EA - North East LEAPs - Box 2

local environment agency plan

DERWENT

ACTION PLAN

MARCH 1998

ENVIRONMENT AGENCY

KEY DETAILS

Area:	2057 km^2
Estimated Area Population:	100,000

ADMINISTRATIVE DETAILS

County Councils:	North Yorkshire
Unitary Authorities:	East Riding of Yorkshire City of York
Principal District Councils:	Hambleton Ryedale Scarborough Selby
National Parks:	North York Moors National Park
Water Companies:	Yorkshire Water Services Ltd York Water Works Co
Internal Drainage Boards:	Foss Lower Ouse Muston & Yedingham Ouse & Derwent Rye Thornton Wilberfoss & Thorton

CONSERVATION

Sites of Special Scientific Interest	60+
Areas of Outstanding Natural Beauty	1
Number of Ramsar Sites	1
Special Protection Areas	1
National Nature Reserves	3

INTEGRATED POLLUTION CONTROL

Agency Authorised Industrial Processes	149

WATER RESOURCES

Total Licensed River Abstractions	170
Total Groundwater Abstractions	141
Total Licensed Abstractions	253450.7 thousand cubic metres/year

WATER QUALITY

Length of River in General Quality Assessment Classification (1996)

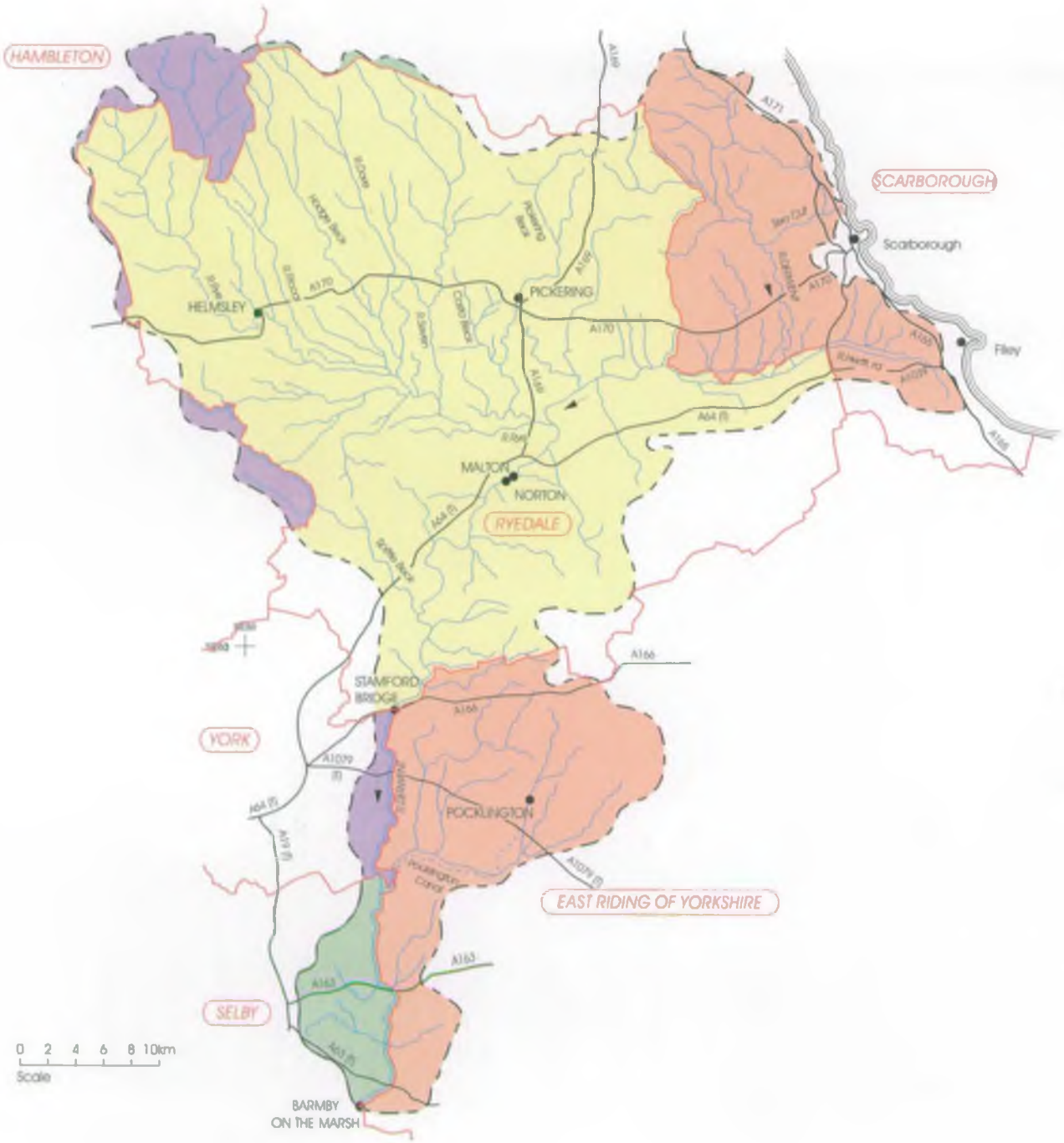
Class A	107.4	**Class B**	174.2
Class C	44.7	**Class D**	20.7
Class E	47.5	**Class F**	0.0

WASTE MANAGEMENT

Number of Landfill Sites	4

FLOOD DEFENCE

Length of Raised Flood Defences	49.8 km



DERWENT AREA

TIDAL LIMIT

KEY

- CATCHMENT BOUNDARY
- RIVER
- CANAL
- ADMINISTRATIVE BOUNDARY

Figure 1

EXECUTIVE SUMMARY

The area covered by the Derwent Local Environment Agency Plan (LEAP) is one of great beauty and importance. Many groups and organisations play integral parts in the protection and enhancement of this delicate environment. The Environment Agency is only one of the organisations concerned with the areas well being.

This Action Plan outlines the strategy for activity that the Agency intends to undertake in partnership with others in the Derwent area during the next five years. Within this plan, a number of Actions have been accepted by the Agency and other organisations.

Key Actions for the Derwent Area:

- **Identify areas for wetland and riparian habitat improvement in the Vale of Pickering;**
- **Actively participate in the Derventio 2000 project;**
- **Complete the joint project with English Nature and Yorkshire Water Services on the environmentally sustainable management of water resources of the Lower Derwent Valley;**
- **Actively participate in the Local Authority Local Agenda 21 process;**
- **Determine the scale and extent of land spreading in the Derwent area;**
- **Identify new sites which might act as over-wintering and nursery areas for juvenile fish, concentrating on the Lower Derwent as a first priority;**
- **Monitor sewage treatment works within the Area to ensure compliance with River Quality Objectives;**
- **Determine the extent and location of siltation in the Upper Derwent;**
- **Investigate the provision of additional flood warnings for the Lower Derwent.**

The Environment Agency must work in partnership with others to carry out certain environmental improvements. There are significant opportunities to further improve the nature conservation potential of this internationally important area, to promote best practice and improve water quality.

Education, in its many forms, is seen as the key to environmental protection and enhancement on both organisational and individual levels. The Activity Plan includes a number of initiatives aimed at raising awareness in the Derwent area including working with schools, colleges, universities and young people in general.

The Activity plan set out in Section 4.0 forms an integral part of this Action Plan and establishes a timetable of actions to resolve issues and take opportunities within the plan area.

VISION – THE TEES

The Derwent area is home to around 100,000 people who use the local environment in many ways and value the enjoyment that it brings their local communities. It is a primarily rural area covering around 2057km^2. It is also one of the few largely undisturbed lowland areas in the country.

The Agency recognises the national and international conservation value of large sections of the Derwent, notably due to the seasonal flooding of the Ings. We will work closely with others to maintain and enhance the unique character of the Derwent area.

The Derwent area represents the largest source of drinking water within Yorkshire, supplying several large conurbations within the Yorkshire area. For this reason maintenance of the already high standard of water quality is essential.

There is considerable interest in the Derwent area and increasing access for its wider enjoyment is important. Recreational activities are valuable in the area, but only where they will not be to the detriment of its unique character. This use necessitates careful management, moderation and the cooperation of all those who have an interest in this area.

The Agency wishes, through the Local Environment Agency Plans, to establish strong links and partnerships, with all those who influence the development and conservation of the Derwent area in order that we work together to achieve sustainable improvements, to ensure its protection, and future vitality.

In doing so, the Agency will look at the pressures exerted on the environment, where possible reconciling conflicts in demand, resolving problems where influencing factors allow and effectively targeting resources where they are most needed.

CONTENTS

1.0 INTRODUCTION

1.1 THE ROLE OF 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 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." (Bruntland Definition-published in 1987)

The Agency's corporate aims are to:

- achieve significant and continuous improvement in the quality of air, land and water, actively encouraging the conservation of the natural resources, flora and fauna;
- maximise the benefit of integrated pollution control and integrated river basin management;
- provide effective defence and timely warning systems for people and property at risk of 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 and achieve a proper balance between the needs of the environment and 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 promote 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;
- set priorities and propose solutions which do not impose excessive costs on society.

1.2 LOCAL ENVIRONMENT AGENCY PLANNING

The Environment Agency has wider responsibilities than its predecessor organisations. Local Environment Agency Plans (LEAPs) aim to address environmental concerns relating to air, land and water.

