensure there is control over development proposals for disused airfields with respect to the surface water drainage discharges)</i>
25	19	Ensure that the necessary levels of treatment for sewage discharges to coastal waters is provided at West Runton and Mundesley
26	20	Concern over the air quality around the Bacton gas terminals
27	21	Bacterial contamination of Wells Harbour
28	22	Sewer overflows to the River Burn

\* PTP indicates that the Issue has been removed from the Activity Plan but will be addressed with other organisations, as set out in the "Protection Through Partnership" section, from Page 23.

† Routine indicates that the Issue has been deleted from the programme as the actions are to be progressed as part of our routine business.



## 4.0 ACTIVITY PLAN

The following table outlines the actions needed to address many of the issues we identified in the Consultation Report, although some issues are being progressed through the "Protection Through Partnership" section. The issues and activities are not presented in any order of priority.

The Activity Plan shows the following information:

- The organisations which will implement the proposed activities, either in a lead role or as a key supporter, are listed under the heading 'Responsibility Lead (other)'.
- A timetable for the activity.
- An estimate of cost to us over the next five financial years, where available. 'To be Evaluated' means that no cost estimate is available at present.

(Please refer to the glossary and abbreviations for the definition of acronyms)

The following points should also be noted:

- Our everyday work commits substantial resources to monitoring and managing the environment. Some of this work was explained in the Consultation Report.
- Some actions will require feasibility studies and cost-benefit appraisal of options prior to work commencing. In some cases, depending on the outcome of these studies, further action may not be justified. The Environment Agency and participating organisations have limited resources and powers, and some work may take longer than indicated owing to funding availability, government policy and more urgent priorities.
- Should more issues become apparent during the life of this Plan, further actions will be added at succeeding Annual Reviews.

### A) ECOLOGICAL AND ENVIRONMENTAL NEEDS

Issue	Activity	Responsibility Lead (other)	Total cost	97/98	98/99	99/00	00/01	01/02	Future	Comment	Issue Contact
1. In-river-needs are not quantified for water flows and levels	Develop Anglian Methodology taking account of Regional and National R & D	Environment Agency	Staff time (Revenue)	■	■	■	■	■	■	No priorities have been set for Anglian Region	Pauline Smith
	Implement methodology to specific rivers which may involve ecological studies	Environment Agency	To be evaluated						■	Implementation will depend on Regional priorities and funding	Pauline Smith
2. River flows in some North Norfolk Rivers are perceived to be unacceptably affected by licensed abstractions	Carry out further hydrogeological investigation to improve the understanding of aquifer/surface water interaction and the effect of abstractions on river flows	Environment Agency	Staff time (Revenue)	■	■	■	■	■	■	We have recently developed the monitoring network in the Plan area. A research project is being undertaken to model the interaction between the groundwater abstraction and the flows in the River Burn. Monitoring will continue and the development of further modelling will be dependent on these results and Regional priorities	Steve Dines



## 4.0 ACTIVITY PLAN

### A) ECOLOGICAL AND ENVIRONMENTAL NEEDS (continued)

Issue	Activity	Responsibility Lead (other)	Total cost	97/98	98/99	99/00	00/01	01/02	Future	Comment	Issue Contact
3. A number of river stretches in this catchment fail to achieve their existing River Ecosystem (RE) target class (Current failures are shown by Map on page 6)	Review RE Targets of all river stretches and impact of effluent discharges	Environment Agency	Staff time (Revenue)	■	■	■				Sewage treatment works to be considered for AMP3 expenditure	John Daniels
	Review sample point locations	Environment Agency	Staff time (Revenue)	■	■					Some sample points are not considered to be representative of the stretch and are consequently being reviewed	John Daniels
	Complete pollution prevention visits on River Glaven	Environment Agency	Staff time (Revenue)	■	■					Ongoing campaign has not identified any significant problems. Due to be completed in 1998	Chris Mc-Arthur
4. Catchment areas for wetland sites of conservation value need to be identified	Continue present policy of taking precautionary approach in licensing, using theoretical techniques, empirical assessments and field monitoring to evaluate risk in association with time limited licenses	Environment Agency/ Applicant	Staff time (Revenue)	■	■	■	■	■	■	Environmental assessments are likely to be progressed as part of licence application to abstract water	Steve Dines
	Development of the Area licensing methodology to protect wetlands	Environment Agency	Staff time (Revenue)	■	■					Methodology will be developed to identify areas around wetlands where abstractions will be discouraged in order to protect wetland sites	Steve Dines
	Anglian Wetland Monitoring Programme sites at Syderstone Common, Holt Lowes, Sheringham & Beeston Regis Common and Southrepps Common	Environment Agency	£40k for four sites	■	■	■	■	■	■	Wetland monitoring is progressing at several sites over the next ten years as part of the Anglian Wetland Monitoring Programme to better understand wetland hydrology and improve long term environmental protection	David Seccombe
5. There is a lack of habitat diversity both within rivers and their floodplains	Identify and implement capital river enhancement projects	Environment Agency	To be evaluated (Capital)	■	■	■	■	■	■	Recently completed schemes on River Stiffkey and at Holme NNR. Further schemes dependent on opportunities arising and funding being allocated	Louise Bond
	Incorporate enhancements in the maintenance programme as opportunities arise	Environment Agency	Staff time (Revenue)	■	■	■	■	■	■	Schemes to be undertaken when opportunities arise	Louise Bond



