

KEY

- Catchment Boundary
- Watercourse
- - - - - Culverted Watercourse
- Canal
- Built up Area
- Motorway
- A Road
- Rail Network

EXECUTIVE SUMMARY

The Third Annual Review of the Sankey/Glaze LEAP reports on the progress made from 1999 against LEAP actions. The actions published in the LEAP supplement our everyday work on monitoring, surveying and regulating to protect the environment. Some of the key achievements for the Agency and its partners include:

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- Completion of River Sankey and River Glaze Habitat Surveys.
 - New processes reducing particulate emissions at Abram Alloys and PPG Industries Ltd.
 - Successful stocking of coarse fish at Pennington Flash.
 - New bridge constructed across Winwick Dry Dock.
 - Completion of the initial stage of the Glazebrook Trail.
 - Successful completion of the Sankey and Sutton Brooks A,B,C Sites, bridging study, provides a clear understanding of conditions and risks.
 - The 'T' campaign, aimed at reducing the illegal disposal of tyres by targeting waste tyre producers around the Wigan area.
 - Manchester Mosslands and Rixton Clay Pits recommended as possible Special Areas of Conservation [SACs].
 - The Agency has secured agreement to upgrade the drainage system for the M62 widening scheme to include oil interception facilities.
 - Campaign carried out to prevent and target illegal cable burning adjacent to Sutton and Hardshaw Brooks in Parr.

The Annual Review seeks to look forward and identify future priorities to protect and enhance the environment – it is a “living” document, and priorities will change over the course of the LEAP programme. The Agency welcomes comments regarding the content of the LEAP Annual Review from all sectors including business, industry, voluntary groups and the community.

George Ager
South Area Manager

Contacting the Environment Agency

If you wish to contact us, you can do so at the address below:

Appleton House
430 Birchwood Boulevard
Birchwood, Warrington
WA3 7WD

Telephone: 01925 840000

Fax: 01925 852260

e-mail: anne.scrase@environment-agency.gov.uk

Enquiries should be addressed to Anne Sscraser, Partnerships/LEAPs Officer

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INTRODUCTION

This is the Third and Final Annual Review of the Sankey/Glaze LEAP. It introduces the Environment Agency and summarises progress made with actions. Previous publications relating to this catchment contain more detail; this review should be read in conjunction with these publications:

Sankey/Glaze Consultation Report – May, 1996
Sankey/Glaze Action Plan – February, 1997
Sankey/Glaze First Annual Review – February 1998
Sankey/Glaze Second Annual Review – September, 1999

These publications are available on request from the South Area office of the Environment Agency.

1.1 The Environment Agency

The Environment Agency is the leading public organisation for protecting and enhancing the environment in England and Wales.

We regulate industry and inspect industrial sites to protect the environment and people from pollution and environmental risks. We work to encourage ever more effective environmental stewardship by industry and all other sectors.

The Agency maintains essential flood defences, water resources and river navigation structures. We restore and improve the land and wildlife habitats. We also monitor and assess the environment. We make the data and information that we collect widely available.

Much of the gross pollution that characterised the last century has fortunately been dealt with – smelling rivers, choking smogs and unregulated tips are now a thing of the past. But new challenges are emerging that are equally damaging, if less obvious in their manifestation: global warming, endocrine-disrupting chemicals, and ultra fine particles in the air. For all the progress so far, there is a huge challenge ahead to build on past successes and to address these new threats as we help our economy and society make the longer-term transition to sustainable development.

Our vision for the environment and a sustainable future is:

- a healthy, rich and diverse environment in England and Wales, for present and future generations.

The fundamental goals we want to help achieve:

- **a better quality of life.** People will have peace of mind from knowing that they live in a healthier environment, richer in wildlife and natural diversity – an environment that they will care for and can use, appreciate and enjoy.
- **an enhanced environment for wildlife.** Wildlife will thrive in urban and rural areas. Habitats will improve in their extent and quality to sustainable levels for the benefit of all species. Everyone will understand the importance of safeguarding biodiversity.

The environmental outcomes for which we are striving:

- **cleaner air for everyone.** We will have cleaner and healthier air. The emission of chemical pollutants into the atmosphere will decline greatly and will be below the level at which they can do significant harm.
- **improved and protected inland and coastal waters.** Our rivers, lakes and coastal waters will be far cleaner. They will sustain diverse and healthy ecosystems, water sports and recreation such as boating and fishing, and those uses needed by a thriving and healthy community.
- **restored, protected land with healthier soils.** Our land and soils in the countryside and towns will be exposed far less to pollutants. They will support a wide range of uses, including production of healthy, nutritious food and other crops, without damaging wildlife or human health. Contaminated and damaged land will be restored and protected.

The changes we will seek:

- **a 'greener' business world.** Industry and businesses will value the services that come from a rich and diverse natural environment. In the process, they will reap the benefits of sustainable business practices, improve competitiveness and value to shareholders and secure trust in the wider community.
- **wiser, sustainable use of natural resources.** Businesses, public agencies, other organisations and individuals will minimise the waste they produce. They will reuse and recycle materials far more intensively, and will make more efficient use of energy and materials.

The risks and problems we will help manage, prevent and overcome:

- **limiting and adapting to climate change.** Drastic cuts will have been made in the emission of 'greenhouse gases' such as carbon dioxide and society as a whole will take account of, and be prepared for, the probable changes to our climate.
- **reducing flood risk.** Flood warnings and sustainable defences will continue to prevent deaths from flooding. Property damage and distress will be minimised. The role of wetlands in reducing flood risks will be recognised and all the environmental benefits from natural floods will be maximised.

Challenges and opportunities

The Environment Agency and its partners have achieved a great deal in making the environment cleaner, safer and better protected against pollution, environmental crime, floods and the impacts of production and consumption. But there is a huge challenge ahead to respond to some of the predictions for the future. The Agency will continue to work with the Department of the Environment, Transport and the Regions, which leads on UK environmental policy, and to advise it on these challenges. In its White Paper, *A Better Quality of Life: A strategy for sustainable development for the United Kingdom*, the Government has set out four objectives:

- social progress that recognises the needs of everyone;
- effective protection of the environment;
- prudent use of natural resources; and
- the maintenance of high, stable, levels of economic growth and employment.

The Agency's contribution to this strategy, set out in our vision, is best achieved if it can help everyone to:

- understand society's effects upon the environment;
- develop new attitudes and behaviour towards the environment;
- ensure that industry reduces its impact on the environment and recognises its dependence on it;
- take care of resources and deal with their own waste; and
- recognise that the natural environment has always changed, but that emissions of "greenhouse gases" could accelerate climate change and lead to severe disruption of natural systems.

1.2 Local Environment Agency Plans

We are committed to a programme of Local Environment Agency Plans (LEAPs). These plans help us to identify and assess, prioritise and solve, local environmental issues related to our functions, taking into account the views of our local customers. LEAPs replace Catchment Management Plans, which were produced by the former National Rivers Authority.

The LEAP process involves several stages as outlined below.

The Consultation Draft – Publication of the Consultation Draft marked the start of a three-month period of formal consultation, which enabled external organisations and the public to work with us in planning the future of the local environment. At the end of the consultation period, we produced a Summary of Public Consultation Responses that gave the results of the process.

The Action Plan – The Action Plan takes into account the results of the consultation. It includes numerous actions identifying costs, time scales and partner organisations. Agreed actions are incorporated into our annual business plans.

Some issues can be resolved through our statutory and routine work programme, whilst others require action over and above our day-to-day business. Funding for the latter is not always certain. Usually, because of the short-term nature of our funding, we can only firmly commit ourselves to action in the current and next financial years. Our priorities, policies and budget may change: these changes will be reflected at each Annual Review.

Some issues require solutions beyond the scope of our existing budgets or technology – they are nevertheless valid issues and earn their place in this plan, in the hope that a solution may be found in the future.

In most cases we show the anticipated cost against an action. These are estimated costs to give the reader an idea of the relative size and resource implications of each action.

The Annual Review – We monitor implementation of the Action Plan and report on the year's progress in a published Annual Review. The Annual Review also identifies any additional issues and actions needed to maintain progress in light of any changes within the LEAP area. We invite people to contact us at any time to raise new issues or suggest new actions – this ensures the LEAP process is an active one, which evolves to meet the changing needs of the local environment. After five years, or sooner if required, we plan to carry out a major review of the progress we have made. At this stage, we intend to produce a new LEAP Consultation Draft.

Review of Progress – The following pages outline updates on the various issues, together with the relevant actions as set out in the Action Plan. A summary of progress is given for each action, together with target dates for future work, if applicable. New actions have been added where appropriate.

1.3 Themes for the future – towards a better environment

The Environment Agency aims to be a champion for the environment, working for a healthy, rich and diverse environment in England and Wales. We also aim to be a champion for sustainable development and will contribute to the national strategy for sustainable development. We will protect and enhance the environment in a way that links with measures to promote social fairness and a prosperous, efficient economy. We will work with partners across society to achieve this vision.

Our nine themes, that encapsulate our key milestones and targets that underpin our vision for the environment, are as follows:

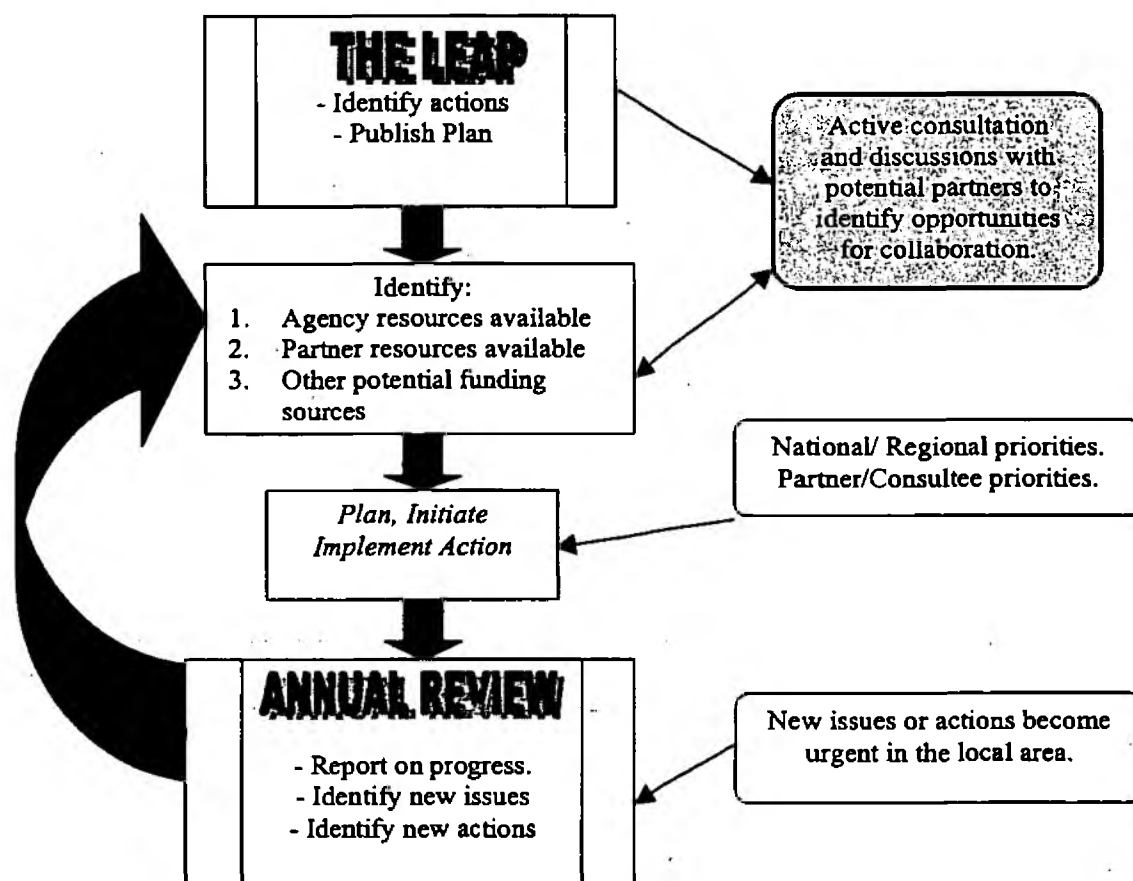
- A better quality of life
- An enhanced environment for wildlife
- Cleaner air for everyone
- Improved and protected inland and coastal waters
- Restored, protected land with healthier soils
- A 'greener' business world
- Wiser, sustainable use of natural resources
- Limiting and adapting to climate change
- Reducing flood risk

The Sankey/Glaze LEAP is a working document covering the five-year period 1996-2001, and publicises actions that are or could be ongoing in the local area to address local environmental issues. It seeks to encourage support for and involvement in these projects from prospective partners.

The review reports on the progress made since the Second Annual Review which was published in September 1999 and contains the following information:

- I details of key achievements for 1999/2001,
- II update on activities against LEAP actions and 'we will' statements,
- III identified priorities/actions for 2001 onwards,
- IV highlights of a successful partnership initiative.

Process for Developing the Final Plan into Action



The highlighted shaded box represents the current focus for progressing the LEAP. We will be seeking to determine the scale of current activities in the area, and identifying opportunities to work with others to achieve the objectives and progress actions of the LEAP. Annual Reviews of the LEAP will normally take place in each subsequent year, until a full re-assessment is undertaken after 5 years.

This review provides an opportunity to highlight the work that has been undertaken and the progress that has been made against the published LEAP actions. Each of the following sections gives a brief comment on the stated commitments made in the LEAP, while the tables summarise the published LEAP actions.

The review should be seen as an invitation to get involved in collaborative environmental problem solving. Since the LEAPs are local plans, local interest and collaborative potential can help influence the priorities and encourage support for local issues.

Each section also provides a brief forward look, identifying the main areas for activity in the coming year. The following initiatives and pressures have influenced priorities for the forthcoming financial year and have directly influenced the resources that will be available to address LEAP actions:

Implementing over the next two to three years, new regulatory duties resulting from European Directives, Government policies and Agency developments. Implementing action resulting from lessons learned from flooding outside the area during 1998.

Continuing to contribute to comprehensive reviews of abstraction licensing and fisheries legislation.

The following points should also be considered:

Agency Statutory Role

The LEAP does not include all of our statutory or regulatory work. Environmental protection and improvement is the aim underpinning all of our work, LEAP actions provide added value.

Resourcing the Actions

Actions will be progressed only when resources become available (via Agency and/or partner sources), and may also be subject to national and regional priorities. Some actions will require feasibility studies and cost-benefit appraisal of options prior to work being approved. The diagram on the previous page shows the key stages in developing the plan into local action on the ground.

Linking Actions to Themes

In order to ensure that actions and issues are discussed under the most appropriate theme we continually assess and monitor reports and responses. This may result in some information changing location when compared to the Action Plan (February 1997). We will ensure this is kept to a minimum, with full references being provided.

ACTIONS FOR THE SANKEY/GLAZE AREA: Quick Reference Guide to Issues

NB. The issues are not numbered in any order of priority or importance

- The number previously given to issues in the Annual Review, September 1999 (A/R)

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Cleaner Air for Everyone	6 NEW	-	Achieving local air quality objectives through regulation of Agency regulated processes	20
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	13	12	Contaminated run-off from spoil heaps and discharges from abandoned mines causing pollution to surface and groundwater	29
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	22 Renamed	24	Illegal Waste Disposal Activity and litter problems in watercourses	44
Reducing Flood Risk	23	16	Culverts causing flood risk and loss of habitat	49
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A Better Quality of Life

A better quality of life is about more than just management of our water quality. It concerns water flow, landscape, flood control works, recreation and wildlife. If we all work towards sustainable development, then quality of life improve for everyone.

Background:

A better quality of life crosses the full range of the Agency's activities. These activities cover the management of water and water quality, landscape, flood control works, recreation and wildlife. We should all work towards sustainable development to improve the quality of life for everyone.