LEAPs will reflect the aims, objectives and responsibilities of the Agency, in so far as the Agency has jurisdiction over them. For example, with litter and local air quality, it is the Local Authority that has the necessary powers and responsibility to bring about environmental improvements.

LEAPs are plans that address local issues and problems through the actions of the Agency working in partnership with others or by the agreed actions of others. The aim of LEAPs is to identify, prioritise and cost environmentally beneficial actions which the Agency and partners will work together to deliver. The plans play a key role in the delivery of our services through integrated activity and priority business planning; they will also promote openness and accountability.

CONSULTATION REPORT

The Consultation Report provides a broad review of the locality, its associated natural resources and the activities and uses that put pressure upon them. The report outlines a draft vision for the plan area and then identifies the issues that need to be tackled, and proposes a number of actions that the Agency believes will move towards addressing them.

STATEMENT OF CONSULTATION

Comments received during the consultation process following the publication of the Consultation Report are summarised in the Statement of Consultation, which is produced and distributed as soon after close of consultation as is practicable.

ACTION PLAN

The Action Plan moves forward from the consultation process, forming the basis for actions within the area for the next five years. It details the nature of actions required, cost, timescale and responsible organisations. The reasons why individual actions are going to be undertaken, the targets that will hopefully be achieved and the benefits of achieving those targets are also highlighted. The Agency will be seeking commitment to planned actions by others wherever possible.

ANNUAL REVIEWS

The Agency is jointly responsible, with other organisations and individuals, for implementing the Action Plan. Progress is monitored and reported annually by means of an Annual Review.

FULL REVIEW

A full review will normally be undertaken every five years. At this stage a new Consultation Report will be produced and the plan re-examined to identify new issues.

ROUTINE WORK OF THE AGENCY

The strategic nature of LEAPs as a planning tool means that the plans are not designed to reflect fully the Agency's routine duties within the area. The Agency's everyday work commits substantial resources to managing the environment. This work is detailed in the Consultation Reports.

1.3 ENVIRONMENT AGENCY RESPONSIBILITIES AND ACTIVITIES

The Agency has head offices in Bristol and London and operates across eight regions and 26 areas in England and Wales. The Derwent area lies within the Dales Area of the North East Region. The Dales Area is one of three Areas in the Region.

The Agency has responsibility for:

- the maintenance, improvement and regulation of water quality and water resources;
- flood defence;
- fisheries;
- water pollution control;
- the regulation of the most potentially polluting industrial processes (Part A processes);
- the regulation of premises that use, store or dispose of radioactive materials;
- licensing and regulation of waste management facilities;
- licensing and regulation of water carriers and brokers.

The Agency has general duties with regard to conservation and recreation and it shares many of its responsibilities with local authorities, in particular waste management and the regulation of emissions to air.

STATUTORY COMMITTEES

The North East Region is served by four committees:

- Regional Environmental Protection Advisory Committee (REPAC);
- Regional Fisheries Advisory Committee (RFAC);
- two Regional Flood Defence Committees (RFDC);

RFAC has an extended remit for recreation, navigation and conservation. Membership of the committees consist of local people drawn from the community including industry, agriculture, Local Authorities and environmental groups. The Agency is required by law to consult the committees on all aspects of its work. The RFDC has executive powers with regard to the discharge of the Agency's flood defence duties.

AREA ENVIRONMENT GROUPS

The Dales Area is served by two Area Environment Groups. Membership consists of local people who live and work in the area and who represent a wide spectrum of interests, including Local Authorities, industry, agriculture, conservation, amenity, recreation and riparian owners. The Groups advise the Agency on LEAPs, the delivery of local services and act as a link between the local community, the Agency and its statutory committees.

1.4 SUSTAINABLE DEVELOPMENT

The goal of sustainable development, which is supported by the UK Government, is reflected in the Agency's vision statement and requires economic and social activities in England and Wales to be undertaken within the carrying capacity of the environment.

The economy, society and the environment cannot be considered in isolation from each other as they form a dynamic system that is in constant change. Environmental management therefore requires an integrated approach to sustainable development.

Integrated environmental management, embracing action, regulation, education and enforcement is a means by which the Agency can promote sustainable development, and LEAPs are an important part of this process.

The Agency will continue to make decisions at both policy and operational levels with regard to environmental impacts. However there are areas that need to be developed and, because in many ways the environment is shared, the Agency seeks to encourage collective action.

The Agency will use the following guidelines whilst seeking to implement the principles of sustainable development:

- decisions will be based on the best possible scientific information and analysis of risks;
- where there is uncertainty and potentially serious risks exist, a precautionary approach will be adopted;
- ecological impacts must be considered, particularly where resources are non-renewable or effects may be irreversible;
- those responsible for causing pollution will bear the cost.

2.0 AREA DESCRIPTION

2.1 INTRODUCTION

This LEAP focuses on the River Derwent and its hydrographic catchment. In order that issues other than those relating to the water environment are included, local government administrative boundaries are also considered.

The area includes, in whole or in part, two Unitary Authorities, four District Councils which are part of North Yorkshire County Council, and part of a National Park. The total population of the area is in the region of 100,000 permanent residents (based on the 1991 Census figures) although the number of day visitors and holiday-makers during the year runs to several million people.

A brief description of each local government unit is given below.

NORTH YORKSHIRE

The area includes part of the north east corner of Hambleton (covering the head waters of the Rye and Seph only). The greater part of Ryedale, the southern half of Scarborough and the eastern edge of Selby is also included. Much of this area is rural/agricultural with large sections of rough grazing and grouse moor on the North York Moors, but with better quality agricultural land in the river valleys, the Vale of Pickering and the Lower Derwent Valley.

EAST RIDING OF YORKSHIRE COUNCIL

The LEAP area includes the northern and western edge of this Unitary Authority with the Derwent forming the western boundary of the Authority area. This area is rural in character and the main centres of population are the villages of the Derwent Valley and the towns of Pocklington and Howden. This area has undergone a major population increase over the past ten years as an overspill for York. Much of this expansion has taken the form of "in-fill" housing and small estates within existing villages.

CITY OF YORK

Although a small area (approx. 270km^2), this Unitary Authority has a relatively large population. Most people live within the York urban area, which is not included in the area covered by this plan, but those living in the Derwent Valley villages are included in the plan.

NORTH YORK MOORS NATIONAL PARK AUTHORITY

Most of the Park is contained within the North Yorkshire County Districts of Ryedale, Scarborough and Hambleton. Under the Environment Act 1995 all the National Parks in England and Wales have assumed the role of the Local Planning Authority, as defined by the various Town and Country Acts.

The Park covers 1436km^2 and has a population of around 25,000 permanent residents, although it receives millions of day visitors per year. Despite fluctuations in the number of visitors to the Park, the overall trend is one of steady increase.

2.2 AIR

Due to the rural nature of the Derwent area, air quality is generally not affected by local heavy industrial sources, but influenced by other activities, such as domestic fuel use, road traffic and agricultural use. The impact of small scale industrial activities regulated by local authorities, however, cannot be neglected. These activities are concentrated on industrial estates scattered throughout the Derwent area.

The activities regulated by the Agency within the area, under Part I of the Environmental Protection Act 1990, are diverse. They include power generation activities (Knapton Generating Station) and liquid fertilizer manufacture (Hydro Chafer Ltd). Pollutant releases to air from those processes are regulated at the release source and minimised within the duties of the Agency under the Act. Air quality is assessed by Local Authorities, using a combination of active and passive monitoring techniques, the passive techniques being more commonly used in the Derwent area. The pollutants monitored are oxides of nitrogen, sulphur dioxide and smoke. Particulates, lead and volatile organic compounds are not monitored at present.

In addition to local air quality monitoring, the station at High Muffles (Cropton Forest) measures long range pollutants, such as acid rain deposition and ozone. This station is part of the UK National Network of Monitoring Stations for these pollutants.

The Environment Act 1995 requires the Government to publish a National Air Quality Strategy, which is currently at consultation stage. Local authorities will have to review the present and future air quality against standards and objectives contained within the strategy to achieve air quality standards by 2005. The Agency will work closely with local authorities to help achieve the requirements of the National Air Quality Strategy.

2.3 LAND

TOPOGRAPHY

The boundary of the Plan area is defined to include all land which contributes surface water to the River

Derwent and its main tributary, the River Rye, and all their subsequent tributaries. It also includes the Sea Cut, a manmade channel connecting the River Derwent with the North Sea, near Scarborough.

The Derwent area is bounded by the Cleveland Hills, North York Moors and Hambleton Hills to the North, The Wolds and the coast to the east, the Vale of York to the west and the Humber Estuary to the south.

The Cleveland Hills and North York Moors reach heights of the order of 400m AOD (Above Ordnance Datum or mean sea level), with the highest points exceeding 454m and 430m altitude respectively, while the Hambleton Hills exceed 370m AOD.

The waters of the Derwent drain south towards its confluence with the River Ouse near Barmby-on-the-Marsh, and thereafter flow into the Humber Estuary and the North Sea. Flowing for 115km, the River Derwent falls from 260m AOD where it rises on the Fylingdales Moor to below 10m AOD at its confluence with the Ouse.

SOILS AND LAND USE

Soil is the uppermost layer of the earth's surface and is made as a result of the interaction of several complex processes such as climate, fauna, flora, man and time. It is generally the layer in which plants grow and its presence is therefore of vital importance to agriculture, especially in terms of nutrient content and drainage characteristics. Soils may be thin or absent in lowland areas or valley bottoms. As with topography, the soil type is often a reflection of the underlying geology. The dominant land use within the middle and lower part of the plan area is arable with a quarter covered by agriculture, pasture and meadow land and a small area associated with deciduous forest.

