

local environment agency plan

WEAVER/DANE

ANNUAL REVIEW

MARCH 2001



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ENVIRONMENT
AGENCY

EXECUTIVE SUMMARY

The First Annual Review of the Weaver/Dane LEAP reports on the progress made from 1998 to 2000 against LEAP actions. The actions published in the LEAP are supplemental to our everyday work on monitoring, surveying and regulating to protect the environment. Some of the key achievements in our everyday work include:

- Improvement requirements set by the Agency for the production of refrigerant gases (HCFCs and HFCs) have resulted in the commissioning of a Vents Treatment Unit at the ICI plant at Runcorn. The successful operation of this Unit in 2000 will contribute to an overall reduction (compared with 1995 baseline) of approximately 14 million tonnes of carbon dioxide equivalent. This accounts for around 2% of the total UK emissions of global warming gases.
- Holmes Chapel Sewage Treatment Works improvements have been completed. The improvements will ensure the works comply with the revised discharge consent, and that water quality improves.
- All unauthorised metal recycling sites in the area have been visited and regulated through licensing or exemption.
- Improvement work has been undertaken on a number of problem combined sewer overflows in the area around Kidsgrove including the installation of storage tanks to reduce spills at Liverpool Road, Kidsgrove and at Talke Pits.
- New flood warning code system successfully introduced on the 12 September 2000.
- Flood risk maps provided to all Local Authorities in LEAP area.
- Former waste tip in Sandiway successfully remediated by the removal of all contaminated material and back filling with clean sand. The Agency worked with Vale Royal Borough Council and other bodies, and the site is now ready for housing development.
- River Dane at Congleton stocked with 5,000 chub in March 1999.

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.



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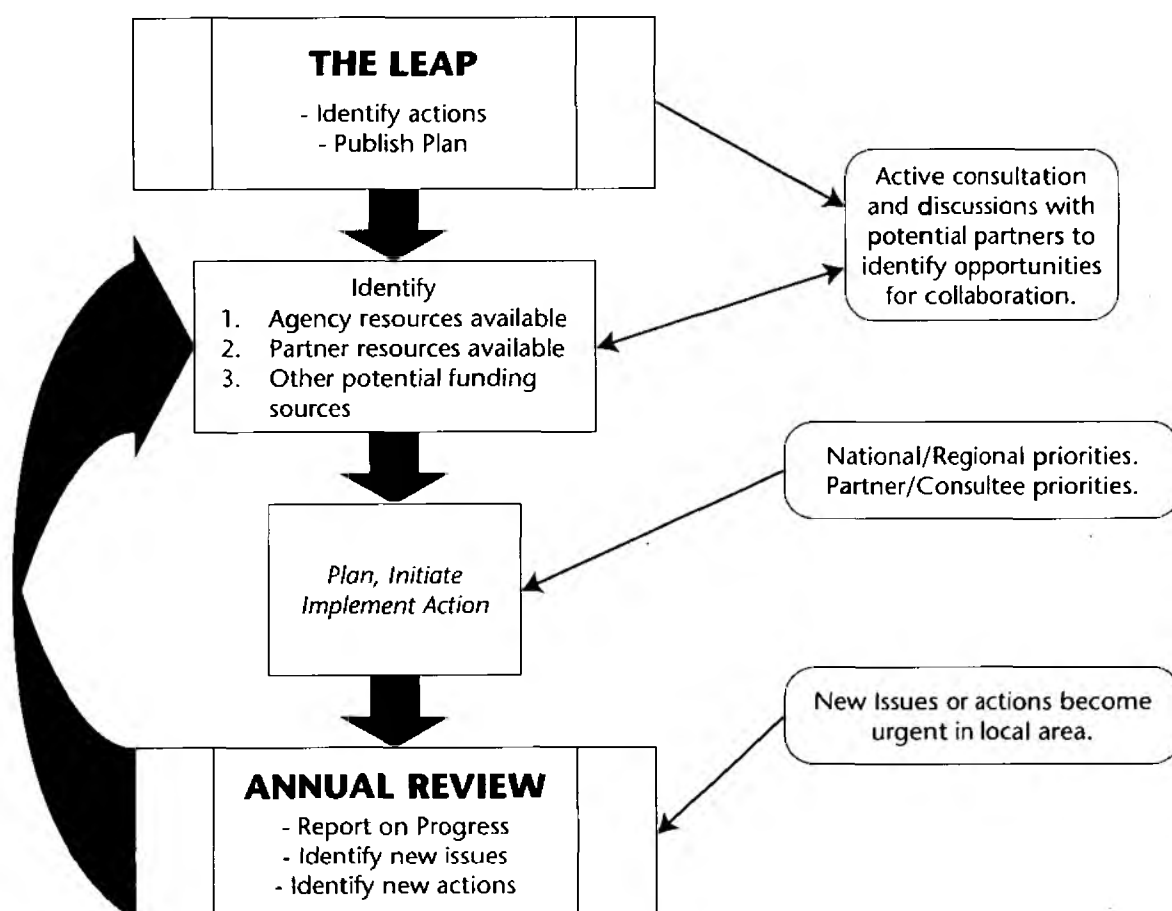
INTRODUCTION AND THE LEAPs PROCESS

The Weaver/Dane LEAP is a working document covering the five-year period 1998-2003, 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 first review reports on the progress made since the LEAP was published in May 1998 and contains the following information:

- I details of key achievements for 1998-2000,
- II update on activities against LEAP actions and 'we will' statements,
- III identified priorities/actions for 2000 onwards,
- IV highlights of a successful partnership initiative.

Process for Developing the Final Plan into Action



The highlighted blue 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. Reviews of the LEAP will normally take place each subsequent year, until a full re-assessment is undertaken after five 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 (see page 39);
- 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, and the LEAP actions provide added value to this fundamental aim.
- **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 (page 3) 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 (May 1998). We will ensure this is kept to a minimum, with full references being provided.

ACTIONS FOR THE WEAVER/DANE 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 Action Plan (AP).

Issue No.	• AP Issue No.	Description	Page No.
1	NEW	Minimising the effect of landfill gas on climate change	8
2	NEW	Achieving local air quality objectives through regulation of Agency regulated processes	8
3	1	Adverse impact of industrial discharges on river water quality	12
4	3	Adverse impact of discharges from sewage treatment works on river water quality	12
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12	7	Adverse impact on water quality from private sewerage and sewage systems	23
13	NEW	Contaminated run-off from spoil heaps and discharges from abandoned mines causing pollution to surface and groundwater	24
14	10 & 22	Assessing the ecological impacts of the Cheshire Meres and Mosses	24
15	15 a & b	Raise awareness and increase public access to watercourses for recreational activities and maintenance	25
16	16	Culverts causing flood risk and loss of habitat	26
17	18	In-river structures causing flood risk, restricted fish passage and migration, and reduced recreation use	27

Issue No.	• AP Issue No.	Description	Page No.
18	21	Raise awareness to the possible problems caused by the invasion of watercourses by floating pennywort (Hydrocotyle ranunculoides) and other invasive species	27
19	NEW	Lack of knowledge of built heritage is leading to its deterioration and destruction along the areas rivers	28
20	24	Siltation problems at Bottom Flash, Winsford	28
21	17	Properties at risk of flooding and the need for more effective flood warning	32
22	12	Adverse impact of contaminated and derelict land on the environment	32
23	23	Increase the diversity and quality of fish populations	34
24	19	The need for continued habitat improvement and protection of existing wildlife habitats to conserve and enhance biodiversity	38



ADDRESSING CLIMATE CHANGE AND IMPROVING AIR QUALITY

Human activities such as energy generation, transport and agriculture are believed to contribute to climate change. Air quality is affected by economic development. Transport, energy generation and industry are the major sources of air pollution.

Background

Gases that are identified as having the potential to affect climate change are emitted by a number of the major industries within the LEAP area.

Key Achievements 1998-2000:

- A significant step towards reducing these emissions has been made under one of the IPC (Integrated Pollution Control) authorisations operated by ICI at its Runcorn site. Improvement requirements set by the Agency for the production of refrigerant gases (HCFCs and HFCs) have resulted in the commissioning of a Vents Treatment Unit in December 1999. The successful operation of this Unit in 2000 will contribute to an overall reduction, compared with 1995 base line, of approximately 14 million tonnes of carbon dioxide equivalent. This accounts for around 2% of the total UK emissions of global warming gases.
- ICI facilities brinefield at Holford – underground cavity disposal of organic residues will continue to decrease as a direct result of plant improvements and new incineration facilities.

Background

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 1998-2000:

- Production of solvents by ICI at Runcorn is regulated under IPC and is a potential source of emissions of these substances. Improvements being carried out on the Chlorinated Methane process are expected to reduce the amount of the releases from this process by around 40%. The Chlorinated Ethylene process is also undergoing expenditure in order to reduce emissions of organic compounds by approximately two thirds in the next few years.

Forward Look:

- Closure of the Brunner Mond Power Stations at Winnington and Lostock and their replacement by a Combined Heat and Power (CHP) plant operated by Powergen will reduce particulate and sulphur dioxide emissions.

CLIMATE CHANGE

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 1: Minimising the effect of landfill gas on climate change: (NEW ISSUE)					
	Encourage the collection and flaring of gas and utilisation of gas for energy production where appropriate from new and current landfills	1999-2003	To be confirmed	Environment Agency	
	Current Schemes: Danes Moss, Macclesfield Maw Green, Crewe Wardle	1996-2001 1996-2001	£750k £750k £50k	CPL Energy (L), EA CPL Energy (L), EA	
	Proposed Schemes: Maw Green, Crewe	2002-2017	£2.0 million	CPL Energy	

AIR QUALITY

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 2: Achieving local air quality objectives through regulation of Agency regulated processes (NEW ISSUE)					
4.2.1	Assist local authorities in providing information and take part in consultation to agree plans for designated Air Quality Management Areas which are identified within the Weaver/Dane LEAP area	To meet EU Limit Values and National Objectives by the relevant date (2003-2008)	TBD	Environment Agency, Local Authorities	The Agency has provided information regarding IPC Part A processes, and the Local Authorities have produced National Air Quality Strategy Stage One assessments

TBD – To be determined.



