local environment agency plan

WEAVER/DANE

ACTION PLAN

MAY 1998

ENVIRONMENT AGENCY

Key Details

General

Plan Area	1423 sqkm
Population	c.500,000

Conservation

Total number of Sites of Special Scientific Importance (SSSI)	81
Total number of Sites of Biological Importance (SBI)	412

Water Resources

Average Annual Rainfall for the Area	716mm

Flood Protection

Length of Main River	619.4km

Waste Regulation

Licensed Waste Management operations in the area	63

Integrated Pollution Control/ Radioactive Substances

Total number of authorised IPC processes within the Area	49
Total number of RAS permissions	40

Contacting the Environment Agency

The South Area Office is located at:

"Mirwell"
Carrington Lane
Sale
Cheshire M33 5NL

Tel: 0161 973 2237
Enquiries about the Weaver/Dane LEAP should be directed to:
Samantha Jarvis/Victoria Hames
Environment Planner

Foreword

This Weaver/Dane Local Environment Agency Action Plan provides the opportunity for the Agency to address the important environmental issues in the area. We have consulted widely with the local community to make sure your views are heard and to help us to focus our efforts on improving the environment. This Plan will help to strengthen and build partnerships with other local groups and organisations so that we can all work together to achieve a better environment for present and future generations.

The issues which are highlighted in this Plan have developed from those raised in the Weaver/Dane LEAP Consultation Report and work is timetabled over the next five years. Annual reviews will provide a chance to review and add new issues and monitor the progress made towards our goals.

I would like to thank everyone who contributed to the consultation process. Issues will take time to resolve and new issues will come to our attention during the lifetime of this Plan. However we now have in place an agenda of integrated action which can achieve real benefits for the whole community.

George Ager
Area Manager
South

Rivers Weaver and Dane at Northwich

View of Frodsham from Frodsham Hill

Contents

Contents

1 Introduction

1.1 The Environment Agency

The Environment Agency has a wide range of duties and powers relating to different aspects of environmental management. It is required and guided by Government to use these duties and powers in order to help achieve the objective of sustainable development. The Brundtland Commission defined sustainable development as '.... *development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.*

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

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

Although the Agency only has duties and powers to protect some environmental resources, it will need to contribute to other aspects of environmental management even if these are, in the first instance, the responsibility of others. The Agency can only do this effectively by working in partnership with and through others in order to set common goals and to achieve agreed objectives.

The Agency is committed to a programme of Local Environment Agency Plans (LEAPs) in order to produce a local agenda of integrated action for environmental improvement.

The Agency's aims are to:

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

To achieve these aims, the Agency must work with, or seek to influence central government, local government, industry, commerce, farming, environmental organisations, riparian owners and the general public.

Successful management of the environment requires consideration of a wide range of interests and requirements which may sometimes be in conflict. The Agency will manage the environment through our main functions, which are:

- pollution prevention and control;
- waste minimisation;
- management of water resources;
- flood defence;
- improvement of salmon and fresh water fisheries;
- conservation;
- navigation;
- use of inland and coastal waters for recreation.

1.2 The Local Environment Agency Plan Process

A Local Environment Agency Plan or LEAP is the Environment Agency's integrated local management plan, for identifying and assessing, prioritising and solving local environmental issues related to the Agency's functions, taking into account the views of the Agency's local customers.

A LEAP is produced in three stages:

- The Local Environment Agency Plan Consultation Report.
- The Local Environment Agency Plan five year Action Plan.
- The Annual Review.

Consultation Report

The Consultation Report for this LEAP was published in October 1997. This report highlighted the local issues that we had identified and suggested options to address them. This document was circulated to a wide variety of people and groups who have an interest in the area, to allow them to comment on the issues and options raised.

Consultation

The formal three month consultation period finished on the 2nd February 1998 and incorporated a public launch of the LEAP and a set of consultative workshops.

The Agency is also required by law to consult committees on all aspects of its work in order to ensure openess and accountability. The North West Region is served by three statutory committees:

- Regional Environment Protection Advisory Committee (REPAC)
- Regional Flood Defence Committee (RFDC)
- Regional Fisheries Advisory Committee (RFAC).

The South Area of the North West Region is served by its own advisory, non statutory, Area Environment Group (AEG). Membership consists of 22 local people who live and work in the area and who represent a wide range of interests and act as a link between the local community, the Agency and its statutory committees. These include Local Authorities, industries, agriculture, conservation, fishing, amenity

and recreational interests. This group advises the Agency on LEAPs while a specific sub-group has allowed a more detailed input into the Weaver/Dane LEAP.

Action Plan

This plan contains actions to be carried out within the area over the next five years which incorporate the comments raised through the consultation process. The plan details the nature of each action, costs, including external costs where possible, timescales and responsible organisations. The Agency will be seeking commitment to planned actions by others wherever possible.

Annual Review

The Agency will be jointly responsible, with other identified organisations and individuals, for implementing the Action Plan. Progress will be monitored and normally reported annually, by means of a review document which will be publicly available. The review document will comprise the following information:

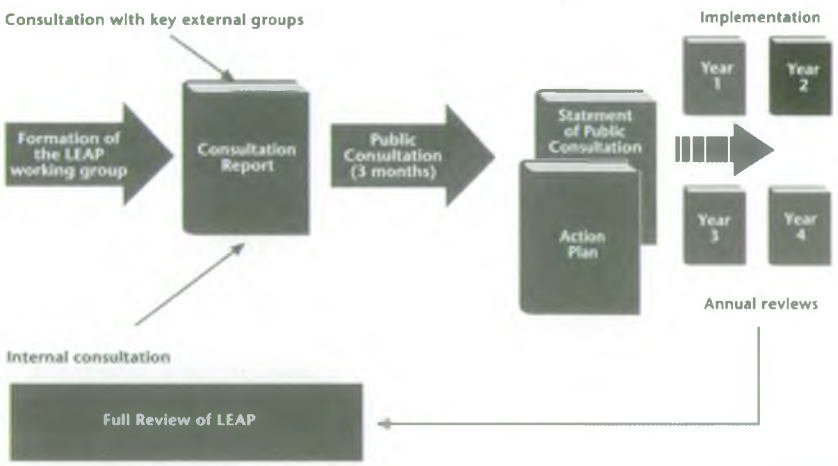
- A detailed comparison of actual progress against planned progress.
- Identification of additional actions to maintain progress in the light of changes in the area.
- Consideration of the need to update the LEAP.

Updating of the LEAP will usually be carried out every five years although this is dependant on the particular needs of the area. Key organisations and individuals forwarding comments will receive the annual review to inform them of action plan progress.