The upper catchment within the North York Moors National Park is predominantly heather, grass moorland, bracken and evergreen woodland.

Efficient agricultural production in the middle and lower catchment is dependent on the work that the Internal Drainage Boards (IDBs) carry out deal with drainage in relatively low lying areas. This complements Agency flood defence work maintaining drainage margins suitable for agriculture.

Within the Derwent area, the majority of residential development is in the market towns of Pickering, Malton and Norton, with smaller villages spread throughout the area. There is a small amount of industrial and business development, which tends to comprise of light industry, distribution and services.

WASTE

The waste disposal needs of the area are served by four strategic landfill sites which collectively receive the majority of household, commercial and industrial waste. These sites are supported by nine smaller landfill sites distributed throughout the area which accept only inert waste materials from construction and demolition activities. In addition arisings of liquid effluent are landspread at various locations throughout the area.

The pattern and sources of production of household, commercial and industrial waste essentially follow the population distribution and the parallel commercial and industrial base. The per capita production of waste in the area closely corresponds to the national average. However, the per capita production of industrial waste is significantly lower because of the rural nature of the Derwent area. Industrial wastes generated in the area comprise, in the main, of materials similar to household waste, together with waste materials from construction and demolition activities. Only occasional small quantities of special and or difficult wastes are produced in the area and these are mainly disposed of elsewhere.

The area has five household waste reception centres for public use with enhanced delivery of the waste to landfill disposal. In addition, a large number of facilities exist for the reception of recyclable materials recovered by the public from household waste.

2.4 WATER

FLOW AND RAINFALL MONITORING

The Agency manages a regional rainfall monitoring network which includes 27 rain gauges in the Derwent catchment. This enables the variation in long term average rainfall to be calculated. The annual rainfall within the Derwent catchment ranges from 600mm near Barmby to 1100mm on the North York Moors. Rainfall in the Derwent area is less than in the Pennine catchment further west which is of a similar altitude. Effective rainfall is virtually zero during summer months, especially during drought years such as 1990 and 1995.

Potential evapotranspiration is slightly above the Yorkshire average of 543mm. In drought years, potential evapotranspiration is likely to increase, while actual evapotranspiration decreases. Soil moisture deficits reach close to 60mm during an average summer but can double to in excess of 100mm under drought conditions, especially in the drier south of the area.

2.0 AREA DESCRIPTION

In addition to the rainfall gauges there is a network of 16 river gauging stations which provide information on river flows and levels throughout the area. There are also five water levels only monitoring stations which operate on the lower Derwent. The data from these stations is used to produce flow statistics both on a long term and annual timescale. To supplement the data, monitoring is undertaken at Barmby Barrage to enable the outflow from the River Derwent to the River Ouse to be quantified.

HYDROGEOLOGY

The major aquifers within the catchment are the Corallian Limestone, Sherwood Sandstone and the Chalk. Groundwater level monitoring and abstraction boreholes in the Corallian and Sherwood Sandstone aquifers provide information on the storage of groundwater in the aquifer.

The Corallian aquifer outcrops on hills surrounding the Vale of Pickering and is also present beneath the centre of the Vale where it is sandwiched between two impermeable layers, the Kimmeridge Clay above and the Oxford Clay below. The Corallian consists of a sequence of limestone and sandstone of total thickness up to 100 metres which are extensively faulted and dissected by the rivers flowing south from the North York Moors, dividing the aquifer into a series of semi-independent blocks.

The well-developed fissure system within the Corallian limestone permits both a rapid response to rainfall and the ingress of river water on the limestone outcrop and its discharge a few kilometres downstream, often at very large springs.

The situation both enhances the resources of the aquifer and renders it vulnerable to pollution. Groundwater quality is normally very good in the unconfined part of the aquifer. The River Rye and the River Derwent at West Ayton have swallow holes in the river bed where a considerable amount of water is lost to the aquifer. The aquifer is chiefly developed by a smaller number of large public supply sources close to the natural discharge points. There are also other groundwater abstractions from the Corallian aquifer in the Vale of Pickering.

The Sherwood Sandstone Group (Triassic Sandstone) consists of a thick layer (up to 300 metres) of fine/medium-grained sandstone with frequent marly layers. It outcrops in the southern part of the River Derwent area and dips under the Mercia Mudstone in the east.

Groundwater quality is often good but deteriorates markedly near the eastern edge of the outcrop where hardness and high sulphates are associated with the Mercia Mudstone or with thick drift. Concentrations of iron and manganese may pose problems for potable supplies, as may nitrates on the areas with thin or sandy drift cover.

Only the western and northern escarpments of the Chalk aquifer are included in the Derwent area. The springs on escarpments contribute a significant flow into the River Derwent.

The drift deposits, the Kellaways Rock and the Ravenscar Group are minor aquifers.

WATER QUALITY

Rivers and tributaries in the Derwent area are mainly of high quality water, suitable for abstraction for drinking water and capable of supporting good fisheries. There are however a few short stretches with poor water quality, specifically the River Hertford and a few tributaries in the middle and lower section of the Derwent, which are only capable of supporting a limited coarse fishery.

A comprehensive water quality monitoring programme enables the Agency to assess whether or not the Derwent is meeting its required quality standards.

In the upper reaches of the area, the River Derwent and its main tributaries, including the Rye and its tributaries, Costa Beck, Hodge Beck, the Dove, the Seven and Pickering Beck, flow through the North York Moors. This area is generally sparsely populated and there is little industry other than farming including fish farming. There are in fact 11 fish farms in the Derwent area but there is no evidence that they have a measurable impact on chemical water quality at present. This area also has a significant tourist industry which puts a strain on the sewerage infrastructure of the small towns and villages. During the Summer when flows are low some watercourses in this area sink into the limestone and emerge downstream. This can cause low oxygen levels in the watercourse when it re-emerges.

In the River Hertford catchment, there are three significant Yorkshire Water Services (YWS) sewage treatment works discharges at Folkton, Seamer and Hunmanby. These discharges influence water quality in the whole of the area causing the Hertford to fail its river quality objectives. The River Hertford in turn impacts on the water quality of the River Derwent below the confluence. In addition, the area also contains a significant surface water discharge from the Eastfield Industrial Estate on the edge of Scarborough which has been the source of a number of pollution incidents.

On the middle and lower reaches of the River Derwent, there are a number of small YWS sewage treatment works, such as Elvington and Wheldrake, which do not have a detectable impact on water quality. There is one significant discharge to the River Derwent from Malton sewage works which downgrades the River from class A to class B for several kilometres. Again this is a predominantly rural area with a few small industrial estates, often on old air bases, and a small number of trade effluent discharges. Some of the tributaries in this reach suffer from intermittent water quality problems partially due to agricultural practices.

The main tributary in the lower reach of the River Derwent is Pocklington Beck which in turn receives the discharge from Pocklington sewage treatment works and from overflows on Pocklington's sewerage system. These impact on the quality of the receiving waters.

Groundwater quality is monitored in the Corallian and Sherwood Sandstone aquifers by a network of boreholes.

2.5 WILDLIFE AND HERITAGE

The wildlife and heritage features of the area of principle interest to the Agency are those associated with the water environment which provides the focus for this section.

FISHERIES

The upper River Derwent and most of its major tributaries, upstream of Malton, originate in, and flow southwards across, the North York Moors. These watercourses have relatively high gradients with stony beds and, generally, good water quality with low nutrient levels.

Brown trout dominate the stocks of larger fish in these fast flowing streams. Recruitment is mainly the result of natural spawning although some reaches, which are managed for angling, are stocked regularly, usually with trout of takeable size. Although brown trout are relatively tolerant of low pH conditions, some of the headwaters are periodically too acidic to support significant fish stocks. In a few streams, high concentrations of heavy metals, as a result of past extraction of metalliferous ores, adversely affected fish stocks. Along the southern edge of the Moors, swallowholes in the Corallian limestone result in considerable lengths of stream bed drying up during prolonged dry periods to the detriment of the fish populations.

South of the Moors, the River Derwent and its tributaries have much gentler gradients as they flow across the Vale of Pickering. Although some salmonids are present, riverine coarse fish, especially chub, dace, roach and gudgeon, become dominant. The River Derwent is notable for its substantial stocks of pike whilst perch have become more numerous recently. Barbel, although not very abundant, are keenly sought by anglers in certain locations, usually downstream of weirs.

The River Derwent, between the Hertford confluence and Malton, and the lower reaches of several tributaries, including the River Hertford and the Holbeck, have degraded physical habitat following channel modifications, including straightening, and excessive siltation as a result of high inputs from adjacent land. Spawning gravels, sheltered nursery and overwintering areas are in short supply. Two "fish havens" have been created adjacent to, and connecting with, the River Derwent in an attempt to address the shortage of sheltered areas. Lowering of the level of the main river between the Hertford and Ryemouth has left several tributaries "perched" with steps at their confluences which restrict fish passage. The Hertford experiences poor water quality due largely to inadequate dilution of sewage effluents to the detriment of its fish populations.

Downstream of Sutton on Derwent, the main river was formerly tidal but the installation of Barmby Barrage has largely prevented saline intrusions whilst increasing ponding. As a result flounders have virtually been eliminated from the lower river whilst numbers of fish favouring relatively low flows, such as roach and perch, have increased.