REGULATING MAJOR INDUSTRIES

Industry is essential for the economy and well being of society. We work to achieve a balance so that industrial activity does not harm the environment. Our aim is to ensure that the existing management and future regulation of industry is carried out in a sustainable manner.

Background

Much of the major industry in the Weaver/Dane LEAP i.e. Northwich, Winsford, Runcorn, Sandbach and Middlewich developed as a result of natural salt deposits located within the area. Discharges from these sites have resulted in the deterioration in the quality of river water in parts of the catchment. A direct discharge to a watercourse is controlled by a Consent to Discharge or by an Integrated Pollution Control (IPC) Authorisation.

The extraction of rock salt from the Winsford area has also created considerable void space underground. A waste management licence application has been submitted by Minosus to fill part of the worked out mine with a range of industrial wastes. This application is currently being considered by the Agency.

The Environment Agency undertakes reviews of all industrial permits to ensure improvement programmes are in place to meet the legally required environmental targets set by the UK Government and EU Directives.

The discharges from a number of North West Water Limited sewage treatment works have an impact on water quality on stretches of watercourses within this LEAP area. Works where discharges are linked to failures to achieve the River Quality Objectives or have an effect on designated fisheries have been prioritised for improvements.

Update of Actions

As part of its action to improve the quality of its discharges to rivers at Winnington and Lostock, Brunner Mond (UK) Ltd had proposed investing in a pilot biological treatment plant. Further investigation into the feasibility of the full-scale plant indicated that there were significant drawbacks with the proposal, including high capital and operating costs and the requirement for a large area of land. It therefore became inappropriate to progress with the pilot trial. However improvements have been made to the process optimisation and control of the existing ammonia removal systems. Discussions will continue with Brunner Mond to investigate further options for improvements as part of their IPC Authorisation.

Two monitoring sites on the Trent and Mersey Canal, near Middlewich again failed to meet the environmental quality standard for mercury. The failure at these sites is historic and the mercury contained in the canal sediments is being re-suspended and carried downstream, the concentration nearest the original outfall is reducing whilst the concentration at the site approximately 6km away is increasing. The Agency and British Waterways have discussed the situation but no final action has been decided at present. Hays Chemicals Ltd the current occupiers of one of the historic sites of mercury, are installing new mercury abatement equipment. This is in addition to existing abatement methods, which currently meet required limits.

ICI complex at Runcorn has discharges to the Weston Canal and to the Weaver. The Weston Canal was not monitored for water quality assessment. However, regular sampling is now taking place to assess the improvements being made at the complex.

Major expenditure by ICI has resulted in reductions in discharges of halogenated organic compounds to the canal. Mercury discharges from the ICI site have been relatively constant over the last two years. Improvements to the effluent treatment plant are planned in order to enable further reductions in mercury emissions.

An assessment of the biological water quality downstream of an industrial discharge on Flash Brook has been undertaken. There is also the added complication of a Site of Special Scientific Interest immediately downstream. The pollution investigation is due to be discussed in the near future with English Nature.

The problem of oil contamination on Valley Brook near Crewe has been significantly reduced following site pollution prevention work at the former British Rail depot. On Flash Brook there was a historical problem of high levels of diuron in the watercourse. The practice of using diuron in herbicides has ceased but site and sediment contamination was causing a problem. Work on site has improved the situation and results of monitoring demonstrate that chemical contamination has been reduced. Some ecological deficiencies have been observed and the Agency is investigating this situation further.

A number of sewage treatment works were put forward to be incorporated in the next water company Asset Management Programme, AMP 3. The programme has now been agreed and the sewage treatment works to have work carried out under AMP 3 by 2005 include Crewe, Kidsgrove, Lawton Gate, Middlewich, Rushton, Sandbach, Tarporley, Nantwich, Wrenbury, Alsager, Audley, Biddulph and Winsford.

Improvements to Holmes Chapel sewage treatment works have been completed and the works are now meeting the tighter consent limits.

The Agency has only approved proposals for large housing developments and business sites where there would be no significant impact on the existing sewerage system and sewage treatment works.

Key Achievements 1998-2000:

- Major expenditure by ICI has resulted in reductions in discharges of halogenated organic compounds to the Weston Canal
- Oil contamination on Valley Brook near Crewe has been significantly reduced following site pollution prevention work at the former British Rail depot.
- Brunner Mond (UK) Ltd as part of its action to improve the quality of its discharges to rivers at Winnington and Lostock has improved its existing ammonia removal systems.
- Improvements to Holmes Chapel Sewage Treatment Works have been completed and the works are now meeting tighter consent limits

Annual Review Commitments:

We will: Implement the EU Integrated Pollution Prevention and Control (IPPC) Directive, in conjunction with Local Authorities, through the Pollution Prevention and Control Regulations.

The Agency and Local Authorities will have to work together to ensure implementation, and share expertise in the field of water discharges (mainly Agency expertise) and noise (mainly Local Authority expertise). These areas are subject to wider controls under the IPPC regulations, which were introduced in August 2000.

We will: Participate in the investment programme discussion between North West Water Limited and OFWAT to agree the significant investment in sewerage and sewage treatment for the period 2000-2005 (AMP 3). Monitor improvements agreed under the AMP 2 programme for the period 1995-2000.

The Agency continues to liaise with North West Water Limited and OFWAT in order to ensure that funding under AMP 3 is directed to schemes where there is maximum environmental benefit.

Forward Look:

- Discussions will continue with Brunner Mond to investigate further options for improvements as part of their IPC Authorisation.
- Improvements to sewerage networks in urbanised areas through the AMP 3 process ongoing to 2005.
- Improvements to ICI's mercury removal plant are planned to enable further reductions in mercury emissions.
- Observed ecological deficiencies in Flash Brook will be investigated further.

MAJOR INDUSTRY

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 3: Adverse impact of industrial discharges on river water quality					
	Improve the quality of discharges from Brunner Mond sites at Lostock and Winnington .	2000-2003	TBD	Brunner Mond (L), Environment Agency (P)	This action has been reworded to remove 'in line with discharge permissions'. The operator must legally comply with discharge permissions as part of their IPC Authorisation or Consent to Discharge. The targets for future discharges are currently under review
	On new and existing discharges negotiate discharge consents that will ensure environmental needs are being met	2000-2003	Staff time	Environment Agency	
	Investigate and control the release of substances by regulation and enforcement	2000-2003	Staff time	Environment Agency	
	Minimise waste from industry and promote the recycling or reuse of materials	2000-2003	Cost Unknown	Industry (L), Environment Agency (P)	

MAJOR INDUSTRY

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 4: Adverse impact of discharges from sewage treatment works on river water quality					
	Monitor and assess the implementation of the AMP 3 programme	2000-2005	CS	Environment Agency (L)	Programme agreed and work is to be carried out at Crewe, Kidsgrove, Lawton Gate, Middlewich, Rushton, Sandbach, Tarporley, Nantwich, Wrenbury, Alsager, Audley, Biddulph and Winsford
	Undertake a review of any STW's at designated sites as required under the Habitats Directive	2000-2003	Staff time	Environment Agency(L), English Nature (P)	
	Pursue the designation of waters affected by eutrophication as 'sensitive areas' under the Urban Waste Water Treatment Directive	2000-2005	Staff time	Environment Agency	



MANAGING WASTE

All wastes must be carefully managed, so we need to know what is produced and where it goes. We also need to ensure that it is handled and recovered or disposed of without harm to the environment or human health.

Background

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. Debris in rivers can build up blocking the flow of water, especially in culverts and under bridges, increasing the risk of flooding to roads and property. 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. Action may be taken against private landowners by the Agency or Local Authority depending on the circumstances of each specific case.

The Agency has a key role in delivering the sustainable waste management strategy at a local level, including the provision of information and statistics on waste production and management, and forming partnerships with appropriate interest groups to encourage local waste minimisation and recycling projects. Local Authorities, being the waste collection authorities, have a duty to encourage recycling.

In an effort to control the fly tipping problem more effectively, the Environment Agency and Local Government Association have agreed a Memorandum of Understanding to deal with fly tipping incidents. The Memorandum sets out a protocol in respect of the response to incidents and is composed of three sections:

- a) the duties and powers of Local Authorities and the Agency,
- b) a response strategy, and
- c) an information strategy.

Key Achievements 1998-2000:

- Fly tipping protocol between Local Authorities and Environment Agency implemented
- Metal recycling sites have been visited and regulated through licensing or exemption
- Community clean up of Leighton Brook carried out by Upper Weaver Initiative and partners. Crewe & Nantwich Borough Council Drainage Division carried out a full weeks clearance of the Brook to remove larger objects. A total of 37.44 tonnes of rubbish was removed.

Annual Review Commitments:

We will: Continue to follow up Duty of Care evidence and take appropriate enforcement action against fly tippers.

Forward Look:

- Ensure waste is handled and recovered or disposed of safely without harm to the environment or human health.
- Maintain close links with Local Authorities on specific environmental issues such as fly tipping.

