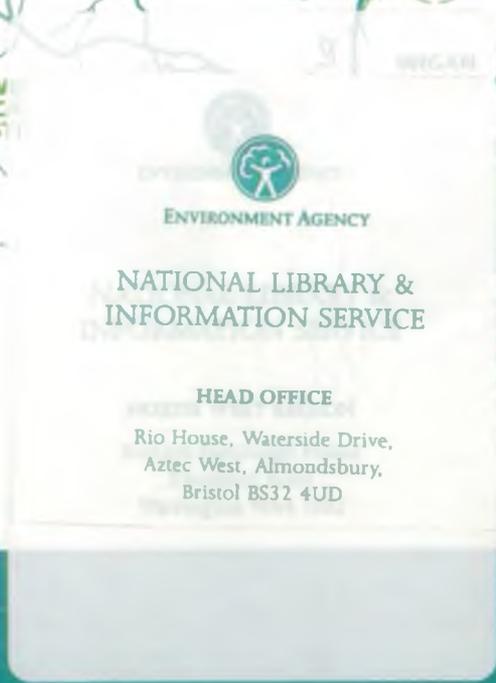
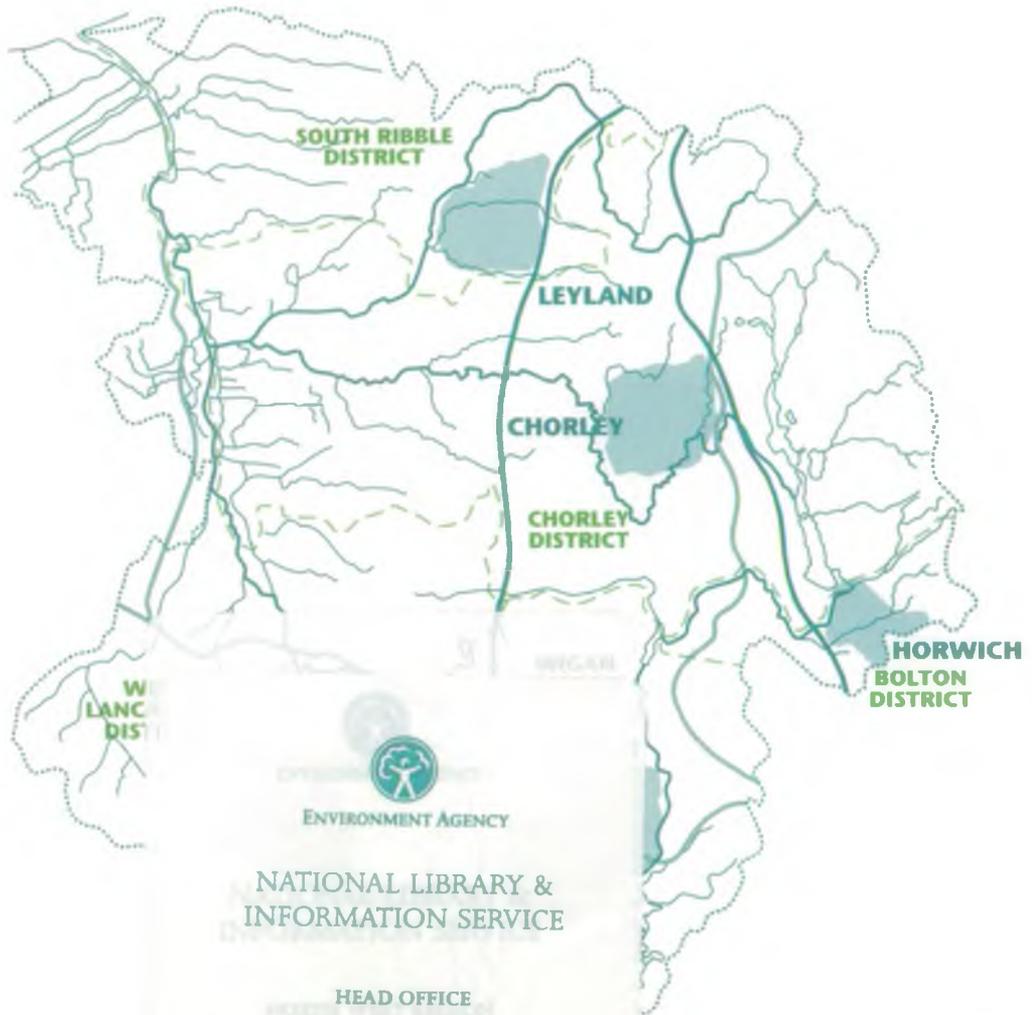




local environment agency plan

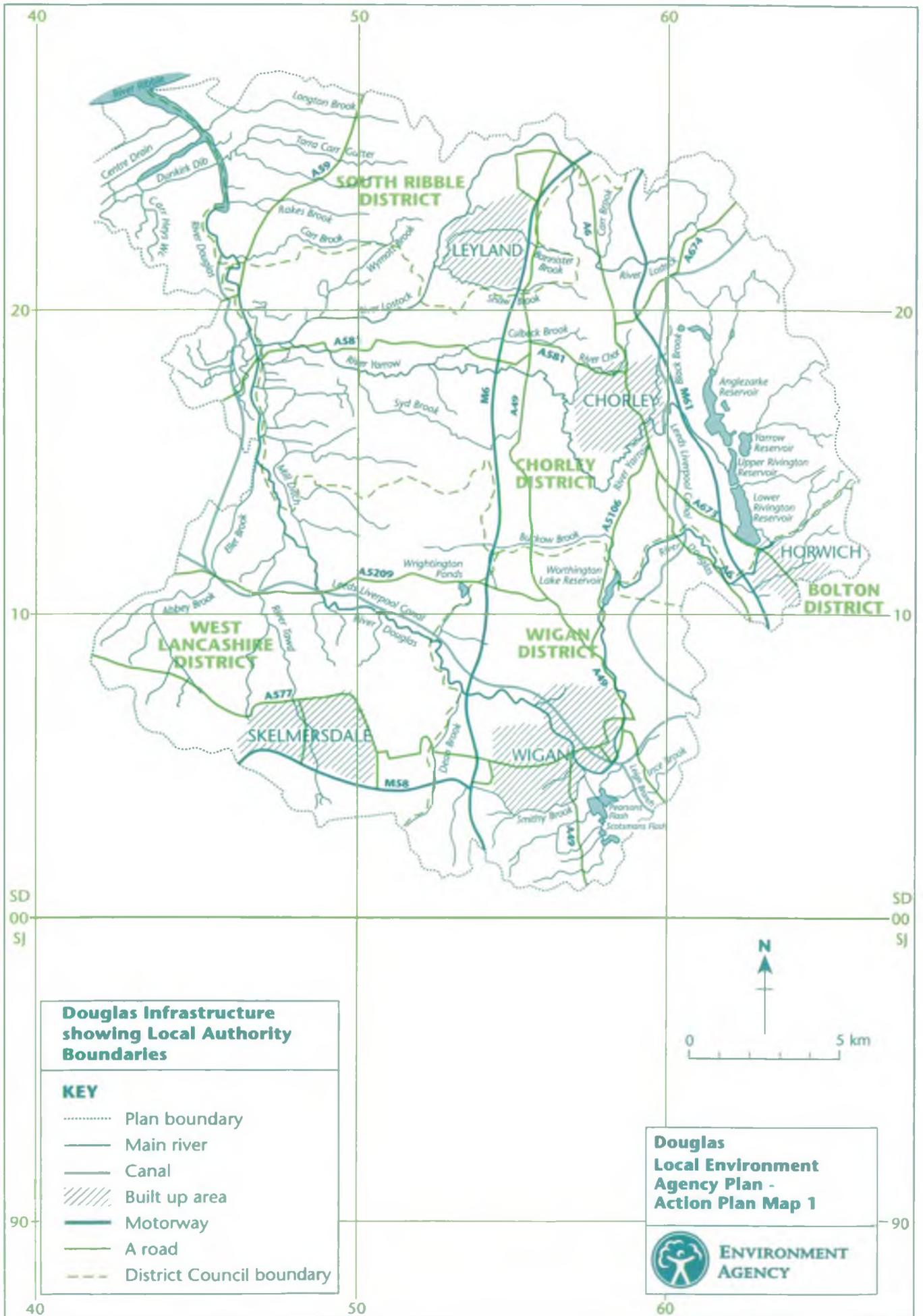
DOUGLAS
ACTION PLAN
1999-2000



SEPTEMBER 1999



ENVIRONMENT AGENCY



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KEY DETAILS

General Plan Area					440km ²
Flood Defence Length of Main River					257km
Planning Authorities Total number of planning authorities within the plan area					5
Conservation and Recreation Total number of Sites of Special Scientific Interest Scheduled Ancient Monument Sites Country Parks					4 15 7
Water Resources Total number of flow measuring stations Licensed abstractions in the area Surface water sources					4 51 94
Waste Management Licensed waste management operations in the area Number of landfill sites Number of transfer stations Number of metal recycling facilities					28 38 5
Estimates of Controlled Wastes (1998/1999) Waste to Landfill Waste to Householders recycling points					(Tonnes) 806,520 56,099
Length of Fishery Length of Salmonid fishery Length of Coarse fishery					1km 23km
IPC/RAS Sites					46
Topography Highest point above sea level Lowest point above sea level					440m A.O.D. 0m A.O.D.
Number of pollution incidents (Jan - Dec 1998)	Category 1	Category 2	Category 3	Category 4	Category Totals
Oil	4	8	47	8	67
Chemical	0	2	11	3	16
Sewage	0	7	29	4	40
Organics	0	4	23	2	29

THE ENVIRONMENT AGENCY'S VISION FOR THE DOUGLAS AREA

The Douglas LEAP area encompasses diverse and high quality locations with valuable environmental amenity areas such as the Wigan Flashes Complex, Leeds-Liverpool Canal, Haigh Country Park and Cuerden Valley and Worden Country Parks. However, within the Douglas area there are a number of environmental problems that were identified in the Consultation Report.

Our vision for the Douglas area over the next 25 years, is to help improve the local environment to see an area:

- where the clean up of contaminated land has taken place and the land returned to use for the benefit of the local communities;
- which is free from major environmental pollution causing harm to human health or serious detriment to amenity;
- where controlled waste in the area is managed in accordance with the principles of sustainability to reduce the amount of waste produced and to re-use waste;
- where the air quality is of a consistently high standard to support amenity without detriment to health, particularly in the urban areas, industrial belts and along transport routes;
- where water quantity, quality and habitat, specifically in the Rivers Douglas, Lostock and Yarrow have been improved and maintained to a consistent high standard in which fish can live and breed successfully;
- where watercourses and estuarial waters are attractive and clean, supporting a wide range of recreational and amenity uses, such as angling, water sports and walking. With well maintained landscapes retaining their local character and cultural heritage;
- which achieves the right balance between the needs of the environment and those of water users. Where water is used sustainably meeting essential supply needs whilst protecting the environment;
- where the risk of flooding to property is minimised and flood defence schemes protect species, their habitats and access to the watercourse for recreational pursuits;
- where ecological features such as wildlife corridors, landscape, archaeological and historic features are protected, promoted and enhanced, ensuring habitat and species targets set in the Lancashire and Greater Manchester Bio-diversity Action Plans (BAPs) are met or exceeded.

These improvements will be achieved in partnership with industry and the farming community, riparian owners, local interest groups and the general public.

EXECUTIVE SUMMARY

The Douglas LEAP encompasses parts of the administrative Local Authority Areas of South Ribble, Chorley, West Lancashire, Wigan and a small part of Bolton. (See **Map 1**).

During the consultation stage of the Douglas LEAP environmental issues within the area were set out. These issues and others raised through consultation have been discussed and considered at both local consultation surgeries, by correspondence with interested organisations and individuals. We also held meetings with Joint Douglas Valley Committee, Wigan Metropolitan Borough Council and Chorley Borough Council.

Consultation raised various environmental problems and opportunities including, amongst others, access difficulties experienced by canoeists on sections of the River Douglas, impact of contaminated run-off and drainage from the major transport links. In addition concerns were also expressed relating to air quality and the impact of industrial emissions to the atmosphere, the conservation of landscape and heritage, improving in-river habitat and the need for greater recognition of bio-diversity within the LEAP area.

Resulting from the consultation process the following issues have been developed for action in this plan:

1. Long sections of the area's rivers have been degraded. This has led to a loss of wildlife and a weak landscape character.
2. Areas at risk of flooding.
3. The need to ensure an emergency response to extreme flooding events.
4. Increase in the number of pollution incidents caused by the construction industry.
5. Adverse impact of discharges from North West Water (NWW) Ltd Wastewater Treatment Works and Sewerage Systems on water quality.
6. Adverse impact of drainage from abandoned minewaters on water quality in the Douglas area.
7. Adverse impact on the environment from Welch Whittle Site.
8. Potential adverse environmental impacts of developments at Gillibrands, Chorley.
9. The utilisation of waste for energy to reduce emissions to the environment at Kirkless, Cemetery Road and Ulnes Walton Landfill Site.
10. Adverse impact of Bradley Hall, Kirkless and Moss Side Industrial Estate drainage on the environment.
11. Sustainable development of Royal Ordnance Site, Euxton.
12. The impact of barriers restricting the distribution of fish in the Douglas.
13. The promotion of further partnership working on Wigan Flashes to enhance water quality, wildlife habitats and attract recreational facilities.
14. The need to locate additional access sites for river maintenance to prevent flooding.

EXECUTIVE SUMMARY

15. Lack of awareness and poor access to watercourses for recreational activities in the Douglas area.
16. Incomplete knowledge of our built heritage associated with rivers.
17. Failure to comply with Water Quality Objectives and impact on water quality due to agricultural activities.
18. Failure to comply with Water Quality Objectives and impact on water quality due to discharges from private sewage treatment works.
19. Reclamation of the 28ha former colliery site at Heath Charnock.
20. Regeneration of various sites in Adlington for environmental improvement.
21. The treatment of a number of disused mineshafts at Copperworks Wood, Gillibrand, Chorley.
22. The cumulative adverse environmental impact of Metal Recycling Sites in the Wigan area.

The main objective of this plan is to develop specific actions for these issues by undertaking initiatives, where appropriate, in partnership with other organisations. These actions have been timetabled and costed where possible.

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

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

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

Our vision is:

- A better environment in England and Wales for present and future generations.