CONSERVATION

The Derwent is an area internationally recognised for its importance in terms of nature conservation interest. The river is noted as being a prime example of a lowland river and is one of a national series of river Sites of Special Scientific Interest (SSSIs) covered by a Memorandum of Understanding signed with English Nature in August 1995. Within the Derwent area there are over sixty individual SSSIs.

The river and Ings between Newton Mask and Breighton Meadows are also designated as a Special Protection Area (SPA) under the EU Wild Birds Directive (79/409) and as a Wetland of International Importance under the Ramsar Convention. Large parts of the Ings are managed as a National Nature Reserve (NNR) and are a proposed Special Area for Conservation (SAC) under the EU Species and Habitat Directive (92/43) on account of the flood meadow plant community. The upper and middle reaches of the area are also of considerable importance from a conservation perspective.

2.0 AREA DESCRIPTION

There are two NNRs in the upper catchment, Duncombe Park which includes a section of the River Rye and Forge Valley which includes part of the Derwent.
In terms of landscape conservation, the whole of upper area is contained within the North York Moors National Park, and sections of the Rye pass through the Howardian Hills, an Area of Outstanding Natural Beauty, (both designated under the National Parks and Access to the Countryside Act 1949).

BIODIVERSITY

Biodiversity is simply a term meaning the 'variety of life'.

The Biodiversity Convention signed by the UK Government at the Earth Summit in Rio (1992) seeks to ensure that the full range of animal and plant species are conserved. A National Action Plan for Biodiversity was published in January 1994. Work since then has identified 116 key species and 14 key habitats, many of them aquatic or wetland related and thus of particular interest to the Agency.

The Agency has a duty to further the aim of biodiversity conservation. The following species, to be found in UK Biodiversity Action Plan, are of particular significance in the Derwent area:

- **Water Vole (Arvicola terrestris)**
- **Otter (Lutra lutra)**
- **White Clawed Crayfish (Austropotamobius pallipes)**
- **Depressed River Mussel (Pseudanodonta complanata)**
- **Great Crested Newt (Triturus cristatus)**
- **Bittern (Botaurus stellaris)**
- **The Beetle (Panagaeous crux-major)**

In addition, under the Action Plan, the Agency has special responsibility for the Chalk Streams habitat within the Derwent Area.

Further species, outside the protection of the Action Plan, exist in the Area and Red Data Books, which list creatures considered to be rare or under threat. The most notable examples within the Derwent area are the flood meadows of the Derwent Ings (classified MG4 grassland) and heather moorland - both of international importance.

HERITAGE

Under the Environment Act 1995, the Agency has a duty to protect and conserve buildings, sites and other objects of archaeological, architectural or historic interest when undertaking its statutory duties.

Archaeological evidence of the human past is widespread in the rural landscape and rivers have been the focus for settlement from prehistoric times to the present day. Watercourses are important for the supply of water as well as the movement of people and the supply of power. Many settlements owe their existence to the presence of watercourses and other favourable physical features.

The importance of archaeology is considerable in the Derwent area with the number of Scheduled Ancient Monuments likely to increase as the review of archaeological sites progresses. There are many parks and gardens of special historic interest in the area and one battlefield site at Stamford Bridge (1066) registered on the English Heritage of battlefields.

The Agency will continue to work closely with the relevant organisations in the Derwent area.

3.0 REVIEW OF THE CONSULTATION PROCESS

INTRODUCTION

During the production of the Derwent Local Environment Agency Plan, the Agency undertook extensive consultation with interested parties and the general public.

INFORMAL CONSULTATION

In November 1996, the Agency wrote to 70 key groups, including local authorities, national organisations and other representative bodies asking for comments on a list of initial issues and problems affecting the environment in the area. A total of 41 organisations responded. All comments from this informal consultation were considered and where appropriate incorporated into the Consultation Report.

FORMAL CONSULTATION

The Consultation Report was published in February 1997 and gives a comprehensive account of the Derwent area, including the current state of the local environment. It concentrates on the issues in the catchment and management proposals for their solution.

The Agency launched the Derwent LEAP consultation process on 26 February 1997 with a public meeting at Settrington Hall. Invitations to the launch meeting were extended to organisations and individuals were invited to the launch meeting - of which a total of 95 people were able to attend. This represented a wide spectrum of interests from within the area and national organisations, including: local authorities, government departments, environmental organisations, industry, recreation and sports groups, and angling clubs.

The launch marked the start of a three month consultation period during which the LEAP was promoted by mailing a total of 500 copies of the Consultation Report (including distribution within the Agency and multiple copies to certain organisations), distribution to local schools and libraries; preparing inserts into television, radio and newspaper articles; the creation of an education pack for children of key stages 2 and 3; and the development of a CD Rom system for the document, allowing wider access of the LEAP documents to be made.

GENERAL

It was of general concern that the sensitive treatment of the Pocklington Canal needed to be addressed further within the document in terms of sewage and agricultural pollution, management of water resources (and maintenance of water levels), the preservation of archaeological and heritage features and careful restoration of the canal for future navigational use.

THE ACTION PLAN

The Derwent Action Plan follows the production of the Derwent LEAP Consultation Report. Having identified 26 issues, and related proposals to be addressed, the document was released for external consultation. Comments as a result of the consultation have since been considered, some of which have been incorporated into this Action Plan.

The Action Plan signifies the stage within the LEAP process where the Agency commits itself to specific actions. These actions will look to realise the vision and to sustainably manage the environment of the Derwent area. In establishing these actions, the Agency determines the allocation of resources, the priority for each action, the timescale within which each action is to be progressed and the organisations that are to be involved in their implementation.

RESPONSE RECORD

By 12 June 1997, 41 consultees had responded. A breakdown of the type of organisations/individuals that responded during the formal consultation period can be found in the table below.

CONSULTEE TYPE	No. of Consultees	No. of Responses
Central Government Departments	11	3
Local Authorities (including National Parks)	27	8
Public Bodies/Utilities/Government Agencies	47	5
Landowners/Managers/Property Consultants/Building Preservation	16	1
Industry/Industrial Interest Groups	9	1
Environmental/Nature Conservation Groups	23	9
Amenity/Recreation Groups	45	6
Educational establishments/Museums	15	6
Others	4	2
TOTALS	197	41

Members of the Agency's Area Environment Groups and Regional Committees have not been included in this group. Including them in the above figure would bring a total of 231 consultees on the Agency's database for this catchment. This figure often includes multiple consultees from a single organisation. The table above therefore represents the number of groups, organisations and individuals who requested one or more Consultation Reports.

4.0 ACTIVITY PLAN

IMPLEMENTATION

Implementation of the plan is based on the nineteen key issues set out below. These were discussed in detail in the Consultation Report and have been modified, where appropriate, in the light of the consultation responses. Their resolution is considered necessary in order that the plan can be successful in achieving real environment improvements within the Derwent area.

Following the end of the consultation period, the Agency has undertaken extensive negotiations with key groups and individuals. The vision and key objectives have been modified in the light of the consultation responses. All actions should be Specific, Measurable, Agreed, Realistic and Time based (SMART). The plan represents the non-routine investment of the Agency and others in the area.

The consultation process generally supported the issues raised by the Agency. Many of the original proposals for action have been carried through into the activity tables but a number of new actions have been added, and new approaches taken. Actions which have resulted from the consultation process are highlighted (+).

TABLES

The issues are presented with a number of actions, a target timetable and the responsible parties identified. Where possible, costs have been outlined for the period covered by the plan. This does not necessarily reflect the total cost of the schemes and is sometimes a projected estimate which will be more accurately costed at a later date. This document is produced in good faith, recognising current priorities both within the Agency and other organisations.

Key

>	Greater than
R	Routine costs which are not identifiable
U	Unknown costs at this time
*	Only Agency costs identified - costs to other organisations unknown
k	£1,000 (In some case staff time is included)
pa	Per annum

A number of the actions will require feasibility studies and an appraisal of options prior to work commencing. In some cases, depending on the outcome of these studies, further actions may not be required. The timescales for actions may vary depending on the future political situation and changes within the economy. All changes will be highlighted in the Annual Review.

METHODOLOGY

The following tables have been designed for the ease of the reader. The meaning of the key columns follows:

Actions The course of action that has been decided upon by the Environment Agency (following the consultation period). These actions work towards addressing some/all aspects of the perceived issues.

Drivers This is the specific reason why the action is undertaken.

Targets This is how the success of the action will be measured.

Benefits Both environmental and organisational - this will be the result of the Agency and partners meeting each stated target.

LIST OF ISSUES

Issue 1 Increase opportunities to work with others for the benefit of the environment.

Issue 2 Impact of development on the environment.

Issue 3 Lack of environmental awareness.

Issue 4 Loss of Biodiversity.

Issue 5 Landspreading in the Derwent area.

Issue 6 Maintain and improve fisheries in the Derwent area.

Issue 7 Access to watercourses for recreational purposes.

Issue 8 Impact of non-indigenous species and diseases.

Issue 9 Threats to water quality.

Issue 10 Poor water quality of the River Hertford.

Issue 11 Deterioration of the environmental quality of the River Derwent at East and West Ayton.

Issue 12 Impact of droughts on the aquatic environment.

Issue 13 Loss of water through swallow holes at East and West Ayton.

Issue 14 Sustainable management of the water environment of the Lower Derwent Valley.