The Agency primary role has an immediate impact on the quality of life, for example, by protecting people against pollution and flooding, providing agreeable riverside recreation, and by ensuring wise stewardship of precious resources such as water. The cleaning up of historic pollution and providing a clean environment within which new businesses might establish themselves encourages economic regeneration. New markets are opened up by the drive for improved pollution abatement technologies and waste minimisation can also reduce costs and improve competitiveness.

The Agency also has an impact on the quality of life through the way in which it carries out its functions. This is achieved by consulting widely, engaging with others in partnership, forming close and responsive relationships with its partners. The Agency makes a substantial contribution to the inclusion of all parts of society in the decisions that affect them. This also contributes to good governance supporting the Government's aims for local democracy and social inclusion.

Finally, the Agency contributes to improving quality of life by providing expertise and information. This enables decisions ranging from the national and major to the local or those of individual choice to be taken with the best advice and knowledge underpinning them. For example, the Agency provides local environmental information through its web-site. The Agency's knowledge of the environment at local scale has enabled it to play a key role in contributing an environmental dimension to regional economic strategies and in developing the new Regional Frameworks for Sustainable Development.

An Enhanced Environment for Wildlife

Conserving and enhancing the variety of animal and plant life and the habitats in which they live is vital in improving the state of the environment.

Background:

Many people value wildlife as one of the key elements contributing to their quality of life. It follows that the variety and abundance of wildlife – plants, insects, fish, birds and mammals living on the land, in the water and around our coasts – provides a critical indicator of how successful we are in using our environment wisely.

The UK Biodiversity Action Plan (UK BAP) is the Government's blueprint for wildlife conservation, setting out what action is required to protect and enhance wildlife under greatest threat. More than 400 individual plans for species and habitats provide baselines against which future changes can be measured and specific targets set.

Specifically, under the UK BAP, we have lead responsibility for 39 species and 5 habitats of wetland character. These include otter, water vole, white-clawed crayfish, and southern damselfly, depressed river mussel, chalk rivers and coastal saltmarsh. This is a very significant responsibility that reflects our expertise, experience and influence in riverine, coastal and wetland management.

Habitats, and the plants and animals that depend upon them, are under pressure from the increasing demands we make on our environment. The Habitats Directive aims to contribute towards ensuring biodiversity (the variety of life) through the conservation of natural habitats and of wild plants and animals.

The Habitats Directive will establish and protect a network across Europe of the most important areas for wildlife, to be known as *Natura 2000* sites. These aim to conserve important or threatened habitats and species. This internationally important network will include Special Areas of Conservation (SAC) and Special Protection Areas (SPA), which on land are already Sites of Special Scientific Interest (SSSI). The Habitats Directive in the UK is legally implemented through *The Conservation (National Habitats &c.) Regulations 1994*.

The Environment Agency must assess the possible effects of plans, permissions, operations and consents on or potentially affecting *Natura 2000* sites. This includes reviewing existing permissions as well as considering new ones.

This is a four-stage process:

1. Identification of relevant permissions.
2. Assess likely significance.
3. If significant effect predicted, then undertake appropriate assessment.
4. Determine the permission. Two parts: (a) Reviews of existing permissions: confirm, revoke or amend existing permission depending on the conclusion of the appropriate assessment stage. (b) New permissions: The Environment Agency will only give permission if it knows that the plan or project will not cause damage to a site. The Government will decide for plans or projects where it is considered that there are imperative reasons of over-riding public interest).

The following areas have been recommended as possible SACs because they contain habitat types and/or species, which are rare or threatened within a European context.

➤ **Manchester Mosslands**

Astley & Bedford Moss, Holcroft Moss and Risley Moss are the three sites that make up the Manchester Mosslands. They were designated as a candidate for Special Areas of Conservation in August 2000. These mosslands are degraded raised bogs, still capable of natural regeneration, and are considered to be one of the best mosslands areas in the UK.

➤ **Rixton Clay Pits**

Similarly, Rixton Clay Pits has also been recommended for the same designation for its Great Crested Newt populations. The Great Crested Newt is the largest native British newt, and occurs at scattered localities throughout lowland Britain. It requires not only ponds and pools for breeding but also suitable adjacent habitats where for much of the year, the newts hibernate and feed.

Key Achievements 1999/2001:

Update of Actions:

- Projects on the extent of channelisation and over-managment watercourse have been carried out on watercourses. The results from one of these projects has shown the effect of channelisation on the water quality of Jibcroft Brook.

This was achieved by comparison of a channelled stretch and an unchannelised stretch of the brook. The study concluded that channelisation produces a more uniform water quality and a less diverse habitat than an un-channelised, semi-natural channel.

- Water vole surveys carried out in the summer of 1998 on Sankey and Whittle Brooks have identified areas where water voles are present.
- Additionally the Clear Glaze Partnership carried out a water vole survey in 1999 covering 25% of the Glaze catchment. Results indicate water vole population is present at locations throughout the catchment and recommendations for the annual monitoring scheme will allow further research to be carried out.

Invasive Non-Native Pest Species

This is a former Issue 5 that has now been removed from the annual review.

Area policy towards invasive plants, especially Japanese Knotweed and Giant Hogweed, has changed since the LEAP was first produced.

Under certain circumstances particular problems may be dealt with on a site by site basis but there will be no systematic control programme. It is not the Agency's responsibility to control these plants unless they are causing a particular problem, e.g. compromising flood defences, ecology or fisheries interests and it is believed that the money could be better spent elsewhere.

Final Plan Commitments:

We will: in partnership with local authorities, support the development and implementation of local Biodiversity Action Plans, with particular regard to those species and habitats for which the Agency is a contact point or lead partner.

The Agency is taking part in the Regional Audit reviewing biodiversity within the North West. This, together with involvement in local biodiversity action plans, will help to identify any gaps in knowledge relating to the variety of plant and animal life and their particular habitats.

Forward Look:

- Work in partnership with other organisations to protect key species and habitats identified from LBAPs.
- Identify and prioritise stretches suitable for enhancement and rehabilitation.

AN ENHANCED ENVIRONMENT FOR WILDLIFE	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	ISSUE 1: Extent of Channelised and Over-Managed Watercourses creating Loss of Habitat and Amenity					
	1.1	Identify stretches suitable for enhancement and restoration	1999/2002	Glaze RHS £21K Sankey RHS £12K (part of the Sankey RHS Assets Management Plan)	EA (L) LAs (P) Groundwork Trust	Action Completed Both the River Sankey & River Glaze have had River Habitat Surveys completed.
	1.2	Implement appropriate enhancement and restoration schemes	1999/2002	As and when funds become available	EA (L) LAs (P) Groundwork Trusts Mersey Forest Forestry Commission	Ongoing

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
AN ENHANCED ENVIRONMENT FOR WILDLIFE					
<i>ISSUE 2: Intensive cultivation of land to the edge of watercourses increasing the risk of pollution and loss of habitats</i>					
2.1	Identify watercourses where uncultivated strips would be most beneficial.	1999-2002	Unknown	EA (L) FRCA (P) FWAG NFU Wildlife Groups Local Authorities	Action completed. The Assets Register was produced for the Sankey.
2.2	Identify landowners willing to create uncultivated strips along watercourses.	1999-2002		EA (L) FRCA (P) FWAG NFU Wildlife Groups Local Authorities Forestry Commission	Ongoing.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
AN ENHANCED ENVIRONMENT FOR WILDLIFE					
<i>ISSUE 3: Threats to the habitats of Great Crested Newts (GCN)</i>					
3.1	Create a Geographic Information Site database recording existing sites of Great Crested Newts for use in the Agency's regulatory responses.	1999/2002	Unknown	DEFRA (L) Wildlife Trusts Manchester Metropolitan University EA (P)	Action completed.
3.2	Input into and help to implement Biodiversity Action Plans and Local Biodiversity Audits for Great Crested Newts.	1999/2002	Unknown	EA (L) Wildlife Trusts (P) Pondlife Project	EA have had input into Cheshire, Greater Manchester and Merseyside Biodiversity Action Plans.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 4: The need for continued habitat improvement and protection of existing wildlife habitats to conserve and enhance biodiversity					
4.1	Contribute to the development of Biodiversity initiatives e.g. LEAPs, Species Action Plans, Local Biodiversity Audits, Species Recovery Programmes.	1999/2002	Ongoing (a)	Local Authorities (L) Wildlife Trusts JCAS, EN, RSPB and specialist local groups EA (P)	The Agency has been involved with Greater Manchester, Merseyside and Cheshire Biodiversity Action Plans. The Agency has been involved with the following HAP/SAP's within Greater Manchester: Ponds & Lodges/Great Crested Newts, Water Vole, Brown Hare, Mossland/Nightjar, Reedbed/Bittern, Rivers and Floodplain HAP for Bolton (Glaze part is Westhoughton).
4.2	Further the conservation of important species and habitats, (e.g. Newts, water voles, bats) through opportunist projects, as funds become available.	1999/2002	As and when funds become available (b)	Wildlife Trusts (L) Local Authorities Local wildlife organisations and specialist groups EA(P)	Glaze and Sankey River Habitat Survey projects have included identification of water vole habitat.
4.3	Identify, record and monitor the distribution and status of the Great Crested Newt and Water Vole within the study area in order to protect and enhance populations.	1999/2002	Funds may be made available for specific surveys (c)	EA (L) Wildlife Trusts GMEU EN (P) Local specialist groups Local Authorities Cheshire Agenda 21	Identified and recorded actions complete but monitoring continues.
4.4	Work in partnership and exchange available information with other organisations to protect and promote vulnerable landscape and river corridor features (e.g. via River Valley Initiatives).	1999/2002		Lever Faberge/Sankey NOW (L)	A 150m section of Dallam Brook has been improved for amenity and wildlife by planting 'coir rolls that add diversity and 'sinuosity to the channel. Lever Faberge sponsored the work in conjunction with Sankey NOW.

(a) As and when required

(b) As and when funds become available

(c) Funds may be made available for specific surveys

'coir – fibre from the outer husk of the coconut.

'sinuosity – having many curves and turns, supple.

AN ENHANCED ENVIRONMENT FOR WILDLIFE	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	ISSUE 5: Compliance with the Habitats Directive (Manchester Mosslands and Rixton Clay Pits Csac). NEW ISSUE					
	Manchester Mosslands					
	5.1	Review existing permissions.	Stages 1 & 2 - July 2001 Stage 3 - March 2004 Stage 4 - March 2010		EA (L) Local Authorities English Nature (P)	Stages 1 & 2 Completed
	5.2	Assess new permissions.	Ongoing			
	Rixton Clay Pits					
	5.3	Review existing permissions.	Stages 1 & 2 - Nov 2001. Stage 3 - March 2006. Stage 4 - March 2010.		EA(L) Local Authorities English Nature(P)	
	5.4	Assess new permissions.	Ongoing.			

Cleaner Air for Everyone

The implementation of the Government's air quality strategy should ensure that national objectives for a range of pollutants are met within 5 – 10 years. Pollution must be controlled in order to reduce the risk of harm to human health, the natural environment and quality of life.

Background

On a local scale responsibility for air quality is split between the Agency and Local Authorities. The Agency is responsible for the regulation of major industries, whilst local authorities regulate minor industries, control domestic smoke, evaluate local air quality and produce local air quality management plans.

The Agency will work towards shared strategies with our partners at a local level to improve air quality from all sources. Provision of information in an understandable, accessible format on air quality issues, including emissions inventories, will be a priority for the Agency.

One of the Agency's objectives is to reduce the amounts of organic-based solvents that are released into the atmosphere. These can contribute to the generation of ground-level ozone.

Key Achievements 1999/2001:

- Abram Alloys Ltd current authorisation air emissions limit for Zinc is 10 mg/m³. The utilisation of the bag filter system reduces the particulate emissions of Zinc from a non-ferrous metal process to below 2 mg/m³.
- PPG Industries Ltd installed a new oxy-fuel firing system to reduce Oxides of Nitrogen emissions from a glass manufacturing process.

Annual Review Commitments:

We will: Continue monitoring releases from the processes prescribed under Integrated Pollution Control in the LEAP area, to ensure there is on-going benefit to air quality.

Forward Look:

- Provide emission data from the prescribed processes regulated by Agency to assist local authorities in their quality management role.
- Ongoing commitment by the Agency to encourage plant improvement in regulated processes should result in a contribution to improve air quality.

CLEANER AIR FOR EVERYONE	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	<i>Issue 6: Achieving local air quality objectives through regulation of Agency regulated processes (NEW ISSUE)</i>					
	6.1	Provide local authorities with emission data from the processes it regulates, to assist them in their air quality management role.		Staff time	EA	Ongoing

Improved and Protected Inland and Coastal Waters

Clean waters with thriving wildlife help guarantee the health and safety of the water supplied to homes, the water used to produce food, and the waters valued for recreation. The appearance, quality and value of waters can be damaged by how land is used.

Background:

The Agency regulates the abstraction of water through a system of licensing. It plans the future use of water resources so as to balance the needs for water supplies to homes, industry and agriculture alongside those of fisheries, recreation, water quality and conservation.

The Agency regulates discharges from sewage treatment works and trade discharges; and monitors the condition of freshwater, groundwater and tidal waters.

The Agency has responsibility for the conservation and management of all freshwater fisheries. This includes the sustainable development of fisheries and the promotion of fishing.

As a result of blue-green algae blooms on Pennington Flash, the Environment Agency, the Marine and Special Projects function of the EA have since October 1996 carried out surveys to assess nutrient loads entering and leaving the flash. Since October 1997, permanent-monitoring equipment had been positioned in the flash to provide continuous water quality data.

Fisheries:

Due to the work of the Agency along with other organisations including United Utilities and angling groups, water quality has improved to such an extent that we can now consider stocking rivers that have been devoid of fish in living memory.

Water Quality:

Within a large part of the LEAP area, foul and surface water drainage is conveyed together to wastewater treatment works in combined sewers. To prevent flooding during storm conditions, relief combined sewer overflows (CSOs) are provided on the sewerage network. These are designed to only operate during heavy rainfall, i.e., when adequate dilution should be available in the receiving watercourse. Greater flows entering the sewerage system due to development within the area, has often resulted in inadequate capacity within the sewer. As a result, CSOs can operate more frequently and may even discharge prematurely, during mild storm events. CSO discharges can, therefore, have an adverse impact on the downstream water quality by increasing the organic load and/or diminishing the aesthetic quality of the watercourse.

Discharges from sewers can also occur due to blockages at CSO's and from emergency overflows (EOs) following the breakdown at sewage pumping stations. Such discharges should be infrequent, but can have a particularly significant adverse impact on water quality because they may occur during dry weather, when dilution in the watercourse is low.

Most developments built in the last 30 years are drained by two separate systems. One conveys uncontaminated surface water run-off and discharges into a local watercourse, whilst the other takes foul water to a wastewater treatment works.

Problems with this system can occur when foul drainage is incorrectly plumbed into the surface water drainage system. In homes this can happen when an extension is built or when a new water-using appliance is installed. It may even occur when the house is constructed. In some cases entire sewers may be wrongly connected to surface drains or where dual manholes exist, damage to the dividing wall or blockages in the foul sewer can result in foul drainage entering the surface water system. Additionally, contaminated liquids can accidentally be poured down the wrong drains. All of these problems result in the contamination of the surface water drainage system that can have a significant impact upon the receiving water into which it discharges.

The Environment Agency compiled a regional priority list of contaminated surface waters (CSWs) which identified where cross connections were having the greatest impact on receiving watercourses in the North West region. Listed CSWs are being re-assessed and are to be resolved in the current AMP3 programme. Any subsequent CSWs that are found will be scored and submitted for inclusion in the Regional list.