## 4.0 ACTIVITY PLAN

### A) ECOLOGICAL AND ENVIRONMENTAL NEEDS (continued)

Issue	Activity	Responsibility Lead (other)	Total cost	97/98	98/99	99/00	00/01	01/02	Future	Comment	Issue Contact
6. Ensure that Environment Agency activities comply with new and existing EC Directives concerning nature conservation	Identify the implications of the <i>EC Habitats Directive</i> on habitat and coastal flood defences (See Issue 13)	Environment Agency & English Nature	£27k (Capital)	■						Awaiting outcome of National R & D review	Charles Beardall
	Environmental Assessment of flood defence options for Brancaster	Environment Agency	£5k (Revenue)	■						Options to be decided by the Environmental Assessment	Charles Beardall
	Review of flood defence options at Cley/Salhouse	Environment Agency	£30k (Capital)	■						Options to be decided by the review	Steve Hayman
	Undertake review of abstraction licences as a priority but also other authorisations consented by the Environment Agency within the Plan area that may influence European/international sites	Environment Agency	To be evaluated	■	■	■	■	■	■	Awaiting guidance on how we do this from National Head Office	Steve Dines
7. Failures in fishery biomass targets	Investigate failures in the River Glaven and the River Burn	Environment Agency	Staff time (Revenue)	■	■					Any remedial measures will depend upon the results of the investigation	Robin Burrough
8. There is a need to assess and where appropriate protect the ecological status of headwaters	Survey headwaters to identify their importance	Environment Agency	Staff time (Revenue)	■						Need for possible restoration will be identified through the headwaters survey	Robin Burrough
9. Monitor the netting of sea trout along the Norfolk coast to identify unlawful activities and monitor east coast fishing for migratory salmonids	To monitor the East Coast Salmonid fishery and prosecute/enforce as appropriate	Environment Agency & Eastern Sea Fisheries Joint Committee	Revenue	■	■	■	■	■	■	We are arranging a Service Level Agreement with ESFJC who are currently authorised to monitor the fishery	Chris Window
	Increase bailiff activity	Environment Agency	£6k	■	■	■	■	■	■	As part of the Service Level Agreement bailiff activity is due to increase.	Chris Window



## 4.0 ACTIVITY PLAN

### B) HUMAN NEEDS

Issue	Activity	Responsibility Lead (other)	Total cost	97/98	98/99	99/00	00/01	01/02	Future	Comment	Issue Contact
10. Concern over bacterial contamination of the waters in Blakeney Harbour	Continue surveys to assess long term quality trends of shellfish harvesting areas	Environment Agency	Staff time (Revenue)	■	■	■				Monthly sampling of mussel flesh has revealed contamination emanating from within the harbour	Mark Johnson
	Monitor impact of ultra-violet disinfection at Cley STW	Anglian Water Services (Environment Agency)	AWS 200k approx; (Staff time)	■	■	■				Cley sewage treatment works will have ultra-violet disinfection under AWS's Biodiversity Programme in 1997/98	Mark Johnson
	Imposition of bylaws to control discharges of sewage from vessels within the harbour	North Norfolk District Council (Environment Agency)	NNDC budget (Staff time)		■	■				NNDC are investigating the feasibility of District Council bylaws	Chris Mc-Arthur
11. Surface and groundwater monitoring network requires an increased number of observation sites	Install surface gauging stations on the Rivers Burn and Glaven	Environment Agency	£140k (Capital)	■						The project is currently progressing to construct these two gauging stations as part of the Phase IV, Anglian Region Telemetry Project	Steve Dines
	Carry out studies to identify shortfalls in the groundwater monitoring network	Environment Agency	£250k for Region	■	■					The project is currently being set up. Monitoring boreholes will be installed where shortfalls are identified. Dependent on Regional priorities	Mark White-man
	Install and extend groundwater monitoring network	Environment Agency	To be evaluated						■	Depends upon Regional priorities and funding	Steve Dines