MANAGING WASTE

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 5: Reducing the illegal tipping of waste on land and into watercourses (RENAMED)					
	Identify problem locations and appropriate remedial action (via implementation of protocol)	Ongoing	Costs unknown	Environment Agency and Local Authorities	Protocol adopted
	Improve awareness and information on best waste management practice and facilities	Ongoing	Staff time	Environment Agency	
ISSUE 6: Regulating materials recycling industries					
	Identify all unauthorised metal recycling sites in the area and regulate through licensing or exemption	2000-2001	£10k	Environment Agency	Site visits made and now being regulated



MANAGING WATER RESOURCES

Increasing pressures on water resources, including uncertainties such as climate change, require us to take a sustainable approach to water management and use, balancing the needs of abstractors and the environment.

Background

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) will be produced for all catchments in England and Wales. Once implemented, CAMS will become the focus for water resources management within LEAP areas and will enable the Agency to meet many of the objectives outlined in *Taking Water Responsibly**. These objectives include a consistent and structured approach to water resources management, and an opportunity for greater public involvement. As experience is gained and techniques are improved, CAMS will evolve to provide an effective strategy for achieving and maintaining sustainability within a catchment.

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 telemetred 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.

Key Achievements 1998-2000:

- Preliminary consultation on the sustainable management of Water Resources carried out within South Area. Results of the consultation will feed into the National Consultation process.

Forward Look:

- Consultation document for Catchment Abstraction Management Strategies (CAMS) launched April 2000. Development of CAMS to start in 2001. CAMS process for Weaver/Dane to commence 2003.

*Taking Water Responsibly – government decisions following consultation on changes to the water abstraction licensing system in England and Wales. DETR March 1999.

WATER RESOURCES

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 7: Need to control the use of water to ensure the maintenance of a balanced and sustainable resource (NEW ISSUE)					
	Collect information and prepare CAMS for Weaver/Dane catchments	2003-2005	1.6 FTE per year across Functions	Environment Agency	

FTE – Full time equivalent



INTEGRATED RIVER BASIN MANAGEMENT

Integrated River Basin management is about more than just water quality, it concerns water flow, landscape, flood control works, recreation and wildlife. We consider all these factors to get the most of the river environment with the least disruption to it.

Background

Intensive agriculture is carried out in a large proportion of the Weaver/Dane LEAP area. The impact of agriculture on water and land quality is of great concern. Agriculture is identified as a major contributor to River Quality Objective compliance problems in this LEAP. Many of the failures to comply with the Freshwater Fish Directive, 78/659/EEC, on designated stretches of the River Weaver and its tributaries are due to agricultural inputs.

Combined Sewer Overflows (CSOs) are provided on the sewerage network to prevent flooding during storm events. The increase in residential and commercial development over recent years has resulted in increased flows in the sewerage network.

In this LEAP area significant local pollution can occur in a watercourse where a number of discharges are made in close proximity. Older properties may be served by septic tanks that do not offer the same quality of treatment as a package treatment plant, although pollution can still occur if the treatment plant is poorly maintained. Throughout the Weaver and Dane catchment there are places not on main sewer where a number of small individual discharges have a localised effect on water quality. Examples include Barbridge; Burland; Hanklow; Moss Road, Congleton; Minshull Vernon; Oakwood Lane, Moston; Peover Heath; Rushton Spencer; Smallwood; Wettenhall and Faddiley.

Waters from many abandoned mines cause pollution. Most obvious is the orange discolouration of the water and stream from ochre. Equally important is the impact on plants, insects and fish and in some cases the pollution causes a loss of aquatic life. Landowners and former operators of abandoned mines causing pollution are exempt from key legislative controls and are not liable for clean up costs. The Environment Act 1995 introduced improved measures to deal with abandoned mines in the future including The Mines (Notice of Abandonment) Regulations 1998.

Walls, fences, culverts and residential or industrial property being too close to the watercourse often complicate access. This can impede recreational activity and lead to watercourses that are neglected and undervalued. Poor access restricts both informal and formal recreational pursuits and can impede maintenance and emergency works. Through the development control process and the land drainage byelaws we will encourage Local Authorities, developers and landowners to provide and enforce access strips along watercourses.

Culverts can prevent or impede the free flow of water and wildlife along watercourses. In urban areas culverts can cause flooding to property due to inadequate capacity, blockage or collapse. In the case of blockage regular maintenance is carried out to keep them clear.

Structures such as weirs and sluices can cause major obstructions to the migration of fish and to recreational users.

The LEAP area has a potentially rich built heritage. However, much archaeology in the area has been destroyed by development. Other archaeological sites have been neglected and fallen into disrepair. An archaeological survey on the Roch, Irk and Medlock rivers carried out by the Environment Agency increased the number of known archaeological sites within ten metres of the river by 379%. There is therefore a danger that in areas where we have not carried out extensive surveys sites may inadvertently be destroyed by routine and heavy maintenance operations and by riverside development. If the Agency knows where important sites are we can modify our maintenance works to take this into account. Developments within eight metres of main rivers require land drainage consent from the Agency; with a good knowledge of important archaeological sites we can highlight the issue to the site owner and local authority. This is especially useful if the development does not need planning permission.

Winsford Bottom Flash is currently used for recreational purposes mainly sailing and angling. The Flash has a siltation problem due to the River Weaver flowing through it. In the past some works were carried out to confine the River to the eastern side of the Flash, in an attempt to alleviate the siltation problem.

Key Achievements 1998-2000:

- As part of the Sustainable River Management Project advice has been given on over 75km of river in the catchment, 13km has been fenced and 44km of 'buffer strips' have been introduced. The Farming and Wildlife Advisory Group has given advice on over 10,500 acres of land in the Weaver catchment and provided waste management advice on over 66 farms.
- Improvement work has been undertaken on a number of problem combined sewer overflows in the area around Kidsgrove including the installation of storage tanks to reduce spills at Liverpool Road, Kidsgrove and at Talke Pits.
- Steady improvements in water quality in Gale Brook have been recorded over the last three years. The brook is now classed as 'fair' and is within the River Ecosystem Objective of RE4.
- The Upper Weaver Initiative was launched on 28 July 1999. The initiative became the fifteenth RVI to be launched within the Mersey Basin Campaign area. The initiative is supported by the Mersey Basin Campaign Partnership SRB project River Valleys Action and is chaired by Ian Broad of the Environment Agency.
- The Upper Weaver Initiative and partners carried out a community clean up of Leighton Brook on the 8 October 2000. Also Crewe & Nantwich Borough Council Drainage Division carried out a full weeks clearance of the brook to remove larger objects.
- The Weaver Valley Initiative delivered a wide range of environmental improvement projects with support from ICI landfill tax contributions.
- An application to DETR was successfully made for additional funds for a project to identify all types of abandoned mines in the region, which currently have an impact or are likely to impact on the water environment. One of the sites identified in this LEAP area is Harecastle Tunnel on the Trent and Mersey Canal, Kidsgrove.
- The Agency has employed consultants to gather baseline information on the Cheshire Meres and Mosses, and the University of Sheffield Ecology Unit have been reviewing past scientific literature and complementing gaps with research and fieldwork to create a baseline of data.
- Water Level Management Plans for Betley and Sandbach Flashes have been produced.

- Through Agency funding FWAG have a new post that will look at the impacts of agricultural activities on Meres and Mosses sites.
- £15,000 has been donated by the Agency to part fund a feasibility study for a pedestrian bridge across Witton Brook linking Northwich town centre with the Anderton Boat Lift, Anderton Nature Park, Marbury Country Park and the Trent and Mersey Canal.
- Upper Weaver Initiative, working in partnership launched the community led Valley Park Millennium Project. The project developed Valley Park in Crewe into a more aesthetically pleasing recreational and educational area.
- Through negotiation with private developers, the Agency secured access points to the river for maintenance activities at two developments in the Northwich area.
- Information has been collated on the major obstructions to fish movement in the River Weaver. A list prioritising sites has been submitted to the Agency's national fish pass database in order that funding may be sought. Sites include weirs at Barnton Cut – Winnington Park, Acton, Sutton Weir at Frodsham and Saltersford.

Forward Look:

- Weaver and Dane catchment is being considered as a possible candidate for designation as a Nitrate Vulnerable Zone under the EU Nitrate Directive (91/676/EEC). This directive seeks to reduce the pollution of waters by nitrate from agricultural sources. Public consultation exercise to be carried out.
- Schemes for improvements between 2000 and 2005 under AMP 3 are proposed for overflows in Alsager, Congleton, Crewe, Northwich and Winsford. There are also a number of individual overflows within the area that are in the programme for improvement.
- Sites in Crewe, Winsford and Talke have been identified and included in the regional priority list of contaminated surface waters (CSWs) and some initial investigations by Local Authority and Agency staff have been undertaken.
- The impact on the water environment of the Harecastle Tunnel, Kidsgrove (abandoned mine) has been identified. The Coal Authority is to look at proposals for ways to treat the discharges.
- Consultants work on the Meres and Mosses will be used in the 'review of consents' as part of the Habitats Directive. The review of consent procedure will revoke historical licences; discharges and abstractions if they are seen to be damaging a Habitats Directive protected site i.e. Meres and Mosses.
- The work completed at Leighton Brook, Crewe, will be developed by an on-going community 'adoption' and maintenance programme.
- The Anderton Boat Lift will re-open in 2002. This will have a major impact on leisure use of the Weaver Navigation and the Trent & Mersey Canal.
- Stillwaters surveys to continue for Marbury Big Mere, Tabley, Tatton, Melchet, Combermere and Hatchmere.