Constraints

To ensure improvements and overcome the problems in the area, actions which in many cases are the responsibility of other organisations and individuals, will be necessary. Where the Agency does not have the powers to make the necessary changes, it will endeavour to use its influence, to gain environmental improvements, wherever possible.

The process of drawing up the plans will involve close consultation with all interested parties. It will promote the effective, accountable and integrated delivery of environmental improvement at the local level. The plans will translate policy and strategy into delivery on the ground and will result in actions, either for the Agency to fulfil, or for others to undertake through influence and partnership.



The Leap Process

We believe the process will benefit the local community by influencing and advising external decision makers and public opinion, It will build trust by being open and frank when dealing with all issues.

Within the Region, we will complete public consultation on ten consultation plans in 1998 and on all plans by 1999. We will have started implementing five action plans in 1998 and all of them by the end of the year 2000.

1.3 Biodiversity

"BIODIVERSITY: THE VARIETY OF LIFE. Biodiversity is all living things, from the tiny garden ant to the giant redwood tree. You will find biodiversity everywhere, in window boxes and wild woods, roadsides and rain forests, snow fields and sea shore."

Biodiversity: The UK Steering Group Report 1995

The Biodiversity Convention, signed by the UK Government at the Rio 'Earth Summit' in 1992, aims to ensure that the full range of animal and plant species are conserved. In 1994, the UK Government published its UK Biodiversity Action Plan as a framework document laying out the government's proposals for protecting biodiversity in the UK. Through this plan, a UK Steering Group was established to develop targets for rare and vulnerable habitats and species and provide guidance at a local level.

The Environment Agency has significant responsibilities regarding implementation of the UK Biodiversity Action Plan and will be developing targets for species and habitats of conservation concern. Key species for the Weaver/Dane Area include otters, water voles and freshwater white clawed crayfish. Additionally, there are other water related species and habitats in the area which will require protection. These include barn owls, bats, white faced darter dragonfly, hairy dragonfly, lesser silver water beetle, the mud snail and black poplars, reedbeds, meres and mosses, ponds and flashes.

Local Biodiversity Action Plans (LBAPs) are seen as an essential method through which the UK targets can be achieved, by translating them into effective action at a local level. LEAPs are seen as a key mechanism for identifying the actions the Agency needs to take at a local level to deliver its contributions towards individual species and habitat action plans.
Our operational and regulatory activities will take account of these species and habitats in fulfilment of our commitment to biodiversity. Additional work will be dependant on available resources and will involve collaborative work with other bodies.

Freshwater white clawed crayfish

2 Review of Consultation Process

2.1 Summary of Public Consultation

This section reviews the consultation process and provides a brief summary of the results of consultation. A more detailed review of comments is given in the Statement of Public Consultation, available on request.

The Weaver/Dane LEAP Consultation Report was publicly launched in November when the formal three month consultation period began. Approximately 350 people who have an interest in the Weaver/Dane area were invited to attend the launch which was held at the Floatel in Northwich. Of this, 90 people were able to attend, representing local authorities, environmental organisations, industry and recreational clubs. The launch was also publicised in the local press.

A set of consultation workshops were also held in January, in Northwich, aimed at local community and recreation groups. 41 people attended this collaborative event, which was organised jointly with the Weaver Valley Initiative and Mersey Basin Trust.

Copies of the Consultation Report, Summary Document and accompanying video were distributed following the launch. 5000 copies of the Summary Document, which included a questionnaire, were published and sent out to libraries and other public premises to publicise the Consultation Report.

2.2 Informal Consultation

Pre-consultation took place with key groups, local authorities and other representative bodies in January 1997. This early consultation provided an indication for Agency staff as to which issues should be addressed in the area.

Although a sub-group of the Area Environment Group was set up for the Weaver/Dane area, this took place after the Consultation Report had been compiled. Members were subsequently invited to comment on the Consultation Report and participate in the development of the Action Plan.

2.3 Summary of Responses

The Agency received 42 written responses and 35 questionnaire responses. Many helpful and welcome suggestions were received from consultees representing a wide cross section of interests. The individuals and organisations are listed in the Statement of Consultation.

The consultation process has given us a better understanding of the public's concerns for this LEAP area. Other issues which were frequently raised during consultation include the following:

- The need for better water quality in rivers and canals to facilitate more recreational use for rowing, canoeing, canal craft and anglers.
- The need to investigate the use of the waterways within the area as sustainable transport routes to move people and freight.
- The need to plan for the possible expansion in tourism and recreation that could follow the opening of the Anderton Boat Lift and the opening of the Runcorn Locks to create a second Cheshire Canal Ring.

- The need to improve access along watercourses within the area such as the Weston Canal.

The questionnaire within the Summary Document asked people to choose five issues which they considered to be the most important. Figure 1 illustrates the responses received. The top five issues in ascending order were Issue 1,2,19, 3 and 20.

Errors and omissions were also highlighted. Although the Agency welcomes these corrections we must stress that the supporting text and maps within the Consultation Report will not be revised until the next Consultation Report is produced, in five years time.

2.4 Future Action

Changes to some of the existing issues, options and proposals have been made as a consequence of consultation and are identified in the Action Plan tables in section 4. The Vision has been modified. New actions and the potential of new partnerships have been realised, following meetings with key groups.

We have considered the responses made and have developed the Action Plan so that there is a balance between the opinions expressed and the need to ensure a workable, deliverable and feasible plan.

The promotion of the issues in the Consultation report have identified activities which form the basis of the Action Plan for 1998 -2003.