## 4.0 ACTIVITY PLAN

### C) FLOOD PROTECTION, DEVELOPMENT CONTROL AND LAND USE MANAGEMENT

Issue	Activity	Responsibility Lead (other)	Total cost	97/98	98/99	99/00	00/01	01/02	Future	Comment	Issue Contact	
12. Identification of flood risk areas	Undertake mathematical modelling of river valleys and coastal zones to determine flood risk areas	Environment Agency	Regional project. Currently being evaluated.	■	■	■	■	■	■	As required under Section 105 of the <i>Water Resources Act 1991</i> and in accordance with our Memorandum of Understanding with Local Authorities	Iain Finnigan	
13. Requirement to provide estuarial, coastal and fluvial flood protection (See Issue 6)	Delivery of Flood Defence improvement/replacements as identified in the Long Term Plan:									Implementation of the Long Term Plan is based on priorities and funding. Capital projects are undertaken as necessary following approval from the Norfolk & Suffolk Flood Defence Committee. The Long Term Plan is reviewed every six months		
	Burnham Overy Bank/ Wells West Bank	Environment Agency	£600 k (Capital)		■	■						Steve Hayman
	Holme Dunes	Environment Agency	£300 k (Capital)		■							Steve Hayman
	Salthouse Flood Protection	Environment Agency	£500 k (Capital)				■					Steve Hayman
	Morston Bank East	Environment Agency	£120 k (Capital)				■					Steve Hayman
	Shoreline Management Plan	Environment Agency, NNDC	£500 k (Capital)	■	■	■	■	■	■	The funding for all shoreline management within the Norfolk & Suffolk Flood Defence Committee area is indicated for this action	Clive Flanders	
14. Impact of land-use on siltation, habitats and water quality	Set up and coordinate a working group for the way forward	Environment Agency, MAFF, ADAS (in consultation with others)	Staff time (Revenue)	■	■					The working group will need to consider a 'case study' river to identify extent of problem and possible solutions (probably to be trialed on the River Wensum - outside the North Norfolk Plan area). This action embodies the options of 1, 2 & 3 from the Consultation Report. Possibly contract project out to consultants	Charles Beardall	
	Continue to de-silt river channels as appropriate	Environment Agency	Variable (Revenue)	■	■	■	■	■	■	Continue present maintenance operations for de-silting	Stan Jeavons	



## 4.0 ACTIVITY PLAN

### D) CONTROL OF RELEASES TO THE ENVIRONMENT

Issue	Activity	Responsibility Lead (other)	Total cost	97/98	98/99	99/00	00/01	01/02	Future	Comment	Issue Contact
15. Contamination of groundwater in the vicinity of ex-RAF Sculthorpe at the head of the River Burn	Monitor boundaries of contamination plume and determine future strategy	Environment Agency	£10k (Revenue)	■	■	■	■	■	■	Monitoring is at an early stage and no conclusions can yet be drawn	Simon Wood
	Discuss remediation and liabilities with existing and potential site owners	Environment Agency & Ministry of Defence	Minimal (Revenue)	■	■	■				Likely use of consultants in monitoring and technical advice	Simon Wood
16. Control of nitrate from agricultural sources	Continue to monitor the water quality in the Wighton borehole to assess effectiveness of Nitrate Vulnerable Zone (NVZ) designation	Environment Agency	Staff time (Revenue)	■	■	■	■	■	■	Nitrate contamination has steadily increased. As a result AWS have installed a nitrate removal plant at Wighton Water Treatment Works. The area around the borehole has been designated a NVZ with the intention of limiting the application of nitrogen to the soil	Steve Bowers
	Liaise with MAFF over NVZ policing	Environment Agency & MAFF	Minimal (Revenue)	■	■					MAFF have the duty to police the farming activities within the zone. The Environment Agency has the duty to monitor groundwater quality	Chris McArthur
	Investigate reasons for elevated nitrate levels in the River Burn	Environment Agency	Staff time (Revenue)	■	■					It is currently unclear why the River Burn has higher levels of nitrate than the other local rivers	Steve Bowers
17. Concern over flow to Burnham Market sewage treatment works	Determine existing discharge volume from Burnham Market STW and apply legal consent appropriate to current load	Anglian Water Services & Environment Agency	Staff time (Revenue)	■	■					Data being supplied by AWS as required by AMP2	John Daniels
	Assess impact of STW on river and re-evaluate River Needs Consent and implementation timescale	Environment Agency	Staff time (Revenue)	■	■	■				Consideration for AMP3 expenditure	John Daniels
	Set short term RE target if legal consent is different from RNC	Environment Agency	Staff time (Revenue)	■	■					To be determined following the evaluation of the RNC	John Daniels