In some cases, the root cause of water quality problems is not fully understood and therefore investigative work is required. These problems may be a result of pollution from diffuse sources or from unidentified point sources. For example, discharges from a number of small abandoned mines in the area or historic unlicensed tips could contribute to poor water quality. Other suspected sources of pollution could be intermittent discharges from farms or industrial estates, but their relative contribution and impact on the aquatic environment needs to be evaluated.

Diffuse pollution can occur as a result of agricultural practices such as crop spraying, fertilisers and general farming methods. Due to the difficulty and cost of investigating this problem, it is not envisaged that this issue can be pursued within the time period of this LEAP. It remains in the plan in case resources become available.

Groundwater levels are rising in some parts of the catchment due to the cessation of mine water pumping since the closure of local deep coal mines. Where natural (pre-pumping) groundwater levels were originally at or close to ground level, full recovery poses potential problems of pollution. Our aim is to manage rising groundwater levels and to ameliorate any deterioration in groundwater quality caused by the process. An Agency funded investigation into the risk from mine closures and rising groundwater in Merseyside and South Lancashire is currently underway, part of which falls within this LEAP area. It aims to assess the time scales involved and identify where there may be potential seepage at the surface.

Update of Actions

Key Achievements 1999-2001:

- The last two years' monitoring has shown that Pennington Flash stratifies during warm, calm weather and, more importantly, anaerobic conditions prevail in the bottom waters during these periods. This increases the potential for sediment phosphorus to be re-mobilised back into the water column and hence become available as a nutrient source for further phytoplankton growth.
- Although periods of intense stratification are short-lived due to the shallow depth and exposure of Pennington Flash, weak thermoclines still cause periods of low dissolved oxygen (20% sat.) to occur. Dissolved oxygen at these levels will have an effect on aquatic life.

- ① anaerobic: requiring the absence of free oxygen
- ② phytoplankton: plankton consisting of microscopic plants
- ③ stratification: the separation of a waterbody into distinct layers
- ④ thermoclines: temperature gradient in a lake or other body of water, separating layers of different temperatures

Pennington Flash is part of an Environment Agency national monitoring programme studying blue-green algae. Data on blue-green algae number, species and toxicity will be available from 2002.

- As part of the routine fisheries monitoring programme, an electro fishing survey was carried out on the Sankey catchment in 2000. Ten species of fish were recorded with Eel, Gudgeon and Roach being the most dominant species in terms of numbers.
- Rivers within the Sankey catchment were stocked with chub and dace in 1997 and 1998 respectively, from the Environment Agency's hatchery based at Leyland.
- In the 2000 Fisheries survey chub and dace were captured in the Sankey catchment. They had not been found in the previous survey in 1994. This indicated that the introduction of fish stock was successful, however, as no juvenile chub or dace were captured, it is uncertain as to whether these fish are breeding.
- The sampling programme for Hockery Brook and Down Brook were completed in 2000. The discharges have been ranked on the British Coal's National Priority list of Minewater Discharges.
- The former DETR confirmed in April 2000 that all of the improvements to unsatisfactory Water Company discharges proposed by the Agency within the Sankey Glaze LEAP area had been included within AMP3 for resolution by 2005.
- Haydock and Reginald Road Industrial Estates frequent intermittent pollution problems have been eliminated by completion of three engineered solutions.

The Agency has initiated a research project that is looking at gaining baseline data on Endocrine disruption in the Freshwater Mersey Basin catchment (potentially spread across all South Area Agency LEAPs). Although the precise sampling locations have yet to be identified, it is thought that samples will be strategically taken rather than by a blanket survey.

Endocrine disruption is a term that describes how natural hormones in wildlife are being interfered with. This interference results in changes, such as males becoming females and vice versa. Other problems include reproductive failure due to this interference. Endocrine disruption has also been linked to human health problems.

Estuarine research across the country has indicated that the Mersey Estuary has Endocrine disruption in fish populations. The research project team will initially look at disruption in freshwater invertebrates to assess whether this freshwater catchment has similar problems to those found in the Mersey Estuary.

Annual Review Commitments:

- We will:** Ensure that the contaminated surface water at Ellenbrook, Boothstown is investigated along with other CSW's.
- We will:** Continue to monitor to ensure that the surface water discharged complies with the discharge consent.
- We will:** Continue to liaise with United Utilities and OFWAT in order to ensure that funding under AMP3 is directed to schemes where there is maximum environment benefit.

Forward Look:

- The uncertainty of chub and dace breeding suggests a lack of suitable spawning habitat within the catchment and this should be investigated.
- Surface water from the M62 motorway currently enters The Sankey Catchment at three locations. The Agency have been working closely with the designers and contractors a widening scheme to widen the motorway between junctions 8 to 9 and to construct a new Junction 8 at Burtonwood. The Agency has secured an agreement to upgrade the drainage system to include oil interception facilities and pollution prevention measures at the three outlets. It will also include oil interception facilities for the Gemini link road being constructed alongside the main scheme.

	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
IMPROVED AND PROTECTED INLAND AND COASTAL WATERS	ISSUE 7: Rising groundwater levels increasing the risk of pollution and flooding					
	7.1	Investigate the problem and establish priorities for action.	1998 - Future	£85k	EA Coal Authority	The initial modelling phase of the mine water recovery project is complete.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 8: Raise awareness of recreational watercourses including conservation and maintenance of sustainable fish populations (COMBINED ISSUES 7 & 21 RENAMED)					
8.1	Stock with coarse fish as water quality improves sufficiently to maintain coarse fish populations.	2001-2002		EA (L) Angling clubs(P)	Stocking of coarse fish has been successful in the improved watercourses. An example of this is the Sankey Brook being stocked in 2001 with over 10,000 fish.
8.2	Identify where improvements for public access to watercourses are necessary for recreation, including water-based recreation such as canoeing and angling.	1999-2002		Sankey NOW EA	Major funding application to regenerate 1.75 km section of St. Helen's Canal at Hey Lock, Newton.
8.3	Encourage the creation, extension and linking of linear parks, footpaths, cycle paths and bridleways next to water bodies, including those in disrepair.	1999-2002		*SCARS EA Sankey NOW	Access improvements underway at Thatto Heath Dam and an Agency sponsored footbridge at Carr Mill Dam. New bridge constructed across Winwick Dry Dock. Strong link with *SCARS maintained. The initial stage of the Glazebrook Trail between Hope Carr Nature Area, Leigh and Manchester Ship Canal has been completed. The launch has been re-scheduled for 2002, following the foot & month crisis.
8.4	Increase public awareness of the existence and recreational value of watercourses through signage and interpretation panels alongside footpaths and on bridge crossings.	1999-2002		EA Sankey NOW	"The Sankey Brook Story" video produced and placed in all local lending libraries. Signage/Interpretation underway at Winwick Dry Dock and Dallam Brook. Series of school ponds being developed via the Sankey NOW small community projects fund sponsored by the Environment Agency. Partnership project to provide interactive information computer at Sankey Valley Park.

*SCARS - Sankey Canal Restoration Society

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
IMPROVED AND PROTECTED INLAND AND COASTAL WATERS					
<i>ISSUE 9: Lack of knowledge of the extent of use of Woolston Fish Pass by migrating fish</i>					
9.1	Install a debris deflector to prevent blockages.	1999-2002	Unknown	Manchester Ship Canal Company (L) EA (P)	This work has been carried out by MSC in 1999.
9.2	Install a fish trap to enable the assessment of the pass efficiency.	1999-2001	Unknown	EA (L) Manchester Ship Canal Company	Work has been carried out by MSC to install equipment.
9.3	Monitor migration along the fish pass	2001-2005	Unknown	EA Manchester Ship Canal Company	Work to access the pass efficiently is planned for 2001/2002. (EA) This work commenced in November 2001. Salmon are migrating up through the fish pass. Work will continue to assess the number entering the Mersey Basis System.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
IMPROVED AND PROTECTED INLAND AND COASTAL WATERS					
<i>ISSUE 10: Adverse impact of contaminated surface water discharges on surface water quality</i>					
10.1	Identification and prioritisation of wrong connection problems.	2000-2005		EA (L) Local Authority (P)	A total of 49 wrong connection problems have been identified within the LEAP area. These (existing and new) wrong connection problems are being reassessed for inclusion in United Utilities Capital Programme. The re-assessment process is 80% complete.
10.2	Correction of wrong connections Phase One.	1999-2002		United Utilities (L) Local Authority (P) Householders Site Owners	7 out of 7 high priority wrong connection problems have been investigated and rectified on the Sankey catchment.
10.3	Correction of wrong connections Phase Two.	1999-2002		United Utilities (L) Local Authority (P) Householders Site Owners	6 out of 11 high priority wrong connection problems have been investigated and rectified on the LEAP area.

IMPROVED AND PROTECTED INLAND AND COASTAL WATERS	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	<i>ISSUE 11: Adverse impact from overflows on the sewerage networks on surface water quality</i>					
	11.1	Reduce the number of unsatisfactory combined sewer overflows.	1999-2000		United Utilities	Action completed. WwTWs requiring improvement were identified for inclusion in AMP3. (see 62-64)
	11.2	Improve status of overflows on Millingford Brook.	1999-2000	(a)	United Utilities (L) EA (P)	Action Completed Sewerage scheme completed in AMP2 (2000). 2 of the 7 unsatisfactory storm overflows have been abandoned. The other 5 have been rebuilt to modern standards. Storage of around 2,700 cubic metres has been provided to limit the frequency of discharge to Millingford Brook.
	11.3	Improve status of overflows on Shaw Brook and tributaries.	1999-2000	(a)	United Utilities (L) EA (P)	Improvement schemes are complete at all 4 of the unsatisfactory storm overflows. Each has been rebuilt to modern standards and storage of around 850 cubic metres has been provided to limit the frequency of discharges.

(a) Costs not made available.

IMPROVED AND PROTECTED INLAND AND COASTAL WATERS	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	ISSUE 12: Adverse Impact of Discharges from Wastewater Treatment Works (WwTW)					
	12.1	Evaluate impact of improvements works at Westhoughton and Leigh WwTW.	2001-2002		EA (L) Local Authority (P)	Action completed. The water quality of both Hall Lee Brook below Westhoughton WwTW and the River Glaze below Leigh WwTW has benefited from the improvement schemes carried out at these works. Both watercourses have improved from *GQA grade F (bad quality) to GQA grade E (poor quality). To improve water quality further, the need for additional improvements to both of these works has been identified and is included in the AMP3 programme. Action completed.
	12.2	Assess the impact of WwTW on rivers failing the RQO or an EU Directive.	2001-2002		EA	Action completed.
	12.3	Prioritise works needing improvements in AMP3 using environmental benefit assessment.	2001-2002		EA	All of the improvements proposed by the Agency in the Sankey/Glaze LEAP Area were included in the AMP3 programme as approved by the former DETR (now DEFRA) on 19 April 2000. (See P62-64)
	12.4	Continue monitoring impact of Westhoughton, Tyldesley and Leigh WwTW for **eutrophic status of the receiving watercourses.	2001-2002	10K	EA	Ongoing.
	12.5	Worsley WwTW improvement to be carried out.	2001-2002		United Utilities (L) EA (P)	Action completed.

*GQA: General Quality Assessment

**Eutrophic: Enrichment of water by nutrients 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.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 13: Contaminated Run-Off from Spoil Heaps and Discharges from Abandoned Mines causing Pollution to Surface and Groundwater					
13.1	Assess the impact of abandoned mine discharges.	2001-2002		EA	Mine water discharges to Hockery Brook & Down Brook have been assessed by a detailed sampling programme and has resulted in both discharges being included in the Regional Coal Authority Remediation Programme.
13.2	Restoration and development of spoil heaps.	2001-2002		Developers (L) Owners EA (P)	An increased sampling frequency of the spoil heap run off has been established at the former Sutton Manor Colliery. The spoil heaps at Astley Green have now largely been capped. The discharge continues to be monitored via a discharge consent.
13.3	Restoration of Collieries. Cutacre Tip	1999-2002		Owners (L) Local Authorities EA (P)	Proposals are to recover 850,000 tonnes of coal by tip washing and a further 900,000 tonnes by opencast methods. Duration of scheme is four years.
	Gibfield Spoil Heap	1999-2002			Scoping study undertaken re the redevelopment of this and adjacent land. Earmarked for open space and woodland.
	Ramsdale Tip	1999-2002			Propose to extract 460,000 tonnes of colliery shale for use in the restoration of the Amberswood landfill site and strengthening of part of the Leeds-Liverpool canal. Work is to take place over 2-2½ years. Site to be restored and returned to Pennington Flash Country Park.

IMPROVED AND PROTECTED INLAND AND COASTAL WATERS

	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	<i>ISSUE 14: Adverse impact of run-off from Industrial Estates (RENAMED)</i>					
IMPROVED AND PROTECTED INLAND AND COASTAL WATERS	14.1	Undertake industrial site and estate surveys, visit units and identify drainage problems (a) Sutton.	1999-2002		EA	Survey and investigation completed on the Parr Industrial Estate resulted in the elimination of a longstanding intermittent oil pollution problem. Database of industrial estates on Sankey Catchments completed. The Glaze database is ongoing.
	14.2	Promote site improvement and pollution prevention.	1999-2002		EA	Widespread distribution of pollution literature and guidance.

IMPROVED AND PROTECTED INLAND AND COASTAL WATERS	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	ISSUE 15: Adverse Impact of Urban Run-off and Drainage from major Roads and Motorways (RENAMED)					
	15.1	Collect information on drainage outfalls for major roads.	2000-2002		EA	Completed April 2001 for Sankey catchment
	15.2	Identify watercourses where problems from road drainage occur.	2000-2002		EA	Completed May 2001 for Sankey catchment
	15.3	Develop a database of drainage outfalls.	2000-2002		EA	Completed June 2001 for Sankey catchment
	15.4	Ensure minimal environmental impacts during the construction of the widening of the M62 between J8 to J9 and to construct a new J8 at Burtonwood.	2000-2002		EA W. S. Atkins Costain Ltd	Ongoing

IMPROVED AND PROTECTED INLAND AND COASTAL WATERS	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	ISSUE 16: Maintenance problems caused by unstable banks					
	16.1	Reduce slopes and support banks in danger of slipping (a).	1999-2003		Owners (L) EA (P)	
	16.2	Investigate and implement more environmentally sensitive maintenance methods.	1999-2003		EA (L) Owners (P)	
	16.3	Carry out works to return channels to more natural sections. (b).	1999-2003		Owners (L) Local Authorities EA	

(a) Subject to Agency consent and consideration of environmental impacts on Main Rivers.

(b) The River Rehabilitation Schemes at Whittle Brook and Padgate Brook are examples of works carried out to return watercourses to more natural sections. Post-project appraisals of the schemes indicate substantial ecological improvements in the two years since completion of the works.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 17: Poor access to watercourses for maintenance works					
17.1	Two ramps are proposed in the Leigh area to provide access to watercourses for maintenance and emergency works.	1999-2000	£85k	EA (L) Local Authority (P) Owner	Within the LEAP area we have identified two sites in Leigh at Widdows Street and Leigh Spinners, Park Lane on Bedford Brook. Access ramps as part of the Urban Channel Access Scheme in 2000 were installed.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 18: The presence of blue green algae in Pennington Flash leading to public health and amenity problems					
18.1	Monitoring and sampling programme.	1999-2002		EA Marine & Special Projects	<p>Three years' monitoring has shown no great variation in overall water quality and Pennington Flash remains eutrophic.</p> <p>Seasonal patterns are as expected. The Flash is a highly productive, nutrient enriched water body. It continues to exhibit high chlorophyll and nutrient levels.</p> <p>The trend for phosphorous appears to have shown a slight decline in recent years and continued monitoring is required to determine if this is true or just an inter-annual variation.</p>

Eutrophic: Enrichment of water by nutrients 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 water concerned.

Restored, Protected Land with Healthier Soils

Land is a finite resource and care is required to ensure that its potential is conserved and where possible enhanced.