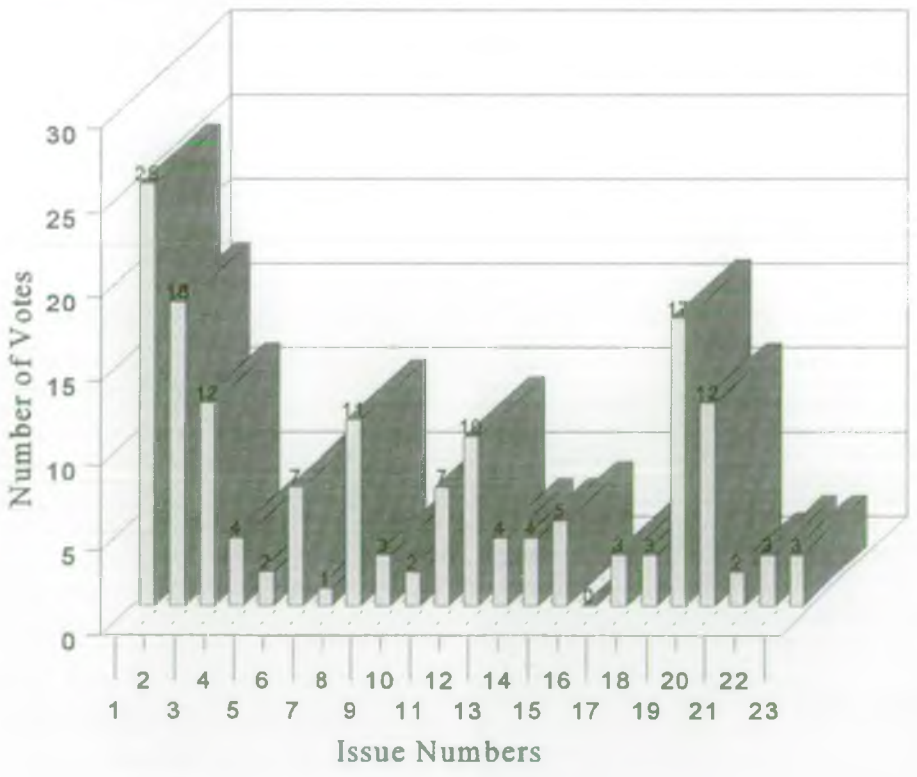


Figure 1 Issues that were selected as most important in the Questionnaire.

3 Overview of the Area

3.1 Brief Description of the Area Uses and Resources

The Weaver/Dane LEAP area is defined by the rainfall catchment of the River Weaver and the River Dane and covers 1423km². The Weaver rises to the east of the Peckforton Hills and flows 88 kilometres from its source to its confluence with the Manchester Ship Canal and Mersey Estuary, just north of Frodsham. Its main tributaries are the River Dane, which joins the Weaver in the centre of Northwich and the River Wheelock which joins the River Dane in Middlewich.

Past development has had a major influence on shaping the area and the planning system plays an important role in protecting much of its special character. New development has to be carefully considered, to recognise both potential adverse effects, as well as the benefits, it can have on the environment.

The area consists mainly of prime agricultural land but also includes the towns of Crewe, Congleton, Northwich, Sandbach, Winsford and parts of Runcorn. Recreation is also important within the area, especially river and canalside walks, boating, angling, rowing and canoeing.

Barge in Lock, Trent and Mersey Canal

The main industries of the area are chemicals, now centred in the north of the Weaver valley, and vehicles, centred on the towns of Crewe and Sandbach. Employment in both these industries has declined significantly over the last three decades although the salt based chemical industry manufacturing soda ash and related products is now operating in a sustainable way and is expected to continue to create wealth for the area for the long term future. The corridor of industrial activity together with associated brine extraction activities has left a mixed legacy of dereliction and contamination in some areas, but others where the lime rich deposits have provided habitats for rare species of orchids and butterflies. Remedial action has reduced the risk of subsidence, cleared the worst of the dereliction and significantly reduced the levels of pollution from today's industrial operations. Some problems of contamination remain and continue to pose potential threats to health and the pollution of groundwater.

Many Sites of Biological Importance (SBIs) and Sites of Special Scientific Interest (SSSIs) are found in the area along with important species and habitats. The Cheshire Meres and Mosses are an internationally important group of still waters and a legacy of the last ice-age. There are also thousands of ponds within the area. Together, these habitats support a variety of species and habitats.

The River Dane is the principal tributary of the Weaver and rises on the edge of the Peak District National Park. It is one of the most natural rivers in England, being swift flowing in its upper reaches and meandering along its flood plain. The course of the Dane in places is constantly changing and is known to have reverted to

former self cut channels over a cycle of 70 years.

Flood Defence

The threat from flooding is always with us. While flood risks can never be eliminated completely, they can be reduced.

The Flood Defence function through its regional and local flood defence committees delivers a 24-hour service managing flood risk.

The flood defence powers, duties and responsibilities of the Agency are set out in the Water Resources Act 1991, Land Drainage Act 1991 and the Environment Act 1995.

There are over 610km of "Main River" within the LEAP Area, flowing through agricultural, residential and industrial areas.

The Agency has a major operational role to maintain, operate and improve flood defences where appropriate. Frequently, objectives are met by working in partnership with local authorities and central government which provide the majority of funding for flood defence work. Environmental assessment is an integral part of all our activities, together with decision making based on cost-benefit analysis and widespread consultation. Our responsibilities include the following:

- Supervision - duty to exercise a general supervision over all matters relating to flood defence (which includes land drainage and water level management);
- Flood warning - responsibilities to disseminate flood warnings directly to the public;
- Maintenance and operations - powers to maintain and operate flood defences and associated structures to reduce the incidence of flooding;
- Improvements - powers to build defences to reduce the risk of flooding. This includes the replacement of defences reaching the end of their effective life;
- Regulate and Influence - consent is needed from the Agency for certain works that may affect the water courses and flood defences. Planning authorities, with the benefit of Agency advice, are responsible for protecting the flood defence interests of people whose property may be affected by development proposals.

Water Quality

The General Quality Assessment (GQA) grades indicate that the rivers and canals within the Weaver/Dane area are generally of good to fair chemical quality with 99.6% of the canal and 88.7% of the river stretches classified as fair or better.

Particularly good quality is found along the entire length of the River Dane and some of its tributaries, including two short stretches of Grade A quality in Shell Brook and Clough Brook. Stretches of good quality are also found within the Wincham Brook, Valley Brook and Checkley Brook systems.

Poor chemical water quality is found in only 8.4% of classified river stretches including all of the River Weaver downstream of Northwich. Of the other stretches of poor water quality a number are found immediately downstream of sewage treatment works (STWs), for example the River Croco downstream of Middlewich

3 Overview

STW and Audley Brook downstream of Audley STW.

The poor chemical water quality found in 0.4% of canals is restricted to one stretch in the Trent and Mersey Canal. The remaining 2.9% of classified river stretches contain bad chemical quality, including Wade Brook, Witton Brook and the River Weaver around Northwich. Bad water quality is also found in Wettenhall Brook, Leighton Brook, Edleston Brook and Baddington Brook.

Aquatic invertebrates sampled routinely from all classified rivers provide a basis for the biological GQA grades. Monitoring of the watercourses was undertaken during 1995 and the results indicate that the biological quality is fairly good in the upper reaches of the River Weaver and River Dane but typically poor in the watercourses associated with the heavily urbanised areas such as Crewe, Alsager, Kidsgrove within the Valley Brook area and Sandbach and Middlewich in the River Wheelock area.

River Dane at Swettenham

Bad biological water quality occurs around Northwich and extends to the River Weaver downstream to Runcorn. Quality is particularly bad within stretches of Wade Brook and Witton Brook in the Northwich area, where there is a complete absence of invertebrate life.

Poor biological water quality affected approximately 36% of river stretches sampled with a restricted, pollution tolerant taxa such as water hoglice, worms and chironomids (midge larvae).