## 4.0 ACTIVITY PLAN

### D) CONTROL OF RELEASES TO THE ENVIRONMENT (continued)

Issue	Activity	Responsibility Lead (other)	Total cost	97/98	98/99	99/00	00/01	01/02	Future	Comment	Issue Contact
18. Potential for deterioration of river quality in the Glaven	Review RNC for Holt STW and consider implementation timescale	Environment Agency & Anglian Water Services	Staff time (Revenue)		■	■				Consider as AMP3 candidate. The effluent quality from Holt STW is currently better than its legal consent	John Daniels
19. Ensure that the necessary level of treatment for sewage discharges to coastal waters is provided at West Runton and Mundesley	Complete "Comprehensive studies"	Anglian Water Services (Environment Agency & DoE)	AWS Budget	■						The comprehensive studies are due for completion during the summer of 1997. The Environment Agency will review the findings and then report to DoE in early 1998	Mark Johnson
	Implementation of appropriate options	Anglian Water Services	To be evaluated		■	■	■			Once approved the Environment Agency will ensure that AWS implement the appropriate options ( <i>Urban Waste Water Treatment Regulations 1994</i> )	Mark Johnson
20. Concern over the air quality around the Bacton gas terminals	Improvements already required under existing IPC authorisations	Environment Agency & Companies	Environment Agency (Revenue) Companies unknown.	■	■	■	■	■	■	Continue present policy. Future development will have to comply with the Government's air quality standards	Vic Whiteley
21. Bacterial contamination of Wells Harbour	Monitor the bacteriological contamination of the harbour	Environment Agency	£1 k (Revenue)	■	■					We will continue to monitor the extent of the problem. Options to be decided in the light of the results	Mark Johnson
22. Sewer overflows to the River Burn	Reduce infiltration to sewer by lining	Anglian Water Services	AWS Budget	■	■	■				} Anglian Water Services implementation of both these schemes will be phased. This step-by-step approach may allow further investment should overflow problems continue from the sewerage system	Steve Bewers
	Improve pumping regime at South Creek pumping station and associated sewer improvements	Anglian Water Services	£500k (approx.)	■	■	■					Steve Bewers
	Monitor water quality to assess effectiveness of improvements to sewerage system	Environment Agency	Staff time (Revenue)	■	■	■	■	■	■	Monitoring continues at sites along the River Burn as part of our routine business	Steve Bewers



## 5.0 PROTECTION THROUGH PARTNERSHIP

The "Protection Through Partnership" section provides the opportunity to address longer-term management issues in partnership with others. It looks at how the Environment Agency can work with others for the benefit of the local environment. The timescales for action will depend upon our ability to work effectively with other groups, and requires a commitment from all to improve the environment.

This section will allow environmental issues to be identified, which the Environment Agency addresses or seeks to address in partnership, but which do not meet the criteria for inclusion as Issues within the Activity Plan section. The Issues are aimed at catchment specific issues or perceived issues which can be resolved through SMART actions (Specific, Measurable, Achievable, Realistic and Time-based) within a confined timescale of 5 - 10 years. Issues that do not fit this criteria include those that: can only be resolved over the longer-term, are not specific to this catchment (often Area, Region or Nation-wide problems) and those that involve actions which are part of our routine business of environmental regulation or monitoring the impacts upon the environment. These issues are more appropriately progressed as part of this "Protection Through Partnership" section.

We are well placed to influence activities affecting the environment through the *Environmental Protection Act 1990*, the *Water Resources Act 1991*, the *Environment Act 1995* and other associated legislation. However, for land use changes, development and activities outside this legislation, there is a need to create and maintain close partnerships with other organisations.

### PROTECTION THROUGH PARTNERSHIP OPPORTUNITIES;

We are currently involved in many projects and activities that rely on partnerships. Close links are already established with the water companies, industry, angling clubs, conservation, recreation and landscape bodies. New partnerships will be sought, both with these organisations and with others. It is hoped that joint funding initiatives and joint ownership of projects will provide a more secure basis for environmental protection.

Some of the major "Protection Through Partnership" opportunities that the Environment Agency are leading on, or are contributing to, are outlined below:

#### DEVELOPMENT CONTROL

As a statutory consultee in the development control process, the Environment Agency seeks to ensure that Local Planning Authorities (LPAs) are aware of the environmental implications of an individual development when deciding on whether to grant planning permission. In some cases we will seek for the LPA to impose certain conditions on a development, to ensure that the impacts on the environment are minimised. Of particular concern in this catchment are a number of redundant Air Force bases

which are available for re-development. The surface water drainage systems at most of these sites are complicated and the drains are generally unmapped. A number of significant pollution incidents arising from these airfield sites have occurred in the past. Without adequate control over any potential uses, these sites pose a substantial pollution risk. Issue No. 24 from the Consultation Report "Ensure there is control over development proposals for disused airfields with respect to the surface water drainage discharges" has been deleted from the programme as development control is part of our routine business. We will endeavour to work with the relevant District / Borough Council to ensure that any development is sensitive to the needs of the local environment.

#### DEVELOPMENT AND WATER SUPPLY

The Environment Agency works closely with water companies in managing water resources in the area to achieve the proper balance between the needs of the environment and other water users. We operate our abstraction licensing system to regulate the water companies and other abstractors to ensure sustainable use of water resources and to protect the environment. Where water resources are fully committed locally, water can usually be supplied from elsewhere for public supply. However, it is important that development does not proceed ahead of the necessary resources and infrastructure and that the full costs (including social and environmental) are considered. The Environment Agency will work with the relevant water supply companies and planners to ensure this is achieved. We will want sustainable water supplies to be agreed and demonstrated before development takes place.

The Environment Agency is also placing greater emphasis on demand management where this will reduce pressures on the environment or prevent the need for new resource developments. We encourage measures such as Anglian Water Service's leakage control and metering programmes and initiatives to build water conservation into new developments - for example through low water use appliances.