Our aims are to:

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

1 INTRODUCTION

We will do this by:

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

1.2 Local Environment Agency Plans

LEAPs help to identify and assess, prioritise and solve local environmental issues related to our duties and responsibilities, taking into account the views of our local customers. The outcome of the process is a five-year local programme of integrated action for environmental improvement.

The LEAP process involves several stages as outlined below.

LEAP Consultation Report

The publication of the LEAP Consultation Report marks the start of a three-month period of formal consultation enabling organisations and the general public to work with us in planning the future of the local environment.

LEAP Action Plan

The Action Plan summarises and takes into account the results of the consultation process. It identifies and details proposed actions required, taking into account cost and benefits, identifying timescales and partners. We will be seeking commitment to planned actions by others wherever possible and will incorporate the actions into our annual business plans.

Annual Review

Progress on the Action Plan will be monitored and normally reported annually, by means of a review document. The Annual Review will be publicly available. This will ensure that all timetabled actions are monitored to measure their success in terms of being realistic and programmable. The review document will comprise the following:

- A detailed comparison of actual progress against planned progress.
- Identification of additional actions to maintain progress to reflect changes in the area.
- Consideration of the need to update the LEAP to maintain progress.

1.3 The Agency's Nine Environmental Themes

The Agency's principal and immediate environmental concerns are stated in our 'Environmental Strategy for the Millennium and Beyond' which relates to nine themes representing our approach to environmental management. We have set ourselves a list of specific actions to progress these nine themes which are summarised as follows:

1 INTRODUCTION

- **Addressing Climate Change**
 - By ensuring the Government's greenhouse gas emission targets are met.
 - Through the use of predictive modelling and through contributions within international fora.
 - By reducing our own environmental impact.
- **Regulating Major Industries**
 - By continuing the delivery of Integrated Pollution Control.
 - By maintaining and expanding the Chemical Releases Inventory, implementing EC Directives and taking part in European Union initiatives.
 - By developing pollution prevention control tools including projects relating to emission, efficiency and economic benefits.
- **Improving Air Quality**
 - By assisting in the delivery of the UK Air Quality Strategy.
 - By ensuring the reduction of emissions to air and by discouraging the use of solvents which contribute to the major photochemical pollutants.
- **Managing Waste**
 - By providing a high quality waste regulation service.
 - By combating illegal practices and by ensuring that proposals for radioactive waste disposal provide the necessary level of protection for mankind and the environment.
- **Managing Water Resources**
 - By encouraging more efficient use of water by its major users.
 - By promoting water saving measures over the exploitation of environmental resources.
 - By ensuring environmental needs are taken into account in the next round of Asset Management Plan talks with water companies.
- **Delivering Integrated River-basin Management**
 - By delivering a continual improvement in overall water quality and habitats.
 - By providing effective flood defences and warning systems.
- **Conserving the land**
 - By addressing such diverse issues as contaminated land, town and country planning.
 - By determining the state and extent of soil erosion and developing a strategy to alleviate it.

- **Managing Freshwater Fisheries**
 - By securing a robust funding base for fisheries management.
 - By reducing poaching and rod licence evasion.
 - By developing specific long-term strategies for salmon, trout and coarse fisheries.
- **Enhancing Bio-diversity**
 - By implementing the EC Habitats Directive, through delivery of the UK's Bio-diversity Action Plan.
 - By undertaking specific projects to restore habitats and thereby increasing bio-diversity.

We will deliver this strategy at a local level by dialogue between ourselves and the various organisations involved in the protection and management of the environment. As a first step towards achieving our aims and delivering our strategy in the Douglas LEAP area, issues have been raised and actions proposed in this plan.

Constraints

To ensure improvements and overcome the problems in the area, partnership with other organisations and individuals will be necessary. Where we do not have powers to make improvements we will use our influence to gain environmental improvements, wherever possible.

1.4 LEAPs and other plans

We share the regulation and management of the environment with others. Local Environment Agency Plans intend to complement and integrate with other plans such as Local Waste Plans, Local Air Quality Management Plans, Development Plans, Local Agenda 21 Action Plans and Local Bio-diversity Action Plans.

Where actions are needed to overcome identified issues, in some cases this support will include the support and delivery by other organisations or individuals. We are statutory consultees on certain plans, for example Development Plans.

The National Waste Strategy sets out targets for the reduction and use of waste, but we have no powers to require businesses or the general public to reduce wastes or use more sustainable methods of waste management. Similarly, the National Air Quality Strategy sets out targets that need to be met, but the Agency has no powers to regulate emissions from motor vehicles, the main cause of air pollution. However, through awareness raising the Agency can encourage and promote the means by which we can achieve these targets in accordance with our environmental strategy.

1.5 The LEAP process for the Douglas Area and Review of the Consultation Process

The Consultation Report for the Douglas area was published in November 1998. The report set out issues to be addressed and options for their resolution. The Consultation Report was circulated to a wide variety of individuals and groups having an interest in the Douglas area. This provided an opportunity to comment on the issues and options, raise new issues for consideration and propose ways forward to resolve issues.

1 INTRODUCTION

We also have a legal requirement (Environment Act 1995) to consult our committees on all aspects of our work in order to ensure openness and accountability. The North West Region is served by three statutory committees:

- Regional Environment Protection Advisory Committee (REPAC).
- Regional Flood Defence Committee (RFDC).
- Regional Fisheries, Ecology, Recreation Advisory Committee (RFERAC).

The Central Area of the North West Region is served by its own advisory, non-statutory, Area Environment Group (AEG). Membership consists of 21 local people who live and work in the area and who represent a wide range of interests and act as a link between the local community, the Agency and our statutory committees. These interests include Local Authorities, industries, agriculture, conservation, fishing, amenity and recreational interests. The principle role of the AEG is to provide a communication link for the local community to advise our Area Manager on its views and to act as a focus for the local community's input into the LEAP.

Where the statutory or primary responsibility is with another organisation e.g. Local Authority, this will be referenced either in the issues, text, or through the partnership section. Update requirements will obviously depend on the particular needs of the area. However updates to the LEAP will normally be undertaken every five years. Key organisations and individuals forwarding comments will receive an annual review paper to provide updated action plan progress.

Review of the Consultation Process

Pre-consultation took place in July 1998 with a letter to various stakeholders. This generated a good response from various individuals and organisations within the Douglas LEAP area.

The Douglas LEAP Consultation Report was publicly launched on 26 and 27 November 1998 marking the start of the formal three-month consultation period, which ended on 26 February 1999.

Approximately 350 invitations were sent to individuals and organisations, who have an interest in the Douglas LEAP area, were invited to attend the launch. The launch consisted of two consultative surgeries over two days at locations in Wigan and Leyland. The objective of the consultative surgeries was to enable us to meet a broad representation of those organisations and individuals concerned about environmental issues within the Douglas LEAP area.

We received 35 written responses on the Consultation Report from 32 different organisations. The individuals and organisations are listed in Appendix 3 'List of Respondents'.

The Consultation Report initiated debate and further contributions to the issues set out and also the proposed actions. It has been instrumental in forming new partnerships and further working relationships with existing partners. The response to the report was positive and constructively commented on where genuine differences were expressed by those who responded.

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Comments on the options and issues raised were received and these have been considered in formulating this action plan.

Issue 2 (in the Consultation Report) 'Adverse impacts of Robin Park Development on the environment' has been deleted following representations and discussions with Wigan Metropolitan Borough Council. The specific issues related to the Robin Park development associated with contaminated land, drainage and ecology have been resolved by the local authority, the developer and the Agency. The remaining issue of control of pollution and flooding concerns in the construction phase is addressed under the new Issue 2 'Areas at risk of flooding'.

Issue 5 – we have changed the wording for the second action from 'undertake detailed study...' to "assessment of the investigations and determination of contamination and develop a remedial strategy for the site."

Additional actions have been included in Issue 13 'Lack of awareness and poor access to watercourses for recreational activities...'. This takes into account representations made during the consultation period by the West Lancashire Footpath Group.

Six new issues have been added to the plan. These are numbered respectively as Issues 2, 3, 19, 20, 21 and 22. Issue 2 replaces the previous issue contained in the Consultation Report concerning adverse impacts of Robin Park Development. This new issue now addresses areas at risk of flooding. Issues 19, 20 and 21 were submitted by Chorley Borough Council during the consultation period and mainly relate to reclamation and regeneration of previously used sites in the Borough of Chorley. We support the efforts made by Chorley Borough Council both in utilising the sites for environmental and recreational improvement and also in their search for suitable funding.

Issue 22 was identified internally as being relevant, particularly in relation to our national project involving the scrap metal industry's trade federations, local authorities, police, Health and Safety Executive, and the Department of Trade and Industry. The objective of the project is to raise awareness of operators legal and environmental obligations.

Resulting from consultation responses there is now reference made to Bio-diversity. This also reflects the issues arising from the 1992 Earth Summit in Rio including mention of local bio-diversity initiatives.

1.6 Bio-diversity

"Bio-diversity is all living things, from the tiny garden ant to the giant redwood tree. You will find bio-diversity everywhere, in window boxes and wild woods, roadsides and rain forests, snow fields and sea shore". *Bio-diversity: The UK Steering Group Report 1995*.

The Bio-diversity Convention, signed by the UK Government at the Rio 'Earth Summit' in 1992, aims to ensure that the full range of animal and plant species are conserved.

In 1994 the UK Government published its UK Bio-diversity Action Plan as a framework document laying out the governments proposals for protecting bio-diversity in the UK. Through this plan a UK Steering Group was established to develop targets for rare and vulnerable habitats and species and provide guidance at a local level.

1 INTRODUCTION

We have significant responsibilities regarding implementation of the UK Bio-diversity Action Plan and will be developing targets for species and habitats of conservation concern. Key species for the Douglas area include water vole, bittern, barn owl, otter, great crested newt, wildfowl, waders and wetland habitats including swamp and marshy grasslands.

The Wigan Flashes Working Group (comprising ourselves, RSPB, English Nature, Wigan MBC and local groups) have been working to increase bio-diversity making best use of available resources and expertise. The group has initiated improvements to, and increasing the number of, the reed beds at Wigan Flashes to attract bitterns to nest.

The area also contains important sites such as part of the Ribble Estuary Special Protection Area (SPA) and Hesketh Outmarsh, which is designated as a National Nature Reserve (NNR).

Local Bio-diversity Action Plans (LBAPs) are seen as an essential method through which the UK targets can be achieved, by translating them into effective action at local level. LEAPs are seen as a key mechanism for identifying the Actions we need to take at a local level to deliver our contribution towards improving and protecting individual species and habitat. Our operational and regulatory activities will take account of these species and habitats in fulfilment of our commitment to bio-diversity. Additional work will be dependent on available resources and will involve collaborative work with other organisations.

2.1 The Douglas LEAP Area

The Douglas LEAP area is bordered by other LEAP areas namely; Ribble, Alt/Crossens, Croal/Irwell and Sankey/Glaze.

The area is both urban and rural in character with the towns of Leyland, Chorley, Skelmersdale and Wigan playing an important role in the daily life of the area. Within the area there are diverse ranges of recreational and economic activities, which include fishing, canoeing and cycling in addition to the importance of tourism in Wigan and farming, for example in West Lancashire district to the local economy. All of these have an effect, beneficial or otherwise, on the environment.

The Douglas area is well served by road and rail links, both locally and nationally. The M6 Motorway and the main west coast railway line run centrally through the area in a north/south direction, with the M61 Motorway linking the M6 with Manchester to the east of Chorley. At the southern end of the area the M58 Motorway links the M6 near Wigan to Skelmersdale and Liverpool. The recent development of the M65 (Blackburn Southern Bypass) now links South Preston with East Lancashire (See Map 1).

The area contains nature conservation resources such as moorland, grassland, wetland, saltmarsh, mudflats and internationally important wintering wildfowl and wader populations. The Douglas Way contains most of these conservation resources. This walk is 36 miles in length from its source on Winter Hill, on the western edge of the West Pennine Moors, to its meeting with the River Ribble at Hesketh Bank. The West Pennine Moors comprises approximately 90 square miles of land made up of moorland hills, moorland and rural fringes, upland pastures, and reservoir valleys. The reservoirs have become an important recreational resource.

The area also contains a significant amount of the best and most versatile agricultural land, ie. grade 1, 2 and 3a quality, particularly in the West Lancashire district. The importance of this natural resource is expressed in Government guidance contained in Planning Policy Guidance (PPG note 7 – revised February 1997) 'The Countryside – Environmental Quality, Economic and Social Development'.

2.2 Effluent Disposal

Sewage

The Wastewater Treatment Works (WwTW) within the Douglas area vary in size, with the smallest WwTWs at Bispham Green and Coppull treating population equivalents of less than 100 and the largest complex of WwTWs at Hoscar a population equivalent of more than 350,000.

WwTWs serving both Wigan and Skelmersdale are situated at Hoscar and discharge to the River Douglas. These discharges are responsible for poor water quality in the river downstream and are also believed to be the cause of elevated levels of copper causing intermittent failures to comply with the standard for dissolved copper contained in the Dangerous Substances Directive. In addition it is believed that discharges from these works contribute significant bacteriological loads to the River Ribble Estuary. This is thought to contribute to poor quality bathing water along the Fylde Coast.

2 THE DOUGLAS LEAP AREA AND REVIEW OF THE CONSULTATION PROCESS

Temporary chemically assisted settlement that was undertaken at both works during the 1998 bathing season, was eventually abandoned because it was proven to be unsuccessful. Work is continuing to support the large expenditure required for a permanent solution to produce better quality effluents from the Hoscar complex.

Hesketh Bank WwTW discharges to the tidal River Douglas and also contributes a significant bacteriological load to the Ribble Estuary. Temporary secondary treatment was introduced at Hesketh Bank WwTW in 1998 and a permanent solution (permanent secondary treatment and UV disinfection) to produce a better quality effluent and reduced bacteriological load was provided for the 1999 bathing season.

The ammonia condition for Horwich WwTW was tightened in 1998 from 20mg/l to 8mg/l to reflect effluent quality achieved as part of an earlier agreement during the drought period. Horwich WwTW does, however, discharge significant loads of phosphorus to the River Douglas. As a result of abstractions from the River Douglas to the Leeds-Liverpool Canal this is believed to contribute to eutrophic conditions in the canal, such as the prolific algal growths which can cause unsightly aesthetic conditions and on occasions cause fish kills.