Fair biological quality was found in about 23% of rivers sampled dominated by species such as pollution tolerant mayflies and shrimps. Fairly good biological quality extended along about 28% of sampled stretches dominated by mayflies, caddis fly larvae with a few stoneflies and a few more pollution tolerant species such as shrimps. Approximately 6% of sampled river lengths were classed as good comprising pollution sensitive taxa and 7% classed as bad dominated by very pollution tolerant species capable of utilising very low oxygen levels or a low abundance of a few species indicating toxicity.

River Quality Objectives

The Agency has proposed strategic targets for water quality within the Weaver/Dane LEAP area known as River Quality Objectives (RQOs). These provide a basis for management decisions taken to protect and improve the quality of watercourses within the catchment.

Ultimately, RQOs for different water uses will be set, although currently only the River Ecosystem (RE) scheme has been developed. This sets standards relating to the chemical quality requirements for different aquatic ecosystems.

Short-term objectives are proposed, along with a date by which compliance will be achieved. These objectives must be achievable within a ten-year horizon of committed investment or by the actions of the Agency or others.

Long-term objectives have also been proposed which reflect the achievable aspirations for water quality. Achievement of these objectives may take more than ten years and require currently uncommitted expenditure.

Views on the proposed short and long-term objectives are welcome. Where justifiable reasons exist, objectives may be amended in the LEAP annual review.

These objectives can be made statutory by direction of the Secretary of State but the timescale for implementation is uncertain at this time.

Compliance with the proposed short-term River Ecosystem RQOs was achieved by 94% of the classified river and canal stretches within the Weaver/Dane LEAP area. Of the remaining stretches, 2% marginally fail to comply and 2% significantly fail to comply with their short-term objectives. Significant failures occurred on stretches of Sales Brook, Baddington Brook, Valley Brook and Wettenhall Brook. In a further 2% of stretches the attainable short-term quality target falls below the lowest RE class such that no short-term objective can be set. This is the case in stretches of the River Weaver downstream of Northwich, Wade Brook, Witton Brook, Leighton Brook and Edelston Brook where the quality is currently below RE5 standard.

Compliance with the proposed long-term River Ecosystem RQOs was achieved by 58% of stretches whilst 16% marginally failed and 26% significantly failed.

Air Quality and IPC

In the Weaver/Dane LEAP area there are 47 processes regulated under Integrated Pollution Control (IPC) and these are operated on 18 different sites. IPC processes are grouped in the industrial belts around Runcorn and Northwich, and to a lesser extent around Crewe, Sandbach and Middlewich.

The distribution of industry has been determined to a large extent by the Cheshire salt fields. Underground salt is extracted by a system of "solution mining"and the resulting brine is used to produce pure salt. Brine is also used by local industries for the production of chlorine and sodium carbonate. Industrial activity has been carried out in the area for over 100 years and there are locations where land contamination is a significant issue.

Water Resources

There is a need to control the use of water within the area, to create a balanced and sustainable resource. The Agency achieves this by licensing abstractions from and discharges to the river system and through its "Policy and Practice for the Protection of Groundwater".

The management of water resources requires information on their status. Daily rainfall is measured using a network of voluntary observers; supporting this network are a number of automatic telemetered rainguages which record at sub-daily intervals from which rainfall intensity can be determined. River levels and flows are measured at various points throughout the plan area. In addition, specific projects are supported by the installation of temporary stations and spot measurements. Groundwater levels are routinely monitored throughout the plan area.

Waste Management

There is a general deficit of available landfill capacity in the North-West which means that waste management sites within the area are used for disposal of waste from Greater Manchester and Merseyside.

The area has high levels of industrial waste production and disposes of a large amount of domestic and commercial waste produced within the area and outside. Consequently there is great need to

manage and dispose of these wastes properly.

There is a significant problem of illegal waste disposal activity within the area, resulting in a high level of fly-tipping.

Fisheries

The fishery habitat available within the Weaver/Dane LEAP area varies from that suitable for non-migratory salmonids, that is, brown trout, in the upper reaches and many of its tributaries, to that more suited to coarse fish, for example, chub, roach and bream, found lower in the area.

Chub

Most of the smaller tributaries of the Weaver and Dane only support marginal species in spite of the good habitat.

The upper reaches of the River Dane, from where it rises to just below Bosley, is renowned as a trout fishery. In previous years it was intermittently stocked with trout by the Agency, however, it is now mainly stocked by private clubs.

As the River Dane travels through Congleton towards its confluence with the Weaver, it supports a good coarse fishery.

The Valley Brooks, Wincham Brook and Peover Eye systems, should by their physical nature, maintain a good mixed fishery, including brown trout in their upper reaches. However, due to poor water quality throughout the area only a marginal fishery exists within the river system.

Conservation

There are numerous sites of international, national and local importance located within the Weaver/Dane area. The West Midlands Meres and Mosses are designated under the Ramsar Convention to protect wetlands which are of international importance. There is also one proposed Special Area of Conservation which includes Oakmere, Abbots Moss and Wybunbury Moss. Eighty-one Sites of Special Scientific Interest are designated, one of which is also a National Nature Reserve (Wybunbury Moss). The South Pennine Moors Special Protection Area (SPA), for the conservation of wild birds, lies to the north-east of the LEAP area.

There are 412 Sites of Biological Importance (SBIs), designated by Local Authorities. These include habitats and species which are of County Value for Nature Conservation (CVNC).

Four English Nature Natural Areas cover the Weaver/Dane LEAP area:

- The Meres and Mosses Natural Area covering those Meres and Mosses within the Midlands Meres and Mosses Ramsar designation,
- The Upper Mersey Basin Natural Area which covers the open land scape of the Mersey Estuary at the downstream end of the River Weaver, which is internationally important for migratory birds,
- The Potteries and Churnet Valley Natural Area which covers the landscape to the south east of this LEAP area and the upper reaches of Dane in Shaw Brook, Audley Brook

and Kidsgrove Stream,

- The South West Peak Natural Area, covering the landscape of the Upper Dane.

Recreation and Amenity

The Cheshire Plain is a valued tourist attraction. Much of the area is relatively flat and open, and this offers a sharp contrast between the gentle undulating hills on the extreme south west of the area near Peckforton, to the more rugged moorland landscape in the east towards Wildboarclough approaching the edge of the Peak District.

Recreational sites are widespread offering a varied range of activities and facilities including walking, angling, cycling and bird watching, with water sports such as canoeing, windsurfing and boating on the canals, Weaver Navigation and some meres within the area.

Rivers Weaver and Dane at Northwich

4 Actions

4 Activity Plans

4.1 Implementation

Implementation of this plan is based on the 23 key issues set out and discussed in the Consultation Report. These issues have been modified where appropriate in the light of comments received during the consultation process. The resolution of these issues is considered necessary in order that the plan can achieve real improvements in the area. As a result of consultation, Issue 12 has been rewritten, Issue 15 has been split into two issues and a new issue 24 has been enclosed for consultation.