#### LOCAL AGENDA 21

Local Agenda 21 has been adopted to ensure Sustainable Development is achieved on a local scale. The North Norfolk Environment Forum is in the process of preparing a Local Agenda 21 Action Plan for their administrative area. We intend to support and contribute to initiatives coming out of this which are relevant to our work, thereby contributing to our goal of Sustainable Development. The Environment Agency are represented on the North Norfolk Environment Forum and wish to support initiatives to achieve Sustainable Development on issues that are relevant to us both.

#### AIR QUALITY

The *Environment Act 1995* extends responsibilities of Local Authorities to establish action target standards for certain air pollutants so as to improve air quality. This may involve more extensive measures involving parties other than those



## 5.0 PROTECTION THROUGH PARTNERSHIP

regulated as operators of Part B processes. The Environment Agency in its regulation of Part A processes, will be required to participate in the setting and achievement of such local standards. Local Authorities will introduce assessments for local air quality in due course and, where it is shown to be necessary according to nationally agreed criteria, prepare Local Air Quality Management Plans for operation in defined areas where targets are unlikely to be met. The "alert" threshold for any pollutant or combination of pollutants would define the level at which there is a potential risk of exceedance of any air quality standard. If the level were reached or approached in a particular area, it should therefore trigger a mandatory obligation on the relevant pollution control authorities, including the Environment Agency, to investigate and where appropriate take remedial action.

### SHELLFISH HARVESTING

Responsibility for compliance with the *EC Shellfish Hygiene Directive (91/492/EEC)* lies with the District Council Environmental Health. However, the Environment Agency and Environmental Health Officers liaise regularly to discuss problems and promote investigations. This is most evident in the case of Blakeney Harbour where investigations have been ongoing for some time. The partnership has resulted in Anglian Water Services agreeing to provide ultra-violet disinfection at Cley STW in excess of their statutory duties.

### OIL SPILL CONTINGENCY PLANS

In view of the economic importance of the shellfish and tourist industries in North Norfolk it is imperative that any response to future oil pollution events has been pre-planned and appropriate resource needs identified. Therefore we are seeking to develop a contingency plan with the Port Authorities. Response procedures will be developed and boom anchoring points for sensitive areas will be identified and installed. The partners will jointly test the contingency plans during practical exercises. In the event of a significant oil spill the County and District/Borough Councils and the Marine Pollution Control Unit will all be involved with the Environment Agency in protecting and cleaning operations.

### INVESTMENT BY THE WATER COMPANIES

The Environment Agency work closely with the water companies to ensure that capital investments for environmental improvements to infrastructure are prioritised. Our influence on matters is exerted through discussions with the water companies, the Department of the Environment (DoE), and the Office of Water Services over statutory and non-statutory requirements. The only AMP2 scheme in the North Norfolk Plan area is one to assess the flow non-compliance of Burnham Market STW. Other investments Anglian Water Services are making, such as ultra-violet treatment at Cley and sewer overflows on the River Burn, have been as a result of negotiations between the two organisations.

### WASTE MINIMISATION SCHEMES

As part of the Government's waste strategy, we have taken a

key role in promoting waste minimisation within industry. To develop the required expertise in waste minimisation practices, we are working with Bernard Matthews Foods Limited and UK Waste Management Limited. Over the last four months our officers have conducted audits at six of the companies processing sites. Although none of the sites are within the Plan area the audits we have undertaken have allowed us to develop expertise in this field and this work will eventually be applicable to this area. At the time of writing the project was still to be completed. However, it is already apparent that this work will identify opportunities for significant waste reductions in a potentially polluting industry. In the next few years we will expand our role in promoting waste minimisation by providing advice to industry. This will include visits to individual companies within the area to offer advice on how to reduce the use of raw materials, water and energy, as well as recycling of waste materials such as packaging waste.

### BIODIVERSITY ACTION PLANS

We are part of an Anglian Regional Biodiversity group aimed at translating the national initiative into a regional context. At a more local level Local Authorities, land-use and environmental organisations, including the Environment Agency, are compiling a Norfolk Biodiversity Action Plan with targets for specific habitats and species, many of which are relevant to this catchment. We are in a key position to influence many of these targets since Action Plans will be concerned with coastal habitats, wetlands and aquatic species (for instance reedbeds, brackish lagoons, otter, crayfish etc.). As such we are playing an active role in the production of the Biodiversity Plan and taking on specific responsibility to progress Action Plans for key species and habitats. The conservation of biodiversity will be a key indicator of the successful implementation of Sustainable Development in the Plan area. Issue No. 6 from the Consultation Report identified our need to contribute to Biodiversity Action Plans and our role in developing and implementing these plans in partnership.

### CONSERVATION ENHANCEMENT PROJECTS

The Environment Agency sits on the Officer Working Group of the Norfolk Coast Project and is actively involved in many aspects of the project. Many conservation enhancement projects have recently been completed in partnership with conservation organisations, including reedbed restoration at Cley Reserve, habitat enhancement on the River Stiffkey and the improvement of water level control structures at Holme NNR. We are also working closely with the Norfolk Wildlife Trust, collecting and analysing river environmental data to identify the most ecologically sensitive stretches as County Wildlife Sites.