Background:

There are many aspects of land management that potentially can have a major impact on the environment – including land use planning, agriculture, land contamination, the spreading of wastes and sewage sludge, mineral extraction and the deposition of air pollution. Inappropriate land use or management can be detrimental to the health of soils through, for example, a reduction in organic matter, reduced biological activity, through erosion and loss of the soil itself. Land use also impacts on water resources, through urbanisation, land drainage and afforestation. Soil management can affect the retention and infiltration of water.

The health of soil can be considered to be its ability, based on its physical, chemical and biological status, to perform the functions that it is required to perform to support current and likely future uses.

Current estimates put the number of contaminated land sites in England and Wales at somewhere between 5,000 and 20,000. Even at the lower end of this estimate, contaminated land would still cover an area greater than Manchester. Such sites can present unacceptable risks to human health, to surface and groundwater, ecosystems, buildings, crops and animals.

Most remediation of contaminated land occurs through development under planning regulations. However, a new contaminated land regime (for dealing with contaminated land not being developed) was introduced in England in April 2000, under which remediation requirements are based on a "suitable for use" approach. Where possible, those responsible for contaminating land are also held responsible for funding necessary clean-up. Arrangements for dealing with "orphan" sites – where there is no responsible party – are also provided. The Pollution Prevention and Control Regulations, introduced in August 2000, oblige operators of permitted processes to take steps to prevent current land contamination and, where it does occur, to carry out remediation.

Part IIA of the Environmental Protection Act 1990 provides a new regulatory regime for the identification and remediation of contaminated land. The regulations create for the first time a statutory definition of 'contaminated land' as

'any land which appears to the local authority in whose areas it is situated to be in such a condition by reason of substances in, on or under the land, that; significant harm is being caused or there is a significant possibility of such harm being caused, or pollution of controlled waters is being, or is likely to be caused.'

Local Authorities and the Environment Agency will have joint responsibilities under the new regulations. Local Authorities must publish a written strategy of how they intend to inspect their areas for the purpose of identifying contaminated land within 15 months of the regulations coming into effect. The local authority will then arrange for certain suspect areas of land to be investigated in detail to help assess whether they fit the definition. Once an authority has determined that a piece of land is 'contaminated' they must decide what remediation is required and who is liable to carry out that work. The Environment Agency has a requirement to provide the local authority with both general and site specific information and guidance in order to assist them in their duties.

The Agency will have the responsibility for ensuring investigation and remediation of certain types of 'contaminated land' known as 'special sites'. Examples of special sites include those causing serious water pollution, former acid tar lagoons, MoD land, explosives manufacture sites and oil refineries. The Agency also has a duty to publish (from time to time) a National Report on the State of Contaminated Land. This report is intended to detail the progress on implementation of the new regime and on the remediation and management of contaminated land. The first report is due to be published in 2002.

Remediation of contaminated land in general costs substantial sums of money. Although polluters or landowners may be found liable and made to pay, overall progress is likely to be influenced by government policy and the availability of funding. Some contaminated sites are in public ownership as a result of abandonment. Such sites are frequently termed 'orphan' sites. Funding to investigate and remediate these type of sites is made available to the Agency through DEFRA's Supplementary Credit Approval Scheme (SCA) (formerly DETR) where they are causing, or have the potential to impact controlled waters, and to the Local Authorities where there are impacts or potential impacts to human health.

The Environment Agency has a limited range of powers relating directly to land and soil protection. It has some powers relating to the spreading of industrial wastes and sewage sludge. Under the Pollution Prevention and Control Regulations, it will also have powers to prevent direct pollution of land by industrial activities, while greater influence over land management may be delivered by more focus on regional and national planning issues.

Contaminated Land Regulations Part IIA

As stated above, a new regime to deal with the legacy of contaminated land was introduced in England in April 2000. Local Authorities are required to produce a strategy detailing how they will inspect their areas to identify contaminated land, within 15 months of the regulations coming into force (i.e. by July 2001). The Agency has provided some input into the strategies as a statutory consultee. All the main Local Authorities have now produced finalised strategies in the LEAP area (i.e. Bolton, Salford, St Helens, Warrington, and Wigan) and most authorities will now begin to implement their inspection strategies. Most local authorities have proposed timescales for completing the inspection of high priority sites within 2 years, with inspection of the lower priority sites generally being scheduled for completion within 5 years.

The Environment Agency has four key roles with respect to contaminated land under Part IIA. It will :

1. Assist local authorities in identifying contaminated land, particularly in cases where water pollution is involved
2. Provide site specific guidance to local authorities on contaminated land
3. Act as the 'enforcing authority' for any land designated as a 'special site'
4. Publish periodic reports on the state of contaminated land.
5. Maintain public register for Special Sites.

As yet, no sites have been designated as 'contaminated land' or 'special sites' in the LEAP area, however, given the significant industrial history of the area, it is considered likely that several sites will be identified over the coming years.

The Agency intends to publish its first national report into the state of contaminated land in April 2002. A national database has also been developed to help maintain a record of the number of designated sites and progress on remediation.

Key Achievements 1999/2001

- A bridging study has been completed in order to gain a better understanding of the conditions and risks at these sites. Funding of £250,000 for this project was provided via the Supplementary Credit Approval Scheme run by DEFRA. This Money was released following a successful bid made by the Environment Agency and St Helens Metropolitan Borough Council.

The bridging study involved site investigation, risk assessment, a review of remedial options and a leachate treatability trial. The conclusion from the leachate treatability trial is what whilst the leachate can be treated the costs associated are likely to be too high for the scheme to be feasible. The next stage of the bridging study was to develop a pilot leachate treatment plant followed by a pilot trial. This was due to lead to the detailed design of a full-scale treatment plant.

However, following the initial study, it appears that this intention will have to be abandoned, as the required investment for this approach will no longer be cost effective. The current view is that a number of different treatment methods may be use rather than one single solution. To this extent, the bridging study has suggested that the site be opened up on a competitive basis to contractors who wish to trial their own innovative treatment methods. The Environment Agency will continue to provide technical support and guidance for the site and St Helens Metropolitan Borough Council will continue to provide funding details.

	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	<i>ISSUE 19: Adverse Impact of Contaminated Land on the Environment</i>					
RESTORED, PROTECTED LAND WITH HEALTHIER SOILS	19.1	Initiate and co-ordinate action over sites.	1999-2002			
	19.2	Remediation of sites.	2000-2001			
	19.3	Assist in the implementation of Contaminated Regulations Land Part IIA Strategy	2001	~£30K (estimate based on £1.5K per authority)	LA/EA (as consultee)	
	19.4	Identification of contaminated land	2001	£3.75M (estimate based on £750K per LA over 5 years)	LA/EA	
	19.5	Remediation of contaminated land	2001	Unknown	LA/EA	
	19.6	Inspection of potential sites	2001	£600K (estimate assuming 10 sites inspected over 5 years)	EA/LA	
	19.7	Remediation of special sites	2001	Unknown	EA/LA	
	19.8	Reporting (Develop a database of sites)	2001		EA	

A GREENER BUSINESS WORLD

It is recognised that businesses are major contributors to the economic wealth of the nation and that they operate in a global competitive economy. It is in the interest of business to minimise adverse impacts on the environment and to adopt a sustainable approach to their operations. The Agency seeks to encourage a shift to more sustainable production through smarter regulation and the use of economic instruments.

Background:

The Environment Agency regulates a wide range of industrial activities in England and Wales, including energy, manufacturing and service industries, chemical and steel works, oil refineries, the waste and water industry, the nuclear industry and some parts of food and agriculture. Historically, regulation has been a major influence on businesses to reduce their impacts on the environment.

Under Integrated Pollution Control (IPC) we regulate industrial processes with the greatest pollution potential, ensuring that Best Available Techniques Not Entailing Excessive Cost (BATNEEC) are used to prevent or minimise pollution of the environment. We regulate the treating, keeping, movement and disposal of controlled waste, involving waste management sites and waste carriers and brokers, so as to prevent pollution of the environment or harm to human health. We monitor sewage treatment works and trade discharges; and monitor the quality of freshwater, groundwater and tidal waters. We also regulate the disposal of radioactive waste at sites, including nuclear sites. However, although a range of environmental legislation is in place, many environmental impacts of business remain largely unregulated, including transport and domestic sources.

During 2000 the legislation that implements IPC was superseded by the Pollution Prevention and Control Regulations, which implement the EU Directive on Integrated Pollution Prevention and Control (IPPC). The Directive is similar to IPC but covers a wider range of activities and industrial processes, including landfill sites and larger sewage treatment works. IPPC will be progressively applied to existing processes, with full implementation by 31 October 2007.

We are committed to developing goal-oriented, risk-based approaches to regulation. The Operator and Pollution Risk Appraisal (OPRA) system has been implemented for IPC and wastes management sites and will help the Agency target its resources on those sites presenting the greatest environmental risks.

Environmental Management Systems (EMS) provide a means for businesses to manage their environmental impacts in a considered and structured manner. A number of initiatives are in place to encourage business to progress to EMS. The Agency encourages the use of EMS by those we regulate and recognises that many aspects of an EMS are similar to our regulatory activities.

Information on releases to air, water and land from IPC processes is now available via the Agency's website www.environment-agency.gov.uk and we are looking at how such information can be extended to produce annual environmental reports. Greater standardisation in the type of information provided in environmental reports is required including a common set of criteria for each sector. More companies and sites will be encouraged to report. DEFRA's MACC2 initiative ("Making a Corporate Commitment") is a recently introduced tool to promote reporting.

The North West Business Environment Partnership has been formed to promote quality environmental services to businesses across the North West, particularly Small Medium Sized Enterprises (SME's). The partnership includes specialists in both the environmental and business sector. Their ultimate vision is to achieve "an improved environment and economy for the North West via the engagement of business in environmentally sustainable business practice".

This vision is to be realised through investment in three key objectives, which are:

- i. The development of a co-ordinated, high quality Business Environment Association (BEA's) through a partnership of local agencies, in particular the Small Business Service.
- ii. A co-ordinated training provision for SME employees to develop skills in environmental management and to provide support to train the staff of BEA's to agreed quality standards.
- iii. The creation of "beacon" green business parks which, through experience in supporting indigenous business growth, regenerating industrial areas and attracting inward investment, can encourage others to do the same.

The programme budget is £15 million. £5 million Single Regeneration Budget (SRB) Round 6, £5 million private sector match and £5 million public/other partners. Timescale is October 2000 – March 2007.

The partners involved include Groundwork North West, Small Business Service, Government Office North West, North West Business Leadership Team, Sustainability, North West, North West Chamber of Commerce, North West Council for Training and Enterprise, United Utilities and the Environment Agency. Further partners from the private sector are being sought,

For more information on the North West Business Environment Partnership please contact Todd Holden, Regional Manager on Tel: 0161 236 6348 or email: tholden-nwbep@groundwork.org.uk.

Update of Actions:

Key Achievements 1999-2001:

- The pollution prevention and control regulations were enacted in 2000 to give effect to the European Union Integrated Pollution Prevention and Control (IPPC) Directive.
- A new Junction 8 on the M62 has been constructed which will enable a link road to be built, joining the Gemini Business Park to the Motorway.
- Participation in the North West Business Environment Partnership

Annual Review Commitments:

We will: Target regulatory effort on those activities and operators that have the greatest environmental impact.

We will: Encourage companies to obtain certified environmental management systems.

Forward Look:

- Commence negotiations with United Utilities, OFWAT and DEFRA to identify work for AMP4.
- The EU Landfill Directive applies to all landfills accepting waste on or after 16th July, 2001. Larger landfills accepting greater than 10 tonnes per day or with a capacity for 25,000 tonnes or more, except for inert wastes, also fall under the Pollution Prevention and Control Directive. One of the main requirements of the Landfill Directive is to reduce the national quantities of biodegradable municipal waste sent to landfill sites. Their objective is a reduction to 75%, 50% and 35% of the amount produced in 1995 by 2001, 2013, and 2020 respectively.
- The Agency will work to simplify and improve the regulatory process for business, improve access to environmental information for business and the public, and promote the prevention of pollution and minimisation of waste in industry.

Wiser, Sustainable Use of Natural Resources

Society's demands for water energy and minerals are increasing. Continued and lasting improvements in resource efficiency are essential if we are to achieve sustainable development.

Background:

The Environment Agency is directly responsible for regulating the overall environmental performance of a broad range of activities that consume natural resources, and for controlling wastes. Through effective regulation we seek to protect or enhance the environment as a whole and to require or encourage more efficient use or management of natural resources.

This includes controls over the energy, manufacturing and service industries, chemical and steel works, oil refineries, waste management sites, and the water and nuclear energy industries.

The Agency influences a broad range of public and private sector organisations through:

- a role as consultee in strategic planning by local and regional government to control development, transport, minerals and waste management, and water demand;
- input to central government planning through the National Waste Strategy and the development of economic instruments aimed at influencing behaviours and environmental performance;
- provision of information on the environmental performance of industries and waste production;
- providing advice on waste minimisation and resource efficiencies and encouraging uptake of formal environment management systems such as EMAS and ISO14001.

In an industrial context, waste minimisation is a process based approach, which looks at the overall performance of a company and assesses opportunities for improvement. Improved process efficiency usually results in increased output and a reduction in waste. This approach stresses that the true cost of waste is not simply waste disposal costs, but also the cost of raw materials, energy, labour and other associated costs. Reducing waste reduces environmental impact and also improves a company's profitability. Waste minimisation does not just focus on solid waste issues, but also covers water usage, discharges to sewer, emissions to air and energy usage.

There is a need to control the use of water within the LEAP area, to ensure the maintenance of a balanced and sustainable resource. The Agency achieves this by licensing abstractions from the river and groundwater systems. The 'Policy and Practice for the Protection of Groundwater' provides guidance on the management of groundwater resources. In addition to this, from April 2001 'Catchment Abstraction Management Strategies' (CAMS) are being produced for all catchments in England and Wales. CAMS have become the focus for water resources management within LEAP areas and will enable the Agency to meet many of the Government's objectives outlined in *Taking Water Responsibly (1999)*.

'Taking Water Responsibly – government decisions following consultation on changes to the water abstraction licensing system in England and Wales. DETR (now DEFRA) March, 1999.

CAMS take a holistic approach in managing water resources, by considering the needs of abstractors, alongside those of fisheries, recreation and navigation, as well as the need to protect water quality and generally conserve the aquatic environment. CAMS will provide information on:

- availability of water in a catchment;
- licensing practice for dealing with new applications;
- changes required to the abstraction regime in order to achieve sustainable long term use of water resources.

CAMS will provide a sound basis for planning by abstractors, the Agency, and all other interested parties. They will also be the mechanism for reviewing time-limited licences, deciding whether they should be renewed, and on what terms. They may well include the identification of opportunities for, and possible limitations to, licence trading. However, there will be further consultation on whether licence trading should be introduced.

To ensure that water resources are managed effectively, comprehensive information about the resource availability is required. Daily rainfall is measured using a network of voluntary observers; supporting this network is a number of automatic telemeter raingauges. River levels and flows are measured at various points throughout the LEAP area, to provide real-time data. In addition, specific projects are supported by the installation of temporary stations and spot measurements. Groundwater levels likewise are routinely monitored throughout the LEAP area.

Waste Disposal activities are regulated as a core duty by the Environment Agency. Activities are regulated under a waste management licence or an exemption from such licensing. Waste, which is deposited on land without the benefit of a waste management licence or exemption from such licensing is illegal.

The illegal deposit of waste (or fly tipping) on land can cause pollution of the environment including contamination of land or groundwater, or may result in harm to human health and a deterioration of public amenity. Local Authorities undertake to remove waste tipped on public land. The responsibility for both littering and fly tipping on private land lies with the landowner.