The River Douglas and Leeds-Liverpool Canal were both designated as sensitive (eutrophic) areas in 1994 and nutrient removal was commissioned at the end of 1998 at Horwich WwTW.

Chorley WwTW and Leyland WwTW have also been identified as contributing to eutrophication in the Rivers Yarrow and Lostock respectively and nutrient removal will be required at these two works by 2004. An improvement scheme was completed at Chorley WwTW in late 1997 and water quality in the River Yarrow should now be able to support a sustainable fishery. There is now a coarse fish stocking programme both above and below the weir at Croston with fish being stocked at Ecclestone.

The quality of the final effluent discharged from Leyland WwTW is better than that required by the present consent conditions. If the full consented load were discharged a significant failure to comply with the long-term objective would result downstream. NWW Ltd has not been willing in the past to accept a review of their consent to reflect the achievable performance of this works.

NWW Ltd WwTWs at Westhead and Longton are believed to contribute to poor water quality downstream and the smaller NWW WwTWs at Brindle and Bispham Green are presently causing more localised problems. Bispham Green improvement scheme is currently under consideration. Improvement schemes for Brindle have been identified and have been included in NWWs AMP3 programme of environmental improvements planned for the period 2000-2005.

Private Sewage Treatment works

A conglomeration of septic tank discharges or the lack of proper treatment facilities may cause problems in the receiving watercourses. The following areas in particular are affected to some extent:

Drumacre Lane, Briars Lane, Glover Bridge, Burscough Road, Dark Lane, Lathom, Ring'O'Bells, the top of Tunley Brook, Longton Brook, Southway and Holland Moor, Top Locks, Roby Mill, Little Hoole, Shore Road at Tarleton and High Moor.

2 THE DOUGLAS LEAP AREA AND REVIEW OF THE CONSULTATION PROCESS

Where provision of first time sewerage facilities by NWW Ltd is not identified as a cost-effective solution we will pursue improvements to the existing treatment facilities.

Intermittent Discharges

Combined Sewerage Systems

There are approximately 160 combined sewer overflows in the Douglas Area. Of these overflows around 50 are presently identified as unsatisfactory. NWW Ltd have recently completed several sewerage rehabilitation schemes to resolve unsatisfactory overflows discharging to Ince Brook, Bannister Brook, the River Chor and the River Yarrow. All of the remaining overflows identified as unsatisfactory will be addressed within the AMP3 period (2000-2005).

Separate Sewerage systems

There are around 30 contaminated surface water (CSW) outfalls within the Douglas LEAP area. Several of the high priority problems are to be investigated over the next two years.

2.3 Agriculture

Agricultural activity predominates over much of the Douglas Estuary area with the emphasis being on arable farming in this part of the area. In the upper parts of the area the emphasis is on sheep and dairy farming although the activity is less intense.

2.4 Industry and Integrated Pollution Control

The Agency regulates the potentially most polluting industrial processes under the Integrated Pollution Control regime established by the Environment Protection Act 1990.

IPC Authorised processes within the Douglas area are as follows:

- Hickson Timber Products.
- Distillex.
- Royal Ordnance.
- P H Haydock.
- The Standish Co.
- Bitrez.
- Rodco Ltd.
- BST Batteries.
- H J Heinz Co Ltd.

Radioactive Substances (RAS)

The 38 RAS sites within the Douglas area comprise a mixture of hospitals, manufacturing companies, process industries and Royal Ordnance. The environmental impact of radioactive waste disposals within the area is minimal.

2.5 Flood Defence and Water Resources

Within the Douglas one of the main problems is restricted access to some sections of Main River (including access to culverts with potential blockage problems). This issue exists in the following areas:

- School Lane culvert at Bannister Brook.
- Carr Brook (River Lostock to M61).
- Croston Mill and Croston Village, River Yarrow.
- Green Lane Syphon, River Douglas.

Flood Warning

Within the Douglas area there are two Formal Flood Risk Zones, at Wigan on the River Douglas and at Croston on the River Yarrow.

2.6 Landscape and Heritage

The Douglas LEAP area comprises four 'Character Areas':

- Lancashire Coal Measures.
- Southern Pennines.
- Lancashire Valleys.
- Lancashire and Amounderness Plain.

These are defined in 'The Character of England; landscape, wildlife and natural features' (English Nature and the Countryside Agency). This map divides the country into areas of similar character. For each area there is a description of the area and its ecology and landscape character.

Within the Douglas area we have carried out a river landscape assessment and identified management strategies for the principal rivers in the area.

2.8 Fisheries

Salmonids

In the upper reaches of both the River Douglas and the Yarrow and also in Pearl Brook, Brown Trout salmonids are present as isolated populations. Salmon and sea trout have been seen at the confluence of the Rivers Yarrow and Douglas. These fish however were unable to gain passage into the upper reaches to spawn. This was due to the presence of in-river obstructions. Similar barriers to fish migration exist at Gathurst (Douglas), Birkacre Weir and M61 weirs (Yarrow) and Farington Weir (Lostock).

Coarse Fisheries

The rivers in this area have only light angling pressure where coarse fish populations are higher at Poolstock (Douglas), on the River Douglas below Gathurst Weir, below Farington Weir (River Lostock) and below Croston Weir (River Yarrow). The results of the five year electro-fishing rolling programme helps us to direct the on-going policy of stocking coarse fish from our Leyland Fish Farm.

The coarse fish populations of the River Douglas have been enhanced by stocking with chub, dace and roach from our Leyland Fish Farm (Table1). The programme for stocking has also included part of a Research and Development Project for the 'Optimum Stocking for Hatchery Reared Coarse Fish' on the River Lostock.

Table 1: FISH STOCKED INTO THE DOUGLAS SYSTEM FROM THE ENVIRONMENT AGENCY'S LEYLAND FISH FARM

River	Location	Fish species			Reason for Introduction	Date
		Chub	Dace	Roach		
Douglas		10,000	10,000			1994
Douglas		10,000	10,000	10,000		1995
Douglas	Squirrel Bridge, Horwich	1,000	1,000	1,000	Restoration	1996
Yarrow	Eccleston Bridge	10,000	10,000	10,000	Restoration	1996
Tawd	Skelmersdale	3,000	3,000	3,000	Restoration	1997
Yarrow	Eccleston Bridge	12,000	2,000			1997
Douglas	Gathurst	2,000	2,000			1997
Douglas	Squirrel Bridge	1,000	1,000	1,000		1997
Lostock	Above Farington Weir	4,500	4,500	4,500	Research and Development	1996-98

Within the Douglas LEAP area we will be carrying out an electro-fishing survey during the year 2000 as part of a five year rolling programme.

2.9 Recreation

The Douglas area offers a wide variety of opportunities for both formal and informal recreation, with the river systems and canal corridors being particularly important for recreation and wildlife. Open space provisions range from green belt land, to urban parks such as Mesnes Park, Wigan and Worden Park located on the southern edge of Leyland, to the larger country parks such as Haigh Hall (Wigan), Tawd Valley Park and Yarrow Country Park. Also Cuerden Valley Park, on the banks of the River Lostock, managed by Lancashire Wildlife Trust on behalf of Cuerden Valley Park trustees, is an important recreational feature.

Throughout the area there are public footpaths, public rights of way and bridlepaths. These include the Douglas Way and also parts of the Ribble Way. The Douglas Way is 36 miles starting from Winter Hill to its meeting with the River Ribble at Hesketh Bank. It is a continuous link of public rights of way, towpaths, minor roads and farm tracks. The Ribble Way is a 70-mile route from the Yorkshire Dales following the River Ribble to the sea.

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Rivington and Anglezarke Reservoirs are particularly well used consisting of pathways, cycleways and adventure trails. There are also three waymarked Tawd Valley Trails, each with a different theme, running through Tawd Valley Park in Skelmersdale.

We will encourage the creation, extension and linking of footpaths, where appropriate, to improve public access and where disturbance to wildlife and livestock is minimal. Local Authorities are also encouraging the creation of routes connecting areas of open land with urban area.

A significant development is the planned riverside park in the Leyland, Farington and Cuerden area, stretching from South Leyland through to Bamber Bridge, following the path of the River Lostock. The development will improve the amenity, landscape and ecological value of this area. Completion is due by the Millennium.

In May 1999 Agency staff were involved in transforming an area of waste ground into a sensory and wildlife garden at Bankside Day Centre in Chorley. The facility at Bankside was created for adults with learning disabilities. The new sensory garden stimulates the users' senses and also improves their quality of life. Local companies donated waste or excess materials such as bark chippings, gravel, tyres, bricks and recyclable plastic. The transformation demonstrates what can be achieved by re-using materials which otherwise would have been disposed of as waste.

2.10 Ecology

Within the Douglas area there are many important nature conservation sites such as SSSIs at Bryn Marsh and Ince Moss, Abram Flashes, Red Moss and also Scotmans and Pearsons Flashes. The Wigan Flashes support a variety of wildlife and also provide an excellent facility for coarse angling, birdwatching, cycling, rowing, sailing, sailboarding and other water based activities in the centre of the urban environment of Wigan.

The Wigan Flashes were formed due to mining subsidence caused by the extraction of coal at Ince Moss Colliery and the subsequent flooding of the adjacent low-lying farmland with water. The Flashes form part of a network of important wetland sites, which occur along the Hey Brook corridor. The Leeds and Liverpool Canal forms a spine along them. The Wigan Flashes Conservation and Community Group, originally set up by the local authority in Wigan as the Wigan Flashes User Group, oversees the management of these waters.

Since the publication of the Consultation Report we have planted more than 600 trees by the River Douglas near Adlington and the River Yarrow at Eccleston. The planting of the trees will help to save the riverbanks by preventing erosion and also improve the habitat for wildlife. The habitat improvements will also help to re-establish a healthy fish population. In addition to the tree planting initiative more than 1,000 metres of fencing have also been erected to protect the new trees from cattle.

2.11 Waste Regulation

Waste regulation covers a wide range of waste activities ranging from the licensing and monitoring of waste management facilities to advising on planning applications for development of contaminated land sites.

The Douglas area has a high concentration of industry surrounding Wigan, Blackburn and Preston. There are currently 71 licensed waste management facilities covering landfill sites (one of which produces energy from landfill gas), waste transfer stations (dealing with a range of waste types) and scrapyard facilities. There are also approximately 200 exempt activities in the Douglas area.

Special waste requires additional specific control. These controls ensure the waste is tracked from the place of generation to the place of final disposal. There are currently 12 special waste sites (both licensed and exempt sites) in the Douglas area dealing with asbestos waste, heavy contaminated land waste, a wide range of waste solvents and waste oils.

We intend to apply the 'Site Right' campaign to Bradley Hall, Kirkless and Moss Side Industrial Estates. The objective is to make operators aware of bad practices which result in pollution and encourage them to adopt a methodology to prevent further pollution incidents.

Since the publication of the Douglas LEAP Consultation Report new legislation under Part IIA of the Environmental Protection Act 1990 is proposed for implementation on 1 December 1999 relating to contaminated land. This new regime will provide a legal framework for dealing with contaminated land, under which we will have new duties and powers which complement those of the local authorities.

The Agency will have two main roles in land contamination:

- existing powers and responsibilities under pollution control functions to prevent and control land pollution;
- new duties and powers under Part II A Environmental Protection Act 1990 that will enable us in partnership with the Local Authorities to tackle the legacy of potential problem sites.

The Agency

Duties:

- provide information to local authorities on land contamination.
- ensure remediation of special sites.
- maintain register of special sites remediation.
- prepare a national report on the state of contaminated land.

Powers:

- provide advice to local authorities on identifying pollution of controlled waters.

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- provide advice to local authorities on the remediation of contaminated land.

Local Authorities:

Duties:

- inspect their areas to identify contaminated land.
- consult the Agency on pollution of controlled waters.
- ensure remediation of land identified as contaminated.
- transfer regulatory responsibility of 'special sites' to the Agency.
- maintain remediation registers.

Implementation

Implementation of this action plan is based on the 17 issues set out and discussed in the Consultation Report. Resulting from the consultation process 16 of the original issues contained in the consultation report have been included with the addition of three new issues identified by the Agency and three issues submitted by Chorley Borough Council.

The new issues, identified by the Agency, are Issue 2 'Flooding risks within the Douglas LEAP area', Issue 3 'Emergency response to extreme flooding' and Issue 22 'The cumulative adverse environmental impact of Metal Recycling Sites in the Wigan area'. The issues submitted by Chorley Borough Council are numbered as 19, 20 and 21. Resolution of these issues will result in real improvements in the Douglas area.

Issues

The updated issues are presented with a number of actions, a target timetable and the identification of responsible parties. 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 to be more accurately costed later. This document recognises current priorities, both within the Agency and other organisations. The issues are not listed in any order of priority or importance.

List of Abbreviations used in tables

The Agency	– Environment Agency
LA	– Local Authority
RO	– Riparian Owner
MAFF	– Ministry of Agriculture, Fisheries and Food
NWW	– North West Water Ltd
RSPB	– Royal Society for the Protection of Birds
BW	– British Waterways
DETR	– Department of Environment, Transport and the Regions
CA	– Coal Authority
LWS Ltd	– Lancashire Waste Services Ltd
EN	– English Nature
WDA	– Waste Disposal Authority
LCC	– Lancashire County Council
FWAG	– Farming Wildlife Advisory Group

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LWT	- Lancashire Wildlife Trust
GMAU	- Greater Manchester Archaeology Unit
CoA	- Countryside Agency
GWK	- Groundwork Wigan and Chorley
DaY RVI	- Douglas and Yarrow Valley River Valley Initiative
LCEEI	- Lancashire Centre for Environmental Excellence in Industry
AC	- Angling Club

Key to estimated costs

•	Action in the year indicated.
U	Unknown cost at this time.
K	£, 000
NA	Costs not available

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ISSUE 1 LONG SECTIONS OF THE AREAS RIVERS HAVE BEEN DEGRADED. THIS HAS LED TO A LOSS OF WILDLIFE AND A WEAK LANDSCAPE CHARACTER

Many of the rivers in the Douglas LEAP area have had their landscape and wildlife reduced by removing important habitats and reducing their landscape character. Rivers are places of great value to wildlife and fish and form very attractive landscape features. However many rivers in this area do not live up to this potential and they should be helped to realise it. We are committed to improving the rivers in this area to achieve their potential where opportunities arise and where funding is available. In order to ensure that resources are utilised effectively, we need to identify and prioritise those areas in need of most improvement.