### FISHERIES ENHANCEMENT PROJECTS

Fisheries Management Partnerships have been developed to fund fish habitat enhancements on the Binham tributary of the River Stiffkey with the North Norfolk Internal Drainage Board and on the River Glaven with the angling club. The Environment Agency is also involved with partnership



## 5.0 PROTECTION THROUGH PARTNERSHIP

projects surveying the status of key scarce species of international importance (eg. otter and crayfish). In addition we have contributed to a University of East Anglia research project investigating the habitat requirements of the bullhead (*EC Habitats Directive* listed species) in Norfolk rivers.

### COASTAL PROTECTION

Within the framework of the Shoreline Management Plan, we are continuing to develop liaison processes with Maritime District Councils who have responsibilities for cliff erosion under the *Coast Protection Act 1945*. This will ensure that our respective coastal and sea defence activities are complementary and do not have any adverse effect on adjacent frontages.

### RECREATIONAL OPPORTUNITIES ON SEAWALLS

Due to the increasing popularity of the public footpaths on seawalls, crest erosion is increasing, and ultimately, the integrity of the defences can be affected. Collaborative works to include bank crest hardening, signing and fencing involves the Environment Agency, Norfolk County Council and the Norfolk Coast Project, and is an ongoing process. Issue No. 14 from the Consultation Report "Review public access to sea defences to identify problems, remedial actions and other opportunities" has been deleted from the Issue programme as our duty to promote recreation and amenity where it relates to our activities is part of our routine business and is carried out in partnership.

### WATER LEVEL MANAGEMENT PLANS

The implementation of Water Level Management Plans (WLMPs) requires partnerships between all individuals and organisations who have an interest within a site. As the operating authority, the Environment Agency have prepared seven separate WLMPs for parts of the North Norfolk Coast SSSI and have established water level objectives to achieve appropriate environmental enhancements at each site. Implementation depends upon consensus and initiatives for joint funding between the interested parties to ensure that these wetland conservation sites are protected and enhanced. Issue No. 8 from the Consultation Report "Ensure water levels are managed appropriately on all important wetland sites where the Environment Agency is responsible for the control structures or influences water levels" has been transferred to this section because WLMP implementation depends upon partnerships to achieve environmental improvements.

### SUMMARY

Many other partnerships occur or are planned within the Environment Agency, all of which are designed to deliver the mutual objectives of the partners involved. The Environment Agency has a diverse network of relationships with many national, regional and local organisations as well as landowners and the general public. It is through these partnerships that we are able to fully contribute towards the goal of Sustainable Development.

## 6.0 FUTURE REVIEW AND MONITORING

The Environment Agency will be jointly responsible, with other identified organisations and individuals, for implementing this Action Plan. Progress will be monitored and normally reported annually. These Annual Reviews will examine the need to update the Plan in the light of changes. The period between major revisions will normally be five years.

If you require any further information or wish to make any comments, please contact:

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IP3 9JE  
Tel: (01473) 727712



## APPENDIX I

### INDIVIDUALS AND ORGANISATIONS THAT COMMENTED ON THE NORTH NORFOLK LEAP CONSULTATION REPORT:

Dr K Browne	English Nature
Ms H Faire	Friends of the Earth - Norfolk
Mrs J J Faire	Government Office for Eastern Region
Mr R Faire	High Kelling Parish Council
Mrs V A Harvey	Holt Town Council
Ms L Hawkes	Michael McNamara Associates
Dr I F Keymer	Ministry of Agriculture, Fisheries and Food
Mr. G A Mission	Ministry of Defence - Defence Estate Organisation (Lands)
Group Captain J R Musgrave	Norfolk Anglers Conservation Association
Mrs T Pares	Norfolk Coast Project
Mr F W Perowne	Norfolk Landscape Archaeology
Mr O J B Prince-White	Norfolk Rivers Conservation Group
Mr L R Ringwood	Norfolk Wildlife Trust
Dr J Stabler	North Creake Parish Council
Brigadier P Stewart-Richardson	North Norfolk District Council
Mr A B W Taylor	Northrepps Parish Council
Mrs S F Tew	Redland Aggregates Limited
Mrs A M Walker	River Glaven Fishery Association
Mr J R Westland	Sheringham Town Council
Mr C J Yardley	Soil Survey & Land Research Centre - Cranfield University
Lady Zuckerman	Sports Council (Eastern Region)
ADAS	The Atlantic Salmon Trust
Anglian Water Services Ltd	The Norfolk Society
Blakeney Harbour Mussel Society	The Royal Society for the Protection of Birds
Blakeney Parish Council	The Salmon & Trout Association (London)
Borough Council of King's Lynn & West Norfolk	The Salmon & Trout Association (Norfolk Branch)
Burn Valley Action Team	Wells-next-the-Sea Town Council
Cley Parish Council	
Country Landowners Association	Acknowledgement letters were received from Lord Buxton,
English Heritage	Mr J G L Spence and The Crown Estate.