The most appropriate options within the Consultation Report have been carried forward into the action tables but some new actions have been added. Actions which have resulted from the consultation process are highlighted (+).

Following the end of the consultation period, the Agency has been involved in positive negotiations with several key groups.

4.2 Issues

The issues are presented with a number of actions, a target timetable and the identification of responsible parties. The names put against the options are those of Area Management Team members whose function is responsible for the action. The issues are not numbered in any order of priority or importance. Where possible, costs have been outlined for the period covered by the plan. This does not necessarily reflect the total cost of the schemes and is sometimes a projected estimate to be more accurately costed later. Costs shown are Agency costs unless indicated otherwise.

This document recognises current priorities, both within the Agency and other organisations. It should also be noted that the Agency's everyday work commits substantial resources to monitoring and managing the environment.

The progress made with these actions will be reported in future Annual Reviews.

Key

>	Greater than.
•	Action in the year indicated.
R	Recurring - non additional cost to annual budgetary provision.
U	Unknown cost at this time.
U(I)	Individual costs will be identified and agreed during negotiations.
U(ii)	Capital costs will be identified during investigations and surveys.
*	Only Agency costs (other than normal working costs) identified here. Costs to other organisations unknown).
K	£1,000.
+	Action added as a result of consultation.

Abbreviations

AMP	Asset Management Plan
BAP	Biodiversity Action Plan
BC	Borough Council
BTO	British Trust for Ornithology
BW	British Waterways
CCC	Cheshire County Council
CPRE	Council for the Protection of Rural England
CWT	Cheshire Wildlife Trust
DETR	Department of the Environment, Transport and Regions.
EN	English Nature
FRCA	Farming and Rural Conservation Agency
FWAG	Farming and Wildlife Advisory Group
LA	Local Authority
LBAP	Local Biodiversity Action Plan
MAFF	Ministry of Agriculture Fisheries and Food
MBC	Mersey Basin Campaign
NFU	National Farmer's Union
NWW	North West Water Limited
RSPB	Royal Society for the Protection of Birds
STW	Sewage Treatment Works
WLMP	Water Level Management Plan
WVI	Weaver Valley Initiative

4 Actions

Issue List

Issue 1 Adverse Impact of Industrial Discharges on River Water Quality

The extensive deposits of salt in and around North Cheshire have had a major bearing on the development of industry within the Weaver/Dane LEAP area. Salt extraction activities occur at sites around Northwich, Winsford and Middlewich, and at sites such as the Brunner Mond complexes around Northwich, the ICI complex at Runcorn and Hays Chemicals works between Middlewich and Sandbach, the extracted salt is used in various chemical processes. Discharges from several of these sites are having a significant adverse impact upon the catchment's water quality.

Although considerably improved over recent years, discharges from the Brunner Mond complex at Lostock have a significant detrimental impact upon the water quality downstream, successively in Wade and Witton Brooks. The water quality in these stretches is classified as "bad" under the Agency's General Quality Assessment (GQA) scheme. The adverse impact of the discharges is specifically through the elevation of the ammonia, pH and chloride levels within the brooks. Further downstream in the River Weaver, water quality classified as "bad" under the GQA scheme results again, as a consequence of discharges from the Brunner Mond complex at Winnington, on top of those already made from the Lostock complex.

Historic discharges of mercury to the Trent and Mersey Canal have left a legacy of contamination in the sediments which can be resuspended by boat traffic. In line with the requirements for complying with the EC Dangerous Substances Directive, under which mercury is a List I substance, current discharge limits for mercury from Hays Chemicals site are much more stringent.

Discharges from the ICI complex at Runcorn have several adverse impacts on water quality in the Weston Canal and further downstream in the River Weaver. The complex is authorized to discharge a number of substances contained within List I of the EC Dangerous Substances Directive. The Environmental Quality Standard (EQS) for 1,2-dichloroethane, monitored at Sutton Weir on the River Weaver, was breached in 1994 and 1996 as a consequence of discharges from the ICI complex. However, major expenditure by ICI has already been spent to minimise this contamination, therefore no further action, beyond continued monitoring, is required. The EQS for dissolved copper was also exceeded in 1996, however as its sources are not fully understood, further investigation was required. Direct impacts of the discharges on the Weston Canal include elevated salinity, water column stratification, calcium salt precipitation, and mercury contamination. Further work is planned by the Agency to investigate the scope of these impacts upon the Weston Canal. This will be part of the overall long-term plan for the major industrial discharges in the area.

Valley Brook in Crewe and Flash Brook near Sandbach, have respectively suffered intermittent oil and herbicide contamination problems.

4 Actions

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Improve the quality of discharges from the Brunner Mond sites at Lostock and Winnington in line with discharge permissions.	Brunner Mond	Environment Agency (S C Lever)	U[A]	165	•	•	•	•	
2. Continue to monitor the extent of mercury contamination in the Trent and Mersey Canal.	Environment Agency (R Lamming)		R	•	•	•	•	•	•
3. Investigate options to remediate the mercury contamination of the Trent and Mersey Canal.	British Waterways, Environment Agency (R Lamming)	Hays Chemicals Ltd	U						
4. Continue to monitor the impact of discharges from ICI upon compliance with Dangerous Substances EQSs in the River Weaver at Sutton Weir.	Environment Agency (R Lamming)		R	•	•	•	•	•	•
5. Investigate sources of copper responsible for the EQS failure in the River Weaver at Sutton Weir.	Environment Agency (R Lamming)		R	•	•	•	•	•	•
6. Investigate the scope of the identified impacts upon the Weston Canal.	Environment Agency (R Lamming)	ICI, Brunner Mond	U[B]	•	•	•	•	•	•
7. Continue to monitor the impact of industrial discharges on Valley Brook, Crewe and Flash Brook, Sandbach.	Environment Agency (R Lamming)		R	•	•	•	•	•	

A 1998/99 spend by Brunner Mond on a pilot biological treatment plant and process optimisation. Spend in subsequent years will be dependent upon the success of these initiatives.

B Work undertaken by the Agency as part of a long-term plan for the major industrial discharges in the area.