Tyres in the Environment

Tyres have an essential yet often overlooked role in today's society. We rely on them for both personal and public transport. In the UK we travel some 650 billion passenger kilometres by road every year, and about 65 per cent of goods are moved by road. Tyres are used in agricultural and industrial machinery, and for transport ranging from aeroplanes to bicycles. But the number of vehicles has doubled over the past 30 years and the distances travelled have nearly trebled over a similar period. More and more tyres are being used and further increases are expected over the next 25 years. This consumption uses non-renewable resources in tyre production, causes emissions to air, land and water during their use, and required management at the end of use. The Agency has, therefore, chosen to look at tyres for several reasons:

- Tyres are very durable, but during their use fine particles are worn away. These are emitted to air or washed off in road runoff to watercourses, causing contamination. Traffic noise is caused predominantly by tyres above a certain speed, which is a cause of concern for people living near to roads.

- One of the main disposal routes for tyres may well be about to cease. A proposed European Commission Directive on landfill will ban the disposal of whole tyres to landfill by about 2003, and shredded tyres by 2006. More reuse, material recycling and energy recovery options are needed.
- Tyres, once they have reached the end of their useful lives, are a potential energy source with a similar energy content to coal. There are increasing demands for their use in cement kilns, and an overview of the environmental impacts of this option was needed.
- Stockpiled tyres, illegally dumped and other stores are a fire risk and cause aesthetic pollution. Fires in the past have caused severe air and water pollution, so we need to reduce this risk.

The Agency has considered all these factors in a report – Tyres in the Environment (Nov. 98 ISBN 1 873 16075 5).

The Agency is to launch The T/Campaign, a National campaign targeting waste tyre producers with the intention of stopping the problem at source.

Update of Actions:

The South Area took the lead in co-ordinating and providing information for a Regional Waste Minimisation and Recycling Guide, which was published in March 2000.

Key Achievements 1999-2001

- Following Operation Flycatcher the enforcement team now carry out CCTV surveillance as and when required.
- Over the past two years the Agency has carried out a campaign to regulate Metal Recycling Sites (MRS's) across the North West Region. Unlicensed sites were identified and have either been regulated, closed or are being considered for prosecution for breaches of environmental legislation. New unlicensed sites in the Sankey/Glaze LEAP area are now dealt with initially by two specified Enforcement Officers with experience in the regulating of MRS's.
- Nine individuals or companies have been prosecuted by the Agency for serious breaches of waste disposal legislation since April 1999, which has resulted in fines and costs of £325,865.31. Two other individuals have been formally cautioned for breaches of waste legislation, which did not pose a threat to the environment.
- The modelling phase of the investigation into rising groundwater was completed, and concluded that minewater discharges to surface are minimal. The return to natural water table levels is expected to take many decades.
- Preliminary consultation on the sustainable management of Water Resources was carried out within South Area. The results from this work were fed into the National Consultation process. The Consultation document for CAMS was launched in April 2000.
- The Agency's Research and Development study on the optimum use of water for agriculture was completed. The Agency published its conclusions and recommendations in a technical report entitled '*Optimum Use of Water for Industry and Agriculture: Best Practice Manual*'. The report provides an authoritative source of water use figures and will ensure that licensed volumes are appropriate for particular agricultural purposes. This guidance has been incorporated into the work of licensing staff in their auditing of licence applications.

Annual Review Commitments:

- We will:** Encourage and recommend waste minimisation
- We will:** Send out promotional video and pamphlets to selected organisations
- We will:** Continue to issue abstraction licences according to good practice as set out in the Agency's Licensing Manual, in order to ensure the sustainability of good quality surface and groundwater resources. Licensing officers will promote the principles of efficient water usage during the licence application and renewal process, helping to ensure the sustainability of water resources for future use.
- We will:** Implement the developmental phase of the investigation into rising groundwater in Merseyside and South Lancashire. The Agency, together with the Coal Authority, is looking to monitor the situation further in order to establish priorities for action.
- We will:** Improve quality of information on wastes generated and resource use.
- We will:** Encourage appropriate recovery of waste.
- We will:** Develop better understanding of tyre disposal and best practice.
- We will:** Encourage the re-use and recycling of secondary minerals.

Forward Look:

- Set up and encourage local initiatives to discourage flytipping, and offer support to existing initiatives.

RESTORED, PROTECTED LAND WITH HEALTHIER SOILS	Ref	Action	Timescale	Costs	Responsibility (Lead/Partner)	Program
	ISSUE 20: Unauthorised waste activities: Metal Recycling Sites					
	20.1	Identify all unauthorised Metal Recycling Sites in the area.			EA (L) Operators (P)	
	20.2	Regularise Metal Recycling Sites through the licensing or exemption system.			EA (L) Operators (P)	

WISER, SUSTAINABLE USE OF NATURAL RESOURCES	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	<i>ISSUE 21 : Need to control the use of water to ensure the maintenance of a balanced and sustainable resource (NEW ISSUE)</i>					
	21.1	Collect information and produce a Catchment Abstraction Management Strategy for the Sankey/Glaze catchment.	2001-2003	1.6 FTE per year across functions	EA	

WISER, SUSTAINABLE USE OF NATURAL RESOURCES	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
	ISSUE 22: Illegal Waste Disposal Activity and Litter Problems in Watercourses (RENAMED)					
	22.1	Targeting the flytipping & illegal disposal of tyres around Bickershaw & Hindley.	2000-2002		EA (L) Wigan MBE Greater Manchester Police Greater Manchester Fire Service Forestry Commission	This programme of targeting has resulted in the Tcampaign which is ongoing. The campaign has identified a number of breaches of legislation by individuals who are to be investigated.
	22.2	Identify stolen vehicles, skip vehicle duty of care and registration of waste carriers.	2001-2003		EA Warrington & St Helen's Police	The campaign in Warrington has identified a number of breaches in regard to registration of waste carriers by companies and individuals who are being investigated.
	22.3	Local initiatives to prevent illegal tipping and littering of watercourses including the promotion of litter removal teams.	1999-2002		EA(L) Owners Local Authorities Water Watch Stream Care	Campaign carried out to prevent and target illegal cable burning adjacent to Sutton and Hardshaw Brooks in Parr. In conjunction with Sankey NOW, litter removal teams deployed on Sutton Mill Dan, Newton Lake Dallam Brook, and St Helen Canal, Litter Action Plan being worked up with Sankey NOW Partners.
	22.4	Promote the control of vehicular access to watercourses			LA	Improved access control installed at Sutton Brook between Gaskell Street and Parr Stocks Road and at Sankey Brook at Recreation Street, Parr.

Limiting and Adapting to Climate Change

Climate change occurs naturally; but increasing concentrations of greenhouse gases in the atmosphere from the burning of fossil fuels has increased the rate of change.

Background

As part of its overall aim of contributing to sustainable development, the Agency is addressing climate change as part of its work.

Climate change is expected to have a major effect both on the natural world and on human society. Temperature increases and changes in weather patterns have led to predictions that the pattern of the world's weather may change. There are likely to be more intense heatwaves, floods, droughts and storms, combined with rising sea levels. These changes would have a significant impact on water resources, agriculture, wildlife and human health. If we do not act to limit emissions of greenhouse gases, the world's temperature could rise between 1.4°C and 5.8°C by the end of this century.

The Agency will explore, in partnership with others, the most effective mixture of economic measures, negotiated agreements and direct regulation to ensure that significant cuts are made in 'greenhouse gas' emissions from industry and other sectors.

The Agency together with Sustainability North West and other partners, has initiated and part-funded a project to determine the region's potential for renewable energy, and to establish regional targets to support the Government's national target. This initiative has significant environmental, economic and social benefits for the North West and has prompted the development of a national Agency policy on renewable energy.

A Powerful Proposition

Sustainability Northwest's report summarises the Northwest of England's regional renewable energy study which has:

- determined the region's potential for developing renewable energy resources;
- identified opportunities and constraints;
- developed targets for deployment to 2010; and
- proposed priorities for action and potential initiatives.

The different technologies considered include both on and offshore wind, biomass, solar, small-scale-hydro, landfill gas and energy from waste. The targets proposed will see the region's renewable energy capacity increase from less than 1.3% of total electricity generation capacity today, to around 8.5% by 2010.

The state of play

At present the Northwest has a renewable energy capacity of just 91 Megawatts (MW). This is supplied by 17 onshore wind projects, 5 small-scale hydro power units, 10 sewage gas projects, 30 landfill gas power projects and between 5 and 10 small, roof-top photo-voltaic (PV) installations (an additional 10.5MW of currently unused capacity exists within a municipal waste incineration facility located near to Bolton). This 91MW of production contrasts dramatically with the region's 7,200MW of traditional, coal, gas and nuclear energy capacity.

The challenge ahead

There are already more than 50 organisations active in the field of renewable energy within the region and a number of renewable energy projects established under the Non-Fossil Fuel Obligation (NFFO) are yet to be completed. These are scheduled to deliver a further 200MW of capacity in the next few years.

The Renewable Obligation will create an entirely new market for electricity generated from renewable and is set to act as the main driver for the UK to achieve its 10% target by 2010.

Sustainability Northwest is a registered charity and company limited by guarantee. For more information please contact: Sustainability Northwest, Giants Basin, Castlefield, Manchester M3 4NB. Tel: 0161 834 8834 fax 0161 819 1102 e-mail snw@snw.org.uk web www.snw.org.uk/renewables

Reducing Flood Risk

Flood risk cannot be eliminated but it can be reduced. The Agency's flood defence strategy aims to minimise risk to life and property, while exploiting the benefits of natural flooding for biodiversity, in an integrated way that will accommodate the inevitable impacts of climate change.

Current estimates are that nearly two million properties are at risk from floods, affecting about ten per cent of the population. The projected growth in household numbers from 21 million in 1997 to 24 million by 2021 represents a 12 per cent increase in housing stock and will place flood risk areas under even greater development pressure.

Background:

A number of existing urbanised regions within the LEAP area have been highlighted as being vulnerable to potential flooding from rivers and watercourses. At the same time, pressures for the development of floodplains within urban areas is increasing. The Agency opposes development within floodplains and aims to secure and, where necessary, restore their effectiveness for flood defence and environmental purposes.

Protection of the floodplain from inappropriate development proposals is achieved by encouraging Planning Authorities to restrict development in floodplains. To assist in the Planning process the Agency has developed a policy document *Policy and Practice for the Protection of Floodplains* and provided a copy, together with flood risk maps, to Planning Authorities. Year 2000 Indicative Floodplain Maps are now also available via the *What's in Your Backyard* section of the Agency's website (with 1:50,000-scale mapping).

To allow the Agency to meet its objective of 'reducing flood risk', the Agency has permissive powers to carry out maintenance works and build flood defences on designated main rivers.

The Agency recognises that irrespective of attempts to reduce the risk of flooding through either our policies¹ or actions, flooding can still occur.

The Agency monitors rainfall, river levels and sea conditions, 24 hours a day and uses this information to forecast flooding from most major rivers and the sea where appropriate; many small rivers and streams rise too fast for warnings to be issued.

If flooding is likely, flood warnings are issued to the media and in some places direct to people at home or work. Arrangements for warning residents within a formal Flood Warning Area have been agreed in consultation with local authorities and emergency services. The Sankey Glaze Leap area contains one flood-warning area covering Pen Leach Brook and Lilford Park Brook in Leigh in Greater Manchester. Properties at risk lie within the Higher Folds, Green Lane and Lilford Park areas of town.

The Agency will continue to play the lead role in providing strategic advice on flood issues. Planning Policy Guidance Notes set out government policy for the determination of planning applications and gives advice on how local planning authorities should set out their own land use planning policies. The Government has recently published guidance on flooding, known as PPG 25.

This guidance explains how flood risk should be considered at all stages of the planning and development process in order to reduce future damage to property and loss of life. It sets out the importance the Government attaches to the management and reduction of flood risk in the land-use planning process, to acting on a precautionary basis and to taking account of climate change. It summarises the responsibilities of various parties in the development process.

The planning system should ensure that new development is safe and not exposed unnecessarily to flooding by considering flood risk on a catchment-wide basis and, where necessary, across administrative boundaries. It should seek where possible to reduce and certainly not to increase flood risk. It should help ensure that flood plains are used for their natural purposes, continue to function effectively and are protected from inappropriate development. The points of the guidance being:

- the susceptibility of land to flooding is a material planning consideration;
- the Environment Agency has the lead role in providing advice on flood issues, at a strategic level and in relation to planning applications;
- policies in development plans should outline the consideration which will be given to flood issues, recognising the uncertainties that are inherent in the prediction of flooding and that flood risk is expected to increase as a result of climate change;
- planning decisions should apply the precautionary principle to the issue of flood risk, using a risk-based search sequence to avoid such risk where possible and managing it elsewhere;
- planning decisions should recognise the importance of functional flood plains, where water flows or is held at times of flood, and avoid inappropriate development on undeveloped and undefended flood plains
- developers should fund flood defences and warning measures required because of the development; and
- planning policies and decisions should recognise that the consideration of flood risk and its management needs to be applied on a whole-catchment basis and not be restricted to flood plains.

¹ Policy Document: Policy and Practice for the Protection of Floodplains (April 1997)

Key Achievements 1999-2001:

- New flood warning code system was introduced on 12 September 2000 and took 18 months to develop. The new warning codes, icons and definitions have been developed in close consultation with the Agency practitioners, local authorities, the media, emergency services and the general public. The new system is based on four stages - Flood Watch, Flood Warning, Severe Flood Warning and All Clear, these are more wide reaching and more customer focused, designed to be easily understood.
- As part of the implementation, the addresses of all homes in known flood risk areas have been identified and information regarding the new flood warning codes sent to householders.
- Abram Flashes Water Level Management Plan was completed in May 2001 and provides a formal basis for managing the land drainage system and water level requirements of the area

in order to provide a sustainable balance between the flood defence, conservation and agricultural interests in the area.

- Flood Defence staff have been acting as liaison with the various local authorities within the LEAP area to achieve High Level Targets issued by the Ministry of Agriculture, Fisheries and Food (now DEFRA). There are fourteen Targets in total, which cover a wide range of issues related to identifying risks and managing flood defences together with various environmental initiatives.
- The main focus of the effort in 2000/2001 has been to encourage each Local Authority to prepare a Policy Statement, which is a publicly available document setting out its evaluation of the flooding risks and the procedures for dealing with them. The Policy Statement identifies ordinary watercourses, which are deemed to be 'critical' because of their potential to cause significant flooding. Another target requires Local Authorities to provide information for inclusion in a national flood and coastal defence database to be maintained by the Agency.

Annual Review Commitments:

We Will: Continue to work with local authorities to minimise the environmental impact of planned development, through active consultation on development control issues.

We Will: Provide mapped floodplain data to local authorities to assist in identifying problem areas for the purpose of planning future development. The Agency provides maps of flood risk areas on CD-ROM to all Local Authorities and will continue to update this data on an annual basis.

Forward Look:

- Within the LEAP area there are a number of known flooding problems, and these will be investigated as part of the Sankey Brook Improvements Strategy and Pennington Brook Improvement Strategy. These strategies are intended to provide a framework for developing, appraising and implementing flood defence works in a logical manner. It will improve our approach to reducing flood risk where problems are extensive, complex or inter-related with other problems.
- A risk assessment of floodplains within the LEAP conducted in order to identify and prioritise potential flood warning areas.

	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
REDUCING FLOOD RISK	ISSUE 23: Culverts Causing Flood Risk and Loss of Habitat					
	23.1	Identify and gather information on all culverts suitable to be opened up as opportunity arises.	1999-2002		EA (L) Developers (P) Owners	A programme of culvert inspection is ongoing.
	23.2	Install debris screens and telemetry as appropriate on culvert entries.	1999-2002		EA	Telemetry has also been installed on Down Brook, Ashton-in-Makerfield.
	23.3	Reduce flows into culverts by attenuating flows, storing floodwaters or providing alternative routes for flood flows.	1999-2002		EA (L) United Utilities Owner Local Authorities Developer (P)	Ongoing

The Agency's policy is that culverts should be opened up and restored to open river corridors wherever possible.