Issue 15 Risk of flooding to people and property.

Issue 16 Introduction of landfill tax.

Issue 17 Illegally deposited tyres on Breighton Airfield.

Issue 18 Inadequate awareness of waste management legislation amongst those involved with waste.

Issue 19 Incomplete understanding and knowledge of local industry's recycling and waste minimisation activities.

ISSUE 1 - INCREASE OPPORTUNITIES TO WORK WITH OTHERS FOR THE BENEFIT OF THE ENVIRONMENT.

A number of initiatives have been started by ourselves and others which aim to improve the local environment. We see the strengthening of existing working relationships and forging of new ones, through interaction with the public, as the way forward.

Work with the local community and other organisations for the benefit of the whole environment.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Gain an understanding of Parish Councils views on the local environment, using outputs from the Parish Map Project.	Involve community in Agency planning, building on initial work of the Parish Map Project.	Produce a list of ideas and concerns to take into account in future planning.	Strengthen community links.	1998-2002	Agency EN	Project Officer Parish Councils	U
Liaise with MAFF/FRCA over the uptake of MAFF Habitat Scheme and provide advice for specific riverside sites where appropriate. Influence targeting of MAFF stewardship scheme.	Need to promote best practice.	Provide advice and change management practices at 3 sites if practicable.	Maintain/improve links with FRCA & landowners.	1998-1999	Agency	MAFF FRCA	<0.5
Where opportunities arise fund FWAG to promote countryside stewardship agreements of riparian land within North Yorkshire.	Agency duties to further and promote best environment practice.	FWAG to provide information on number/ location of sites entered into stewardship agreements. Target chalk streams and fisheries.	Improve links with FWAG/ landowners they contact encompassing fisheries and conservation.	1998-1999	Agency	EN FWAG	U
In conjunction with EN, produce and implement a conservation strategy and consenting protocol.	Memorandum of Understanding (MoU) signed between chief executives of the Agency and EN.	Protocol to be completed. Conservation strategy to be completed.	Promote closer working relation-ships with EN.	1998-1999	EN	Agency	4.5
Ensure adoption of the Agency's LEAP & that Action Plans are made available to all interested parties, and all actions identified are implemented.	Promote Agency activities and to help secure joint projects.	LEAPs available and relevant to interested parties, actions implemented.	Increase awareness, LEAP document is actioned.	1998-2002	Agency	All interested parties	<1

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Actively participate in the Local Authority Local Agenda 21 process.	To work towards a holistic approach to the environment.	Increased communication and joint projects.	Working towards the same goals.	1998-2002	Agency	LAs Local Groups	2pa
Produce Water Level Management Plans to cover Sites of Special Scientific Interest (SSSIs) within the Derwent area which fall within the Agency's jurisdiction (Lower Derwent Valley, Rye at Dumcombe, Forge Valley).	Protect the SSSIs.	Plans for protection for the SSSIs produced and assessment made.	Greater understanding of the water environment.	1998-2000	Agency	IDBs EN	U

ISSUE 2 - IMPACT OF DEVELOPMENT ON THE ENVIRONMENT.

The Agency is taking a pro-active role in the land use planning system. This involves advising the National Park Authority and the other Local Planning Authorities and developers on matters concerning air quality, the water environment and waste management. Development has a major influence on shaping an area. New development must be carefully considered, to recognise both the potential adverse effects, as well as the benefits that development can have on the environment.

Seek to minimise the impact of development on the environment and encourage improvement where possible.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Assess the effectiveness of planning comments made by the Agency through monitoring of planning application decision notices.	Influence in planning process is below desired level.	Understanding of the effectiveness of comments.	Baseline data to enable improvement in planning comments.	1998-2002	Agency	LPAs	2pa
Monitor effectiveness of comments and recommendations made by the Agency to Planning Authority Development Plans.	Influence in strategic planning process is below desired level.	Monitoring programme introduced.	Improved links between Agency and LPAs, environmental protection.	1998-2002	Agency	LPAs	1pa
Carry out survey work under section 105 of the Water Resources Act 1991 on watercourses identified by Local Planning Authorities as being under development pressure.	To enable the Agency to promote advice on flood vulnerable sites.	Survey completed and advice given.	Increased awareness of development pressures, closer links with development planning.	1998-1999	Agency	LPAs	30

ISSUE 3 - LACK OF ENVIRONMENTAL AWARENESS.

Education and awareness raising are recognised by the Agency to be of primary importance. Awareness of educational issues is essential for successful environmental management. The Agency will work in partnership with statutory, non-statutory and voluntary groups to develop a wider understanding of environmental issues.

Promote an understanding of the need for environmental protection.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Advise those affected by the waste packaging regulations of their obligations through targeted guidance.	Need for the regulations to be promoted.	Regulations promoted and regulators operating within the legal framework.	Reduction in waste and environmental risk.	1998-2003	Agency	Industry	U
Actively promote an understanding of the value of water through the 'save water save our rivers' campaign.	Raise awareness of the importance of water as a resource.	Campaign held.	Awareness raised.	1998-2003	Agency		U

ISSUE 4 - LOSS OF BIODIVERSITY.

The United Kingdom Government signed up to the Biodiversity Action Plan (BAP) at the Rio Summit in 1992 in recognition of the global threat to biodiversity. The Agency is the national contact point for or lead partner for 15 species and 1 habitat (chalk streams) within the Derwent catchment, there are four species present which the Agency has special responsibility for under the UK BAP, these being; Otter, Water Vole, White Clawed Crayfish and Depressed River Mussel. Within the Derwent, the Agency is also responsible for the chalk stream habitat associated with streams draining from the Yorkshire Wolds to the south and east of Malton.

Promote and implement the aims of the UK Biodiversity Action Plan.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Determine the status of species present in the Derwent for which the Agency has taken special responsibility as lead contact under the BAP, ie Otter, Water Vole, White Clawed Crayfish and Depressed River Mussel.	United Kingdom Biodiversity Action Plan.	Species Action Plans produced.	Dissemination of information to interested bodies eg LPAs. Enabling better informed management decisions.	1998-2003	Agency	EN MAFF FRCA National Park YWT	U

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Implement actions for other species listed in the UK BAP for which we have responsibilities but are not the lead contact.	United Kingdom Biodiversity Action Plan.	Implement plan.	Protection and enhancement of habitats and species.	1998-2003	Agency	EN MAFF FRCA National Park YWT	U
Undertake aquatic invertebrate survey of chalk stream sub-catchments.	United Kingdom Biodiversity Action Plan.	Survey completed.	Information collected for future management decisions.	2000-2002	Agency		U
Identify areas for wetland & riparian habitat improvement in the Vale of Pickering (Vale of Pickering Wetlands Project).	Vital component in this internationally important river system.	Identify areas.	Improve working relationships and local environment.	1998-2001	Agency University College of Ripon & York St.Johns Co.Co Others		4
Identify areas for riparian habitat improvement within the catchment and draw up/initiate projects to improve degraded river lengths.	Environment Act 1995.	Target river lengths for habitat improvements.	Improved local environment.	1998-2003	Agency		U
Survey all Agency owned land within the catchment.	Environment Act 1995. United Kingdom Biodiversity Action Plan.	Report on ecological value potential of Agency owned land.	Enables Agency to address land matters effectively.	2001-2002	Agency		U
Liaise and contribute to the production of Local Biodiversity Action Plan (LBAP) with LPAs.	United Kingdom Biodiversity Action Plan.	Contributions made to LBAPs.	Improved working relationships and partnerships approach to achieving aims of the UK BAP.	1998-2003	LAs Ryedale NYMNPA Ryedale Agency	EN MAFF YWT NYMNP	U
Evaluate existing Agency aquatic invertebrate and fish data to identify species of national, regional and local conservation importance within the catchment.	Increasing requests for this type of information through the United Kingdom Biodiversity Action Plan.	Lists of aquatic invertebrates and fish classified for conservation purposes.	Identification of notable species allowing informed decisions to be made to prevent declines in their status.	2000	Agency		U

ISSUE 5 - LANDSPREADING IN THE DERWENT AREA.

It is known from the notification procedure that 13,000 tonnes of industrial effluent per annum is land spread predominantly to 14 known locations. This represents only a fraction of the total quantity of effluent land spread. The origin and fate of the majority of materials land spread is unknown.

Seek to ensure that the landspreading of waste materials does not give rise to localised pollution or detriment to local amenity.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Determine the scale and extent of landspreading by identifying the sources of effluent, the haulage carriers involved and the location at which these practices are carried out.	Public concern over potential impact/ increase in land-spreading of industrial effluents.	Information collected and analysed.	Full understanding and control of land-spreading activity.	1998-2000	Agency		1
Institute a programme of supervision and monitoring of the activity and endeavour to promote best practice.	Encourage best practice.	Programme of supervision in place.	Reduced impact of landspreading on the environment.	2001-2003	Agency		U

ISSUE 6 - MAINTAIN AND IMPROVE FISHERIES IN THE DERWENT AREA.