- Project being co-ordinated by the Weaver Valley Initiative on formerly derelict land to the north of Northwich. The project aims to provide new areas of open green space and access routes for pedestrians and cyclists, whilst protecting ecologically interesting and important features.
- Identified flooding problems due to culverts on the River Dane at Congleton, The Howty at Congleton, River Weaver at Church Minshull Weir and the River Wheelock/Arclid Brook at Wheelock will, where appropriate, feed into any relevant capital works schemes (prioritised and assessed on a cost/benefit basis).
- Information on the major obstructions to fish movement in the River Dane will be collated in 2001.
- Project for a fish pass and elver monitoring station at Sutton Weir on the River Weaver at Frodsham is being considered. Consultation with British Waterways and other interested parties has commenced.
- Carry out rapid archaeological survey within ten metres of Rivers Weaver and Dane.
- Winsford Sailing Club propose to carry out further works at Winsford Bottom Flash to confine the River Weaver along a greater length of the eastern side of the Flash. The Agency is being consulted on the proposals and will ensure that all relevant Agency interests are taken into account.

RIVER BASIN MANAGEMENT

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 8: Adverse impact of agricultural activities on river water and habitat quality					
2.1	Undertake farm visits to identify and prioritise point source pollution problems	2000-2003	Staff time	Environment Agency	
2.5	Continue the Sustainable Rivers Management Project	2000-2001	£800k (Total project costs)	Environment Agency(L) FWAG, Farmers, Landowners	Project emphasis to move to Meres and Mosses
	Undertake farm campaigns in areas where Fish Directive failures have occurred in order to identify problems	2001-2002	£9.3k	Environment Agency	
	Propose the designation of the Weaver as a 'Nitrate Vulnerable Zone'	2000-2001	Cost unknown	Environment Agency	
ISSUE 9: Adverse impact of combined sewer overflow discharges on river water quality					
4.3	Reduce the number of unsatisfactory combined sewer overflows	2000-2005	CS	North West Water Ltd, Local Authorities	
	Monitor and assess the implementation of the AMP 3 programme	2000-2005	Staff time	Environment Agency	

CS – Commercially Sensitive

RIVER BASIN MANAGEMENT

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 10: Adverse impact of contaminated surface water discharges on river quality.					
5.1	Identification and prioritisation of wrong connection problems.	2000-2005	Staff time	Environment Agency, Local Authorities	
5.2	Correction of wrong connections	2000-2005	Cost unknown	North West Water Ltd (L), Local Authorities, Householders, Site Owners	
ISSUE 11: Adverse impact on water quality due to undetermined pollution sources					
6.1	Investigate the sources of pollution responsible for the failures to achieve the River Quality Objectives	2000-2005	Staff time	Environment Agency	
	Investigate the reasons for the directive failures	2000-2005	Staff time	Environment Agency	
ISSUE 12: Adverse impact on water quality from private sewerage and sewage systems (Renamed)					
7.1	Pursue the provision of first time sewerage where appropriate	2000-Future	Cost unknown	House Owners, Local Authorities, Environment Agency	
	Ensure new developments include adequate proposals for sewerage	2000-Future	Staff time	Environment Agency, Local Authorities	
	Promote better maintenance and use of tank friendly products	2000-Future	Staff time	Environment Agency	

RIVER BASIN MANAGEMENT

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					
	Assess the impact of abandoned mine discharges	2001-2003	Staff time	Environment Agency	
	Rectification of identified problem at Harecastle Tunnel if possible	Future	Cost unknown	The Coal Authority (L), Environment Agency	
ISSUE 14: Assessing the ecological impacts of the Cheshire Meres and Mosses (Renamed and combined with Issue 22)					
	Continue research through Meres and Mosses Project Group and Stillwaters Group to assess problem areas. Review consents as part of the Habitats Directive	Ongoing	Staff time	Environment Agency	

RIVER BASIN MANAGEMENT

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 15: Raise awareness and increase public access to watercourses for recreational activities and maintenance (Combined Issues 15a and 15b)					
	Proposal for a pedestrian bridge across Witton Brook linking Northwich town centre with the Anderton Boat Lift, Anderton Nature Park, Marbury Country Park and the Trent and Mersey Canal. Feasibility already carried out with £15k funding from Environment Agency	2000 - Future	£15k (FS) Funds required for project	Weaver Valley Initiative (L), Environment Agency, Groundwork Trust, British Waterways, English Nature, Sustrans, Witton Area Conservation Group, Ramblers Assoc., NFU, Riparian owners	Members of public invited to viewing of design proposals for bridge crossing on 20 November 2000. Sources for funding to be investigated
	Increase public awareness of the presence of watercourses i.e. Valley Park Millennium Project (Valley Brook)	2000 - Future	As and when funds available	Environment Agency, River Valley Initiatives, Groundwork Trusts, Rangers, Schools	
	Providing, encouraging and enforcing access strips along watercourses through the development control process and land drainage consents where appropriate i.e. access points incorporated at two developments in Northwich.	Ongoing	Costs unknown	Environment Agency, Local Authorities, Developers, Riparian owners	

RIVER BASIN MANAGEMENT

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 16: Culverts causing flood risk and loss of habitat					
	Culverts identified under the Section 105 Investigations will be prioritised and assessed and if appropriate feed into capital works schemes	2000-2001	£75k	Environment Agency	
	Identify and gather information on all culverts suitable to be opened up when the opportunity arises Section 105 Investigation*	2000-Future	Cost unknown	Environment Agency (L), Local Authorities, Developers, Riparian owners	
	Identify possible river restoration schemes, where culverted watercourses can be 'opened up'. Promote and implement such schemes	2000-Future	As and when funds are available		
<p>* Section 105 Investigations aim to map the extent of one 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). Culverts that tend to significantly constrict these flood flows will also be identified during the investigation.</p>					

RIVER BASIN MANAGEMENT

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 17: In-river structures causing flood risk, restricted fish passage and migration, and reduced recreation use					
	Seek funding for restoration, enhancement, or removal of in-river structures such as those identified for the River Weaver	2000 - Future	Cost unknown	Environment Agency, Upper Weaver Initiative (RVI), Weaver Valley Initiative	
	Investigate and collate information on the existing structures for the River Dane	2001-2002	Staff time	Environment Agency	
ISSUE 18: Raise awareness to the possible problems caused by the invasion of watercourses by floating pennywort (<i>Hydrocotyle ranunculoides</i>) and other invasive species (RENAMED)					
	Assess impacts of invasive species on Recreation/ Conservation of sensitive areas and designated sites and react on a site by site basis	Ongoing	Staff time as and when required	Environment Agency	
	Monitor the problems caused by floating pennywort on the Weaver Navigation			Environment Agency, British Waterways	Management Plan agreed with British Waterways

RIVER BASIN MANAGEMENT

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 19: Lack of knowledge of built heritage is leading to its deterioration and destruction along the areas rivers (NEW ISSUE)					
	Carry out rapid archaeological survey within 10m of Rivers Weaver and Dane and their tributaries designated as main river	2002-2004	£29,574	Environment Agency, Greater Manchester Archaeological Unit, Cheshire County Council	
	Analyse results of the above survey and devise ways of protecting the best archaeological sites and record those that cannot be protected	2003-2005		Environment Agency, Greater Manchester Archaeological Unit, Cheshire County Council	
ISSUE 20: Siltation problems at Bottom Flash, Winsford (Site of Biological Importance)					
24.1	Ensure that all Agency interests are taken account of during proposals by Winsford Sailing Club	2000-2001	Staff time	Environment Agency, Winsford Sailing Club, Vale Royal BC, Riparian owners	Initial meeting of all relevant Agency officers held



CONSERVING THE LAND

Our aim is to protect the land from water (flooding) and protect the water from land (contamination). Flooding endangers property, crops and lives. Contaminated land gives rise to water pollution and risks to health. Less obvious damage is caused by soil erosion.

Background

Due to urban developments having extended into the floodplains in the LEAP area, there are large numbers of properties, which are at risk from flooding or are protected by flood defences.

The majority of existing flood defence works was constructed by and for the benefit of the riparian owners. They are responsible for maintaining these works so that they do not increase the risk of flooding to others. Where actual flooding has occurred the Environment Agency will investigate the causes of the flooding and consider exercising its permissive powers to reduce the flooding risk.

In assessing whether the risk of flooding is acceptable or not, the land use i.e. density and type of development, and how often flooding is predicted to occur, is taken into consideration. The majority of 'Main River' in this LEAP area passes through agricultural land but also includes the towns of Crewe, Congleton, Northwich, Sandbach, Winsford and parts of Runcorn. The target flood defence standards are for predicted flooding to occur only for one in 100, or one in 75 year flood events respectively. Where these minimum standards are not achieved the Environment Agency will consider three following possible courses of action:

- Improvements to flood defences
- Implementation or alteration of a maintenance plan
- Development of Flood Warning Procedures for the affected area

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 has provided a copy, together with flood risk maps, to Planning Authorities. 2000 Floodplain Indicative Maps are now also available via the 'What's in Your Backyard' section of the Agency's web site (with 1:50,000 scale mapping).

Bringing contaminated land back into beneficial use helps to conserve land as a resource and reduces pressure on Greenfield sites, thus conserving agricultural land and natural habitats. Redevelopment of such land provides an opportunity to remediate the contamination, and the Agency works closely with Local Authorities, landowners, developers, and other organisations to ensure that the environment is protected and improved during the redevelopment process.

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. The Part IIA regulations came into effect April 2000.

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 the DETR's Supplementary Credit Approval Scheme (SCA) 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.

Key Achievements 1998-2000:

- New flood warning code system introduced 12 September 2000.
- Information and guidance provided to Local Authorities under Part IIA of the Environment Protection Act 1990.
- A former waste tip in Sandiway has been successfully remediated by the removal of all contaminated material and back filling with clean sand. The Agency worked in partnership with Vale Royal Borough Council and other bodies, and the site is now ready for housing development.