## APPENDIX II

### ERRORS IN THE CONSULTATION REPORT

SECTION (as numbered in the Consultation Report)	ERROR	RAISED BY
Pg 8 2.1.3 para 1.	Approximately 80% of the agricultural land is grade 1,2 or 3 (NOT 1, 2 or 3a)	MAFF
Pg 11 2.2 para 2.	The beach level drop is not 1500 metres but 1.5 metres.	Burn Valley Action Team
Pg 13 2.4 para 3.	Sir Cloudsley Shovell was born at Cockthorpe near Stiffkey not the Burnhams.	Blakeney Harbour Mussel Society
Pg 65 MAP 17	There are three areas covered by the Several order for mussel production in the Blakeney harbour and not two as indicated by Map 17.	Blakeney Harbour Mussel Society
Pg 66 3.9.4 para 1.	Only Brancaster (Norton Creek, not Burnham Overy) is a designated water and Blakeney has a Several order.	Blakeney Harbour Mussel Society
Pg 71 3.10.3.1 para 2.	Scheduled Ancient Monuments are designated by the Department of National Heritage, not English Heritage.	Norfolk Landscape Archaeology
Pg 71 3.10.3.1 para 3.	The Norfolk Sites and Monuments Record is based at Gressenhall, near Dereham, not in Norwich Museum.	Norfolk Landscape Archaeology



## GLOSSARY

**Abstraction Licence.** A statutory document issued by the Environment Agency to permit removal of water from a source of supply. It can limit the quantity of water taken daily etc.

**Asset Management Plan.** Means by which the water undertakers plan the work required for improvements to the water supply, sewage treatment works and sewerage systems. These are drawn up through consultation with the Environment Agency and other bodies to cover a five year period. AMPs have to be agreed by DoE and OFWAT.

**Aquifer.** A permeable geological stratum or formation that is capable of both storing and transmitting water in significant amounts.

**Base Flow.** That part of the flow in a watercourse provided by groundwater (i.e. springs etc...).

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

**Biodiversity Programme.** This is specific to Anglian Water Services - the Biodiversity Programme allocates investment, outside of their AMP investment. Funding is being targeted at a broad range of environmental improvements - reed beds at STWs, resolving oil problems from surface water sewers, conservation schemes, etc...

**Consent (Discharge).** A statutory document issued by the Environment Agency. It can authorise entry and indicate any limits and conditions on the discharge of an effluent to a Controlled Water. A land drainage consent is an approval for specified structural works in areas under Environment Agency control.

**Cyprinid fish.** Coarse fish eg. Roach, Dace and Bream.

**Demand Management.** Activities to manage the amount of water required from a source of supply; includes measures to control waste and/or to discourage use.

**EC Directive.** A type of legislation issued by the European Union / Community / Commission which is binding on Member States in terms of the results to be achieved but which leaves to Member States the choice of methods.

**Eutrophication.** The enrichment of water by nutrients, especially nitrogen and/or phosphorous, which cause: accelerated growth of algae and high plant life, changes in the ecological balance and deterioration in water quality.

**Fluvial.** Relating to the freshwater river.

**Fly Tipping.** The illegal dumping of rubbish/material.

**Hands-off-flow.** The flow below which abstractions must be reduced or supported in order to preserve natural low flows below an intake.

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

**Headwater.** Streams close to their source.

**Heritage Coast.** The finest example of a coastal and adjacent inland area as designated, through cooperation between the Countryside Commission and Local Authorities, for its protection and enhancement of enjoyment by the public.

**Hydrogeology.** The study of the occurrence and movement of groundwater and the interaction with geology.

**Hydrology.** The study of water on and below the earth's surface.

**Hydrometry.** The measurement of water.

**Inert Waste.** Category of waste which includes material which will either not decompose, or will decompose very slowly.

**In-river-needs.** The requirement for an acceptable regime of river flows necessary to sustain legitimate 'in-river' uses, including biological requirements as well as human uses.

**Integrated Pollution Control.** An approach to pollution control in the UK which 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.

**Internal Drainage Boards.** Authorities responsible for dealing with land drainage within a district. They are primarily concerned with agricultural land drainage but also may be involved with water supply to their district for agricultural purposes.

**Landfill.** The engineered deposit of waste into or onto land in such a way that pollution or harm to the environment is minimized or prevented and, through restoration, to provide land which may be used for another purpose.

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

**Local Agenda 21.** A comprehensive programme of worldwide 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.

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

**Nitrate Vulnerable Zone (NVZ).** An area where nitrate concentrations in sources of public drinking water exceed, or are at risk of exceeding the limit of 50 mg/l.

**Permissive powers.** Powers which confer on the Environment Agency the right to do things but not the duty to do them.

**Putrescible Waste.** Solid waste which will produce leachate when chemically and/or biologically degraded.

**Riparian Owner.** Owner of riverbank and/or land adjacent to a river. Normally owns riverbed and rights to midline of channel.

**River Needs Consents (RNC).** Permissions for discharge of effluents, that often specify limits for certain potential pollutants and ensure that the discharge does not derogate any of the uses of the Controlled Water.