The specific sites identified in the Consultation Report have not been added to or deleted. The following sites are examples of the types of problems found on the catchment. When Action 1 is completed priority sites will have been identified. Work will progress depending on available resources and agreement with landowners. We aim to improve the potential of these sites:

River Yarrow

Eccleston – Bank erosion at sites both upstream and downstream of the B5250 (SD 51 5 179).

Below Croston Weir – gravel limited.

Below Birkacre Weir – reasonable gravels, but compacted (SD 573 150).

Below Hallsworth Fold Farm – good gravel but compacted (SD 612 157).

Grundy's Lane, near Heath Charnock (SD 581 143) – lack of juvenile habitat.

Common Bank – compacted gravels.

River Douglas

Between Parbold and Appley Bridge (SD 494 101 and SD 508 099). Bankside erosion and overhanging vegetation.

River Lostock

Farington Moss. Bank erosion from cattle grazing (SD 534 233).

The Agency's River Landscape Assessment identified the following sections of river as in need of restoration or enhancement.

River Yarrow

Chorley to John Wood, Home Farm to River Lostock.

River Lostock

M61 Motorway to the River Douglas.

River Douglas

Water Hayes to Gathurst, Parbold Village to Bank Hall. From Bank Hall to the River Ribble the management strategy was identified as restoration/enhancement.

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The number of existing River Habitat Survey sites within this area are too few to use as a basis for selecting improvement sites. However, using fisheries, landscape and other Agency data we can identify potential sites and then carry out River Habitat Surveys in these areas to identify the most highly modified stretches of river that would be appropriate for restoration.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Use existing data on the river habitat survey, landscape assessment and fisheries surveys and where needed carry out further surveys to identify and prioritise stretches of rivers to be rehabilitated	The Agency		Agency staff time	•	•	•	•	•	
2. Carry out appropriate rehabilitation to increase habitat for fish, flora and fauna and reinforce landscape character in areas identified as a priority	The Agency	GWK, RO, AC, FWAG, MAFF, DaY RVI	Agency staff time	•	•	•	•	•	•
3. Control and remove Japanese Knotweed and other alien species. Eradicate competition with native species	The Agency		15K p.a.	•	•	•	•	•	•
4. Survey/Produce a Management plan for Water Voles	The Agency	EN, KWT	Agency staff time	•	•	•	•	•	

Benefits: The priority list will enable us to make best use of limited resources in needy areas. The rehabilitation programme to increase fish habitat and reinforce landscape character will create habitat for growth of mature bankside vegetation and also improve visual, wildlife and fisheries value. Rehabilitation prevents denudation and also creates a buffer zone against farming operations.

Other benefits are improvements in water quality, natural control of bank erosion, improvements in the variety of flora and fauna and also assistance in preventing fly tipping. The increase in habitat diversity will also help to restore wetland habitats.

Glossary: AC – Angling Club, RO – Riparian Owners, GWK – Groundwork, FWAG – Farming and Wildlife Advisory Group, MAFF – Ministry of Agriculture, Fisheries and Food, DaY RVI – Douglas and Yarrow River Valley Initiative, EN – English Nature, LWT – Lancashire Wildlife Trust.

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ISSUE 2 AREAS AT RISK OF FLOODING

While there are two formal flood risk zones within the Douglas LEAP area, other sites throughout the area are susceptible to flooding from watercourses (see **Map 2**). In most cases, these sites are adjacent to 'ordinary' watercourses on which the Agency has no powers to carry out maintenance or improvement works.

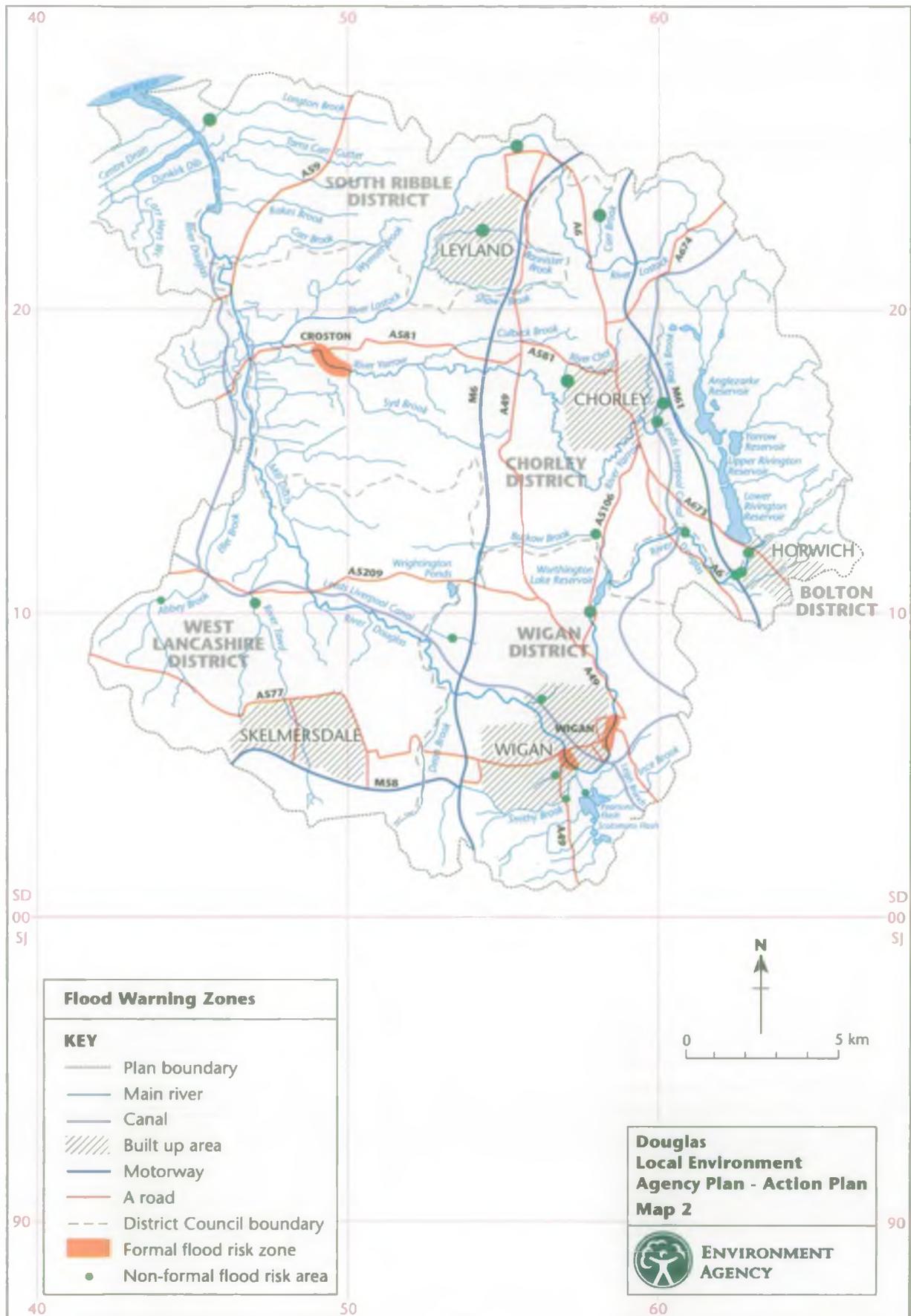
Additionally, development within the floodplain areas, which in itself poses an increased flooding risk, is actively opposed by the Environment Agency. However, where development has taken place in areas such as Robin Park, which is within the River Douglas flood plain, it is important to identify compensatory measures that can be taken in order to alleviate risk to the appropriate standards.

We have published our 'Policy and Practice for the Protection of Floodplains' in which we state our overall aim of securing and, where necessary, restore the effectiveness of floodplains for flood defence and environmental purposes. The document does not represent a change in flood defence policy but is a consolidation of existing custom and practice.

Increased run-off from development, both within and outside floodplain areas, can also be a major problem for existing flood risk areas. These increases can place larger demands on the capacity of watercourses at times of heavy rainfall and high river flow.

Sustainable Urban Drainage Systems (SUDS) can reduce flooding implications of development by reducing immediate discharge into watercourses thus maintaining the existing flow regime.

Main River	Non-main River
River Douglas	River Yarrow (Limbrick)
• Horwich	Pearl Brook
• Adlington	Hawkley Brook
• Standish	Close Brook
Pearl Brook	Barley Brook
Buckow Brook	Calico Brook
Smithy Brook	River Tawd (Skelmersdale)
Carr Brook	River Chor
Longton Brook	Abbey Brook
River Lostock	
Bannister Brook	



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Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Implement development control policy to prevent new flood risks from being created	The Agency LA	Developers	5K	•	•	•	•	•	
2. Non-Main River									
(a) Consider extending lengths of main river to include sites currently designated non-main.	The Agency		4K	•	•	•	•	•	•
(b) Local Authorities to exercise their permissive powers.	LA								
(c) Undertake investigations and identify solutions and implement works where it is practicable to do so	LA Land-owner		10K	•	•	•	•	•	•
3. Main River Undertake investigations, identify solutions and implement works where it is economically and environmentally viable to do so	The Agency	LA Landowner	10K p.a.	•	•	•	•	•	•

Glossary: Sustainable Urban Drainage Systems (SUDS). A system which involves mimicking the natural drainage away from a site as much as possible to minimise the impact of a development on the environment.

LA – Local Authority, MAFF – Ministry of Agriculture, Fisheries and Food.

ISSUE 3 THE NEED TO ENSURE AN EMERGENCY RESPONSE TO EXTREME FLOODING EVENTS

We aim to warn people about flooding to a standard of 1 in 50 years. However, if this standard is exceeded we feel it is necessary that emergency procedures are agreed and implemented.

Historically, many towns and villages have been sited on the flat, low lying and fertile land adjacent to rivers – the floodplain. Potentially, anyone who lives in a floodplain is at risk of flooding. The Agency, local authorities and others do carry out works to minimise the risk of river and tidal flooding by carrying out maintenance or constructing new flood defences.

Flood defences throughout the Douglas LEAP area provide what is a reasonable standard of protection to properties outside the formal zones and areas at risk of frequent flooding (see **Issue 2**). However, if works to alleviate flooding are carried out, there remains a residual risk of flooding should there be a breach of the defence or should the defence be overtopped by a flood event greater than the design standard.

By defining lengths, or reaches, with common land use those flood risk areas with a high population concentration can be treated as a priority in identifying arrangements for a co-ordinated Emergency Response to extreme flooding.

Fluvial Locations

River Douglas – Rufford
River Douglas – Wigan
River Yarrow – Croston

Tidal Locations

Crossens – Southport
Longton Brook – Longton Marsh
Banks Watercourse – Banks
Hesketh OutMarsh

We take the lead and co-ordinating role in warning people of flooding who live in the Agency's formal flood warning zones so that they can take action to protect themselves and their property in the event of flooding. The dissemination of information is in partnership with other organisations including the Local Authorities, Emergency Services and local media. Arrangements for the provision of warnings are established in these formal flood risk zones. Nevertheless it is possible for properties close to these predefined areas to be subject to flooding during an extreme flood.

Arrangements need to be reviewed for areas that are classified as informal flood warning zones. In these zones we alert the local authorities but there is no direct contact between the Environment Agency and members of the public. There are no informal flood warning zones in the Douglas LEAP area.

Following the Easter floods of 1998 we commissioned an external report. The problems arising from the Easter floods were investigated and a series of recommendations and actions were adopted by us. These are currently being implemented.

- i. Improve the rainfall and river flow stations in number, location and design for flood monitoring and forecasting and improve provision of river level and other catchment data during extreme floods for key points upstream of urban areas, to measure extreme river levels.
- ii. A standard definition of a major flooding incident to be adopted by the Agency and recognised by all organisations involved in the emergency response to flooding.
- iii. Agency to ensure that major flooding event scenarios are included for consideration in local joint agency exercise programmes.
- iv. Target people in areas at lower flood risk through general awareness advertising and publicity information in public libraries, council offices and other public access points.

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- v. Developing flood warning and flood defence emergency response capabilities and links with Local Authorities so that in time of an event each organisation appreciates and understands each other's role as defined by the Environment Agency.

An annual meeting is organised for all Local Authorities and Emergency Services in the Area to attend. In addition to this we have separate meetings with each Local Authority, the Fire Service and Police Force to discuss the dissemination of the plan and also any flooding problems.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Improve rainfall and river monitoring equipment.	The Agency		42K	•					
2. Major flooding scenarios to be incorporated in joint emergency planning exercises.	The Agency, LA, Emergency Services		5K p.a.	•	•	•	•	•	•
3. Annual liaison meeting with members of Local Authorities and Emergency Services.	The Agency, LAs, Emergency Services		5K p.a.	•	•	•	•	•	•
4. Development of greater links with Local Authorities regarding emergency response capabilities.	The Agency, LAs			•	•	•	•	•	
5. Mapping of flood area that is deemed to be comparable to an extreme event.	The Agency, LAs		1K	•	•	•			

Benefits: the benefits accruing from the above set of actions are multi-faceted:

- ability to measure extreme flows.
- the standard definition of a major flood gives a specific point at which emergency responses are activated.
- every organisation will know its role in times of a major flood once major flooding exercises are incorporated into joint exercises.
- raising awareness by advertising will alert local people of the possibility of flooding.
- adoption of a national policy will ensure consistency throughout the Agency.
- Annual liaison meetings will improve links with Emergency Services and Local Authorities.
- developing greater links with Local Authorities regarding emergency response capabilities will provide an understanding of each others roles and also increase knowledge of availability of resources.
- mapping of flood areas – will provide us with the ability to determine which resources will be required in the event of extreme flooding. It will also enable us to advise Local Authority Planning Authorities about the flood risk implications of development proposals.

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ISSUE 4 INCREASE IN THE NUMBER OF POLLUTION INCIDENTS CAUSED BY THE CONSTRUCTION INDUSTRY

Generally pollution incidents are reducing year-on-year. Unfortunately within the construction industry the actual number of reported pollution incidents is on the increase. Based on available figures from 1997/1998 to 1998/1999 (financial years) there was a 30% increase in pollution incidents relating to the construction industry.