(a) **Regional Telemetry Project**

A number of operational and flood monitoring sites requiring telemetry were previously identified within the LEAP area as part of this project. However, following the Bye Report, on the 1998 Easter Flooding, and the replacement of the existing Flood Warning Telemetry system over the next two years, it is likely these sites will be reviewed.

	Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
REDUCING FLOOD RISK	ISSUE 24: Raise awareness of increased numbers of properties at risk from flooding					
	NEW ISSUE					
	24.1	Section 105 Investigation to identify floodplain areas at risk of flooding and to produce more accurate floods risk mapping. Section 105 projects for Sankey Brook*.	Due 2002	60K	EA (L) Developers (P)	Ongoing Survey work has been completed, but was delayed due to foot & mouth. The model produced for Sankey Brook S105 is also being used for Sankey Brook Improvements Strategy.
	24.2	Through the local plan process, discourage inappropriate development in the floodplain.		Staff time	Local Authorities (L) EA (P)	
	24.3	Capital Schemes being considered in the Sankey/Glaze catchment**		Costs Unknown	EA, Local Authorities & Interest Groups	Sankey Brook & Pennington Brook Improvement Strategy currently being produced & the results will be out mid 2002. The results will determine what capital schemes will be developed and will also lead to development of a heavy maintenance programme.
	24.4	Secure new telemetry sites for flood warning.		Staff time	EA (L)	
	24.5	Upgrade existing telemetry sites identified.		Staff time	EA (L)	

(*) Section 105 Investigations

These investigations aim to map the extent of 1 in 100 year return period floods (this means the areas likely to be flooded due to flooding that would statistically occur once in a 100 year period). Areas protected by flood defences but vulnerable to flooding from breaches or overtopping will also be identified.

() Capital Works planned for the Sankey/Glaze catchment**

These capital works are being considered as part of the Sankey Brook Improvement Strategy, which will investigate the brook and its tributaries to decide how best to manage watercourses and identify what improvements are needed.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
REDUCING FLOOD RISK					
<i>ISSUE 25: Impact of residual effects of mining subsidence on flood risk</i>					
25.1	Review maintenance regime and discontinue where watercourses have stabilised.	1999-2001	U	EA	Ongoing
25.2	Investigate and implement more environmentally sensitive protection measures, returning channels to more natural sections.	1999-2001	U	EA	Ongoing
25.3	Pennington Brook Improvement Strategy.	2000-2002	47K	EA, Coal Authority Wigan MBC	Work is ongoing and the final report is expected in 2002. A Water Level Management Plan for Pennington Flash will be produced as part of the Improvement Strategy.

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
REDUCING FLOOD RISK					
<i>ISSUE 26: Siltation causing flood risk</i>					
26.1	Identify appropriate locations to construct silt traps to catch sand and silt.	1999-2001		EA	No progress on this, however a number of locations prone to siltation and therefore ideal sites for silt traps have been identified in the past.
26.2	Identify and control sources of sand/silt entering watercourses.	1999-2001		EA Local Authorities Owners	Common Lane Brook was desilted in 2000. Further work is programmed for 2001 on Atherton/Collier Brook, Shakerley Brook, Hey Brook and Common Lane Brook culvert.

Duties, Powers and Interests of the Environment Agency

The Environment Agency has a wide range of interests in the areas of water management, waste management and pollution prevention and control. Whilst many of these interests are supported by statutory duties and powers, much of the Agency's work is advisory, with the relevant powers resting with other bodies such as local planning authorities. The following table summarises the Agency's duties, powers and interests and their relationship to land-use planning.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in:	Partnership
Water Resources The Agency has a duty to conserve, redistribute, augment and secure the proper use of water resources.	<ul style="list-style-type: none"> • Grant or vary water abstraction and impoundment licences on application with appropriate conditions imposed to safeguard the needs of the environment whilst allowing reasonable and justified use of available and sustainable water resources – with the aim of achieving an equitable balance between competing demands. • Revoke or vary existing licences to reinstate flows or levels to surface waters or groundwater which have become depleted as a result of abstraction. Compensation may be payable if such powers are used. • Secure the proper use of water resources through its role in water resources planning, and the assessment of reasonable need for abstractions and the promotion of more efficient use of water resources. • Monitor and enforce abstraction and impoundment licences. • Issue conservation notices to direct appropriate practices with regard to water resources issues associated with exempt dewatering activities. 	<ul style="list-style-type: none"> • The more efficient use of water by water companies, developers, industry, agriculture and the public and the introduction of water-efficiency measures and suitable design and layout of the infrastructure. 	<ul style="list-style-type: none"> • The Agency uses its position as a statutory consultee to the planning authorities to secure conditions and agreements that protect the water environment and that encourage water conservation measures. • The Agency also seeks to influence planning decisions for new development by ensuring that planning authorities allow for any lead time required for resource development. • The Agency is committed to water-demand management and will work closely with water companies and developers, local authorities and relevant organisations to promote the efficient use of water. • The Agency acknowledges that new resources may be needed in the future and supports a twin-track approach of planning for water resource development alongside the promotion of demand-management measures.
Flood Defence The Agency has a duty to exercise general supervision over all matters relating to flood defence throughout each catchment.	<ul style="list-style-type: none"> • Control, through Land Drainage consents, of development within 8 m of main river (Water Resources Act 1991, Section 109) or construction of a structure that would affect the flow of an ordinary watercourse (Land Drainage Act, 1991 Section 23). • Produce flood risk maps for all main rivers under S105 of Water Resources Act 1991. • Undertake works to main rivers using permissive powers. • Issue flood warnings relating to main river to the public, local authorities and the police. • Consent mineral working within 16 m of main rivers. 	<ul style="list-style-type: none"> • Granting of planning permission throughout a catchment but especially floodplains where development can significantly increase flood risk. This permission is granted by local planning authorities. • Installation of surface water source control measures e.g. flood attenuation structures. • Supervising the maintenance of ordinary watercourses which is a local authority remit, but may impact on main rivers. • Installations of buffer zones which reduce flood risk and have significant environmental benefits. • Urban and rural land use and measures that can reduce flood risk or the need for watercourse maintenance. 	<ul style="list-style-type: none"> • As a statutory consultee on planning applications within main river floodplains the Agency offers advice based on knowledge of flood risk. It also advises on the environmental impacts of proposed floodplain development. • The Agency will encourage best practice, including source control measures and common standards, among local authorities and riparian owners to protect and enhance the environment. • The Agency works with the civil authorities to prepare flood warning dissemination plans and supports their endeavours to protect communities at risk.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in :	Partnership
Water Quality The Agency has a duty to monitor, protect, manage and, where possible, enhance the quality of all controlled waters including rivers, groundwater's, lakes, canals, estuaries and coastal waters through the prevention and control of pollution.	<ul style="list-style-type: none"> • Issue discharge consents to control pollution loads in controlled waters. • Regulate discharges to controlled waters in respect of water quality through the issue and enforcement of discharge consents. • Issue 'works notices' and enforcement notices where action is required to reduce the risk of pollution. • Prosecute polluters and recover the costs associated with incidents. • Serve prohibition notices (with or without conditions) on highway authorities to require treatment and pollution measures for highway runoff. 	<ul style="list-style-type: none"> • The greater use of source control measures to reduce pollution by surface water runoff. • Prevention and education campaigns to reduce pollution incidents. • The provision of highway runoff control measures, which is a highway authority remit. 	<ul style="list-style-type: none"> • The Agency will liaise with local authorities, developers, the Highways Agency, industry and agriculture to promote pollution prevention and the adoption of source control measures. As a statutory consultee on planning applications, the Agency will advise local planning authorities on the water quality impact of proposed developments.
Air Quality The Agency has a duty to implement Part 1 of the Environmental Protection Act 1990.	<ul style="list-style-type: none"> • Regulate the largest technically complex and potentially most polluting prescribed industrial processes such as refineries, chemical works and power stations including enforcement of, and guidance on, BATNEEC and BPEO. • Have regard to the government's National Air Quality Strategy when setting standards for the releases to air from industrial processes. 	<ul style="list-style-type: none"> • The vast number of smaller industrial processes which are controlled by local authorities. • Control over vehicular emissions and transport planning. 	<ul style="list-style-type: none"> • The Agency provides data on IPC processes and advice on planning applications to local authorities. The Agency is willing to offer its technical experience to local authorities on the control of air pollution. The Agency wishes to liaise with local authorities in the production of their Air Quality Management Plans. The Agency will advise and contribute to the government's National Air Quality Strategy.
Radioactive Substances The Agency has a duty under the Radioactive Substances Act 1993 to regulate the use of radioactive materials and the disposal of radioactive waste.	<ul style="list-style-type: none"> • To issue certificates to users of radioactive materials and dispose of radioactive waste, with an overall objective of protecting members of the public. 	<ul style="list-style-type: none"> • The health effects of radiation. 	<ul style="list-style-type: none"> • The Agency will work with users of the radioactive materials to ensure that radioactive wastes are not unnecessarily created, and that they are safely and appropriately disposed of. The Agency will work with DEFRA to ensure that the disposal of radioactive waste creates no unacceptable effects on the food chain. • The Agency will work with the Nuclear Installations Inspectorate to ensure adequate protection of workers and the public at nuclear sites. • The Agency will work with the HSE on worker protection issues at non-nuclear sites.
Waste Management The Agency has a duty to regulate the management of waste, including the treatment, storage, transport and disposal of controlled waste, to prevent pollution of the environment, harm to public health or detriment to local amenities.	<ul style="list-style-type: none"> • Vary waste management licence conditions. • Suspend and revoke licences. • Investigate and prosecute illegal waste management operations. 	<ul style="list-style-type: none"> • The siting and granting of planning permission for waste management facilities. This is conducted by the waste industry and local planning authorities. The Agency, as a statutory consultee on planning applications, can advise on such matters. 	<ul style="list-style-type: none"> • The Agency will work with waste producers, the waste management industry and local authorities to reduce the amount of waste produced, increase re-use and recycling and improve standards of disposal.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in :	Partnership
Contaminated Land The Agency has a duty to develop an integrated approach to the prevention and control of land contamination, ensuring that remediation is proportionate to risks and cost-effective in terms of the economy and environment.	<ul style="list-style-type: none"> • Regulate the remediation of contaminated land designated as special sites. • Prevent future land contamination by means of its IPC, Water Quality and other statutory powers. • Report on the state of contaminated land. 	<ul style="list-style-type: none"> • Securing with others, including local authorities, landowners and developers, the safe remediation of contaminated land. 	<ul style="list-style-type: none"> • The Agency supports land remediation and will promote this with developers and local authorities and other stakeholders.
Conservation The Agency will further conservation, wherever possible, when carrying out water management functions; have regard to conservation when carrying out pollution control functions; and promote the conservation of flora and fauna which are dependent on an aquatic environment.	<ul style="list-style-type: none"> • The Agency has no direct conservation powers but uses its powers with regard to water management and pollution control to exploit opportunities for furthering and promoting conservation. 	<ul style="list-style-type: none"> • The conservation impacts of new development. These are controlled by local planning authorities. • Protection of specific sites or species, which is a function of English Nature. The Agency does, however, provide advice to local authorities and developers to protect the integrity of such sites or species. • Implementation of the UK Biodiversity Plan for which we have taken responsibility as lead organisation for 34 species and 5 habitats of wetland character. 	<ul style="list-style-type: none"> • The Agency supports action to sustain or improve natural and man-made assets so that they are made available for the benefit of present and future generations. Many development schemes have significant implications for conservation. The Agency will work with developers, local authorities, conservation bodies and landowners to conserve and enhance biodiversity.
Landscape The Agency will further landscape conservation and enhancement when carrying out water management functions; have regard to the landscape when carrying out pollution control functions; and promote the conservation and enhancement of the natural beauty of rivers and associated land.	<ul style="list-style-type: none"> • The Agency must further the conservation and enhancement of natural beauty when exercising its water management powers and have regard to the landscape in exercising its pollution control powers. 	<ul style="list-style-type: none"> • The landscape impact of new development, particularly within river corridors. This is controlled by local planning authorities. 	<ul style="list-style-type: none"> • The Agency produces River Landscape Assessments and Design Guidelines which it uses when working with local authorities and developers to conserve and enhance diverse river landscapes.
Archaeology The Agency has a duty to consider the impact of all of its regulatory, operational and advising activities upon archaeology and heritage, and implement mitigation and enhancement measures where appropriate.	<ul style="list-style-type: none"> • The Agency must promote its archaeological objectives through the exercise of its water management and pollution control powers and duties. 	<ul style="list-style-type: none"> • Direct protection or management of sites of archaeological or heritage interest. This is carried out by local planning authorities, County Archaeologists and English Heritage. 	<ul style="list-style-type: none"> • The Agency will liaise with those organisations which have direct control over archaeological and heritage issues to assist in the conservation and enhancement of these interests.
Fisheries The Agency has a duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries.	<ul style="list-style-type: none"> • Regulate fisheries by a system of licensing. • Make and enforce fisheries byelaws to prevent illegal fishing. • Promote the free passage of fish and consent fish passes. • Monitor fisheries and enforce measures to prevent fish entrapment in abstractions. • Promote its fisheries duty by means of land drainage consents, water abstraction applications and discharge applications. 	<ul style="list-style-type: none"> • The determination of planning applications which could affect fisheries. 	<ul style="list-style-type: none"> • Many development schemes have significant implications for fisheries. The Agency will work with anglers, riparian owners, developers and local authorities to protect fisheries.

Agency Duty	The Agency has powers to:	The Agency has an interest (but no powers) in :	Partnership
Recreation The Agency has a duty to promote rivers and water space for recreational use.	<ul style="list-style-type: none"> • The Agency contributes towards its recreation duty through the exercise of its statutory powers and duties in water management. 	<ul style="list-style-type: none"> • Promotion of water sports. The Sports Council and other sport bodies carry this out. 	<ul style="list-style-type: none"> • The Agency will work with the Countryside Agency, the Sports Council, British Waterways and other recreational and amenity organizations to optimise recreational use of the water environment.

NEW DUTIES OF THE AGENCY

Over the next two to three years, the Environment Agency will have a number of new regulatory duties. These result from European Directives, Government Policies and Agency developments. There may be additional resources for some of these tasks but rigorous priorities will have to be set to accommodate the new statutory requirements.

Comprehensive reviews of abstraction licensing and fisheries legislation are also in progress.

Integrated Pollution Prevention and Control

The law enacting the EC Directive came into force in October 1999 and extended the concept of Integrated Pollution Control to a wide range of industrial sectors, embraces elements of waste management licensing and includes aspects such as noise, energy and waste minimisation. It applies immediately to new or substantially changed installations but will be phased in over a seven-year period.

Contaminated Land

The Environment Act 1995 (section 57) introduced the framework for a new contaminated land regime. This legislation implemented on 1st April 2000 will provide new duties and powers to Local Authorities and the Agency and enable the legacy of potential problem sites to be tackled.

Under this new legislation the two joint regulators have the following responsibilities:

Local Authorities	Agency
Duties: Inspect their areas to identify contaminated land (CL). Consult the Agency where CL affects the pollution of controlled waters. Ensure remediation of CL. Transfer regulatory responsibility of 'special sites' to the Agency. Maintain 'remediation register'.	Duties: Ensure remediation of 'special sites'* Maintain a register of 'special site' remediation. Prepare a national report on the state of CL. Powers: To provide advice to local authorities on: Identifying pollution of controlled waters The remediation of contaminated land.

*Special sites are ones which effect the environmental quality standards of surface waters, major aquifers or public water supplies, or are sites with IPC processes or tar lagoons, or are owned by the Ministry of Defence.