Issue 2 Adverse Impact of Agricultural Activities on River Water and Habitat Quality

Large areas of the Weaver/Dane LEAP area are used for agriculture, particularly dairy farming. Poor agricultural practices can lead to the diffuse and point source pollution of watercourses. This can have a detrimental impact upon the aquatic biota, restricting both the fish and invertebrate communities to species tolerant of organic pollution. Classified stretches of watercourses within the plan identified as being adversely affected by agricultural activities, include:

Loach Brook (QSL at A534 to River Dane)
Cow Brook (QSL at Manor House Lake to River Dane)
Ash Brook (QSL at Salterswell to Darley Brook)
Ash Brook (Chester Lane/Barley Brook to Weaver)
Wettenhall Brook (Oulton Brook to Ash Brook)
Edleston Brook (QSL at Railway to Weaver)
Baddington Brook (QSL at Austerson Tributory to River Weaver)
Sales Brook (QSL at A530 Newhall to Barnett Brook)

Many waterside fields are utilised right up to the banks of watercourses and this can reduce the quality of available habitat and cause accelerated bank erosion. The wildlife value of river corridors can be improved by creating or leaving uncultivated strips. These strips could be fenced off to allow natural vegetation to re-establish, or they could be seasonally grazed or left as tall, unmanaged grassland. This can also reduce erosion and may reduce the likelihood of fertilizer, pesticides, slurries and nutrient enriched run-off reaching the watercourse with benefits to river water quality.

The Sustainable River Management Project is a collaborative venture started in 1997, between the Environment Agency and the Farming and Wildlife Advisory Group (FWAG). The project aims to assess the environmental impacts of the management practices mentioned above. A stretch of the River Weaver near Nantwich is being fenced off and monitored as part of the initial phase of this project.

Uncultivated riverside buffer strips.

The Environment Agency is also a partner in the Farming 2000 initiative which is introducing the ISO 14001 Environmental Management System onto farms in the Weaver catchment. This management system allows farmers to set goals and achieve an improvement in the environmental effects of farm operations.

4

Actions

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Undertake farm campaigns to identify and prioritise point source pollution problems.	Environment Agency (R Lamming)		R	•	•	•	•	•	•
2. Promote adoption of Codes of Good Agricultural Practice and Farm Waste Management Plans.	MAFF	Environment Agency (R Lamming) NFU, FWAG	R	•	•	•	•	•	•
3. Undertake farm improvements and utilise practices designed to reduce organically enriched drainage.	Farmers	Environment Agency (R Lamming) MAFF, FWAG	U	•	•	•	•	•	•
4. Continue to promote and contribute to the Farming 2000 campaign.	Environment Agency (R Lamming)	MBC, DETR	3	•					
5. Continue implementation of the Sustainable River Management Project.	Environment Agency (A R Lee), FWAG	Landowner.	20	•					

Issue 3 Adverse Impact of Discharges from Sewage Treatment Works on River Water Quality

Discharges from a number of North West Water Ltd's Sewage Treatment Works (STWs) have significant adverse impacts upon water quality in the Weaver/Dane LEAP area. Discharges from Holmes Chapel and Nantwich STWs jeopardize compliance with the EC Freshwater Fish Directive. There is evidence of eutrophication within the River Wheelock catchment as a consequence of discharges from Kidsgrove, Alsager and Sandbach STWs. Amongst others, discharges from Middlewich, Audley, Biddulph and Kidsgrove STWs result in poor water quality in the receiving watercourses such that they fail to meet their long-term River Quality Objectives (RQOs).

Improvements at Holmes Chapel STW are programmed to be carried out during AMP2 - the Asset Management Plan covering the investment period 1995 to 2000. Improvements at the other works will depend upon them securing funding in the AMP3 investment programme for 2000 to 2005.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Tighten consent conditions at Holmes Chapel STW in line with the requirements for complying with the EC Freshwater Fish Directive.	Environment Agency (S C Lever)		R	•					
2. Undertake improvements programmed in AMP2 to reduce the organic and ammoniacal loads discharged from Holmes Chapel STW.	NWW Ltd		U	•					
3. Secure AMP3 investment necessary to reduce the organic and ammoniacal loads discharged from Nantwich STW in line with the requirements for complying with the EC Freshwater Fish Directive.	Environment Agency (S C Lever)	NWW Ltd	R	•	•				

4 Actions

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
4.Consider pursuing the designation of waters affected by eutrophication as "sensitive areas" under the EC Urban Wastewater Treatment Directive	Environment Agency (S C Lever)		U			•	•	•	•
5. Collate information and formulate case to secure AMP3 investment necessary to reduce the organic and ammoniacal loads discharged from Middlewich, Audley, Kidsgrove and Biddulph STWs.	Environment Agency (S C Lever)		R	•	•				
6. Recommend refusal where necessary to any further development proposals connecting to Middlewich, Audley, Kidsgrove or Biddulph STWs until improvements are made.	Environment Agency (R Lamming)	Local Authorities, NWW Ltd	R	•	•	•	•	•	•

Issue 4 Adverse Impact of Combined Sewer Overflow Discharges on River Water Quality

Combined Sewer Overflows (CSOs) are provided on the sewerage network to prevent flooding during storm events. In many areas the combined sewer capacity is often inadequate to deal effectively with the flows resulting from the modern developments. Consequently CSOs operate more frequently and during periods of inadequate dilution in the receiving watercourse. The lack of suitable screening at a CSO can result in the deposition of sewage litter, such as sanitary towels and condoms, on the banks of watercourses.

Of the CSOs within the Weaver/Dane LEAP area, three unsatisfactory overflows around Kidsgrove are programmed for improvement during AMP2. The remaining unsatisfactory overflows will be prioritised for inclusion in the AMP3 programme.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Improve the performance of the unsatisfactory combined sewer overflows programmed for investment in AMP2.	NWW Ltd	Local Authorities	U	•	•				
2. Identify and prioritise unsatisfactory CSOs for investment in AMP3.	Environment Agency (S C Lever)		R	•	•				
3. Improve the performance of remaining unsatisfactory combined sewer overflows within the prioritised programme. NWW Ltd Local Authorities		Local Authorities	U			•		•	
4. Recommend refusal to any further development proposals connecting to sewers with unsatisfactory CSOs until improvements are made.	Environment Agency (S.C. Lever)		R	•	•	•	•	•	•

Issue 5 Adverse Impact of Contaminated Surface Water Discharges on River Water Quality

Most modern developments are drained by two systems, one conveying uncontaminated surface water into a local watercourse, and the other taking foul water to a sewage treatment works. The wrong connection of foul drainage to the surface water sewer; damage to dual manholes; blockages in the foul sewer downstream of dual manholes; and the pouring of contaminated liquids down the wrong drain, can all result in contaminated water being discharged via the surface water drains into a watercourse.