The quality of the fishery is an important indicator of the health of a river. The distribution of fish species in the Derwent is generally good. However where appropriate the Environment Agency seeks to improve the fishery and river habitat.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Monitor the effectiveness of the two fish havens between Yedingham and Low Marishes.	To assess impact on the river fishery.	Report to be completed.	Ability to make effective decisions.	1999-2000	Agency		1.5
Investigate, maintain and improve habitats in areas which act as over-wintering refuges for juvenile fish in particular Wheldrake Beck, Fleet Dyke and Wheldrake Ings.	These areas are under threat as refuges.	Only allow develop-ments that have no adverse effects.	Retention as fish refuges.	1998-1999	Agency		5

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Identify new sites which might act as over-wintering and nursery areas for juvenile fish, concentrating on the Lower Derwent as first priority.	The need to identify over-wintering and nursery areas.	Report on locations and potential threats.	Prioritisation of future work.	1998-2003	Agency		2
Prioritise obstructions to fish passage for further improvements and outline scheme proposals.	The need to identify main problem areas and formulate an action plan.	Inclusion in action plan report.	Action plan ready and awaiting implementation of funds.	1999-2000	Agency		5
Create fish shelter areas in the upper Derwent/ Hertford/Rye linked with riparian habitat improvements, and including modifications to confluences.	Management practices are adversely affecting fish stocks.	Create five deepened areas and modify 5 confluences.	Areas available for fish at extreme flows.	1998-2000	Agency	IDB Landowners	2
Address concerns regarding poor and deteriorating angling catches in the lower Derwent.	Numerous complaints about the state of the fishery.	Report to be completed.	Addresses concerns and identifies aspects requiring additional investigation.	1998-1999	Agency	Angling clubs	2.0
Maximise available spawning grounds for gravel spawning species at Howsham.	Perceived shortage of clean spawning gravels.	Increased area of clean gravel suitable for spawning.	Potentially increased recruitment of gravel-spawning fish	1998-2003	Agency		1.5
Evaluate use of Stamford Bridge and Kirkham fish passes.	Interest regarding the effectiveness of the passes.	Evaluation report.	Ability to recommend effective fish passes.	1998-1999	Agency Durham University	NERC	7.5
Collate information on pike and prey fish in the Derwent.	Anglers concern about perceived imbalance.	Evaluation report.	Provide response to concerns and target management	1999-2000	Agency		1.5

ISSUE 7 - ACCESS TO WATERCOURSES FOR RECREATIONAL PURPOSES.

As well as residents of the Derwent area there are several million visitors to the area every year. It is important that where possible, and without detriment to the environment, recreational facilities are maintained and improved. This will include such things as access to the river bank along with the creation of specialist facilities.

Collaborate with other organisations to maintain, and where appropriate, improve riverside access and facilities.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Actively participate in Derventio 2000 project.	Opportunity to promote environmentally friendly recreational use.	Input to project plan.	Balanced recreational use for the Malton community.	1998-2000	Ryedale District Council	Agency	2.5
Review Barmby Barrage Site Management plan.	Ensure that correct site plan is still applicable.	Review report.	Feedback and further improvements to site.	2000-2001	Agency		3
Assess Agency owned land for recreation potential (explore possibility of linking footpaths of Sea Cut and Derwent).	Need to develop site management plans for Agency owned land.	Assessment report.	Ecological and recreational improvements to sites.	2000-2001	Agency		9

ISSUE 8 - IMPACT OF NON-INDIGENOUS SPECIES AND DISEASES.

The introduction and spread of certain species and the occurrence of new diseases and parasites may pose a threat to the existing ecology and/or landscape of the Derwent area. Where possible control alien invasive species and diseases.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Monitor spread of alder root disease at selected locations.	Large number of trees already infected in valuable catchment.	Inspections and collation of findings.	Warning of deterioration, initiating mitigating action.	1998-2003	Agency Forestry Authority	Conservation Groups	4
Initialise visits to fish farms to raise awareness on new legislation on screens for water inlets and outlets.	Problems of escape of non-indigenous fish from farms.	Complete contacts prior to 1 January 1999 (Implementation date).	More efficient implementation of new legislation.	1998-1999	Agency	Conservation Groups	4

ISSUE 9 - THREATS TO WATER QUALITY.

There were a number of water pollution incidents in the Derwent area during 1995. All incidents pose a threat to water quality and potentially to abstractions for potable supply. In 1996 one such water pollution incident killed one thousand fish and closed the water intake at Elvington for a short period. There are also problems with STWs and inadequate methods of sewage disposal within the area, which impact on the water quality.

Improve water quality.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Continue to seek improvements from site operators and dischargers from public and private surface water sewers into Eastfield Drain.	Reduce the number of water incidents.	Identify all problem industrial units and establish a programme of follow up visits to give advise on pollution prevention.	Environmental and resources in terms of reducing the number of water incidents.	1998-1999	Agency		2
Carry out farm surveys to identify sources of pollution and then instigate remedial action to reduce the number of farm pollution incidents throughout the Derwent area.	Reduce number of water incidents.	Identify threatened stretches.	Environmental and resources.	1998-1999	Agency	Farmers	2
Monitor Malton STW and water quality down-stream to ensure compliance with RQO.	Ensure continued compliance with RQO.	Monitoring completed.	A greater awareness of changes to water quality.	1999-2004	Agency		1
Monitor Pocklington Beck for possible designation as a Eutrophic Sensitive Area.	To establish whether or not Pocklington Beck and Canal are eutrophic.	Decision on designation as a Eutrophic Sensitive Area.	Improve water quality/amenity.	1998-2001	Agency		3
Pursue with YWS the provision of effective sewage treatment for Cold Kirby.	Public pressure to stop visible nuisance and improve water quality.	Full treatment of sewage from Cold Kirby.	Improved environ-ment for Cold Kirby.	1998-2000	Agency YWS	Cold Kirby Village Residents	3
Work closely with Local Authorities/IDBs to dis-courage further development in identified risk areas until adequate disposal facilities are provided.	To prevent future waste disposal problems.	Potential development identified.	Reduced threats to water quality.	1998-2004	Agency	IDBs LAs	U

ISSUE 10 - POOR WATER QUALITY OF THE RIVER HERTFORD.

The River Hertford is of poor water quality and fails to meet its River Quality Objective throughout its 21.2km. The main reason for this is lack of dilution available for the discharges from Seamer, Folkton and Hunmanby STWs. The organic input from these sources leads to low levels of dissolved oxygen and may be responsible for increased weed growth. Improve water quality.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Ensure YWS improves sewage effluent treatment, to meet the standards required to achieve River Hertford River Quality Objectives at Seamer, Folkton and Hunmanby STWs.	Sewage effluent treatment below desired level.	Sewage effluent treatment improved.	Improved water quality.	1998-1999	Agency	YWS	U
Monitor STWs on the River Hertford for possible designation as a Eutrophic Sensitive Area under the UWWTD.	Poor water quality of the River Hertford.	Monitoring completed.	Greater protection for the River	2001-2004 Hertford.	Agency		U

ISSUE 11 - DETERIORATION OF THE ENVIRONMENTAL QUALITY OF THE RIVER DERWENT AT EAST AND WEST AYTON.

It is believed that changes in land use upstream of East and West Ayton have caused increased siltation between Forge Valley and West Ayton. It is believed that this has led to a deterioration in the environmental quality of the river.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Investigate the problem of siltation in the River Derwent upstream of West Ayton.	To determine the extent of siltation.	Map and report to be completed.	Greater understanding of siltation problem.	1998-1999	Agency	NYMNPA Public Angling Club Parish Councils	U
Support and actively participate in the development of the NYMNP proposed Upper Derwent and Forge Valley Catchment Enhancement Project.	Bring about environmental enhancements in partnership with other interest groups.	Active involvement with the project offering ideas and supporting aims.	Organisational, environmental, amenity and public benefits.	1998-2004	Agency	NYMNPA EN YWS Public Scarborough BC Forestry Authority	6pa

ISSUE 12 - IMPACT OF DROUGHT ON THE AQUATIC ENVIRONMENT.

The drought event of 1995/96 to resulted in naturally depleted flow levels in many surface and groundwaters. The Agency needs to review the current knowledge and understanding of the behavior of aquatic systems during and after such a climatic event.

Investigate the impact of the drought and low flow conditions on the aquatic environment.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Undertake a strategic review of invertebrate ecological data in order to detect underlying patterns and where possible ascribe the causes of change.	To gain an understanding of the existing ecological data.	Review completed.	Greater awareness and understanding of the existing information.	1999-2000	Agency		3.5
Compare new biological data with the results of the 1993 data in order to determine the impact of low flows on the River Derwent.	To understand the impact of low flows on ecological communities.	Comparison completed.	Understanding of the impact on low flows.	1998-1999	Agency		2

ISSUE 13 - LOSS OF WATER THROUGH SWALLOW HOLES AT EAST AND WEST AYTON.

In 1993, the National Rivers Authority (NRA), using a methodology produced by consultants, identified 40 rivers with low flows caused by abstraction. The River Derwent at East and West Ayton was identified as one of the top 40 low flow rivers within the country. Consultants were employed by the NRA and YWS to investigate the low flows and recommend solutions to alleviate them.

Promote the alleviation of the low flow problem at East and West Ayton that is related to abstraction.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Employ consultants to carry out an Environmental Assessment of the proposed solution and if acceptable implement the solution.	Test if solution is environmentally acceptable.	Assessment completed.	Will know if we can proceed with the favoured solution.	1998-2000	Agency		2.5

ISSUE 14 - SUSTAINABLE MANAGEMENT OF THE WATER ENVIRONMENT OF THE LOWER DERWENT VALLEY.

The Lower Derwent is recognised nationally and internationally as a river and wetland of great conservation value. This is reflected by a number of designations under the Ramsar Convention and EU Directives. The Derwent also represents the largest drinking water supply within Yorkshire, supplying several major conurbations in the Yorkshire area. There is clearly a balance to be met managing the environment and water resources.