Groundwater Directive

New Groundwater Regulations came into force November 1998 to implement fully this Directive. The disposal of List I or II substances (i.e. the potentially most polluting ones) require Agency authorisation. Disposal of sheep dip to land will require Groundwater Authorisation which will place restrictions on the quantity to be disposed, the frequency of disposal and the location. The Agency also has the power to issue notices, prohibiting or controlling certain activities in or on ground involving List I and II substances.

COMAH

This replaces the former Directive on Control of Industrial Major Accident Hazards (CIMAH) and requires operators of industrial processes involving dangerous substances to take all measures necessary to prevent and mitigate the effects of major accidents on man and the environment. The COMAH regulations place a statutory duty on the Agency, along with the Health and Safety Executive (HSE) as part of a Competent Authority, to enforce the requirements of the regulations in England & Wales.

Minewaters

There are a number of issues relating to European legislation, in particular the Dangerous Substances Directive and Groundwater Directive that will impact on the way the UK deals with minewaters. These issues have implications for the Agency specifically in terms of its monitoring regime and consenting policy. It is anticipated that the bulk of the improvement work will fall to the Coal Authority, subject to adequate funding being made available. The Agency will be responsible for the regulatory role and will need to balance this additional requirement with the existing programme for minewater remediation. This will ensure that the priority for action remains focused on the significant environmental improvements, whilst maintaining progress towards meeting the objectives of the relevant Directives.

Habitats Directive

The Habitats Directive is a major European initiative that aims to contribute towards protecting biodiversity – the variety of life – through the conservation of natural habitats and wild plants and animals. Recognising that wildlife habitats are under pressure from increasing demands made on the environment, the Directive provides for the creation of a network of protected areas across the European Union to be known as “Natura 2000”.

New Regulations to implement this Directive came into force in 1994. Its provisions require a widespread review of environmental consents and licences to ensure that they take account of the impacts of abstractions, discharges or atmospheric emissions on Special Protection Areas (SPA) or Special Areas of Conservation (SAC). These reviews must be carried out between 1998 and 2010 on a prioritised basis.

Water Framework Directive

The Water Framework Directive (WFD) is the most significant piece of European water legislation to be produced for over twenty years. The WFD will rationalise and update existing water legislation and introduce an integrated and co-ordinated approach to water management in Europe based on the concept of river basin planning.

The Directive has set common EU wide objectives for water that is:

- prevent further deterioration and protect and enhance the status of aquatic ecosystems and associated wetlands,
- promote sustainable water consumption,
- contribute to mitigating the effects of floods and droughts.

The aim of the Directive is to take a holistic approach to water management, as water flows through a catchment from lakes, rivers and groundwater's towards estuaries and thence the sea. Surface and groundwater are to be considered together, in both qualitative and quantitative terms.

The overriding objective of the Directive, is that Member States will be required to achieve "good surface water status" and "good groundwater status", and also to prevent deterioration in the quality of those waters, which are already "good". The major change of approach in the Directive is that ecological quality is a key means by which, surface waters in particular, will be assessed against "good status" as well as the more traditional assessment of chemical quality.

The Directive also provides for protection to higher standards through the designation of Protected Areas, for example for water supply, recreational waters, nutrient sensitive waters or nature conservation or economically important aquatic species.

The improvements in water status are to be achieved through a system of analysis and planning based upon the river basin, called River Basin Management Planning (RBMP). River Basin Management Plans will set out a Programme of Measures for the achievement of "Good Status", and will be subject to public consultation.

Landfill Directive

The European Landfill Directive applies to all landfills accepting waste on or after 16 July 2001. New landfill, or those requiring a substantial modification to their existing licence, will need to comply from that date. Existing landfills are required to meet the Directive requirement by no later than July 2009, and to submit site conditioning plans by 16 July, 2002 setting out how these requirements are to be met. There are various intervening dates that existing landfills will also have to meet concerning banned or prohibited wastes.

Catchment Abstraction Management Strategies (CAMS)

In April 2000, the Agency launched a consultation document setting out a new framework for the sustainable management of water resources. This was in response to a Government consultation paper in 1998 (*The Review of the Water Abstraction Licensing System in England and Wales*), and subsequent decision paper *Taking Water Responsibly* (1999).

Catchment Abstraction Management Strategies provide the opportunity to manage our water resources effectively. We must take a holistic approach in considering the needs of abstractors, alongside those of fisheries, recreation and navigation as well as the need to protect water quality and generally conserve the aquatic environment. CAMS will provide information on:

- availability of water in a catchment
- licensing practice for dealing with new applications
- changes required to the abstraction regime in order to achieve sustainable long term use of water resources.

CAMS will provide a sound basis for planning by abstractors, the Agency, and all other interested parties. They will also be the mechanism for reviewing time-limited licences, deciding whether they should be renewed, and on what terms. They may well include the identification of opportunities for, and possible limitations to, licence trading. However, there will be further consultation on whether licence trading should be introduced.

PARTNERSHIPS

Partnerships in the form of pooled resources and expertise can bring about greater environmental benefit than could be achieved by one organisation working alone. Many organisations and individuals have responsibilities for the environment and, perhaps more importantly, *can* play a vital role in improving it.

The level of interest in local communities, conservation/recreation groups, local authorities and industry in tackling environmental issues has greatly increased and, therefore, the opportunities for greater achievement are plentiful. The hard work usually involves bringing these like-minded people together in the right place, at the right time. The projects detailed below are examples of what can be achieved when individuals from organisations work together in partnership to maximise the benefits for the environment.

Computerised Information Point

The project entails the provision of a computerised information point in the new Sankey Valley Visitor Centre, St. Helens. Visitors to the Sankey Valley Country Park will be able to access a database containing details of the natural history and heritage features to be found within the park and the wider Mersey Forest Area.

The computer system will be a touch screen type, and available to school groups, ramblers, local community groups and other visitors to the park. The system will enable local history records, flora and fauna records, seasonal information, site plans, woodland management, site management plans, teachers packs, rights of way network, events, travel information, walks leaflets and newsletters to be accessed. The system is aimed to be fully running by April 2002.

Water Vole Surveys

Sankey RVI and the Clear Glaze Partnership have collaborated in the Glaze/Sankey River Habitat Survey and Water Vole surveys. This partnership protects and promotes vulnerable landscape and river corridor features.

Sankey Canal Restoration Society (SCARS)

At Winwick Dry Dock a new lift bridge was erected as part of the Sankey NOW project. The new bridge carries the towpath across the entrance to Winwick dry dock, the only survivor of three dry docks spaced out along the 15-mile canal. SCARS (Sankey Canal Restoration Society) gave guidance on the design of the new footbridge and organises work parties to clean out the dry dock from time to time. SCARS volunteers in conjunction with Warrington Borough Council have realigned the path and fencing which sealed off the dock and the bridge from public access.

Shakey's Pit Project

A development proposed at the Gemini Business Park, Sankey Valley, Warrington resulted in the loss of a small "well fished" pond known as Shakey's Pit.

To mitigate for the loss of this pond, a new larger pond will be created on the opposite side of Sankey Brook, approximately 200m away. The creation of this purpose built angling pool will compensate for the loss of Shakey's Pit and provide a much larger public amenity, with angling platforms, access for the disabled, provision for young anglers and educational facilities.

It will also divert angler pressure off the remaining ponds in the area, which currently should not be fished, and are considered extremely valuable in conservation terms.

The project is being run by a steering group made up from the local community, Warrington Borough Council Officers and Environment Agency Fisheries Officers. It is based heavily on sustainable communities and social inclusion.

The Environment Agency has contributed £10,000 to Phase 1 of the project. This included a feasibility study with a full topographical survey and volumetric calculations. Trial bore holes were dug across the area to determine the nature of the substrate. Detailed designs for the pool were completed and approved. Excavation work began in mid-October and continued until mid November. Landscaping will commence in Spring 2002, when weather conditions improve.

Pennington Flash

The entrance to Pennington Flash had 98 metres of Hey Brook eroding an old landfill site causing a very serious risk of pollution, with unsightly deposits of glass and plastics that were being washed downstream. This made the entrance unattractive for the general public and the banks of Hey Brook very dangerous for anglers to fish from.

A partnership was formed with Wigan Council Leisure and Cultural Services, Pennington Flash Angling Association and the Agency. The aim of the partnership was to embark on a project to stop bank erosion by putting in a revetment, planting of shrubs and plants, and making defined walkways. This project has now been completed and has enhanced the area for park users, wildlife and made a safer area for anglers.

UPDATE OF ASSET MANAGEMENT PLANS (AMP)**UNITED UTILITIES ASSET MANAGEMENT PLAN 3 SCHEMES**

The investment by United Utilities under the third Asset Management Plan (period 2000 - 2005) will be part statutory and part discretionary. Statutory investment will be to ensure compliance with EC Directives (e.g. the Urban Waste Water Treatment Directive). Discretionary investment will be undertaken to achieve other environmental improvements such as compliance with River Quality Objectives.

A large proportion of the AMP3 investment in the Sankey Glaze LEAP area is directed at achieving compliance with River Quality Objectives. Using 1999 data 40.3 % (61.4 km) of the classified rivers and canals in the Sankey/Glaze LEAP area fail to meet their River Quality Objective. AMP3 improvement schemes at Wastewater Treatment Works or to unsatisfactory intermittent discharges will contribute to the achievement of RQO compliance in 44.3 km of these classified rivers and canals. Specific details of individual improvement schemes are tabulated below.

Wastewater Treatment Works' Improvement Schemes approved for Investment in 2000-2005 (AMP3).

Wastewater treatment works	Receiving water name	Completion date
St Helens WwTW	Sankey Brook	31 March 2005
Westhoughton WwTW	Hall Lee Brook	31 March 2005
Leigh WwTW	Pennington Brook	31 March 2005
Tyldesley WwTW	Moss Brook	31 March 2004
Glazebury WwTW	River Glaze	31 March 2004
Irlam WwTW	River Glaze	31 March 2004

Unsatisfactory Intermittent Discharges - (UID) Improvement Schemes for Investment during 2000-2005 (AMP3)

The Agency has undertaken surveys across the Region to ensure that deficiencies associated with intermittent discharges (water quality and aesthetics) have been included in the current AMP3 improvement programme for resolution by 2005.

Schemes designed to reduce the impact of CSOs on water quality generally entail a high cost and can require detailed sewer and river modelling. They may involve re-sewerage and the provision of new overflow structures and storage. Schemes to reduce aesthetic impact are generally lower cost involving installation of screens.

Intermittent Discharges

The table below contains a list of the unsatisfactory intermittent discharges (combined sewer overflows, pumping station emergency overflows and intermittent discharges from storm tanks at Wastewater Treatment Works) that are currently included in AMP3 for improvement. This list may be subject to some changes as individual drainage studies are undertaken in more detail.

Overflow Number	Discharge name/location	Receiving water name	Completion date
STH0107	Union Bank pumping station, Bold	Union Bank Brook	31 March 2002
STH0080	Warrington Road	Whittle Brook	31 March 2002
WAR0101	Pipe Lane pumping station, Woolston	Spittle Brook	31 March 2002
WAR0085	Hood Manor pumping station	Sankey Brook	31 March 2002
STH0106	Strange Road, Garswood	Garswood Brook	31 March 2002
STH0067	St Helens Road	Tributary of Paddock Dam	31 March 2003
STH0087	Eccelsfield Road	Windle Brook	31 March 2003
STH0089	Bobbies Lane	Mill Brook	31 March 2003
STH0013	Malvern Road	Sankey Brook	31 March 2003
STH0064	Folds Road/Chestnut Avenue	Black Brook	31 March 2003
STH0083	Sidings Lane	Rainford Brook	31 March 2003
STH0103	Bold (Capper Neil's)	Tributary of Phipps Brook	31 March 2003
STH0060	Berrys Lane	Sutton Brook	31 March 2005
STH0059	Carr Mill Road	Black Brook	31 March 2005
STH0056	Gaskell Street Bridge	Sutton Brook	31 March 2005
STH0054	Gloucester Street	Sankey Brook	31 March 2005
STH0051	Haresfinch Road	Rainford Brook	31 March 2005
STH0053	Jackson Street	Hardshaw Brook	31 March 2005
STH0112	Leach Lane	Sutton Brook	31 March 2005
STH0008	Liverpool Road	Windle Brook	31 March 2005
STH0050	Warrington New Road	Hardshaw Brook	31 March 2005
STH0052	Warrington New Road	Hardshaw Brook	31 March 2005
STH0061	Watery Lane	Sutton Brook	31 March 2005
STH0062	Watery Lane	Sutton Brook	31 March 2005
STH0072	Lodge Lane	Ellams Brook	31 March 2005
STH0075	Warwick Avenue	Newton Brook	31 March 2005
WAR0034	Bewsey pumping station	Sankey Brook	31 March 2005
WAR0074	Alder Lane/North Avenue	Longford Brook	31 March 2005
WAR0018	Mill Lane/Winwick Road	Mill Brook	31 March 2005
WAR0051	Sandy Lane/Bough Avenue	Mill Brook	31 March 2005
WAR0035	Lodge Lane, Bewsey	Sankey Brook	31 March 2005
WAR0050	Longford Sandy Lane	Mill Brook	31 March 2005
WAR0066	Longshaw Street, Dallam	Dallam Brook	31 March 2005
WAR0076	Tavlin Avenue	Dallam Brook	31 March 2005
WAR0014	Orford Avenue pumping station	Longford Brook	31 March 2005
WAR0016	Upstream Longford Barrage	Longford Brook	31 March 2005
WAR0033	Winwick pumping station	Mill Brook	31 March 2005
Hindley			
WIG0054	Bridge Street	Borsdane Brook	31 March 2004
WIG0057	Chapel Green Road / Romford Street	Borsdane Brook	31 March 2004
WIG0058	Chapel Green Road	Borsdane Brook	31 March 2004
WIG0059	Chapel Green Road / Arundel Street	Borsdane Brook	31 March 2004
WIG0153	Manhole A1 Strangeways	Borsdane Brook	31 March 2004
WIG0204	Bickershaw Lane Opp Pear Tree	Trib Of Borsdane Brook	31 March 2004

WIG0228	East Of Liverpool Road	Trib Of Borsdane Brook	31 March 2004
WIG0053	Lord Street	Dog Pool Brook	31 March 2004
WIG0060	Chapel Green Road / Bridgewater St	Dog Pool Brook	31 March 2004
WIG0040	Tram Street / Frome Street	Hey Brook	31 March 2004
WIG0042	Chapel Street / Liverpool Road	Hey Brook	31 March 2004
WIG0043	Green Street / Liverpool Road	Hey Brook	31 March 2004
WIG0044	Syresham Street / Liverpool Rd	Hey Brook	31 March 2004
WIG0045	Church Road / Liverpool Road	Hey Brook	31 March 2004
WIG0046	Whistley Street / Liverpool Road	Hey Brook	31 March 2004
WIG0048	Sydney Street / Neville Street	Hey Brook	31 March 2004
WIG0095	Templeton-Road-PS	Hey Brook	31 March 2004
WIG0128	Bickershaw	Hey Brook	31 March 2004
WIG0130	Abram Hall	Hey Brook	31 March 2004
WIG0190	Stafford Street / Liverpool Road	Hockery Brook	31 March 2004
WIG0191	Wigan Road / Darby Lane	Hockery Brook	31 March 2004
WIG0192	Darby Lane	Hockery Brook	31 March 2004
WIG0193	Cross Street	Hockery Brook	31 March 2004
Leigh / Glazebury			
WIG0136	Ellesmere Street, Tyldesley	Shakerley Brook	31 March 2004
WIG0233	Shakerley Road, Tyldesley	Shakerley Brook	31 March 2004
WIG0235	Ellesmere Street, Tyldesley	Shakerley Brook	31 March 2004
WIG0236	Shakerley Road, Tyldesley	Shakerley Brook	31 March 2004
WIG0086	York Avenue / Crawford Avenue, Atherton	Hindsford Brook	31 March 2004
WIG0087	Factory Street / Charles Street, Atherton	Hindsford Brook	31 March 2004
WIG0151	Tyldesley Western Area Sewer	Hindsford Brook	31 March 2004
WIG0205	Fulwell Avenue, Tyldesley	Hindsford Brook	31 March 2004
WIG0085	Gloucester Street / Bag Lane, Atherton	Collier Brook	31 March 2004
WIG0207	Gloucester Street / Wigan Road, Atherton	Collier Brook	31 March 2004
WIG0200	Lovers Lane, Atherton	Atherton Brook	31 March 2004
WIG0206	Leigh Road, Atherton	Atherton Brook	31 March 2004
WIG0101	Queensway PS, Leigh	Pen Leach Brook	31 March 2004
WIG0082	Park Lane, Leigh	Bedford Brook	31 March 2004
WIG0100	Holden Road PS, Leigh	Bedford Brook	31 March 2004
WIG0198	Mill Lane / Edale Road, Leigh	Bedford Brook	31 March 2004
WIG0199	Manchester Road / Park Lane, Leigh	Bedford Brook	31 March 2004
WIG0196	Sandy Lane, Lowton Common	Small Brook	31 March 2004
WIG0068	St Helens Road / Aspull Common, Leigh	Trib of Pennington Brook	31 March 2004
WIG0142	Robin Hood PS, Leigh	Trib of Pennington Brook	31 March 2004
WIG0064	Wigan Road / Siddeley Street, Leigh	Westleigh Brook	31 March 2004
WIG0069	Westleigh / Etherstone Main Drain	Westleigh Brook	31 March 2004
WIG0071	Westleigh Park, Leigh	Westleigh Brook	31 March 2004
WIG0238	Parsonage Colliery / Victoria Street, Leigh	Westleigh Brook	31 March 2004
WIG0074	Pennington / Bonnywel Road, Leigh	Pennington Brook	31 March 2004