The identification and prioritisation of contaminated surface water (CSW) discharges is undertaken by the Environment Agency. A list of CSWs, ranked by the impacts they have on the receiving watercourse, has been produced for the North West Region. The task of tackling CSW problems by for example, identifying and rectifying wrong connections, dual manhole problems, is largely undertaken by Local Authorities, but funded by North West Water Ltd (NWW Ltd). Negotiations between the Agency and NWW Ltd have secured a commitment to tackling a significant number of the top priority CSW problem before the year 2000. Priorities within the Weaver/Dane LEAP area include CSWs in the vicinity of Knights Grange housing estate in Winsford, Macon Way and Weston Road in Crewe, and Parrots Drumble in Talke.

The Agency has produced a leaflet entitled "making the right connection" which explains how wrong connection occur, why they result in water pollution and whose responsibility it is to put them right.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Identify and prioritise contaminated surface water problems.	Environment Agency (R Lamming)	Local Authorities	R	•	•	•	•	•	•
2. Undertake work to correct wrong connections and tackle manhole problems.	NWW Ltd.	Local Authorities, Householders	U	•	•	•			•
3. Raise awareness of wrong connections, through leafleting campaign.	Environment Agency (R Lamming)		R	•	•	•	•	•	•

Issue 6 Adverse Impact on River Water Quality Due to Undetermined Pollution Sources

In some cases the root cause of water quality problems is not fully understood, such that investigative work may be required.

Water quality within Leighton Brook (Frank Webb Lane to River Weaver) is classified as "bad" under the Agency's General Quality Assessment (GQA) scheme due to high total ammonia levels. Investigation is required into the potential sources of contamination, which include an old landfill site, an industrial discharge, industrial estate runoff, dairy farm drainage, road runoff and discharges from one unsatisfactory storm sewer overflow.

Water of "poor" GQA quality in Gale Brook (at Appleton STW to Lodge Lane) results in it failing to achieve its proposed short-term River Quality Objective of RE4. Biological sampling has highlighted a very restricted fauna. None of the identified impacts on this stretch, which include dairy farm drainage, motorway run-off, discharges from an industrial estate and a number of small private STW's, are thought to be particularly significant. Further investigation is therefore required.

Samples taken from the River Dane at Hug Bridge, during 1995, failed to comply with the EC Surface Water Abstraction Directive. However, no obvious pollution sources have been identified in the catchment upstream. A review of the sampling procedure has been undertaken to ensure this is not the contamination source. Compliance with the directive has been achieved in subsequent years and therefore no additional action, other than continued compliance monitoring is required.

A stretch of the Shropshire Union Canal (Market Drayton to Whitchurch Road Bridge, Audlem), a designated cyprinid fishery under the EC Freshwater Fish Directive, marginally exceeded the permitted pH standard twice during 1996. This was thought to be due to a combination of elevated algal activity and the resuspension of anoxic sediments. However, as both results were only marginally above the standard, no further action, beyond the continued compliance monitoring, is proposed.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Investigate the sources of pollution responsible for the failures to achieve the proposed River Quality Objectives on Leighton and Gale Brooks.	Environment Agency (R Lamming)		U	•	•	•	•	•	•

Issue 7 Localised Water Pollution Due to the Lack of Rural Sewerage

The lack of public sewers and sewage treatment works in many rural localities, within the Weaver/Dane LEAP area, has resulted in a multitude of private septic tank and small treatment plant discharges. Agency policy is against the proliferation of such systems because a single, large sewage treatment plant typically performs more efficiently than multiple, small plants, due to better flow and load balance.

Significant localised pollution can occur in watercourses where a number of discharges are made in close proximity, or when treatment plants are poorly maintained. Conspicuous examples include: Barbridge; Burland; Hankelow; Moss Road, Congleton; Minshull Vernon; Oakwood Lane, Moston; Peover Heath; Rushton Spencer; Smallwood; and Wettenhall.

With effect from the 1 April 1996, a new duty was placed on all sewerage undertakers to provide a public sewer anywhere in their area where there are, or likely to be, environmental or amenity problems associated with the current sewage disposal arrangements. Provided certain criteria are met, applications for a public sewer can be made to North West Water Ltd[1] by home owners, occupiers or local authorities.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Pursue provision of first time sewerage with North West Water Ltd, in problem areas where appropriate.	House Owners, Occupiers, Local Authorities	Environment Agency (R Lamming)	U						
2. In response to valid applications, provide public sewerage facilities to unsewered areas.	NWW Ltd	Local Authorities, Environment Agency							

Note[1] NWW Ltd should be contacted for details of the criteria needed before an application for a public sewer can be made.

Issue 8 The Need to Reduce Wastage of Water

Water is supplied into the public water supply system to meet demand. Demand is generated by customers using water and losses through leakage from the distribution network.

Historically, water has been a cheap commodity for industry and an unlimited, uninterrupted supply is viewed as a right by domestic customers. These factors, together with domestic charging schemes, have contributed to a culture of inefficient usage of water and little recognition of its true value.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Reduce leakage to economic levels.	NWW Ltd,	Environment Agency (P Younge)	U[A]	•	•	•	•	•	•
2. Introduce demand management [1].	NWW Ltd,	Environment Agency (P Younge)	R[B]	•	•	•	•	•	•
3. Reduce domestic leakage and demand [2].	General Public NWW Ltd, Environment Agency (P Younge)		R[C]	•	•	•	•	•	•

A North West Water Ltd currently have £45 million per annum, budgeted to address this problem across the North West and a proportion of this will be spent in this LEAP area. This sum of money may change over future years.

B and C North West Water Ltd are producing literature to raise awareness on these problems.

Note[1] The Agency has engaged a demand management coordinator to encourage use of demand management techniques within the Region and the LEAP area.

Note[2] Liaison work with NWW Ltd has resulted in agreements on leakage reduction targets, and improvements have been made within the LEAP area during the time period of the LEAP. There has also been a great deal of progress on demand management and the control of domestic leakage.

Issue 9 Reducing the Impact of Agricultural Water Usage

Agriculture is a prime user of both surface and groundwater for irrigation and other farming practices. Irrigation is the most critical of agricultural uses as it is consumptive and demand is at its highest in summer when river flow is low and the impact on the watercourse is greatest. The licensing system balances the needs of the environment with those of the abstractor to minimise any environmentally damaging effects.

The agricultural use of water can be managed in several ways to reduce the volumetric and temporal demand for water:

- Efficient use of water and use of most effective irrigation techniques
- Irrigation scheduling to optimise the use of water and crop yields
- Night-time irrigation to reduce evaporation losses
- Sharing of developed resources
- Use of winter storage to avoid abstraction when river flows are low

Examples of winter storage reservoirs are on Sych Brook (1), Red Lion Brook(4), with a proposal for one on Checkley brook.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Promote the efficient use of water resources in agriculture+.	MAFF[1] Environment Agency, (P Younge)	Farming Community, NFU, FWAG	2[2]	2					
2. Encourage winter storage where appropriate+.	Environment Agency (P Younge), MAFF, NFU	Local Authorities	R	•	•	•	•	•	•

Note[1] MAFF have produced the following leaflets to assist in promoting the efficient use of water; "Winter Storage Reservoirs (PB 2512)", "Good Irrigation Practice (PB 2513)" and "Irrigation Scheduling (PB2511)".