**River Quality Objectives (RQO).** The level of water quality that a river should achieve, in order to be suitable for its agreed use.

**Salmonid Fish.** Game fish eg. trout and salmon.

**Siltation.** At low velocities water will deposit the material being carried in suspension.

**Site of Special Scientific Interest (SSSI).** A site given a statutory designation by English Nature or the Countryside Council for Wales because it is particularly important, on account of its nature conservation value.

**Special Area of Conservation (SAC).** Designated under the *EC Habitats Directive*. Sites that are considered to be of international importance for key habitats and species.

**Special Protection Area (SPA).** Statutory protected habitats for wild birds under *EC Birds Directive 79/409/EEC*.

**Sustainable Development.** Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**Water Quality Objectives.** Water quality targets to secure specific formal minimum quality standards for specific stretches of water by given dates.



## APPENDIX IV

### REPORTS AND LEGISLATION CITED IN THIS DOCUMENT

#### REPORTS

Local Environment Agency Plans  
 (a) Consultation Report (North Norfolk)  
 (b) Summary Consultation Report (North Norfolk)  
 (c) Statement of Consultation (North Norfolk)  
 Yare Catchment Management Plan, Action Plan  
 North-West Norfolk Catchment Management Plan, Action Plan  
 Government Circular 30/92  
 Guidance Notes for Local Planning Authorities on the Methods of  
 Protecting the Water Environment Through Development Plans  
 Local Plans

Norfolk Structure Plan  
 Shoreline Management Plan for Snettisham to Sheringham  
 Shoreline Management Plan for Sheringham to Lowestoft  
 Wash Estuary Management Plan  
 Waste Management Plan for Norfolk  
 Water Level Management Plans

#### SOURCE

Environment Agency, Ipswich  
 Environment Agency, Ipswich  
 Environment Agency, Ipswich  
 Environment Agency, Ipswich  
 Environment Agency, Bampton  
 Department of the Environment  
  
 Environment Agency, Ipswich  
 Kings Lynn & West Norfolk Borough Council  
 North Norfolk District Council  
 Norfolk County Council  
 Environment Agency  
 North Norfolk District Council  
 English Nature  
 Norfolk County Council  
 Environment Agency, Ipswich/English Nature

#### LEGISLATION

##### EC Directives:

EC Bathing Waters Directive 76/160/EEC	HMSO
EC Birds Directive 79/409/EEC	HMSO
EC Dangerous Substances Directive 76/464/EEC	HMSO
EC Freshwater Fisheries Directive 78/659/EEC	HMSO
EC Habitats Directive 94/43/EEC	HMSO
EC Shellfish Hygiene Directive 91/492/EEC	HMSO
EC Urban Waste Water Treatment Directive 91/271/EEC	HMSO

##### Statutory Instruments:

The Conservation (Natural Habitats, & c.) Regulations 1994	HMSO
The Surface Waters (River Ecosystem Classification) Regulations 1994	HMSO
Urban Waste Water Treatment Regulations 1994	HMSO
Waste Management Licensing Regulations 1994	HMSO

##### Acts of Parliament:

Coast Protection Act 1945	HMSO
Environment Act 1995	HMSO
Environmental Protection Act (EPA) 1990	HMSO
Radioactive Substances Act 1993	HMSO
Water Resources Act 1991	HMSO

## APPENDIX V

### ABBREVIATIONS

<b>AEG</b>	Area Environment Group	<b>EPA</b>	Environmental Protection Act	<b>NNR</b>	National Nature Reserve
<b>ADAS</b>	Agricultural Development Advisory Service	<b>ESA</b>	Environmentally Sensitive Areas	<b>NVZ</b>	Nitrate Vulnerable Zone
<b>AWS</b>	Anglian Water Services	<b>ESFJC</b>	Eastern Sea Fisheries Joint Committee	<b>R &amp; D</b>	Research & Development
<b>AMP</b>	Asset Management Plan	<b>IDB</b>	Internal Drainage Board	<b>RE</b>	River Ecosystem
<b>BATNEEC</b>	Best Available Techniques Not Entailing Excessive Cost	<b>LEAP</b>	Local Environment Agency Plan	<b>RNC</b>	River Needs Content
<b>BPEO</b>	Best Practicable Environmental Option	<b>LPAs</b>	Local Planning Authorities	<b>SAC</b>	candidate Special Area of Conservation
<b>CWS</b>	County Wildlife Site	<b>MAFF</b>	Ministry of Agriculture, Fisheries and Food	<b>SMP</b>	Shoreline Management Plan
<b>DoE</b>	Department of the Environment	<b>NNDC</b>	North Norfolk District Council	<b>SPA</b>	Special Protection Area
<b>EC</b>	European Commission/ Union/Community			<b>SSSI</b>	Site of Special Scientific Interest
				<b>STW</b>	Sewage Treatment Works
				<b>WLMP</b>	Water Level Management Plan



## 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 EMERGENCY HOTLINE

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