Work together to manage the Lower Derwent Valley in a sustainable way.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Complete a joint project with English Nature and YWS on the environmentally sustainable management of water resources of the Lower Derwent Valley.	Need to work with others to examine the Lower Derwent to protect and enhance it.	Hydraulic, hydrological, water quality and ecological models developed, information gaps filled, management options evaluated and operating plan developed.	Agreed way forward in the sustainable management of the Lower Derwent.	1998-2000	Agency EN YWS	RSPB YWT NFU IDBs Landowners	146
Review consents in the Lower Derwent in line with the Agency's responsibilities under the Habitats Directive.	Habitats Directive.	Consents reviewed.	Ensure that the established consents do not have a negative impact on the SPA, proposed SAC.	1998-2000	Agency	EN YWS	See above
Carry out pilot phase of solutions from the joint project on the river and Ings.	AMP 3 and works arising from EU Habitats Directive and SSSIs.	Understanding of the impact of piloted management actions on the river system.	Knowledge of best solution for environment sustainable management of the Lower Derwent system.	2000-2004	EN YW Agency	RSPB YWT NFU IDBs Landowners	See above

ISSUE 15 - RISK OF FLOODING TO PEOPLE AND PROPERTY.

Historically, development has been centred on the area's rivers which provided a route for communication and a source of water. Where development has taken place in the natural flood plain, properties will be at risk from flooding unless works are undertaken to reduce this risk. It is not practical, cost effective or environmentally acceptable to protect all vulnerable properties. However, where the Agency's powers and funding permit, we will undertake a priority based programme to provide effective protection for people and property against flooding. This is achieved by the construction and maintenance of flood defences and through the provision of effective and timely warnings.

Provide and maintain flood defences and a timely, reliable and accurate flood warning service.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Investigate the provision of additional flood warnings for the Lower Derwent.	Flooding in the area.	Flood warning provision investigated.	Effective flood warnings in place.	1999-2003	Agency		U
Ensure adverse effects of flood defence maintenance and capital schemes on fisheries and fluvial and riparian ecology are minimised and potential benefits realised.	Ensure that ecological effects of schemes are given due consideration.	Report on potential effects on fisheries and ecology.	Optimal scheme design.	1998-2003	Agency		U
Improve flood operations by remotely operating the structures at Kirkham and Stamford Bridge through the use of telemetry.	Improved operations.	Work completed.	Reduced flooding.	1999-2000	Agency		U
Carry out feasibility studies for increasing the standard of flood protection at Malton, Pickering, Stamford Bridge and Sinnington.	Flooding in these areas.	Feasibility study complete.	Understanding of the feasibility of schemes.	1998-2003	Agency	MAFF	45
Carry out scheme to repair Whitby Road Bridge (A165 road bridge at Scalby, near Scarborough).	Bridge is a flooding risk.	No floods as a result of the bridge.	Reduced flooding risk.	1998-1999	Agency		245

ISSUE 16 - INTRODUCTION OF LANDFILL TAX.

On 1 October 1996, a new landfill tax was introduced. This has added £7 per tonne to the cost of disposing of household/industrial/commercial waste and £2 per tonne to the cost of disposal of inert materials eg builders rubble. It is anticipated that this tax may potentially result in an increase in fly-tipping by waste carriers in an effort to avoid disposal charges.

Combat a potential increase in the level of fly tipping in the Derwent area.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Undertake an anti-fly tipping campaign in conjunction with NYMNPA, relevant local authorities and the Tidy Britain Group.	Reduce the quantities of waste illegally deposited.	Build on existing links with local authorities and outside bodies.	Environmental and communication.	1999-2003	Agency	NYMNPA LAs TBG	2

ISSUE 17 - ILLEGALLY DEPOSITED TYRES ON BREIGHTON AIRFIELD.

Several hundred thousand tyres were illegally deposited at Breighton airfield in the late 1980s. Planning permission was granted for a landscaping scheme consisting of clay bunds, within which the tyres were to be incorporated. The scheme began in the summer of 1995, and approximately half of the tyres have now been used. However, there is still a substantial number of tyres present on site, posing an obvious fire hazard, with associated contaminated run-off and air quality problems should a fire occur.

Ensure that any environmental damage from the tyres is prevented/minimized.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Maintain and develop a secure working relationship with the emergency services and the local authorities in relation to the site as a fire hazard.	To prevent and minimise pollution.	Develop relationship.	Increased effectiveness/pollution prevented or minimised.	1998-2003	Agency	Fire Service East Riding Council	U
Prepare a contingency plan to avoid/minimise the likelihood of environmental damage should a fire occur.	To prevent and minimise pollution.	Emergency plan completed.	Increased effectiveness/pollution prevented or minimised.	1999-2000	Agency	Fire Service East Riding Council	1

ISSUE 18 - INADEQUATE AWARENESS OF WASTE MANAGEMENT LEGISLATION AMONGST THOSE INVOLVED WITH WASTE.

Compliance with existing and new waste management legislation is imperative if the Agency is to minimise the effect of waste on the environment. The Agency will ensure compliance with existing Duty of Care legislation and that new legislation regarding the controls over waste oils and asbestos cement products is promoted to those who are unaware of its existence. Promote a wider understanding of new and existing waste management legislation.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Circulate information and provide guidance to operators of licensed facilities on recognised best practice.	Unsatisfactory compliance and awareness of industry practice, particularly smaller operators.	General re-education in terms of regulations and procedure.	Increased compliance and promotion of the best practice.	1999-2000	Agency		U
Increase awareness amongst waste producers of Duty of Care Regulations and the Carrier Registration System through a programme of visits to major waste producers.	Unsatisfactory compliance with, and understanding of the Duty of Care.	Undertake a programme of visits and/or if appropriate carry out a series of seminars to advise on the Duty of Care.	Compliance with the Duty of Care Regulations.	1999-2000	Agency		U

ISSUE 19 - INCOMPLETE UNDERSTANDING & KNOWLEDGE OF LOCAL INDUSTRY'S RECYCLING & WASTE MINIMISATION ACTIVITIES.

The position regarding recycling of household waste is well monitored and documented by local authorities. However, the position with respect to industrial and commercial waste is less clear in terms of recycling and waste minimisation. The Agency needs to be in a position to assess the overall performance with relation to recycling and waste minimisation in the Derwent area in order to promote best practice. Establish the extent of recycling and re-use of commercial and industrial waste materials.

Actions	Drivers	Targets	Benefits	Timescale	Lead Partners	Others	Cost (k) (Agency)
Identify the major companies/organisations currently undertaking recycling initiatives and determine the quantity and nature of materials recycled.	To gain an understanding of recycling initiatives.	Companies identified.	Baseline data gathered.	1999-2003	Agency		U
Assess the opportunities for expansion and adoption of successful activities by comparable industries.	Spread best practice	Successful activities expanded.	Increased recycling.	1999-2003	Agency		U

5.0 PROTECTION THROUGH PARTNERSHIP

The Agency is well placed to influence many of the activities affecting the environment through the Environment Act 1995 and other legislation. This section provides the opportunity to address longer-term management issues in partnership with others.

The Agency must work with a number of other organisations to ensure that the actions mentioned in Section 4.0 are implemented in order that the key objectives and the long term vision can be realised. The Agency is working closely with Local Authorities in particular to ensure that this happens. Dales Area also seeks to increase the number of partnerships opportunities with statutory and non-statutory groups to undertake improvement projects and to develop a wider public awareness of environmental issues.

A full list of organisations involved in the pre-consultation stage of this document can be found in the Statement of Public Consultation.

Further partnerships proposals are welcomed.

EDUCATION

Awareness of educational issues is of paramount importance for successful environment management. The Environment Agency will seek to educate and influence individuals, groups and industries to promote environmental practice. The Agency will work in partnership with statutory and voluntary groups to undertake improvement projects and develop a wider public awareness of environmental issues.

The Agency will actively work within educational establishments and with groups that work with young people. It will be encouraging young people to be aware of their actions and the effects they have on the environment.

KEY PARTNERSHIPS

This section covers the role of the Local Authorities in relation to land use planning, air quality, waste management and flood defence. It also recognises some of the key groups and organisations which play an important role in protecting the local environment.

DEVELOPMENT PLANNING

Land use is one of the single most important influences on the environment. It follows, therefore, that land use change has important implications for the environment, which can be both positive and negative. Land use planning is administered by county, district and unitary planning authorities. Control of land use change is achieved through implementation of the Town and Country Planning Acts and a range of Government Planning guidance. This guidance highlights the importance of communication between Local Planning Authorities and the Agency, as well as the relationship between land use and the environment.

The Agency is committed to developing close working relationships with Local Planning Authorities to promote effective links between planning and environmental protection.

DEVELOPMENT PLANS

Regional Planning Guidance for Yorkshire & Humberside (RPG12) was issued by the Department of te Environment (DoE) in March 1996 after consultation with, amongst others, the Local Planning Authorities and one of the Agency's predecessors, the NRA. The RPG sets out the broad planning objectives for the area.

County Council Structure Plans, District Council Local Plans and Unitary Authority Development Plans must be produced by Planning Authorities. These plans set out the council's development objectives and are prepared in accordance with the RPG. They provide a framework for land use change and are a key consideration in the determination of planning applications. The Agency is a statutory consultee for all these plans which allows the Agency's views to be considered by the councils when formulating Development Plan policies and allocating land for development.