Due to the large presence of house-builders in the Douglas plan area we are implementing proactive targeting of these companies. This targeting will involve site visits and raising awareness of the code of practice for this industry sector for the promotion of environmentally safe working practices and making use of Agency media, such as video tape 'Building a Cleaner Future' and distribution of 'Site Right Action Pack'. The objective of the targeting campaign is to ensure the use of sustainable building practices within the construction industry, particularly concerning major developments within the Douglas area e.g. Robin Park, resulting in environmental protection.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Agree way forward with housebuilders locally e.g. pilot areas during construction.	The Agency, LA	The Housebuilders Federation	Agency staff time	•	•	•	•	•	
2. Promotion of Sustainable Urban Drainage Systems (SUDS) at the design stage of a new development.	LAs, The Agency	Developers	Agency staff time	•	•	•	•	•	
3. Encourage developers to retain features within development at the design stage, e.g. watercourses and access strips.	The Agency, LAs	Developers	Agency staff time	•	•	•	•	•	
4. Targeting campaign to ensure sustainable building practices in the construction industry.	The Agency		Agency staff time	•	•	•	•	•	

Benefit: The benefit realised from this action will be pollution prevention. The advice on sustainable sources for construction materials will help to enforce the vision of sustainable development.

Comment: The determining factor in resolving this issue is the willingness of the construction industry to adopt sustainable building practices advice given by us.

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ISSUE 5 ADVERSE IMPACT OF DISCHARGES FROM NORTH WEST WATER (NWW) LTD WASTEWATER TREATMENT WORKS AND SEWERAGE SYSTEMS ON WATER QUALITY

5.1 Adverse Environmental Impact from Wastewater Treatment Works

The adverse environmental impact from NWW Ltd Wastewater Treatment Works within the Douglas area can be considered under their contribution to the following four headings:

- 5.1.1 Failure to Comply with the Bathing Water Directive.
- 5.1.2 Failure to comply with the Dangerous Substances Directive.
- 5.1.3 Problems associated with eutrophication.
- 5.1.4 Failures to meet non-statutory water quality objectives.

We will object to development plans and planning applications that could result in increased discharges at Wastewater Treatment works that are having an adverse impact on the environment.

5.1.1 Contribution to failure to comply with the Bathing Water Directive

Despite the completion by NWW Ltd of major capital sewerage and sewage treatment works improvement schemes, failures to comply with the mandatory bacteriological standards as defined in the Bathing Water Directive have continued to be detected along the Fylde Coast. Research carried out in 1997 indicated that discharges to the Ribble Estuary, including discharges from within the River Douglas catchment, were likely contributors to poor bathing water quality. Further research recently completed by, and on behalf of, the Agency examined the bacteriological inputs to the Ribble Estuary. Discharges from the Douglas catchment, in particular from Wigan WwTW, Skelmersdale WwTW and Hesketh Bank WwTW were again identified as significant contributors.

Resulting from these findings the Agency has required NWW Ltd to implement a further programme of improvements to reduce the bacteriological loads discharged. Short-term measures that were implemented for the 1998 bathing season, included the provision of secondary treatment at Hesketh Bank WwTW and chemically assisted settlement at Wigan and Skelmersdale WwTWs. Further long-term measures have been identified and were provided for the 1999 bathing season. These include permanent secondary treatment and UV disinfection at Hesketh Bank WwTW. Substantial investments proposed at Wigan and Skelmersdale WwTWs were put on hold pending consideration of the results of further investigations recently undertaken. However, improved treatment at these works will be provided at some time during 2000-2005 (AMP3 period).

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Installation of further treatment to reduce bacteriological input to the Ribble Estuary:									
i) Hesketh Bank WwTW*	NWW Ltd		U	•					
(ii) Wigan and Skelmersdale WwTWs.	NWW Ltd		U	•	•	•	•	•	•

Benefits: The benefit from the improvements of further treatment at Hesketh Bank WwTW will be a contribution to achieving compliance with the Bathing Water Directive along the Fylde Coast. Improvements at Wigan and Skelmersdale WwTWs will also improve river quality in the River Douglas and make a contribution to the achievement of River Quality Objectives.

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Constraints: Restrictions on water company expenditure imposed by OFWAT/DETR/pending further investigations.

5.1.2 Failure to comply with the Dangerous Substances Directive

The River Douglas below Wigan and Skelmersdale WwTWs intermittently fails to comply with the Dangerous Substances Directive Environmental Quality Standard (EQS) for dissolved copper. We have recently included into the consents for Wigan and Skelmersdale WwTW standards for copper which will ensure that the EQS is achieved in the River Douglas downstream. These standards have applied from May 1999 onwards.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Improved treatment and/or trade effluent control at Wigan and Skelmersdale WwTWs to reduce concentrations of copper.	NWW Ltd		No Agency costs	•					
2. Routine monitoring of compliance of River Douglas downstream.	The Agency		Agency staff time	•	•	•	•	•	

Benefit: Compliance with Dangerous Substance Directive.

Comment: Resolution of this issue will depend on the effectiveness of trade effluent control in conjunction with effluent treatment provided.

5.1.3 Problems associated with eutrophication

The treated effluent from Horwich WwTW is a significant contributor to elevated levels of phosphorus in the River Douglas. As a result of abstractions from the River Douglas to the Leeds-Liverpool Canal this discharge is believed to contribute to eutrophic conditions in the canal. This results in the prolific algal growths that can cause unsightly aesthetic conditions and on occasions cause fish kills. The River Douglas and Leeds-Liverpool Canal were designated as sensitive (eutrophic) areas in 1994. Nutrient removal equipment was provided at the end of 1998 at Horwich WwTW.

More recently, the River Lostock below Leyland WwTW and the River Yarrow below Chorley WwTW have also been designated as sensitive (eutrophic) areas. Nutrient removal at these two works is required by 2004. The Agency is continuing to investigate other inputs of nutrients to these two rivers. Diffuse inputs are thought to contribute significantly to eutrophic conditions in the River Lostock upstream of Leyland WwTW. The impact of Croston WwTW to the tidal reach of the River Yarrow is also being investigated through routine monitoring of diffuse inputs.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Installation of phosphorus removal plant* at Leyland and Chorley WwTWs.	NWW Ltd		No Agency costs						• (2004)

*The installation of phosphorus removal plant at Horwich WwTW was completed at the end of 1998 (after the publication of the LEAP Consultation Report).

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Benefit: Installation of phosphorus removal plant at Horwich, Leyland and Chorley WwTWs will result in improved water quality and also improved aesthetic quality. It will also contribute to the achievement of water quality objectives.

5.1.4 Contribution to failures to meet non-statutory water quality objectives

The failures, listed below, to comply with water quality objectives and other localised water quality problems were detailed in the Consultation Report (page 26).

- River Douglas below Wigan and Skelmersdale WwTWs.
- Pearl Brook and in the River Douglas below Horwich WwTW.
- Tarra Carr Gutter below Longton WwTW.
- River Lostock below Leyland WwTW.
- Borderline compliance with the long-term objective in Eller Brook below Westhead WwTW.

Other localised problems

- Slack Brook below Brindle WwTW.
- Below Bispham Green WwTW.

The following improvements have been programmed into AMP3 (2000-2005).

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Improved treatment to meet water quality objectives at the following WwTWs* Wigan & Skelmersdale; Horwich; Longton; Leyland; Westhead; Brindle.	NWW Ltd		No Agency costs		•	•	•	•	•
2. Improved treatment and relocation of outfall at Bispham Green WwTW.	NWW Ltd		No Agency costs	•					

* During the Douglas LEAP consultation period improvements at all of these works have been included in the AMP3 Environment Programme covering the period 2000-2005. We are currently involved in scheduling individual improvement works within this five-year period.

Benefit: Improved treatment will result in improvements in water quality and aesthetic quality. It will also result in a contribution to achievement of water quality objectives.

5.3 Adverse impact of contaminated surface water discharges from separate sewerage systems on water quality

In response to problems identified by the Agency, North West Water Ltd (NWW) and the Local Authorities, site inspections are carried out to identify CSW problems. These visits allow site occupiers to be made aware of the impact on water quality and to rectify any problems. A review of contaminated surface water discharges from NWW water outfalls was carried out during 1997. A prioritised list of CSW problems in the North West Region was produced.

Around 60 of the highest priority problems in the North West Region, including several CSW problems in the Douglas LEAP area, are to be investigated over the next two years funded through NWW's efficiency savings. The remaining problems will be addressed as part of the AMP3 environmental programme of improvements.

Location of contaminated surface water (CSW) problems

The following failures to comply with water quality objectives and other localised water quality problems associated with discharges from CSWs have been identified within the Douglas LEAP area.

The following CSWs are causing localised problems:

- High priority CSW at Montcliffe Drive, Chorley affecting the Leeds-Liverpool Canal.
- High priority CSWs in Leyland affecting Bannister (Bow) Brook.
- Comet Road, Wigan affecting Close Brook.
- Penketh Place, Paxton Place, Paddock Road, New Church Farm and Houghtons Road, Skelmersdale affecting the River Tawd or tributaries of the River Tawd.
- Elnup Wood and at Crow Orchard, Shevington affecting Shevington Mill Brook and Almond Brook.
- Stoneygate Lane, Appley Bridge affecting Sprodley Brook.
- Killington Close, Wigan affecting Reed Brook.
- Sheldon Avenue, Standish affecting Bradley Brook.
- Windsor Drive, Brinscall affecting Brinscall Brook.
- Park Avenue, Chorley affecting Chapel Brook.
- Huntsfield affecting Carr Brook.
- Gill Lane, Walmer Bridge affecting Walmer Brook.
- Clovelly Drive, Newburgh affecting a tributary of the River Douglas.
- North Dene, Parbold affecting the River Douglas.

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- Marus Bridge affecting Hawkley Bridge.
- Oxford Road, Orrell affecting Ackhurst Brook
- Miles Lane, Appley Bridge affecting Calico Brook.
- CSWs affecting Clayton Brook.
- Littleton Grove, Standish affecting Bradley Brook
- Weaver Avenue, Burscough.
- Roby Mill affecting Ayrefield Brook.

Failures to meet objectives

- (i) Significant failure to comply in Smithy Brook. A high priority CSW problem at Sandpiper Road, Wigan and further CSW problems at Billinge Road, Ravenswood Avenue and Costessy Way, Wigan can impact on this reach.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Resolution of high priority CSW problems by investigating sewer connections and remedying problems found.	The Agency, NWW Ltd	LA	N.A.	•					
2. Resolution of outstanding CSW problems in AMP3.	NWW Ltd	The Agency	Agency staff time		•	•	•	•	•

Benefit: The resolution of high priority CSW problems will provide improved water quality and aesthetics.

Comment: Costs for NWW, Local Authorities and Householders and availability of resources will be determining factors in the resolution of this issue.

3 ACTION PLANS

ISSUE 6 ADVERSE IMPACT OF DRAINAGE FROM ABANDONED MINEWATERS ON SMITHY BROOK AND YELLOW BROOK

There are many discharges of abandoned minewater in the area. The following have a major impact:

- Summersales Colliery and Pemberton Spoil discharging into Smithy Brook.
- The former Aspull Sough colliery discharging into Yellow Brook.

The Summersales Colliery/Pemberton area and Aspull Slough sites are included in the national top ten high priority sites identified. Mining consultants employed by the Coal Authority are now working with the Agency to draw up more detailed reports on the design and costs associated with proposals to remediate the top ten sites.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Liaise with Mining Consultants on production of reports identifying solutions for the Summersales/Pemberton and Aspull Sough sites.	The Agency	Mining Consultants	U*	•	•				
2. Continued monitoring of other known minewater problems and initiation of monitoring at any future areas impacted by new new minewater discharges.	The Agency		U*		•	•	•	•	•
3. Implementation of agreed solution.	Coal Authority, DTi	The Agency	U*		•	•	•	•	•

*The costs incurred for each action are dependent on results from the analysis undertaken over the next twelve months.

Benefits: Liaison with Mining Consultants will produce agreement and fully costed solutions available for inspection by DTi. The implementation of the agreed solution will improve water quality and also aesthetic quality. Continued monitoring of other known minewater problems will provide a data set for identification of priority areas should additional funding become available.

3 ACTION PLANS

ISSUE 7 ADVERSE IMPACT ON THE ENVIRONMENT FROM WELCH WHITTLE SITE ON SYD BROOK

Welch Whittle is a disused deep mining site. In addition, the site was the operational location of a waste incinerator and recent water quality monitoring has identified the presence of certain organic chemicals that may well be associated with this former use. Two deep mineshafts are located on the site and it is possible that these may be providing a migration pathway to Syd Brook. The current landowners operate the site as a scrapyard.

The Agency and the local council are to discuss a strategy for the site during 1999 to consider a potential partnership bid to DETR for Capital Project/Supplementary Credit Approval funding.

Since the publication of the Consultation Report a meeting with Chorley Borough Council was arranged for early May 1999 to discuss the strategy for the site. Resulting from the meeting a partnership was formed between Chorley Borough Council, Lancashire County Council and the Agency. The objective of the partnership is to develop a strategy using desk studies, site investigations and sampling exercises.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Undertake extensive investigations to determine degree of contamination.	Landowner	The Agency	U	•	•	•	•	•	
2. Assessment of the investigations and determination of contamination and develop a remedial strategy for the site.	The Agency, LA	Developer, Site Owner	U*					•	•

*Costs are dependent on results of the investigations.

Benefits: Undertaking extensive investigations will determine degree of contamination and most suitable remedial technique. A strategy will be developed to improve groundwater and surface water. The study will also contribute to compliance with water quality objectives.

Comment: Costs incurred by landowners and developers will influence the successful resolution of this issue.

3 ACTION PLANS

ISSUE 8 THE OPPORTUNITY FOR ENVIRONMENTAL AND RECREATIONAL IMPROVEMENTS ARISING FROM DEVELOPMENT AT GILLIBRANDS, CHORLEY

Additional development in the Gillibrands area of Chorley close to the River Yarrow, offers the potential to increase recreation adjacent to the river. We would seek to incorporate recreational and environmental features at the design stage, including maintaining the existing bankside and in-river habitats. In addition, we would also seek the placement of way-marked footpaths and interpretation boards. These would raise public awareness and perception of the value of the local environment.

We have also identified the area of the Yarrow at Common Bank for spawning gravel enhancement works. This could also be incorporated at the design and construction stages.

The effect of these environmental and recreational design features would reduce any adverse environmental impacts of the development. The benefits would improve the landscape value of the area and could enhance the local economy by attracting inward investment.