WIG0076	Archer Street, Leigh	Pennington Brook	31 March 2004
WIG0077	Oaks Farm / Grave Oak Lane, Leigh	Pennington Brook	31 March 2004
WIG0079	Duke Street, Leigh	Pennington Brook	31 March 2004
WIG0080	Mather Lane, Leigh	Pennington Brook	31 March 2004
WIG0144	Lately Common PS, Leigh	Pennington Brook	31 March 2004
WIG0197	Breaston Bridge, Leigh	Pennington Brook	31 March 2004
WIG0230	Newlands Road, Leigh	Pennington Brook	31 March 2004
WAR0024	Ravens Bridge PS, Glazebury	River Glaze	31 March 2004
Tyldesley			
016920135	Tyldesley WwTW Storm Tank	Astley Brook	31 March 2004
WIG0179	East Lancs Road PS, Tyldesley	Astley Brook	31 March 2004
WIG0209	Parr Bridge, Mossley Common	Astley Brook	31 March 2004

APPENDICES

APPENDIX 1: GLOSSARY

ABSTRACTION LICENCE

A licence to abstract water issued by the Agency. The maximum annual, daily, and hourly abstraction rates are normally set within the terms of the licence.

ANAEROBIC

Requiring the absence of free oxygen.

CHANNEL

A cutting in land along which a watercourse flows.

CONFLUENCE

Point where two, or more, rivers meet.

CONTROLLED WASTE

Household, commercial or industrial waste from a house, school, university, hospital, residential or nursing home, shops, office, factory or any other trade or business. It may be solid or liquid, but not necessarily hazardous or toxic.

CULVERT

Covered channel or large pipe to carry water below ground level e.g. under a road, railway or building.

CYPRINIDS

The Carp family of fish comprising some 200 freshwater species.

DEPOSITION

Where a river flows more slowly it may deposit gravel, sand and silt in its channel – often on the inside edge of bends or meanders.

ENDOCRINE

Physiology of or denoting glands which secrete hormones or other products directly into the blood.

EUTROPHICATION

Enrichment of water by nutrients 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.

FAUNA

Animal life.

FLUVIAL

Adjective of rivers.

FRESHWATER FISH

For the purpose of the Salmon and Freshwater Fisheries Act 1975, fish other than salmon, brown trout, sea trout, rainbow trout and char.

GEOMORPHOLOGICAL FEATURES

Physical features of a river, which include meandering (winding) channel, gravel beds and shoals, ox-bows, earth cliffs and river terraces.

INDICATIVE STANDARDS

Department for Environment, Food and Rural Affairs (DEFRA) defined standards of flood protection according to current land use.

INVERTEBRATE

Animal without a backbone for example insects.

LANDFILL

The deposit of waste into or onto lands, which can then be restored to some other use. The predominant method for the disposal of controlled waste in the UK.

LANDFILL GAS

Gas arising from the natural biological degradation of organic materials in landfill. It consists mainly of methane and carbon dioxide and can cause problems such as damage to crops and vegetation, and hazards such as risk of asphyxiation or explosion in confined spaces. Landfill gas may, however, be exploited as an energy source.

LANDFILL TAX

Introduced in October 1996, a tax paid by landfill operators to ensure that landfill costs reflect environmental impact, thereby encouraging waste reduction, reuse and recovery.

LEACHATE

Liquid containing material in solution, draining from the ground.

LOAD

A measure of the material carried by a river either in suspension or as dissolved material.

MAIN RIVER

Some, but not all, watercourses are designated as Main River. Main River status of a watercourse must first be approved by DEFRA. The Environment Agency has the power to carry out works to improve drainage or protect land and property against flooding on watercourses designated as Main River.

MARGINAL

At the water's edge.

OCHRE

Iron based orange discoloration.

PASTURE

Semi-improved and improved grazed grassland.

PHYTOPLANKTON

Plankton consisting of microscopic plants.

POOL

A deep slow flowing section of a river or stream.

PRODUCER RESPONSIBILITY

A business-led approach, which may be underpinned by legislation, to achieve the reuse, recovery and recycling of waste.

RETURN PERIOD

The frequency within which, on average, an event of a certain severity may be expected to return (expressed in years).

REVETMENT

Regularly sized and shaped stones, timber or concrete blocks placed in an ordered fashion.

RIFFLE

A shallow, but fast flowing part of a river or stream.

RIPARIAN

Of, or on, the banks of a river

RIPARIAN OWNER

Owner of lands abutting a river or lake. Normally riparian owners own the bed of river to the mid point of the channel.

RIVER CORRIDOR

Stretch of river including its banks and the land close by.

SALMONIDS

Fish classified as belonging to the Salmon family, such as Salmon, Trout and Char.

SHOAL

A sand and/or gravel deposit at the edge of or within a river channel.

SPECIAL WASTE

A strictly defined group of controlled wastes, which are considered to be particularly dangerous or difficult, usually by virtue of hazard or toxicity, and therefore subject to additional controls.

THERMOCLINES

Temperature gradient in a lake or other body of water, separating layers of different temperatures.

TOPOGRAPHY

Physical features of a geographical area.

TRANSFER STATION (Waste disposal)

A licensed depot where controlled waste is stored and sorted for disposal or recycling.

TREATMENT

The physical, chemical or biological processing of certain wastes to reduce volume or pollution potential before recovery or disposal.

WASTE MINIMISATION

Reducing the quantity and/or hazard of waste produced.

WATER TABLE

The surface of a body of groundwater within the underground strata. The water table will fluctuate as a result of natural or artificial causes.

APPENDIX 2: ABBREVIATIONS

AOD	-	Above ordnance datum
ADAS	-	Agricultural Development Advisory Service
AMP	-	Asset Management Plan
BOD	-	Biochemical Oxygen Demand
BTCV	-	British Trust for Conservation Volunteers
CLA	-	Country Land Owners Association
CMP	-	Catchment Management Plan
CPRE	-	Council for the Protection of Rural England
CSO	-	Combined Sewer Overflow
CSW	-	Contaminated Surface Water
DETR	-	Department for Environment, Food and Rural Affairs (formerly MAFF)
EC	-	European Commission
EIA	-	Environmental Impact Assessment
EO	-	Emergency Overflow
EN	-	English Nature
ESA	-	Environmentally Sensitive Area
EQS	-	Environmental Quality Standard
FAS/WLMP	-	Flood Alleviation Scheme/Water Level Management Plan
FWAG	-	Farming and Wildlife Advisory Group
FTE	-	Full time equivalent
GQA	-	General Quality Assessment
HAP	-	Habitat Action Plans
IPC	-	Integrated Pollution Control
JCAS	-	Joint Countryside Advisory Service
LBAP	-	Local Biodiversity Action Plan
LPA	-	Local Planning Authority

NFFO	-	Non-Fossil Fuel Obligation
NFU	-	National Farmers Union
NWC	-	National Water Council
OFWAT	-	Office of Water Services
QSL	-	Quality Survey Limit
PS	-	Pumping Station
RE	-	River Ecosystem
RHS	-	River Habitat Survey
RQO	-	River Quality Objective
RSPB	-	Royal Society for the Protection of Birds
SAP	-	Spices Action Plans
SBI	-	Site of Biological Importance
SPA	-	Special Protection Area
SSSI	-	Site of Special Scientific Interest
SWQO	-	Statutory Water Quality Objectives
UDP	-	Unitary Development Plan
UID	-	Unsatisfactory Intermittent Discharge
WML	-	Waste Management Licence
WwTW	-	Wastewater Treatment Works

APPENDIX 3: GQA CHEMICAL WATER QUALITY CLASSIFICATION 1996-2000

River	Stretch	GQA96	GQA97	GQA98	GQA99	GQA00
ST. HELENS CANAL	FIDDLERS FERRY TO MERSEY ESTUARY	F	F	F	E	E
ST. HELENS CANAL	QSL AT DALLAM TO FIDDLERS FERRY	C	C	C	D	D
SANKEY BK.	RAINFORD BK. TO FWL AT A57	F	F	F	E	E
SUTTON (SANKEY) BK.	GASKELL ST. TO RAINFORD BK.	E	D	D	D	C
SUTTON (SANKEY) BK.	QSL AT DORNHOUSE BRIDGE TO GASKELL ST.	C	C	C	D	D
WHITTLE BK.	UNION BANK BK. TO FWL	C	C	C	C	C
WHITTLE BK.	QSL AT A570 TO UNION BANK BK.	E	D	C	B	B
UNION BANK BK.	QSL AT CLOCK FACE ROAD TO WHITTLE BK.	B	C	B	D	D
PHIPP'S BK.	QSL AT PHIPP'S BRIDGE TO SANKEY BK.	E	E	E	E	E
NEWTON BK.	ELLAMS BK. TO SANKEY BK.	C	C	C	C	C
ELLAMS BK.	QSL AT M6 TO NEWTON BK.	E	E	E	E	E
MILLINGFORD (NEWTON) BK.	A573 TO ELLAMS BK.	C	C	C	C	C
MILLINGFORD BK.	QSL AT LOW BANK ROAD TO A573	D	D	D	C	D
BLACK BK.	QSL AT KINGS BRIDGE TO SANKEY BK.	C	C	B	B	B
CLIPSLEY BK.	QSL AT EAST LANCS ROAD TO BLACK BK.	C	C	C	B	B
RAINFORD BK.	D/S A580 TO SANKEY BK.	D	E	D	D	D
RAINFORD BK.	QSL AT MOSSBOROUGH BRIDGE TO D/S A580	D	D	C	C	C
HARDSHAW (WINDLE) BK.	THATTO HEATH BK. TO SUTTON BK.	E	D	D	D	D
WINDLE BK.	QSL TO THATTO HEATH BK.	C	B	B	B	B
PADGATE BK.	QSL AT A574 TO MERSEY	B	B	C	C	C
SPITTLE BK.	QSL AT A57 TO MERSEY	C	C	C	C	D
GLAZE	GLAZEBURY STW TO MSC	E	E	E	E	E
PENNINGTON BK. (GLAZE)	LEIGH STW TO GLAZEBURY STW	E	E	E	E	E
PENNINGTON BK.	WESTLEIGH BK. TO LEIGH STW	E	E	E	E	E
HEY (PENNINGTON) BK.	PENNINGTON FLASH TO WESTLEIGH BK.	C	C	C	C	C
BORSANE (HEY) BK.	BROOKSIDE BK. TO PENNINGTON FLASH	E	E	D	D	D
BORSANE BK.	A58 HINDLEY TO BROOKSIDE BK.	C	E	E	D	B
BORSANE BK.	QSL AT SCOT LANE TO A58 HINDLEY	C	C	C	B	C
JIBCROFT BK.	QSL AT LEATHER BARROW FARM TO GLAZE	E	D	E	E	E
CARR BK.	QSL AT EAST LANCS ROAD TO GLAZE	C	C	D	D	F
MOSS BK.	ASTLEY BK. TO GLAZE	E	E	E	E	E
ASTLEY BK.	QSL AT RAILWAY TO MOSS BK.	F	F	F	F	F
BEDFORD BK.	ATHERTON/HINDSFORD CONF. TO MOSS BK.	C	C	D	D	C
ATHERTON BK.	QSL AT CRAB FOLD FARM TO BEDFORD BK.	C	C	C	C	C
HINDSFORD BK.	QSL AT A577 TO ATHERTON BK.	F	F	D	D	C
CHANTERS BK.	QSL AT A577 TO HINDSFORD BK.	B	B	B	B	B
SHAW BK.	QSL AT BOTANY WOOD TO ASTLEY BK.	E	D	D	D	D
ELLEN BK.	QSL AT A580 TO SHAW BK.	E	E	E	E	E
WESTLEIGH BK.	HALL LEE BK. TO PENNINGTON BK.	E	E	E	E	D
HALL LEE BK.	WESTHOUGHTON STW TO WESTLEIGH	E	D	E	E	E
HALL LEE BK.	QSL LOWER LEIGH RD TO WESTHOUGHTON STW	D	D	D	C	B
MARSH BK.	QSL AT CASTLE HILL RD TO HALL LEE BK.	D	D	D	D	C
BROOKSIDE BK.	QSL AT ABRAM STATION TO BORSANE BK.	D	D	D	C	B
MERSEY	WOOLSTON NEW CUT TO FWL(HOWLEY)	E	E	E	E	E
BRIDGEWATER CANAL	DOVER BRIDGE TO ASTLEY GREEN	C	D	D	D	C
LEEDS/LIV CANAL-LEIGH BCH	DOVER BRIDGE TO MAIN CANAL AT WIGAN	E	E	D	C	C

KEY:

GQA Class A = water quality indicative of very good quality
 GQA Class B = water quality indicative of good quality
 GQA Class C = water quality indicative of fairly good quality
 GQA Class D = water quality indicative of fair quality
 GQA Class E = water quality indicative of poor quality
 GQA Class F = water quality indicative of bad quality

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The Agency Project Team members responsible for the development of this report are:

Bob Lee	Project Executive
Karen Bate	Partnerships/LEAPs Officer
Anne Scrase	Partnerships Officer
Alison Gilmour	Water Resources Planner
Ian Grady	IPC/RAS
Graham Fitzgerald	Team Leader – Fisheries and Recreation
Mark Latimer	Environment Protection Officer
Paul Simmons	Water Quality Planner
David Nilsson	Environment Protection Officer
Dawn Grundy	Fisheries Officer
Katherine Causer	Fisheries Scientist
Nicki Rushton	Ecologist
Joanna Mytton	Flood Defence Officer
Richard Webster	Water Quality Planner

SANKEY/GLAZE LOCAL ENVIRONMENT AGENCY PLAN – THIRD ANNUAL REVIEW

If you would like to know more about this or require further information on other LEAP documents, please contact:

Karen Bate
Partnerships/LEAPs Officer
Appleton House
430 Birchwood Boulevard
Birchwood
Warrington WA3 7WD

Telephone: 01925 840000
e-mail: karen.bate@environment-agency.gov.uk

For further information about the Environment Agency, our web site is
www.environment-agency.gov.uk

There is a Sankey/Glaze Summary document that contains key achievements for the area.
It is available upon request.