Annual Review Commitments:

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

The Agency continues to advise Local Authorities over the impact of development on flood plains, and on the protection of groundwater amongst other things.

We will: Work closely with Local Authorities to fully implement the new legislation and identify and deal with contaminated land within the catchment.

We will: Identify and prioritise contaminated sites within the catchment which are having a known impact on controlled waters but where the polluter cannot be found.

We will: Work with landowners and developers to promote a prioritised programme of contaminated land reclamation within the catchment.

The Agency will advise Local Authorities and developers through the existing Development Control process.

We will: Provide mapped flood plain data to local authorities to assist in identifying problem areas for purpose of planning future development.

The Agency has provided maps of flood risk areas on CD-ROM to all Local Authorities.

Forward Look:

- Project (part of Section 105 Investigations) for the Weaver and Dane catchments are to be prepared and individual reach lengths identified for inclusion in survey. Results from the survey are expected in 2001. The results will produce a range of flood flow rates, including 25 and 100 year returns, along with their relative flood water levels.
- A review of other vulnerable areas (flood risk) within the catchment that may require a four-tier system of flood warning will take place.
- Flood Defence Capital Scheme for flood protection at Dane-in-Shaw is currently at design stage with work scheduled to start on site in 2001.
- Identify and prioritise sites for possible SCA funding.
- Ensure remediation of 'special' sites identified under Part IIA.
- Contribute towards national report on state of contaminated land under Part IIA.
- Contribute to Cheshire County Councils Strategic Programme of Reclamation in the Northwich area. The Mersey Basin Campaign/North West Development Agency strategic programme of waterside reclamation may be able to help take forward the Cheshire programme. Applications have been submitted to the strategic programme and the outcomes will be known in Spring 2001.

CONSERVING THE LAND

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 21: Properties at risk of flooding and the need for more effective flood warning					
	Carry out Section 105 investigation for Weaver and Dane catchments	2000-2002	£75k	Environment Agency	
	Review vulnerable areas within catchment to assess whether should be formal flood warning zones	2000-2001	Staff time	Environment Agency	
	Work to commence on flood defence capital scheme for flood protection at Dane-in-Shaw	2001	£175k	Environment Agency	
ISSUE 22: Adverse impact of contaminated and derelict land on the environment					
	Identify and prioritise sites for possible SCA funding	Ongoing	Staff time	Environment Agency, Local Authorities	
	Provide information and guidance to Local Authorities under Part IIA	Ongoing	Staff time	Environment Agency, Local Authorities	
	Conduct site investigations at potential 'special' sites on behalf of Local Authorities	Ongoing	Costs unknown	Environment Agency, Local Authorities	
	Ensure remediation of 'special' sites identified under Part IIA	Ongoing	Costs unknown	Environment Agency, Local Authorities	
	Contribute to national report on state of contaminated land under Part IIA	2002	Staff time	Environment Agency, Local Authorities	
	Contribute to Cheshire County Councils Strategic Programme of Reclamation in the Northwich area	2001-2002	Staff time	Environment Agency	EA invited to input to Phase I of the project



MANAGING FRESHWATER FISHERIES

Good water quality and adequate flows are a prerequisite for healthy fish populations. We are also committed to a programme of habitat improvements, often in collaboration with other interested parties such as farmers and nature conservation groups.

Background

Angling takes place along most of the canals and rivers in the area, and also on a vast number of the still waters.

The canals are particularly heavily fished for competitions, match fishing, and also for pleasure fishing.

Update of Actions

Continued improvements in water quality have enabled sea trout to return to the River Weaver. The Agency's fish health laboratory at Brampton confirmed that scales from a fish caught below Saltersford Lock were from a sea trout.

As part of the Fisheries five year rolling programme, the Upper Weaver is currently being surveyed and the River Dane survey will be carried out in 2002. The results for the Upper Weaver will be available early 2001. Catch data has been obtained from a local trout fishery on the River Dane and will be analysed to compare results between years. Further data is being sought from angling clubs.

Following heavy predation by cormorants the Agency have stocked the River Dane with a variety of dace, roach and chub.

The Agency are encouraging genetically suitable stocks of native brown trout to recolonise in the Upper Weaver and Upper Dane by prohibiting stocking of hatchery reared brown trout and rainbow trout.

Key Achievements 1998-2000:

- Fish pass incorporated into Wincle feeder weir at Danebridge. The original weir structure was destroyed after storms in 1998. The Environment Agency Fisheries Department was involved in negotiations with British Waterways and advised on the design requirements for the fish pass.
- River Dane at Congleton stocked with 5,000 chub in March 1999.
- Agency Fisheries staff in consultation with local fishery keepers encouraging the development of a natural brown trout population in the River Dane.

Final Plan Commitments:

We will: Where refurbishment is being undertaken, ensure the provision of fish passes on in-stream structures (weirs etc) which currently prevent the free passage of fish.

We continue to discuss provision of fish passes with Local Authorities, developers and others.

We will: Assist in the management of Local Authority and other owned waters to maximise uptake of Agency advice leading to sustainable management and improvement of fisheries.

The Agency continues to provide advice to Local Authorities, angling clubs and riparian owners to develop and improve existing fisheries. We also provide advice for the development of new facilities.

Forward Look:

- Analyse catch data to assess any improvements/decline
- Carry out River Dane survey in 2002
- Identify stretches suitable for enhancement and rehabilitation

MANAGING FRESHWATER FISHERIES

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 23: Increase the diversity and quality of fish populations. (RENAMED)					
23.1	Carry out detailed survey of the fish and invertebrate communities in: 1) Upper Weaver 2) River Dane	2000-2001 2002	Staff time	Environment Agency	
	Analyse catch data and compare results to assess any improvements/decline	2001-2003	Staff time	Environment Agency	
23.3	Identify stretches suitable for enhancement and rehabilitation schemes	2001-Future	As and when funds available	Environment Agency	



ENHANCING BIODIVERSITY

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

When the UK signed the Convention on Biodiversity in 1992 at the Earth Summit it committed itself, amongst other things, to protect ecosystems and natural habitats and maintain viable populations of species. One of the means of doing this was to develop a national strategy that was endorsed by the Government in 1996. In 1995 Action plans were drawn up for a shortlist of 116 of the most threatened and declining species and 14 key habitats. In 1998 a second list of 56 action plans was issued. In 1999 ten more national priority habitat BAP's, 75 new BAP's for plants and fungi and 103 new BAP's for invertebrates have been produced. This brings the total number of national species BAP's to 350. The total number of national habitat BAP's stands at 24. To be implemented successfully these national targets will be translated into effective action at a local level through Local Biodiversity Action Plans (LBAPs).

A biodiversity audit with local action plans for the conservation of wildlife of the Cheshire region has been compiled, with partners, by the Cheshire Wildlife Trust. The 'Countdown' programme, supported by the Agency since 1997 is based on the best available scientific knowledge and will set out clearly the priority action required to conserve the most vulnerable plants and animals. Countdown 2000 includes LBAP's for 43 species and 14 Habitats.

The Meres and Mosses are an internationally important series of open water and peatland sites in the North West and Midlands (often referred to as Midlands Meres and Mosses). A large proportion of them are notified as Sites of Special Scientific Interest, and more than thirty are designated as Wetlands of International Importance under the Ramsar convention. A small number are candidate Special Areas of Conservation under the European Habitats Directive.

The Agency with English Nature and other key partners have paid for a consultancy to gather information about the Meres and their catchments to plan a way forward to enhance and protect this huge ecological and biodiversity resource in Cheshire, Staffordshire and Shropshire. This has looked at Hydrology, Hydrogeology, Water Quality, Ecology, Archaeology and land use to create conservation management plans. In the future the Countryside Stewardship scheme will be incorporated into certain Mere catchments through the management plans to help buffer the Meres against organic pollution.

The National Habitat BAP's present within this LEAP area include reedbeds, lowland raised bog, fen, eutrophic standing waters.

There is a need to continue to protect, improve and monitor existing habitats. This is already being done through the network of sites of nature conservation importance, such as Sites of Special Scientific Interest (SSSI), Sites of Biological Importance (SBI), Special Protection Areas (SPA) and Environmentally Sensitive Areas (ESA).

By creating new habitats and removing threats to existing habitats, species will be encouraged to achieve their target distribution and status.

Update of Actions

Otters

There is strong evidence of an increase in population and distribution in Cheshire, where the Wildlife Trust has carried out the three year 'Cheshire Otter Project' and this has now progressed to a Regional Project. The recent rise is probably due to increased water quality leading to increased food supply, but numbers are still below their potential. The Agency/Wildlife Trust are joint lead partners in delivering the National Otter BAP on a catchment/local level. The target of this BAP is to return breeding otters to all catchments where they were present in 1960, by 2010. Otters are recolonising in this LEAP area but the majority of signs found are from transient animals. No confirmed breeding has been recorded. The enhancement of wetland habitats and improvement of water quality in rivers should encourage otters to stay and establish home ranges with a future aim of re-establishing a breeding population.

Water Voles

The Agency is the contact point for this flagship species. A Water Vole Handbook (1998) has been produced by the partnership of English Nature, the Environment Agency and the Wildlife Conservation Research Unit. Water voles are protected by law and were included on Schedule 5, Section 9(4) a & b of the Wildlife and Countryside Act 1981 (as amended) in 1998.

There have been a number of water vole sightings within the LEAP area and the LBAP group and the Upper Weaver Initiative (RVI) are considering carrying out a survey of the Upper Weaver catchment.