Gillibrands Link Road should start in spring 2000 scheduled for completion by autumn 2000. The house-building programme will commence after autumn 2000.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Assist and promote measures, including SUDS, in the design of the scheme.	Chorley B.C.	The Agency	N.A.	•	•	•	•	•	•
2. Monitor any work that may have an adverse effect on the environment during the construction phase and seek to minimise adverse environmental impact.	The Agency, LA, Developer		Agency staff time	•	•				

Benefits: Resolution of this issue will provide improved access and amenity.

3 ACTION PLANS

ISSUE 9 THE OPPORTUNITY TO REDUCE EMISSIONS FROM KIRKLESS, CEMETERY ROAD AND ULNES WALTON LANDFILL SITES

Both the Ulnes Walton and Kirkless landfill sites produce gas, and potentially in such quantities as to be economic. Apart from the obvious financial benefit this would bring to companies, landfill gas utilisation would also complement and reduce the costs of landfill gas control.

There are three other reasons for utilising the gas:

- Its use prevents it venting to the atmosphere where as a greenhouse gas it contributes to global warming;
- It reduces the drain on non-renewable fuel resources such as oil, gas and coal;
- Utilisation also reduces the risk of migration and therefore reducing the potential safety hazard.

The inclusion of this issue is in line with our national policy outlined in one of the nine environmental themes 'Addressing Climate Change'.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Implement gas extraction and recovery at Kirkless landfill site.	LWS Ltd, Landfill Management	The Agency	No extra Agency costs incurred		•	•	•	•	
2. Implement gas extraction and recovery at Cemetery Road landfill site.	LWS Ltd, Landfill Management	The Agency	As above		•	•	•	•	
3. Implement gas extraction and recovery at Ulnes Walton landfill site.	LWS Ltd	The Agency	As above		•	•	•	•	

Benefit: Implementation of gas extraction and recovery will contribute to a reduction in the greenhouse effect from emissions.

Comments: The determining factor in resolving this issue is financing the schemes. Furthermore the management of any immediate landfill gas risk is to take priority over energy recovery.

3 ACTION PLANS

ISSUE 10 ADVERSE IMPACT OF BRADLEY HALL, KIRKLESS AND MOSS SIDE INDUSTRIAL ESTATE ON THE ENVIRONMENT

Where high concentrations of industry occur, there tends to be a greater impact on the environment in many ways. These impacts can include pollution of nearby watercourses, contamination of land, large amounts of solid waste, large water usage, potential impacts on air quality and a detrimental effect to the visual amenity of the area.

Most incidents of pollution originating from industrial sites and trading estates arise from accidents, negligence, poor storage and the mishandling of oil, chemicals and waste. As well as spillage, a common problem on more modern estates occurs from wrong connections to surface water drains resulting in wash waters, process effluents and contaminated yard washes all discharging to the nearest watercourse.

These industrial units have been converted from older premises and sub-let. The drainage systems have not usually been updated. These older systems are also more prone to blockages and leaks. In some instances drainage from the estate is non-existent. The provision of surface water interceptor diverters (SWIDs) has shown benefits along the River Tawd where water quality has improved sufficiently following their installation to enable the introduction of fish.

Proactive targeting of these three sites over the next five years will lead to reductions in waste, improved water quality and a more visually attractive locality. Other sites also of concern include Lamberhead and Enterprise.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Identify any site drainage problems and site contamination.	Owners/ Occupiers, NWW Ltd	Wigan M.B.C., LCC, The Agency	No extra Agency costs incurred	•	•	•	•	•	
2. Rectify any site drainage problems and site contamination including remediation where possible.	Owners/ Occupiers NWW Ltd	Wigan M.B.C., LCC, The Agency	As above	•	•	•	•	•	
3. Promote good house-keeping on sites. Promote initiatives e.g. waste minimisation project.	GWK, LCEEI, The Agency		Agency staff time	•	•	•	•	•	
4. Promote links with business clubs/awards EMS/ISO 14001 e.g. Heinz Kitt Green.	The Agency		Agency staff time	•	•	•	•	•	

Benefits: Identification and rectification of site drainage problems will improve water quality and aesthetics. This will also contribute to compliance with water quality objectives. A further benefit will be the reduction of health risk implications.

Comment: Costs to Owner, Occupiers and NWW will influence the resolution of this issue.

Glossary: GWK – Groundwork Trusts, LCEEI – Lancashire Centre for Environmental Excellence in Industry, LCC – Lancashire County Council.

3 ACTION PLANS

ISSUE 11 SUSTAINABLE DEVELOPMENT OF ROYAL ORDNANCE SITE, EUXTON

The Royal Ordnance site at Euxton is a former munitions filling factory constructed between 1936 and 1939. The majority of the site is now surplus to operational requirements. The site is now going through large-scale redevelopment through a concept routinely termed as 'urban village'.

The site is aiming to be a flagship for sustainable development that has been derived from an integrated approach to environmental, planning and development issues. Sustainability is also one of the key aims of the Agency. It is the intention to work in an integrated way to assist and influence the project with the use of sustainable urban drainage systems such as the provision of reed beds, to sustainable building design such as utilising insulation materials.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. We will provide expert advice and promote the implementation of water collection systems, waste minimisation techniques, reed beds and SUDS.	South Ribble B.C., Chorley B.C., Developer	The Agency, DaY RVI	Agency staff time	•	•	•	•	•	

Benefit: Multiple environmental benefits that can be advertised to other developers.

3 ACTION PLANS

ISSUE 12 THE IMPACT OF BARRIERS RESTRICTING THE DISTRIBUTION OF FISH IN THE DOUGLAS AREA

Several barriers, either full or partial, to fish migration have been identified including weirs, sluices and in river structures. These are having a direct influence on the success of fish reaching the upper parts of the area. Work needs to be carried out in conjunction with British Waterways, landowners and angling clubs to improve the access for fish to the higher reaches. For any weirs where redesign is carried out by the Agency, the incorporation of recreational passage for canoes and small vessels will be considered where this is appropriate.

The resolution of this issue will largely depend on the availability of funding. Over the next five years we will seek funding from various sources, including European funds, in order to carry out the actions at each area identified as causing an obstruction, listed on the table below.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
Incorporate works to remove obstructions in Agency/ partnerwork or provide provision for fish passes in existing structures as following:	The Agency	South Ribble B.C., BW, NWW Ltd, Landowners, AC	Shown as below:						
1. River Yarrow at Croston Weir. This will also involve an assessment of the heritage of the weir	As above	As above	£10K for whole period	•	•	•	•	•	
2. River Yarrow, M61 Motorway bridge weirs	As above	As above	£10K for whole period	•	•	•	•	•	
3. River Lostock, Farington Weir	As above	As above	£10K for whole period	•	•	•	•	•	
4. River Douglas, Gathurst Weir	As above	As above	£20K for whole period					•	•
5. River Yarrow at Birkacre Weir	As above	As above	£25K for whole period					•	•

Benefit: Increased fisheries and recreational potential. There will also be an overall increase in the level of bio-diversity.

Comments: The co-operation of RO, BW, Angling Clubs and also the effects on flood defence will act as determining factors as well as the availability of funding in resolving this issue.

Glossary: BW – British Waterways, AC – Angling Clubs.

3 ACTION PLANS

ISSUE 13 THE PROMOTION OF FURTHER PARTNERSHIP WORKING ON WIGAN FLASHES TO ENHANCE WATER QUALITY, WILDLIFE HABITATS AND ATTRACT ADDITIONAL RECREATIONAL FACILITIES

The Flashes Complex (part of which is designated as a SSSI) has landscape value and rich bio-diversity. The Complex is located close to the area promoted as a cornerstone of Lancashire's industrial and mining heritage. Much investigation work has been carried out with Hey Brook Corridor Working Group and Wigan Metropolitan Borough Council in considering the current issues and the potential for realistic environmental enhancements. Wigan MBC plays a prominent role in the development of a strategic approach to the protection and enhancement of the Wigan Flashes.

In Pearsons and Scotmans Flashes, improvements in water quality resulting from nutrient reduction are expected following completion of the work on the sewerage network by North West Water Ltd. It is hoped this will stop or reduce the incidence of Blue Green Algae events in Scotmans Flash and the associated impact on the River Douglas. We will continue to collect data during seasonal surveys of Scotmans and Pearsons Flashes. These measure physico-chemical parameters and assess the nutrient status of these standing waters.

The expansion of reedbeds in Pearsons Flash will aid self-purification. Expansion of existing reedbeds in other parts of the Flashes complex should provide a new breeding habitat for Bitterns (only two sites in England at present).

Water quality and the availability of suitable habitat are also important in supporting the recreational fishing interests around the Flashes Complex. Japanese Knotweed, Himalayan Balsam and Giant Hogweed are endemic in some areas of the Flashes system. In addition to this the illegal stocking of fish (especially carp) from other waterbodies into the Flashes, can alter the ecology and can even threaten the survival of the current fish population, should disease be introduced. Raising awareness, not only in the Flashes but also in other areas, should help minimise the risk of transmission of diseases and therefore reduce mortalities.

It is intended to extend the type of water related recreational pursuits to encompass educational walks and provide a school resource.

3 ACTION PLANS

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Monitor water quality status of Pearsons and Scotmans Flashes by seasonal surveys and disseminate information to Wigan and Chorley Working Group.	The Agency		Agency staff time	•	•	•	•	•	
2. Formulate action plan for Flashes complex.	Wigan MBC	Wigan Flashes User Group/ Working Group, The Agency	N.A.	•					
3. Implement action plan to promote recreation and educational resources at Flashes complex.	Wigan MBC	Wigan Flashes User Group/ Working Group, The Agency	N.A.		•	•	•	•	•

Benefit: Monitoring of water quality status of both Flashes by seasonal surveys will provide confirmation of improvements following significant reductions in sewage discharges in 1998. The formulation and implementation of the action plan will improve recreational and fisheries potential in the urban area. Further benefits will also include an increase in aesthetic appeal and raising of public awareness and perception of the area.

Comment: Health and Safety requirements and possible conflicts of interest will influence the successful resolution of this issue.

3 ACTION PLANS

ISSUE 14 THE NEED TO LOCATE ADDITIONAL ACCESS SITES FOR RIVER MAINTENANCE TO PREVENT FLOODING

We have identified six areas of the Douglas where difficulties are being encountered at current access locations. The need to obtain access for maintenance is paramount to prevent flooding, particularly in those areas identified as 'flood risk' ie. River Yarrow at Croston and Bannister Brook (School Lane through Leyland). The advantages of relocating access points are by way of efficiency savings for vehicles where the job is completed in a shorter time, meeting safety requirements and minimising disturbances to land use.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Identify new access locations and agree with landowner.	The Agency	Wigan MBC, South Ribble B.C., West Lancs D.C., Bolton MBC, Chorley B.C., GWK, Landowner, DaY RVI	U	•	•	•	•	•	

Benefit: By improving access the maintenance of watercourse would be made easier thus reducing flood risk due to debris and vegetation growth. Access to problem culverts also reduces flood risk associated with blockages. Improved efficiency will increase use of mechanical plant. There may also be an increase in recreational benefits at some locations resulting from this action.

Glossary: DaY RVI – Douglas and Yarrow River Valley Initiative, GWK – Groundwork Trust.

3 ACTION PLANS

ISSUE 15 LACK OF AWARENESS AND POOR ACCESS TO WATERCOURSES FOR RECREATIONAL ACTIVITIES IN THE DOUGLAS AREA

In the urban parts of the Douglas area, rivers and other water bodies represent one of the few natural features and are an excellent resource for recreation. However, in many areas within the Douglas catchment there is poor access to watercourses. This restricts both informal and formal recreation, including rowing, canoeing, walking, cycling, horse riding and angling. Where people cannot walk along rivers, they tend to become neglected and undervalued and are not therefore perceived to be a recreational asset. We are keen to support the promotion of recreation within the Douglas area.

However, creating or extending footpaths and recreational access must be considered against the possibilities of disturbance to wildlife and livestock, conflicts between users and the increased threats from trespassers and flytippers. Signage and interpretation material may help to discourage misuse of the watercourse, raise the aesthetic appeal and generally improve public perception, in addition to enhancing the local economy. There are sites already identified under other issues ie. Wigan Flashes, Gillibrands, Chorley, Leeds Liverpool Canal, Rivington Reservoir and Birkacre Lodges.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Identify improvements for public access to watercourses necessary for recreation including water based recreation.	LAs	RO, BW, CoA, AC, GWK, Ramblers, English Sports Council, BCU, RHS, IWA, DaY RVI NW Rowing Council, NWW Ltd, Wigan Canoe Club, The Agency	U	•	•	•	•	•	
2. Implement improvements for public access to watercourses for recreation including waterbase recreation.	LAs	As above	U	•	•	•	•	•	
3. Encourage the creation, extension and linking of linear parks, footpaths, cycleways and bridleways adjacent to water bodies, including those of active management or in disrepair.	LCC (Rights of Way), LA	RO, GWK, Ramblers, English Sports Council, CoA, Local Parish Council, DaY RVI	U	•	•	•	•	•	

3 ACTION PLANS

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
4. Locate signage and interpretation boards along footpaths and on bridge crossings to promote public awareness.	LA, RO	GWK Trusts, LWT, Ramblers, English Sports Council, CoA, Local Parish Council, DaY RVI, LCC (Rights of Way), The Agency	U	•	•	•	•	•	
5. Identify footpath improvements required at Hundred End Gutter and repair.	LCC, Ramblers, RO	The Agency	U	•	•				
6. Identify and create footpaths at locations adjacent to the River Douglas where feasible eg. from Eyes Lane to Wanes Blades Bridge and from Parbold Village to Wanes Blades Bridge.	LCC, Ramblers, RO	The Agency	U	•	•				

Glossary: RO – Riparian Owner, BW- British Waterways, CoA – Countryside Agency, AC – Angling Club, GWK – Groundwork, BCU – British Canoe Union, RHS – River Habitat Survey, IWA – Inland Waterways Association, Day RVI – Douglas and Yarrow River Valley Initiative, LWT – Lancashire Wildlife Trust.

Benefits: Identification and implementation of improvements for public access will improve recreational use of the water environment. The improvements will also allow the public more access to enjoy rivers. The encouragement, extension and creation of linear paths adjacent to water bodies will also increase recreational use and the public's perception of the watercourse. As will location of signage and interpretation boards along footpaths and on bridge crossings.