Development Plans guide future development. Through the consultation process, the Agency encourages Local Planning Authorities to adopt policies which protect the environment from any of the potentially harmful effects of development.

The NRA produced a set of statements in its documents 'Guidance Notes for the Local Planning Authorities on the Methods of Protecting the Water Environment through Development Plans'. These statements provide a general guide for LPAs regarding the policies which should be included in the various plans and why they are important. This guidance is currently being updated by the Agency.

DEVELOPMENT CONTROL

The Agency is also a statutory consultee for certain categories of planning application, and councils have discretionary powers regarding the referral of other matters. This allows the Agency's views to be considered by the council prior to planning applications being determined.

It is primarily land use change in the long term, and the opportunities presented by re-development, that will help to tackle the issues of urban run-off, contaminated land and the rejuvenation of river corridors.

5.0 PROTECTION THROUGH PARTNERSHIP

LOCAL AGENDA 21

Local Agenda 21 was one of four main agreements signed at the Rio Earth Summit by representatives of 150 countries including the UK Government. It is intended to be :
'A comprehensive programme of action needed throughout the world to achieve a sustainable pattern of development for the next century.'

Local Agenda 21 includes initiatives to further the concept of sustainability and includes waste management issues and the promotion of environmental awareness. In 1994, the Government produced a national sustainable development strategy and action plan for the UK. Most Local Authorities are working with local communities to produce their own Local Agenda 21 programmes in order to promote sustainable development and to improve quality of life. Local Agenda 21, which is a 'grassroots' mechanism looks to local people to find positive ways of living in a more sustainable manner in their area. The Agency will work with Local Authorities to protect and improve the local environment and support Local Agenda 21 initiatives. LEAPs provide proposals for action which can be fed directly into Local Agenda 21 Action Plans.

AIR QUALITY

Local Authorities' Environmental Health departments regulate air pollution from thousands of industrial processes under Part 1 of the Environmental Protection Act 1990. Generally these are processes with less potential to pollute than those regulated by the Agency. The processes concerned are known as Part B processes. Local Authorities will be required to review present and future air quality against air quality standards and objectives as dictated in Government Regulations. Reviews are in the form of Local Air Quality Plans for which the Agency will be consultee.

The Agency will look to produce an air quality strategy for Part A processes in the Derwent area, which will input into Local Air Quality Plans.

WASTE MANAGEMENT

Local Authorities are the key players within the waste management system and, as the planning authority, determine the location of waste management facilities in accordance with policies contained in the Waste Local Plan, County Structure Plan and Local Development Plan. Local Authorities are instrumental in determining regional waste management requirements. It is essential that the Agency continues to work closely with Planning Authorities in order to further the concept of sustainable waste management.

FLOOD DEFENCE

The Agency has specific powers relating to main rivers which enables it to undertake maintenance, improvement works, construct flood defences, and control work by others. The Agency has a general supervisory duty over all flood defence matters, which requires working in close partnership with other drainage authorities.

LOCAL COMMUNITY

The local community has its own aspirations for its environment. In order to protect the environment, the Agency needs the support of the community to tackle issues such as pollution, fly tipping, environmental protection and enhancement.

The Agency is particularly keen to work with local communities, involving them in their activities, thereby assisting the Agency to protect the local environment.

6.0 FUTURE REVIEW AND MONITORING

The Agency will be jointly responsible, with other identified organisations and individuals, for implementing this Action plan. Progress will be monitored and reported annually by the Agency to all the key partners and other interested parties. The first Annual Review is due in October 1998. These Annual Reviews will examine the need to update the Action Plan in the light of local change. This life of the Action Plan is five years, after which a major revision will normally be undertaken.

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APPENDIX A: GLOSSARY

Abstraction. Removal of water from surface water or groundwater, usually by pumping.

Abstraction Licence. Licence issued by the Environment Agency under Section 38 of the Water Resources Act 1991 to permit water to be abstracted.

Area of Outstanding Natural Beauty. Areas of Outstanding Natural Beauty are designated under the National Parks and Access to the Countryside Act 1949 by the Countryside Commission. Their primary purpose is to conserve the natural beauty of selected landscapes.

Biochemical Oxygen Demand. A measure of the amount of oxygen in water during the breakdown of organic matter.

Catchment. The total area of land which contributes surface water to a specified watercourse or water body.

Controlled Waters. Defined by the Water Resources Act 1991; Part III, Section 104. They included groundwaters, inland waters and estuaries.

Diffuse Pollution. Pollution from widespread activities with no discrete source.

Discharge Consent. A statutory document issued by the Agency, under Schedule 10 of the Water Resources Act 1991, to indicate any limits and conditions on the discharge of an effluent to a controlled water.

Disposal Authority. Disposal authorities were established by the Local Government Act 1972 (for England Wales). They consist of the county councils in shire counties, and borough/district councils following abolition of the metropolitan councils and the Greater London Council, except where the Secretary of State establishes a Statutory Authority.

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

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

Fly Tipping. The unregulated and hence illegal dumping of waste.

Groundwater. Water which is contained in saturated underground strata.

Gripping. Moorland drainage channels.

House Equivalent. A measure used for assessing the value of property and land protected against flooding.

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

Landfill Gas. A by-product from the digestion by anaerobic bacteria of puterescrible matter present in waste deposited on landfill sites. The gas is predominantly methane (65%) together with carbon dioxide (35%) and trace concentrations of a range of other vapours and gases.

Leachate. Liquid which seeps through a landfill, and by doing so extracts substances from deposited mineral waste.

Main River. Some but not all, watercourses are designated as 'main river'. Main river status of a watercourse must first be approved by MAFF. Statutory (legally binding) maps showing the exact length of the main rivers are held by both MAFF in London and the Agency in Regional Offices. The Agency has the power to undertake works to improve drainage or to protect land and property against flooding, on watercourses designated as main river. The Agency does not have legal power to spend public funds on drainage or flood protection works on watercourses not designated as main river.

National Nature Reserve. An area of land designated by English Nature under Section 35 of the Wildlife and Countryside Act 1981. These are managed by, or on behalf of, English Nature specifically for wildlife conservation purposes.

Part A Processes. Significant industrial processes authorised by the Environment Agency.

Part B Processes. Processes authorised by local authorities which are seen as having a lesser potential to damage.

Ramsar Sites. Internationally important wetland sites adopted from the Convention of Wetlands of International Importance especially as water flow habitats (1971) and ratified by the UK government in 1976.

Riparian Owner. A person/organisation with property rights on a river bank.

River Corridor. Land which has visual, physical or ecological links to a watercourse and which is dependent on the quality or level of the water within the channel.

River Quality Objective. The level of water quality that a river should achieve in order to be suitable for its agreed uses.

APPENDIX A: GLOSSARY

Section 105 Survey. The Agency have under Section 105 of the Water Resources Act 1991 a responsibility to define the nature and extent of flood risks.

Site of Special Scientific Interest. A site given statutory designation by English Nature or the Country side Council for Wales, because of its particular importance for nature conservation.

Special Protection Areas. Internationally important sites designated under the EC Wild Birds Directives.

Statutory Water Quality Objectives. Water quality objectives set by the Secretary of State for the Environment, in relation to controlled waters.

Strata. Layers of rock, including unconsolidated materials such as sands and gravel.

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

Volatile Organic Compounds. Gases including hydrocarbons, halogenated organics and benzene.

Waste, Controlled. Defined in the Environmental Protection Act 1990 Part 2 Section 75; includes household, commercial and industrial waste.

Waste Management Licence. Authorisation issued by the Agency by the Agency allowing the Handling and disposal of controlled wastes.

Waste Regulation Authority. The competent authority responsible for licencing or supervising the storage, treatment or disposal of controlled wastes.

Waste, Special. Special waste is defined in the environment Act 1995; Section 75. It includes hazardous or toxic waste, or waste which requires particular care in its handling or disposal.

APPENDIX B: ABBREVIATIONS

AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
BOD	Biochemical Oxygen Demand
DOC	Duty of Care
DoE	Department of the Environment
EN	English Nature
FRCA	Farming and Rural Conservation Agency
FWAG	Farming and Wildlife Advisory Group
GQA	General Quality Assessment
HNDA	High Natural Dispersion Area
IDB	Internal Drainage Board
INCA	Industry and Nature Conservation Association
IPC	Integrated Pollution Control
LA	Local Authority
LEAP	Local Environment Agency Plan
LHF	Lottery Heritage Fund
LPA	Local Planning Authority
MAFF	Ministry of Agriculture, Fisheries and Food
MMF	Minimum Maintained Flow
NERC	Natural Environment Research Council
NYMNPA	North York Moors National Park Authority
NWL	Northumbrian Water Limited
OFWAT	Office of Water Trading
RPG	Regional Planning Guidance
RQO	River Quality Objective
RRP	River Restoration Project
RSPB	Royal Society for the Protection of Birds
SPA	Special Protection Areas
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
SWQOs	Statutory Water Quality Objectives
TBG	Tidy Britain Group
TCMD	Thousand cubic metres per day
UWWTD	Urban Waste Water Treatment Directive
VOC	Volatile Organic Compound
WR	Water Resources
Wts	Wildlife Trusts
YWS	Yorkshire Water Services Plc
YWT	Yorkshire Wildlife Trust

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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0645 333 111

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

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