Black Poplars

The native Black Poplar is thought to be the most endangered native timber tree in Britain. Black Poplar is found along the floodplain of the River Weaver. The Agency is one of a number of partners including Cheshire Wildlife Trust to form a Local Biodiversity Action Plan (LBAP) Action Group. Funds have been generated through landfill tax for Phase 1 of a project that will identify trees, take cuttings and develop new stocks. The aim is to cultivate genetically pure native trees and to distribute them along the riverbanks of Cheshire.

Black Poplar trees have been planted in several projects across the LEAP area i.e. on the Wincham system and on the Dane in Congleton.

Barn Owls

The Agency through its day to day activities is continuing to encourage the erection of nest boxes in areas of suitable habitat and to raise awareness of the plight of the barn owl. Barn owl boxes have been incorporated into a development at Weston Hall and further boxes are being erected in the Wincham catchment. The Cheshire Barn Owl Biodiversity Action Plan (BAP) group and Local Barn Owl Groups' Forum meet regularly and collect sightings, monitor nest sites, conduct surveys, erect nest boxes and visit farmers.

White Clawed Crayfish

There are only four known native freshwater white clawed crayfish populations found within the Weaver/Dane LEAP area but numbers are threatened by loss of habitat and competition from non-native crayfish. There is also an LBAP group for crayfish on which the Agency is represented. The Agency will continue to conserve the crayfish species through research and surveys. A booklet on crayfish has been produced by the Agency and distributed widely particularly to angling clubs.

Key Achievements 1998-2000:

- Otters are recolonising in LEAP area due to water quality improvements and enhancement of wetland habitats
- Water Vole Handbook produced
- Black Poplar trees planted in several projects across LEAP area
- Barn Owl boxes incorporated in development at Weston Hall and in the Wincham catchment
- Booklet on Crayfish produced and guidance given
- Supported Countdown 1999 and 2000 programmes (Cheshire Wildlife trust)
- Meres and Mosses ECUS project – works as a collaborative project between two Agency regions and other external bodies
- Commenced review of Agency permissions in and around Oak Mere and Abbots Moss Special Areas of Conservation
- Protection of Great Crested Newts through input to Town and Country Planning referrals and support for their survey through Pond Life Project

Annual Review 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.

We are involved with 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.

Forward Look 2000/2001:

- Habitats Directive 'Review of Consents' work to be carried out.
- Input to developing biodiversity database.
- Further conservation of otters, water voles, barn owls, white clawed crayfish and black poplar.

ENHANCING BIODIVERSITY

Ref	Action	Timescale	Costs	Responsibility (Lead/Partners)	Progress
ISSUE 24: The need for continued habitat improvement and protection of existing wildlife habitats to conserve and enhance biodiversity					
	Input to developing biodiversity database (ReCORD)	2000-Future	Cost unknown	Cheshire Wildlife Trust English Nature Environment Agency Local Authorities Specialist local groups	
	Further the conservation of the Water Vole and White Clawed Crayfish species through research and surveys	2000-Future	Cost unknown	Cheshire Wildlife Trust Environment Agency Pond Life Authorities Local Authorities RVI's Local wildlife organisations and specialist groups	
	Contribute to the Otter and Water Vole database co-ordinated by Cheshire Wildlife Trust	2000-2001		Cheshire Wildlife Trust Environment Agency	
	Encourage the incorporation of Barn Owl boxes into new developments, where appropriate ie. Weston Hall	Ongoing	Staff time	Environment Agency Hawk & Owl Trust Cheshire Barn Owl BAP Group Local Barn Owl Groups' Forum	
	Plant local stock of Black Poplar as part of river corridor enhancement schemes i.e. Wincham catchment and Dane in Shaw Flood Alleviation Scheme. Contribute to LBAP Action Group	2000-Future	Cost unknown	Environment Agency Cheshire Wildlife Trust, Cheshire County Council, FWAG, Cheshire Landscape Trust, Botanical Society of the British Isles, Ness Botanic Gardens	
	Continue to contribute funds, time and resources to Pond Life Project			Liverpool John Moores University, Environment Agency	

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.

1. 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.

2. 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; 1. Identifying pollution of controlled waters. 2. 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.

3. Groundwater Directive

New Groundwater Regulations came into force January 1999 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 a Water Resources Act 1991 consent which will place restrictions on the quantity to be disposed, the frequency of disposal and the location. The Agency also has a duty to issue notices, prohibiting or controlling certain activities in or on ground involving List I and II substances.

4. Control of Major Accident Hazards (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.

5. 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.

6. Habitats Directive

A European 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 2004 on a prioritised basis.

OTHER AGENCY INITIATIVES

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. We intend developing CAMS at a local level in April 2001.

At a local level, CAMS will provide the opportunity for groups and individuals to contribute to the development of the strategy to be adopted for the catchment. 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 transparent 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.

For more information about CAMS in South Area, contact Amanda Turner on 01925 840000 ext. 3470.

In addition, there will be information available on the Agency's Internet website.

Our address is: www.environment-agency.gov.uk

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 partnership approach is an underlying theme of the LEAP process because, although we operate within an extensive regulatory framework, we have little direct control over the mechanisms, which determine land-use change, and hence, pressures on the environment. It is important for all parties that where interests overlap, discussion occurs on those areas of common interests. In this way action can be integrated, increasing efficiency, avoiding duplication and making the most of limited resources.

The projects detailed below are an example of what can be achieved when individuals from organisations work together to maximise the benefits for the environment by working together.

Cheshire County Council Tenancy Farms

Cheshire County Council's farm estate consists of approximately 202 agricultural tenancies on 32 estates covering over 12,000 acres of the Cheshire countryside. This represents the largest agricultural landholding in the county, and is centrally placed to influence agricultural practice and improved environmental stewardship and performance within the wider agricultural community.

This catchment of farms allows the opportunity to establish a baseline of environmental assets in Cheshire, and to view the setting of each farm within the wider context of the environmental, ecological and landscape characteristics and corridors. It also allows the development of performance measures for the management of the farms and their impact on the community, and a facility to encourage best agricultural practice and environment and resource management to reduce the consumption of energy and water.

Partners: Environment Agency, Cheshire County Council, Farming and Wildlife Advisory Group
Funding: £80k over four years

Eco-Audit 21 (EA 21)

The Sustainable Cheshire Forum (SCF) developed the ECO Audit 21 model in 1996, as a Local Agenda 21 tool for improving environmental performance in Cheshire. Currently, the forum has representatives from over 80 organisations and is overseen by a Steering Group and Co-ordinator. The initiative aims to raise environmental awareness in the community, particularly in public organisations and private businesses. It attempts to make organisations more aware of their impact upon the environment and to improve their operations and activities.

Partners: Over 80 organisations on steering group including the Environment Agency. Co-ordination and office space supported by contributions from Cheshire County Council.

Funding: £5k from Environment Agency since 1997.

Organisations and Partnerships

Local Agenda 21

At the Earth Summit in Rio in 1992 governments agreed that local action is crucial to solve global environmental problems. We must think globally but act locally. The Local Agenda 21 initiative has encouraged local government and communities to identify and begin to tackle a wide range of local environmental issues.

Cheshire County Council

Cheshire County Council established the first Sustainable Cheshire Forum in 1996 to formulate Cheshire's Agenda 21 Strategy and Action Plan. The Agency is a partner in the Forum with specialist officers working in the topic groups for air, energy, water, waste, wildlife and eco-audit. In 2000/01 the Sustainable Cheshire Forum will be developing social, economic and environmental objectives and targets with information being made available in Cheshire's Quality of Life Counts on a website. The update of Cheshire's Agenda 21 Strategy will be informed by Cheshire's Quality of Life Survey 2000. In the draft Action Plan 2000 the Agency have been invited to highlight opportunities for progressing LEAPs. The LA21 process will now be taken forward through the community strategy following DETR guidance.

Contact: Joan Fairhurst

Tel: 01244 603125

Chester City Council

Chester City Council is concerned that economic prosperity is not achieved at the expense of the environment. It, therefore, promotes the idea of sustainable development where all economic development takes account of environmental impact. This philosophy is reflected in the Structure and Draft Local Plans, Business Plans and other strategies.

The Economic and Tourism Development Unit, through the Local Agenda 21 programme, co-ordinates a Business Focus Group to develop a strategic approach to the subject and deliver actions which encourage and assist Chester businesses to be more environmentally aware and responsible.

Contact: Jean Briffett

Tel: 01244 402326

Congleton BC

Congleton Borough Council continues to be committed to the Local Agenda 21 process, and to the pursuit of sustainable development, through its activities in the Borough.

Following a period of public consultation the Council has recently produced a Borough-wide Local Agenda 21 Strategy. This contains the practical actions that are required to achieve sustainability both locally and globally.

For further information on Local Agenda 21 in Congleton Borough, please contact the Council's Environmental Quality Officer, Fiona Gardner.

Contact: Fiona Gardner

Tel: 01270 769453

Crewe and Nantwich BC

Crewe and Nantwich Borough Council initiated its Local Agenda 21 programme in 1996. LA21 has two elements:

- improving the Council's own environmental performance
- helping the wider community to improve its environmental performance

The Council is developing an environmental management system aimed at greening its own activities and they are taking steps wherever possible to minimise their environmental impact. For example, much of the Council's vehicle fleet is now fuelled by LPG.

Through LA21, a new organisation, Crewe and Nantwich Sustainability Alliance, has been set up to take forward the community-based elements of the programme. A number of partnership based action groups have been established to tackle issues such as waste, nature conservation, transport and food. The Sustainability Alliance has taken an innovative, partnership approach by working with organisations such as the Chamber of Commerce, Cheshire Wildlife Trust and the Women's' Institute.

Contact: Phil Riding

Tel: 01270 537426

Halton BC

Protecting the Environment High on Local Agenda – A plan of action for the 21st century aimed at meeting the needs of the community while protecting the environment is set to be published by Halton BC at the end of the year.