Comment: There are a number of factors which, combined, can act as a determining factor or influence the successful resolution of Issue 15. These include maintenance and security of waterside properties, co-operation / agreement of riparian owners and also funding availability. There is also the possibility that an increased level of tipping and littering may occur if easier access to watercourses is realised. It is also acknowledged that access structures can be visually obtrusive and also that increased access may increase disturbance to wildlife.

3 ACTION PLANS

ISSUE 16 INCOMPLETE KNOWLEDGE OF OUR BUILT HERITAGE ASSOCIATED WITH RIVERS

The industrial heritage element of the Douglas area, particularly located by the waterside is itself an important recreational asset. Larger mills and the famous site of Wigan Pier are attracting a large number of tourists, contributing towards the local economy. However, there is a lack of information regarding the archaeological value of riparian sites. Further investigation is needed to assess the heritage potential of the area.

There are a number of sites within the Douglas area which have been identified, but are deteriorating through natural processes or lack of maintenance. The potential of the built heritage, in the area, to attract recreational users and also to provide an educational resource is not being realised. This is aggravated by our poor knowledge of the area's archaeology. We need to identify sites not currently known to us. Identification will prove beneficial as such:

- It will enable us to implement preservation and development programmes for the sites.
- The sites can be incorporated in the planning system and made available within the Agency.

The Sites and Monuments Records need to be updated by survey work. This will quantify the archaeological resource within the area before we can take steps to protect the features.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Archaeological Survey within 10metres of Rivers Douglas, Lostock and Yarrow.	The Agency	GMAU, LA, LCC, Ramblers, Local Historical Groups.	£10k		•				
2. Manage the storage and manipulation of this data on the Agency's Geographical Information Systems and disseminate to other interested parties.	The Agency	GMAU, LCC, LA, Local Historical Groups. Ramblers.	U		•	•			
3. Investigate ways of preserving and/or developing the known sites and other new sites that come from the above survey.	The Agency	GMAU, LCC, LA, Ramblers, Local Historical Groups.	U			•	•		
4. Use available archaeological records to identify and protect known archaeological remains.	The Agency		U		•	•			

Benefits: Resolution of this issue will enable us to implement preservation and development programmes.

Constraints: Lack of current knowledge/access.

Glossary: GMAU – Greater Manchester Archaeology Unit, LCC – Lancashire County Council, LA – Local Authority.

3 ACTION PLANS

ISSUE 17 FAILURE TO COMPLY WITH WATER QUALITY OBJECTIVES AND IMPACT ON WATER QUALITY DUE TO AGRICULTURAL ACTIVITIES

Agricultural activity predominates in certain parts of the Douglas Area. Diffuse run-off from agricultural land associated with cultivation, fertiliser usage and slurry spreading can result in pollution.

The stretches listed are those in which farming is considered to contribute to the failure to comply with a water quality objective:

- Carr Brook
- Longton Brook
- Buckhow Brook.
- Culbeck (Chapel) Brook
- Calico Brook

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Carry out intensive surveys and specific pollution control farm campaigns to identify sources of farm pollution e.g. Carr Brook.	The Agency	Farmers, NFU, The Countryside Agency, Landowners	Agency staff time		•				
2. Rectify sources of farm pollution.	As above	As above	U*		•				
3. Continue farm inspections and promotion of best farming practices.	The Agency		Agency staff time	•	•	•	•	•	• •

* The cost of this action is dependent on problems identified.

Benefit: The combination of intensive surveys and specific pollution control farm campaigns rectifying sources of pollution with promotion of best practices will improve water quality and also contribute to the achievement of water quality objectives.

Glossary: NFU – National Farmers Union.

3 ACTION PLANS

ISSUE 18 FAILURE TO COMPLY WITH WATER QUALITY OBJECTIVES AND IMPACT ON WATER QUALITY DUE TO DISCHARGES FROM PRIVATE SEWAGE TREATMENT WORKS

In most communities in the UK domestic residences are connected to a sewerage system, most of which are owned and run by a Water Services Company. However, in some rural areas where there are only a few dozen properties or less, a public sewer may not be available. In such situations the provision of a sewerage system may be excessively costly, as it could involve the laying of many kilometres of pipe and need pumping stations to take the waste to the nearest treatment works.

Where there is no provision of a foul sewer, domestic waste often goes to a private treatment facility such as a septic tank. These then discharge to a soakaway or to the nearest watercourse. Most modern small treatment plants incorporate a biological filter system and treat waste to a good quality if maintained properly and not overloaded. However, increasing usage of water will place a greater load on existing systems and some of these may not now be able to cope. In certain rural areas housing developments may have resulted in a conglomeration of such systems.

The following areas have been identified in the Consultation Report (page 46) where a lack of sewerage facilities may contribute to failure to comply with objectives:

- Drumacre Lane
- Burscough Road
- Lathom
- Tunley Brook
- Top Locks Briars Lane, Glover Bridge
- Dark Lane
- Ring 'O' Bells
- Longton Brook

Other localised problems affecting tributaries at:

- Roby Mill
- Little Hoole
- Shore Road. Tarleton
- High Moor

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
Pursue provision of first time sewerage facilities or alternative solutions for known problem areas.	House-holders	LAs, NWW, The Agency	0	*	*	*	*	*	

* Timescales are dependent on householders applying to NWW Ltd for connection to the sewerage network.

Benefits: Provision of first time sewerage facilities or alternative solutions for known problem areas will improve water quality. A contribution to the achievement of water quality objectives will also be made.

Constraints: Costs to NWW/Householders.

3 ACTION PLANS

ISSUE 19 RECLAMATION OF THE FORMER COLLIERY SITE AT HEATH CHARNOCK.

Chorley Borough Council intend to reclaim the former colliery site at Heath Charnock and subsequently develop it as a heritage park, to be known as Ellerbeck Heritage Park. The proposed heritage park will be linked, via the public footpath network, with the Yarrow Valley Country Park.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Reclamation of the former 28ha colliery site and subsequent development as a Heritage Park linked with the Yarrow Valley Country Park.	Chorley B.C.	The Agency	No Agency costs incurred.		•	•	•	•	•

Comment: We support this issue submitted by Chorley Borough Council relating to the heritage park's recreational features and subsequent environmental improvements.

3 ACTION PLANS

ISSUE 20 REGENERATION OF VARIOUS SITES IN ADLINGTON

Chorley Borough Council is currently considering a number of sites within the Adlington area for regeneration. The main site is off Chorley Road at Fairview Farm that includes a land filled former quarry of 0.9ha. The site is proposed as a 10ha housing development.

The site investigation report, carried out by Lancashire County Council in 1997, mentioned that the landfilled former quarry is presently gassing to effect both existing and proposed residential development. The report proposes that appropriate remediation measures be undertaken by a future developer of the site involving a gas venting trench and long term monitoring boreholes.

The other notable site within Adlington that will benefit from site clearance, improved access and landscaping is Waterman's Cottage. This site lies adjacent to the Leeds and Liverpool Canal opposite the White Bear Marina and is privately owned.

The other, smaller sites that are neglected and unsightly are at various locations in Adlington but no detailed information is currently available from Chorley Borough Council.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Work carried out at Fairview Farm, Adlington by Chorley Borough Council.	Chorley B.C.	The Agency	No Agency costs incurred.			•			
2. Work carried out at Waterman's Cottage by Chorley Borough Council.	Chorley B.C.	The Agency	No Agency costs incurred.		•	•			

Comment: We support this issue because of the resultant environmental and recreational benefits from Chorley Borough Council's initiative.

3 ACTION PLANS

ISSUE 21 THE TREATMENT OF A NUMBER OF DISUSED MINESHAFTS AT COPPERWORKS WOOD, GILLIBRAND, CHORLEY

Chorley Borough Council proposes to treat four old mineshafts by the replacement of soil reinforcements above each shaft.

The council envisages environmental improvements, following safety works, comprising new footpath infrastructure, access works, picnic areas and woodland management.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Treatment of disused mineshafts and subsequent environmental improvements.	Chorley B.C.	The Agency	No Agency costs incurred.	•	•	•			

Comment: In principle we support Chorley Borough Council relating to the environmental and recreational benefits resulting from the council's initiative.

3 ACTION PLANS

ISSUE 22 THE CUMULATIVE ADVERSE ENVIRONMENTAL IMPACT OF METAL RECYCLING SITES LOCATED IN THE WIGAN AREA

The current national Metal Recycling Site project aims to regularise (eg. exempt or licence) all sites currently identified by the end of October 1999. Within the Douglas LEAP area 16 sites have been identified.

Eight Metal Recycling Sites are clustered in the area of Wallgate in Wigan (across the River Douglas from Robin Park).

The potential problem from all 16 sites is mainly that of contaminated land from Hydrocarbons, metals and acids. Additionally clusters of poorly run sites also attract associated unauthorised waste management activities. We intend to regulate all such sites by a planned course of action. Alternatively if there is a failure to comply by these sites then we will prosecute.

Actions	Responsibility		Agency costs (£K)	1999 2000	2000 2001	2001 2002	2002 2003	2003 2004	Future
	Lead	Other							
1. Identify Metal Recycling Sites by a planned course of action.	The Agency		Staff time	•					
2. Licence or exempt identified sites.	The Agency		Staff time	•	•				
3. Prosecute, where necessary, offenders.	The Agency		Staff time	•	•	•			

The plan area in planning terms is administered by a number of Local Planning Authorities. These are:

Wigan Metropolitan Borough Council.

South Ribble Borough Council.

Chorley Borough Council.

West Lancs District Council.

Bolton Metropolitan Borough Council.

Lancashire County Council.

Each of these Local Planning Authorities is in the process of preparing, or has in place a development plan.

PARTNERSHIPS

The list of partnerships contained in the consultation report is still valid and it is not the intention of this action plan to repeat all of the organisations mentioned.

River Valley Initiatives (RVIs)

RVIs bring together local authorities, businesses, community groups and the voluntary sector as well as organisations like the Environment Agency and North West Water, to tackle a broad range of environmental issues in a collaborative way.

An RVI project activity is orientated around a number of themes including:

- promotion and protection of all aspects of the natural environment
- habitat creation and improvement for wildlife
- education and awareness raising
- access to local corridors, areas of green space and the wider countryside
- assisting business to improve their environmental performance

Central to the aims of an RVI is community participation and ownership combined with support from local businesses.

The Douglas and Yarrow RVI is a combination of public, private and voluntary sectors all working to improving the environment of the Douglas and Yarrow Valley.

Local Agenda 21

The lead in developing Local Agenda 21 is taken by Local Authorities. The Local Authorities in Lancashire are developing Local Agenda 21 initiatives and meet quarterly to exchange ideas and information. The Agency also has responsibilities with regard to sustainable development and joins with the Local Authorities at their liaison meetings to assist in pursuing the goal of sustainable development.

Angling Clubs

There is a number of Angling Clubs in the Douglas area fishing canals, still waters and the River Douglas. Much work is done in partnership with Angling Clubs to protect and improve the angling venues in the area.

English Heritage – Countryside Agency – Sports Council – English Nature

The Agency consults with each of these organisations on matters concerning Sites of Special Scientific Interest (SSSI).

Wigan Flashes Conservation and Community Group

The group meets four times per year and consists of users of the Flashes and local residents. Throughout the year speakers from various organisations and expertise are invited to address the group. Wigan Metropolitan Borough Council acts as secretariat for the group.

Flood Warning Zones

The Environment Agency takes the lead in the dissemination of Flood Warnings, but other organisations including the Local Authorities and the Police are also involved.

We have also identified sites most likely to suffer from flooding and have put into place systems to give those people living in these areas advanced warnings. The Agency calls these sites Formal Flood Risk Zones. In the Douglas area there are two such zones; on the River Yarrow at Croston and River Douglas at Wigan.

In providing the Core Flood Warning service, the Environment Agency makes use of Local Media (TV and Radio), a recorded message system (Floodcall), loud hailers and for the Flood Risk Zones Automatic Voice Messaging. All of these enable us to provide those with property in Flood Warning Zones with advance warning, in order that they can take steps to minimise the impact of flooding.

The Floodcall Message Service mentioned above is a local rate telephone number that is continually updated to provide the public with up to date Flood Warning Information.

The telephone number is: **0645 881188**.

5 FUTURE REVIEW AND MONITORING

We will be jointly responsible, with other identified organisations and individuals, for implementing this Action Plan. Progress will be monitored and normally reported annually. The Annual Reviews will examine the need to update the plan to reflect local change. The period between major revisions will normally be five years.

APPENDIX 1 – The routine work of the Agency

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

Regulating the environment takes place through licensing and consents. We regulate the abstraction of water from rivers and boreholes, releases to air, land and water, the carrying and disposal of waste and to carry out work in, over, under or near a watercourse.

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

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

We also have the role of reducing risk to people and the environment from flooding by providing effective defences. Protecting life is our highest priority and to meet this aim we provide a flood forecasting and warning service and discourage development in flood-risk areas.

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

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

APPENDIX 2 – Environment Agency leaflets and reports available from the Central Area Office of the North West Region

This appendix gives a selection of leaflets available from the Environment Agency. It is intended as a guide to the type of information available rather than a complete list, as new leaflets are being produced. The list does not include policy documents or technical reports.

General Information

An Environmental Strategy for the Millennium & Beyond.
Customer Charter – September 1997.
Corporate Plan Summary 1997-98.
The Environment of England and Wales, a Snapshot.
The Environment of England and Wales – Now on the World Wide Web.
The Environment Agency in the North West of England.
Environment Agency – Aim, Objectives, Work.
About the North West – fact file.
Guardians of the Environment.
A Guide to Information Available to the Public.
Our Complaint and Commendations Procedure.
Who's Who in the Environment Agency – North West.
Agency Emergency Hotline – 0800 credit card size.
River Watch Card.
Corporate Plan Summary.
Annual Report and Accounts 1998-99.
Corporate Plan 1998-99.
Annual Report and Accounts 1996-97.

Education

Activity Book – for Primary School Children.
Pack for Key Stages 1 and 2 for Primary School Children.
Helping protect the Environment – (colour in) poster.
Understanding your Environment – poster.

Waste Regulation

Classification of Special Waste – Information Sheet 1.
Use of the Consignment Note – Information Sheet 2.
Special Waste Regulations 1996 – How they affect you.
North West Statistics 1995-96.
New Packaging Regulations – How they affect you.
Farm Waste Minimisation.
What a Waste! Leaflet.
Will you be technically competent to run a licensed waste site in 1999?