Contact: Debbie Houghton

Tel: 0151 424 2061

Macclesfield BC

The Borough Councils Strategy was published in early 1999 and is currently being reviewed. A revised Strategy will be published in 2001.

Contact: Paul Ancell

Tel: 01625 504672

Vale Royal BC

LA21 in Vale Royal is led by a partnership between Vale Royal BC, Vale Royal Environment Network and Groundwork Macclesfield and Vale Royal. Following a wide consultation process the document 'A Vision for Vale Royal' was produced. This is a working document that combines all the outputs from the process.

Contact: Laura Needham

Tel: 01606 862862

Warrington BC

Warrington has recently published its first Agenda 21 Strategy. It is the outcome of an extensive consultation process over the past three years. The strategy contains over 200 targets and action points for the future. It is a live working document that focuses on the priority issues and areas for action identified by the community through the Agenda 21 process.

Contact: Mark Floyd

Tel: 01925 442529

Life EONet Project -

'The European project working to improve the Cheshire landscape for people and wildlife'. The European funded Life EONet Project aims to explore with local people the best ways of creating a network connecting areas for wildlife across Cheshire. Project partners in Italy and the Netherlands will share their experiences to help with this new and forward-thinking initiative.

The four year project will use the latest information technology (Geographical Information Systems – GIS), digital aerial photography and landscape ecology to analyse the Cheshire landscape. Core areas of wildlife importance will be identified as well as areas which have the potential for the creation of new habitats and wildlife corridors.

The creation of an ecological network in Cheshire can only succeed with the support and co-operation of local people. The project recognises the importance of people's views and perceptions and these will be actively sought.

The network will be realised by various means. It is recognised that parts are already in place, for example, as nature reserves and country parks. Elsewhere, the network will be incorporated wherever possible in existing rural and urban initiatives, and by utilising whatever grant schemes are available. Opportunities for the creation of new habitats by 'green generators', such as quarries, derelict land and landfill sites, will also be explored. The road network will be examined to highlight its potential for reducing impacts on wildlife. The project will also identify and seek to influence changes to land use policies, programmes and practices.

Some of the key aspects of the Life EONet Project are:

- involving local people
- contributing to sustainable development
- re-connecting the landscape
- reducing the conflicts between transport and wildlife
- integrating policies for nature and land use
- more objective land-use decision making
- enhanced targeting of land management schemes
- providing a spatial framework for biodiversity initiatives
- supporting European Directives and initiatives

The Life EONet Project is a Cheshire County Council led partnership of local authorities, government agencies, practitioners and research centres from the United Kingdom, Italy and the Netherlands. The project runs between September 1999 and September 2003, and is supported by the Life-Environment programme of the European Union.

The Life EONet Project is the latest phase in Cheshire's Agenda 21 long-term strategy to create an ecological network in Cheshire by 2020.

Contact: Ian Marshall

Tel: 01244 603205

Mersey Basin Campaign

The Mersey Basin Campaign is the 25-year government backed partnership, which unites local authorities, businesses, voluntary organisations and government agencies to deliver water quality improvements and waterside regeneration throughout the Mersey Basin river system.

A major way that the Campaign is achieving its aims is through the River valley Initiatives. These are local partnerships between local authorities, businesses, community groups and government agencies which work within the aims of the Mersey Basin Campaign to identify and take advantage of the opportunities offered by their river for business, leisure and wildlife while tackling the problems of litter, pollution and neglect.

The work of voluntary organisations and schools is being developed by the Mersey Basin Trust, a registered charity with more than 550 members which provides grants, advice and information to individuals and organisations wanting to improve their waterside environment.

The efforts of the business community are being harnessed by the Mersey Basin Business Foundation, which brings together companies in the region to inject business ideas and practices as well as support and sponsorship.

The Campaign has a main support centre funded by the Department of the Environment, Transport and the Regions. The Mersey Basin Campaign Administration Ltd promotes, manages and supports the Campaign effort including River Valley Initiatives.

Contact: Julie Mullen

Tel: 0161 242 8200

Weaver Valley Initiative

The Weaver Valley Initiative is a working partnership between public, private and voluntary bodies to raise awareness of and identify opportunities for development and environmental improvement along the River Weaver between Winsford and the Mersey Estuary as part of the Mersey Basin Campaign.

Contact: Ann Bates

Tel: 01606 79576

Upper Weaver RVI

The Upper Weaver RVI began in February 1999. It covers the upper catchment area of the River Weaver and its tributaries and canals. The RVI was set up to support local voluntary organisations, local authorities, government agencies and businesses, to deliver water quality improvements, waterside regeneration and encourage people to value and cherish their rivers and canals.

Contact: Rob Keane

Tel: 0161 247 5069

Bollin Valley Partnership

The Bollin Valley Partnership manages well over 100 miles of footpaths, several picnic sites, an information centre and country park and the Aviation Viewing Park. We work with landowners, farmers, schools, and individuals, improving woods, ponds grassland and hedgerows, both for wildlife and their importance as part of people's local countryside.

Contact: Phil Robinson

Tel: 01625 534790

Mersey Forest

The Mersey Forest is the largest of twelve Community Forests in England. It was launched in 1991 with the idea of greatly improving the environment of Merseyside and North Cheshire. In November 1994, the Mersey Forest Plan was officially approved. Through the efforts of nine local authority partners, the Countryside Agency, the Forestry Commission and other key organisations, and with the support of a small team of professional staff, the Mersey Forest is now being planted and established at a rapid rate. Nearly two million trees have been planted at over a hundred different sites. By 2025, woodland cover in the Mersey Forest will be increased to 20% above the national average.

Contact: Paul Nolan

Tel: 01925 816217

Cheshire Wildlife Trust

The Cheshire Wildlife Trust is the largest Wildlife Charity in Cheshire looking after over 40 nature reserves in Cheshire, Stockport, Tameside, Trafford and Wirral. These nature reserves include ancient woodlands, wildflower meadows, wetlands, rivers and pools. The Trust has over 3000 members, who give their support, and often time, to protecting our regions wildlife.

Contact: Chris Mahon

Tel: 01270 610180

British Waterways

British Waterways runs over 2,000 miles of inland waterways and their related structures, and is committed to safeguarding their unique environment, while encouraging increased use and enjoyment of what the waterways have to offer.

Contact: Mike Coates

Tel: 01606 723800

Vale Royal Environment Network (VREN)

VREN is a network of local environmental groups. They are running a project to encourage individuals to make a pledge of action in their everyday lives. This is called Painting by Numbers – taking a picture of the future people want and every action taken helps to colour in the picture to make it a reality. VREN are also working with schools on a local Green Schools Network.

Contact: Mac Carding

Tel: 01606 41224

Groundwork Northwest

Groundwork is a leading environmental regeneration charity making sustainable development a reality in the UK's poorest neighbourhoods. Groundwork's network of over 40 local Trusts works in partnership with local people, local authorities and businesses to bring about social and economic regeneration by improving the local environment.

From small community schemes to major regional and national programmes, Groundwork uses the environment as a means of engaging and motivating local people to improve their quality of life.

Groundwork Macclesfield and Vale Royal have been actively involved with the Weaver Valley Initiative since its inception and contribute to both the Upper and Lower Initiative in a practical way. It is also a key partner in the Weaver Environmental Arts Project (WEAP).

In Macclesfield, the Environment Agency has supported the Small Grant Scheme of the 'Macclesfield Area Green Network' (MAGNET). This Groundwork project has provided the resources and support for local groups to achieve a range of environmental improvements and to raise awareness with all age groups of the community.

Contact: Bob Sutcliffe

Tel: 0161 237 3200

UPDATE ON ASSET MANAGEMENT PLANS (AMP)

Sewage Treatment Works' Improvement Schemes approved for Investment in 2000-2005 (AMP 3).

The investment by North West Water 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 (Urban Waste Water Treatment, Fisheries, and Habitats). Discretionary investment will be undertaken to achieve other environmental improvements such as compliance with River Quality Objectives. The table shows the schemes agreed by the Department of Environment, Transport & Regions (June 2000).

NWW Works	Watercourse	Completion date
Wrenbury	River Weaver	31.03.05
Nantwich	River Weaver	31.03.03
Winsford	River Weaver	31.03.04
Crewe	River Weaver	31.03.05
Audley	Audley Brook	31.03.05
Middlewich	River Croco	31.03.04
Kidsgrove	Kidsgrove Stream	31.03.05
Lawton Gate	Kidsgrove Stream	31.03.05
Biddulph	Biddulph Brook	31.03.05
Sandbach	River Wheelock	31.03.05
Rushton	Trib Wettenhall Brook	31.03.05
Tarporley	Wetton Hall Brook	31.03.05
Red Street (Jamage Road)	Trib Valley Brook	31.03.05
Cotebrook	Sandyford Brook	31.03.05
Brindley	Trib River Weaver	31.03.05

Combined Sewer Overflow (CSO) and Pumping Station Emergency Overflows – Improvement Schemes for Investment during 2000-2005 (AMP 3)

A number of zones have been identified to require schemes to address water quality problems. North West Water has undertaken surveys across the Region to ensure that all deficiencies associated with intermittent discharges (water quality and aesthetics) are identified in the current planning period.

Schemes designed to reduce the impact of CSOs on water quality generally entail a high cost and 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 and are generally lower cost involving installation of screens at the overflow and additional storage or pumping facilities.

Drainage Area	Overflow Name	Watercourse	Completion Date
Crewe	Timbrell Avenue	Leighton Brook	31 March 05
Crewe	George Inn	Valley Brook	31 March 05
Crewe	Queens Park (No 1)	Valley Brook	31 March 05
Crewe	Alton Street (No 1)	Valley Brook	31 March 05
Crewe	Edleston Road (No 2)	Valley Brook	31 March 05
Crewe	Wistaston, Near Church Lane	Wistaton Brook	31 March 05
Alsager	Nursery Road, Alsager	Valley Brook	31 March 03
Audlem	Vicarage Road, Audlem	Swanback Mill Brook	31 March 02
Kidsgrove	Highway Lane, Keele, Sps	Unnamed Stream	31 March 03
Audley	Alsager Road, Audley	Audley Brook	31 March 03
Winsford	Off John Street, Winsford	River Weaver	31 March 03
Winsford	Dean Street, Winsford	River Weaver	31 March 03
Northwich	Mereheath Ps	Peckmill Brook	31 March 05
Winsford	Church Street, Winsford	River Weaver	31 March 03
Winsford	Hebden Green, Winsford	Poolstead Brook	31 March 03
Winsford	Market Place, Winsford	River Weaver	31 March 03
Winsford	Weaver Street, Winsford	River Weaver	31 March 03
Winsford	Woodford Lane, Winsford	Poolstead Brook	31 March 03
Cuddington	The Dell, Delamere Park	Cliff Brook	31 March 02
Northwich	Church Street, Davenham	Elders Briar Brook	31 March 05

Drainage Area	Overflow Name	Watercourse	Completion Date
Northwich	Greenbank Lane, Northwich	River Weaver	31 March 05
Northwich	London Road, Northwich	River Dane	31 March 05
Winsford	High Street/Grange Lane	River Weaver	31 March 03
Winsford	Winsford Hill Street	River Weaver	31 March 03
Northwich	O/S 102 Middlewich Rd	Wade Brook	31 March 05
Northwich	O/S 173 Middlewich Rd	Wade Brook	31 March 05
Northwich	O/S No. 49 Edward Street, Northwich	Wade Brook	31 March 05
Northwich	Middlewich/Parkfield Road	River Dane	31 March 05
Northwich	Whalley Road Ps, Northwich	River Dane	31 March 05
Middlewich	Wardle Bridge, P.S.	River Croco	31 March 02
Alsager	29 Cresswellshawe Road	Cresswellshawe Brook	31 March 03
Alsager	Ashmores Lane/Lawton Road	Cresswellshawe Brook	31 March 03
Alsager	Lawton Road/Wesley Avenue	Cresswellshawe Brook	31 March 03
Congleton	Castle Inn, Congleton	Dane-In-Shaw Brook	31 March 03
Congleton	St. John's Road Estate	River Dane	31 March 03
Congleton	Edinburgh Road Estate	River Dane	31 March 03
Sandbach	Queens Drive, Sandbach	Trib Small Brook	31 March 03
Congleton	Henshall Hall, Congleton	Dane-In-Shaw Brook	31 March 03
Holmes Chapel	Allum Bridge, Holmes Chapel	River Croco	31 March 02
Sandbach	Front Street, Sandbach	Arclid Brook	31 March 03
Sandbach	Cookesmere Lane, Sandbach	Trib Small Brook	31 March 03
Biddulph	Halls Road, Biddulph	Trib Biddulph Brook	31 March 03
Biddulph	West Street	Trib Biddulph Brook	31 March 03

Wastewater Treatment Works Intermittent Discharges

Works Overflow	Watercourse	Completion Date
Crewe Wwtw Storm Tank	River Weaver	31 March 05
Northwich Wwtw Inlet Overflow	River Weaver	31 March 05
Northwich Wwtw Storm Tank	River Weaver	31 March 05
Plumley Wwtw Inlet Overflow	Peover Eye	31 March 02
Tarporley Wwtw Inlet Overflow	Wetton Hall Brook	31 March 01
Tarporley Wwtw Storm Tank	Wetton Hall Brook	31 March 01
Weaverham Wwtw Inlet Overflow	River Weaver	31 March 02

The information above is that approved by DETR in June 2000.

INTERNAL ENVIRONMENTAL POLICY

The Agency's approach to minimising the impacts of its own activities and supporting the Green Government initiative is our Environment First Culture, which was adopted in 1996. Operating in this culture enables us to implement effective environmental management and deliver our own environmental policy with significant progress made to date.

This culture aims to gain commitment and raise the awareness of staff. National targets are set and reviewed annually based upon the environmental impacts of our own activities and the Environmental Policy. In addition to our national targets, site specific targets for energy, water, waste and transport have been under development.

We are implementing an Environmental Management System (EMS), in accordance with the European Standard ISO14001. Much of the preparation has been completed and by March 2002 we aim to have an Agency-wide EMS in place.

The following details how some of our internal environmental policies have achieved set targets.

Reducing energy use in the office

Below are a few steps that have been taken to reduce energy usage at Appleton House:

- Trial of Passive Infrared System (PIR) has been undertaken in the building
- Water management system installed in gents toilets
- Overnight security lights have been altered from timers to motion
- Low energy lighting has been fitted to Reception area (500w to 28w)
- Timers fitted to vending machines and canteen equipment

A PC based Building Management System has recently been investigated. However, the project is awaiting funding.

Reduce mileage/Improve transport efficiency

Campaigns are held on National Car Free Day at Appleton House to encourage staff to participate in the day. There was a hotline number for people who saved miles on the day to call. Staff who came in were welcomed with tea and coffee in reception.

There was a 'powerbyke' demonstration and staff had the opportunity to trial the bikes around Appleton House.

A 'Give a lift and do your bit' map was promoted asking people to add their names to a board to see if they wanted to car share.

Public transport timetables etc were promoted.

Miles Saved (National Car Free Day)

Walk	Cycle	Car Share	Public Transport	Home Working	Total
43	68	226	191	695	1223

Miscellaneous

A wormery has been installed at Appleton House for food wastage. All food is recycled using this method and compost can be collected at the end of the cycle.

These are just some of the initiatives that are underway in the Agency. If you would like more information on our environmental policy and performance, please contact:

South Area Environmental Management Co-ordinator
Environment Agency
Appleton House
430 Birchwood Boulevard
Birchwood
Warrington
WA3 7WD

Tel: (01925) 840000
Fax: (01925) 852260

ROUTINE WORK OF THE AGENCY

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

- conserve, redistribute and improve river, lake, reservoir and underwater supplies
- prevent and control pollution of air, land and water
- reduce the risk of harm from contaminated land and bring it back into use
- make sure waste is dealt with safely and legally
- make sure radioactive materials are kept, used and disposed of safely
- make sure flood risks are reduced and new ones are not created or exacerbated

Regulating the environment takes place through licensing. The Agency manages licences for abstraction of water from rivers and boreholes, releases to air and water, the carrying and disposal of waste and to carry out work in, over, under or near a watercourse. Within South Area we manage over 1,427 water abstraction licenses, 3,769 consents to discharge to water, 621 waste management licences and 543 permits for radioactive materials and waste.

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

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

The Agency also has the role of reducing risk to people and the environment from flooding by providing effective defences. Protecting life is our highest priority and to meet this aim we provide a flood forecasting and warning service and discourage development in flood-risk areas. In South Area we also manage approximately 100km of flood defences and aim to protect and improve the natural environment by promoting flood defences that work with nature.

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

We have two primary statutory duties in respect of features of conservation interest. To further, wherever possible, conservation when carrying out water management functions and to have regard to conservation when carrying out pollution prevention and control functions. We also have a freestanding duty generally to promote the conservation of natural beauty and amenity and the wildlife dependent upon the aquatic environment.

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

OUR VISION – THEMES FOR THE FUTURE

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.

Set out below are our nine themes for the future and how they will contribute to this long-term goal.

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.** Business, 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.

*Our assessment of the activities which would help us to move towards these goals in the medium term will be described in a series of documents to be published during 2001.

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.

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, shop, 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 eg. 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, oxbows, earth cliffs and river terraces.

INDICATIVE STANDARDS

Ministry of Agriculture, Fisheries and Food 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 land, 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 MAFF. 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 discolouration.

PASTURE

Semi-improved and improved grazed grassland.

POOL

A deep slowing flowing section of a river or stream.

PRECIPITATION

The total amount of water which falls as rain, hail, or snow expressed as mm or inches of rainfall over a specified period.

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).

REVTMENT

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 land 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 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.

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.

APPENDIX 2

ABBREVIATIONS

AOD	–	Above ordnance datum
ADAS	–	Agricultural Development Advisory Service
AMP	–	Asset Management Plan
BOD	–	Biochemical Oxygen Demand
CMP	–	Catchment Management Plan
CSO	–	Combined Sewer Overflow
CSW	–	Contaminated Surface Water
DETR	–	Department of the Environment, Transport and the Regions
EC	–	European Commission
EO	–	Emergency Overflow
ESA	–	Environmentally Sensitive Area
EQS	–	Environmental Quality Standard
FWAG	–	Farming And Wildlife Advisory Group
FTE	–	Full time equivalent
GQA	–	General Quality Assessment
IPC	–	Integrated Pollution Control
LBAP	–	Local Biodiversity Action Plan
LPA	–	Local Planning Authority
MAFF	–	Ministry of Agriculture Fisheries and Food
NFU	–	National Farmers Union
NWW Ltd	–	North West Water Limited
OFWAT	–	Office of Water Services
QSL	–	Quality Survey Limit
RE	–	River Ecosystem
RHS	–	River Habitat Survey

RQO	–	River Quality Objective
SBI	–	Site of Biological Importance
SPA	–	Special Protection Area
SSSI	–	Site of Special Scientific Interest
SWQO	–	Statutory Water Quality Objectives
UDP	–	Unitary Development Plan
WML	–	Waste Management Licence
WwTW	–	Wastewater Treatment Works

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