Fisheries and Recreation

Fisheries North West – brochure.
Fisheries in the North West – fact file.
Rod Fishing Licences – 1999.
Have Fun Have a Care (River Canoeists).
Have Fun Have a Care – poster.
Anglers and the Agency 1999-2000.

**APPENDIX 2 – Environment Agency leaflets and reports available from the Central Area Office
of the North West Region**

Ecology

Mink.

Guidance for the Control of Invasive Plants near Watercourses.

Conservation.

Understanding Riverbank Erosion.

Riverlife from Source to Sea.

Trees and Shrubs native to Lancashire.

Ponds and Conservation.

Pond Heaven.

The Habitat's Directive.

Aquatic Weed Control.

Phytophthora disease of Alder.

Flood Defence

Environment Agency Policy regarding Culverts – policy statement and explanation of policy.

Flood Defence – North West – brochure.

Paying for Flood Defence.

Main River – fact file.

Maintaining Watercourses – fact file.

Paying for Flood Defence – fact file.

Understanding Buffer Strips.

Development with Flood Risk Implications.

Flood Warning Information – For the Deaf and Blind.

Flood Warning Information – What to do If Your Property is at Risk.

0645 Floodcall Credit Card Size.

Who's on My Land?

Policy and Practice for the Protection of Floodplains.

Pollution Control

Environmental Protection and Pollution Control – North West – brochure.

EC Directives and the Control of Water Pollution – fact file.

Bathing Water Quality Summary Report 1996.

A Guide to Environmental Quality & Pollution Control – booklet.

Looking After Our Rivers.

Agricultural Pesticides and Water.

Pollution Prevention Pays.

Building a Cleaner Future.

Blue Green Algae

Discharges to Controlled Waters – charges – 1998-1999.

Home Pollution and how to avoid it.

River Pollution and how to avoid it.

Silage Pollution and how to avoid it.

Farm Pollution and how to avoid it.

Farm Waste Management Plans.

Farm Waste Regulations.

Chemical Pollution and how to avoid it.

Solvent Pollution and how to avoid it.

Making the right connection.

APPENDIX 2 – Environment Agency leaflets and reports available from the Central Area Office of the North West Region

Pollution Control continued

Natures Way – Designs that prevent water pollution.
Groundwater Pollution.
Oil Care Code stickers.
The Use of Licences to Prevent Pollution.

Water Resources

Water Resources – North West – brochure.
Annual Abstraction Charges 1997-98.
Spray Irrigation.
Making your home and garden water efficient.

IPC/RAS

Integrated Pollution Control 1997-98 – Fees and Charges.
Radioactive Substances Act Regulation 1997-98 – Fees and Charges.
Best Practicable Environmental Options Assessments for IPC – A Summary.

Catchment Management, Environment Agency Action Plans

Alt /Crossens Catchment Management Plan – Consultation Report/Action Plan/First Annual Review.
Douglas Catchment Management Plan – Consultation Report/ First Annual Review/Second Annual Review.
Ribble Catchment Management Plan – Consultation Report/First Annual Review/Second Annual Review.
Ribble Local Environment Agency Plan – Consultation Report.
Lune Local Environment Agency Plan – Consultation Report/ Action Plan.
Wyre Local Environment Agency Plan – Consultation Report/ Action Plan/First Annual Review.
Douglas Local Environment Agency Plan – Consultation Report, Action Plan.

APPENDIX 3 – List of respondents

Chorley Borough Council -Councillor JG Cocking.
Chorley Borough Council – Mr A Parr, Senior Projects Officer.
Clean Rivers Trust – Harvey Wood.
Countryside Agency (previously Countryside Commission) – Clare Warburton.
Diana Downing.
English Nature – Mark Beard.
English Sports Council – Brian Green, Regional Planning Officer.
Farming and Rural Conservation Agency – RS Williams, Regional Planning Advisor.
Greater Manchester Ecology Unit – Vaughan Grantham, Ecologist.
The Hawk and Owl Trust – Colin Shawyer, Director Conservation and Research.
Mr Lawrence Hubbard.
Inland Waterways Association – Neil Edwards, Executive Director.
Inland Waterways Association – Mr John Fletcher, North West Region Chairman.
Knowsley Borough Council – Graham Robson, Site Development Manager.
Lancaster University Archaeological Unit – Dr.R Newman, Director.
Lancashire Wildlife Trust – Martyn Walker and David Dunlop, Conservation Officers.
Lancashire County Council – County Secretary and Solicitor.
Ministry of Agriculture, Fisheries and Food – RJ Warlow, Rural and Marine Environment Division.
Mr Mike Clarke – Milestone Research.
North West Water Ltd – Mr D Marshall, Water Quality Planning Manager.
North West Regional Rowing Council – Dr D Lush, Secretary.
Mr M Payne.
Mr RG Samuel – Head Bailiff, Prince Albert Angling Society.
Ramblers Association – Mr D Kelly, Mid Lancs Area Secretary.
Red Rose Forest – Mr C Waterfield.
Royal Yachting Association – Jerry Eardley, Legal and Environmental Policy Secretary.
South Ribble Borough Council – Mr B Morton, Senior Planning Officer.
West Lancs District Council – TL Abernethy, Director of Development and Amenities.
West Lancs Footpath Group -Mrs MO Smith.
Wigan Metropolitan Borough Council – Mr JP Sloane, Borough Planning Officer.
Wigan and District Angling Association – Mr J Weedon.
Wigan Canoe Club – Mr F Smith, Chairman.
Wigan Canoeing Group – JA Allen, Secretary.
Wildfowl and Wetlands Trust Martin Mere – Mr PJ Wisniewski, Centre Manager.

AMP2 – Asset Management Plan

The second set of Asset Management Plans produced by Water Companies. The Plans cover the Water Companies' known investment of existing and other obligations (such as the operation and maintenance of existing water and wastewater systems) for the 10 year period 1995 to 2005. The Environment Agency is involved in setting priorities for work necessary for environmental improvements within allowed expenditure limits. Prices are controlled by an independent regulator, the Director General of Water Services (OFWAT). AMP 3 follows as the next planning period.

AONB

Area of Outstanding Natural Beauty, notified by the Countryside Commission now known as the Countryside Agency.

BOD

Biochemical Oxygen Demand. A measure of the polluting potential.

Coarse Fish

See FRESHWATER FISH, CYPRINIDS AND SALMONIDS.

County Structure Plans

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

Cyprinids

Fish of the carp family. (See also COARSE FISH, FRESHWATER FISH and SALMONIDS).

Eutrophic

The enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned.

Freshwater Fish

For the purposes of the Salmon and Freshwater Fisheries Act 1975, fish other than salmon, brown trout, sea trout, rainbow trout and char (see also COARSE FISH, FRESHWATER FISH and SALMONIDS).

ISO 14001

An international standard which specifies the requirements for an environmental management system that an organisation must meet if it is to achieve third-party certification. ISO 14001 encourages a cultural change by establishing disciplines that ensure policy and objectives are met and a continual improvement in environmental performance is achieved. The standard is voluntary and open to any organisation to adopt.

List 1 Substances

Dangerous substances which are particularly hazardous on account of their toxicity, bioaccumulation potential and persistence and which require special controls. Environmental quality standards are shortly to be introduced into UK law by regulations.

List 2 Substances

Dangerous substances which are less hazardous than List 1 substances. Environmental quality standards are shortly to be introduced into UK law by regulations.

APPENDIX 4 – Glossary

Local Nature Reserve

A nature reserve designated by a Local Authority, frequently owned or managed by a voluntary conservation organisation.

Local Plans

Statutory documents produced by Borough or City Councils to implement the development strategy set out in County Structure Plans. Specific land use allocations are identified.

Main River

The Agency has permissive powers to carry out works of maintenance and improvement on these rivers.

Ramsar Site

A wetland site of international significance for conservation, notified under international treaty.

Redd

Spawning area.

SAC

Special Area of Conservation. A European legislation classification.

Salmonids

Fish classified by the Salmon and Freshwater Fisheries Act 1975 as belonging to the Salmon family – salmon, brown trout and char. (Summer-spawning salmonid species such as grayling are classified by the Act as Freshwater Fish). (See also COARSE FISH, FRESHWATER FISH and CYPRINIDS).

SNCI

Site of Nature Conservation Interest. A site of local importance for wildlife or geology, identified by the County Wildlife Trust or the County Council.

SPA

Special Protection Area. A European legislation classification.

SSSI

Site of Special Scientific Interest. A site designated by English Nature as being in need of protection to conserve its outstanding ecological features. Land use management operations within SSSIs are subject to control.

SUDS

Sustainable Urban Drainage Systems. A system which mimics the natural drainage from a site as much as possible to minimise the impact of a development on the water environment.

Sustainable Development

An approach which aims to balance the social, economic and environmental impacts of our actions.

SWID

Surface Water Interceptor Diverter. A structure added to a separate drainage system that diverts polluted surface water to the foul sewer – used to good effect at the Skelmersdale Industrial Estate.

WwTW

Wastewater Treatment Works.

APPENDIX 5 – Consultation Report Erratum – Water Quality Maps

There were a small number of errors contained in the Douglas LEAP Consultation Report concerning the representation of water quality on the Leeds Liverpool Canal.

Maps 4 and 5 represented the State of the Area as measured against both short-term and long-term River Quality Objectives (RQOs). On these two maps orange shading represented reaches where RQOs are presently failing to be met. Pink shading represented reaches where designations have been applied because the failures to comply with objectives are due solely to elevated BOD results detected during spring/summer months associated with algal growths. Several reaches of the Canal were incorrectly shaded as orange/pink on these two maps.

Map 6 highlighted the designations in relation to water quality under EC Directives. The Leeds – Liverpool Canal was designated as a sensitive (eutrophic) area under the Urban Waste Water Treatment Directive in 1994. The designation applies to the length of Canal from Dover Bridge (Leigh Branch) to Liverpool and the reaches affected were correctly shaded as orange on Map 6 in the Consultation Report.

The correct status of each of the relevant reaches of the Leeds-Liverpool Canal for the period 1995-1996 is shown on the table below:

Leeds – Liverpool Canal – Water Quality Status 1995-1997

Reach	Length (Km)	RQO Short Term	RQO Long Term	Status	Derogation for BOD (Y/N)	Sensitive Area (Y/N)
Rufford Branch (Burscough Bridge to Douglas)	11.4	RE4	RE4	Compliant	Y	N
Warehouse Halsall to Leigh Branch Wigan	24.9	RE4	RE3	Compliant	Y	Y
Leigh Branch Wigan to Johnsons Hillock	17.9	RE4	RE4	Compliant	N	N
Dover Bridge (Leigh Branch) to Main Canal at Wigan	5.8	RE4	RE4	Compliant	Y	Y

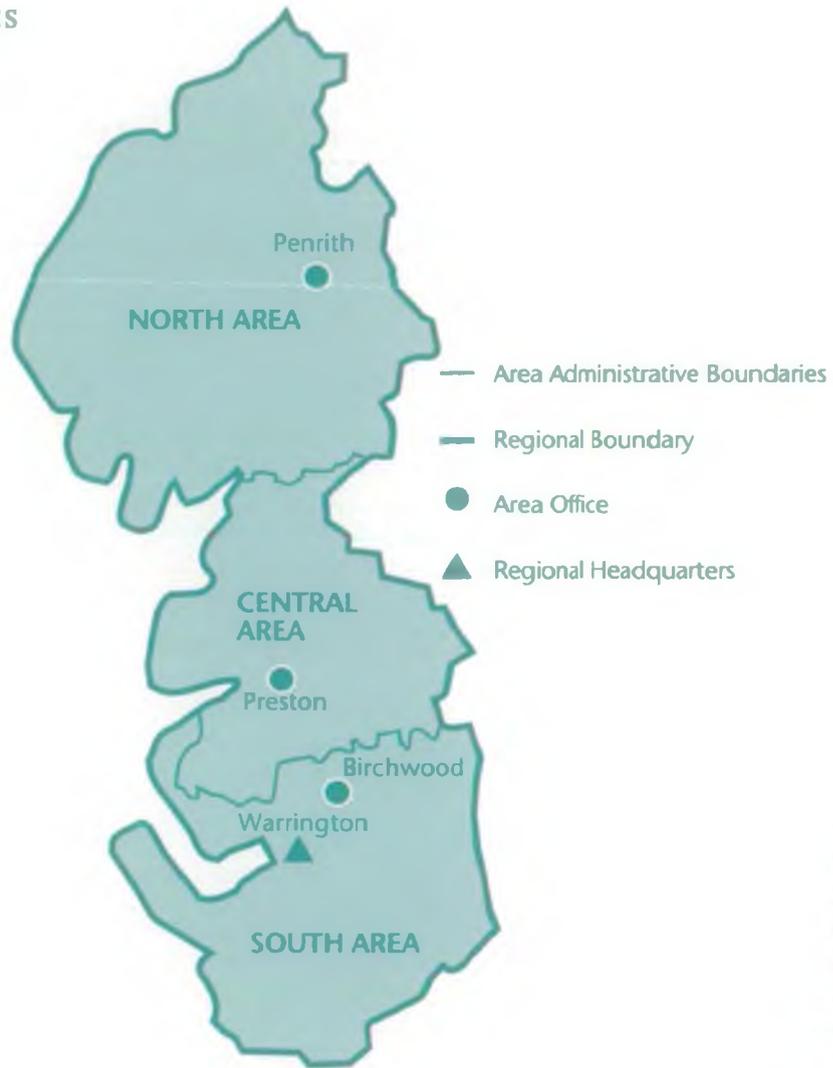
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Knutsford Road
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Fax: 01925 415 961

NORTH AREA
Environment Agency
Ghyll Mount
Gillan Way
Penrith 40 Business Park
Penrith
Cumbria CA11 9BP
Tel: 01768 866 666
Fax: 01768 866 606

CENTRAL AREA
Environment Agency
Lutra House
PO Box 519
South Preston
Lancashire PR5 8GD
Tel: 01772 339 882
Fax: 01772 627 730

SOUTH AREA
Environment Agency
Appleton House
430 Birchwood Boulevard
Warrington WA3 7WD
Tel: 01925 840 000
Fax: 01925 852 260



For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

**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
0800 80 70 60**



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