Note[2] The Agency ran a seminar in 1997/98 to Farmers promoting the efficient use of water, an equivalent seminar will be run in 1998/99.

Issue 10 Adverse Impact of Water Level Changes in the Cheshire Meres and Mosses

Many habitats are affected by changes in water level, the effect is particularly significant in the shallow lakes and meres of the Weaver catchment. The meres and wetland sites in the catchment have no baseline data to monitor the effects of abstraction, drought and mining on water levels. Meres are often designated for their marginal flora, and a small change in water level may have a significant impact on the area of marginal vegetation that is permanently wetted. Additionally, falls in water level enable increased light penetration within the water body, increasing the likelihood of algal growth. These factors combine to result in a change of the ecology of the site.

Changing water levels can also have a detrimental effect on recreation. Low water levels can restrict the use of canoes and boats, especially those with outboard motors. Angling can also be affected by increased algal growth.

Water level information is needs to ascertain the full impact of this issue. Baseline data could be used when formulating Water Level Management Plans and for addition to the Still Waters Database held by the Environment Agency. The Agency would then be able to assess the detrimental impact of future changes in water level.

Equipment has recently been installed on Oakmere and is to be installed within the Abbots Moss system in 1998/99.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Install equipment to obtain water level data from wetland and mere sites.	Environment Agency (P Younge)		U[1]	3.2	1	1			
2. Seek information from third parties to increase the understanding of water balance at Mere and Moss sites.	Environment Agency (P Younge)	Local Interest Groups	R[2]	•	•	•			

Note[1] Sites have been identified and equipment installation commences March 1998. Ongoing costs indicate the requirement for data downloading and validation.

Note[2] Liaison with external agencies and individuals is ongoing.

Issue 11 Adverse Impact of Litter and Illegal Waste Disposal Activity on Land and into Watercourses

Due to relatively low population density, the problem of illegal waste disposal activity within the area, including "flytipping", is less pronounced than in other LEAP areas. Nevertheless there are problem locations, particularly in the urban areas, although the problem also occurs on a more sporadic basis in the more rural localities. Wastes are deposited on all kinds of sites, including waste ground and derelict premises, car parks, verges, farmland, alleyways into watercourses and even on the public highway. As well as the obvious detriment to amenity wherever it occurs, flytipping often brings the risk of environmental pollution, physical injury or damage to health. Where waste is deposited into a river there will be an increase in the likelihood of flooding to roads and property, particularly where there are culverts or bridges.

The Agency works with Local Authorities to deal with this problem and a national memorandum of understanding exists which identifies the respective roles of each. Local Authorities will deal with occurances which are of a smaller scale or do not pose an immediate threat of environmental pollution. The Agency will deal with larger scale and/ or polluting occurances, and all tipping into watercourses. Local Authorities therefore become involved with a greater number of incidents, devoting significant resources to dealing with these issues.

The Agency has a team of three officers responsible for enforcement against illegal 'waste to land' activities in the LEAP area, including flytipping. In addition there is one officer in the South Area dealing exclusively with waste in watercourses.

Rubbish problems affecting main rivers are being tackled by the Agency in conjunction with the Agency sponsored Water Watch and Stream Care projects. Water Watch encourages Local Authorities, waterside businesses, schools, voluntary groups and local communities to get involved in clearing rubbish from rivers and canals. They also seek to prevent the problem recurring through education/ raising awareness.

Litter in Leighton Brook

The Environment Agency Hotline is available for reporting serious incidents involving large quantities of waste, hazardous waste or waste deposited in such a manner that there is a risk to health or property - 0800 807060. The general Environment Agency number should be used to report other incidents - 0645 333111.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Prompt regular clearance of flytipped material as appropriate, with attempts to recover costs from polluters. Investigate further partnership opportunities, including the possible use of litter collection teams.	Environment Agency (R Lamming, P Younge)	Local Authorities, Tidy Britain Group, Water Watch, Stream Care, other voluntary groups, Police Wildlife and Environment Officer, British Waterways	R	•	•	•	•	•	•
2. Participate in initiatives to improve awareness and information on best practice and available disposal options, including press articles, leaflet campaigns and specific on-site campaigns +.	Environment Agency, (R Lamming) Local Authority,	Tidy Britain Group, Water Watch, Stream Care, other voluntary groups, Police Wildlife and Environment Officer, Landowner, Business groups, Residents	5	4	1	•	•	•	U
3. Identify problem locations and appropriate remedial action.	Environment Agency, (R Lamming)	Local Authorities	R	•	•	•	•	•	•
4. Encourage and advertise better provision of household waste collection sites and collection services for problematical household wastes.	Local Authorities, Waste Disposal Companies	Environment Agency, (R Lamming)	R	•	•	•	•	•	•
5. Consider installation of debris screens in appropriate watercourses.	Environment Agency, (P Younge)	Local Authorities, Landowners	R	•	•	•	•	•	•

Issue 12 Adverse Impact of Contaminated and Derelict Land on the Environment

The Environment Agency operates in accordance with the provisions and duties under the Environment Act 1995. This involves local authorities in the identification of contaminated land sites and a joint approach with the Agency, particularly where sites pose a threat of serious harm or pollution.

Regulations are anticipated in the next year which will clarify the Agency's core duties in respect of such sites and it is expected that these additional duties will increase the Agency's involvement in remediation of sites. Nevertheless the Agency is already involved in many schemes where it adopts a partnership approach.

Derelict land can be of outstanding wildlife importance supporting rare species of plants, dragonflies, butterflies and birds. This has led to the designation of such areas of land as Sites of Special Scientific Interest and Sites of Biological Importance. Any scheme for remediation of contaminated land would fully assess the ecological value of the site and seek to mitigate effects on those areas of ecological value.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Identification of contaminated sites.	Local Authority	Developers, landowners, Environment Agency.	U						
2. Undertake detailed investigations									
(a) Brunner Mond at Winnington, as part of the Combined Heat and Power project	Brunner Mond Environment Agency (R Lamming)		U(A)	•	•	•	•	•	
(b) Whitley Pit Landfill, Whitley - possible leachate migration.	Operator, Environment Agency (R Lamming)		2	2					
3. Assessment of historical land contamination and environmental impact at the ICI Runcorn site (22 land compartments) through Project Pathway.	ICI	Environment Agency (S. Lever)	U						
4. Initiate and coordinate action over sites+.	Environment Agency - where sites are particularly contaminated (R Lamming) Local Authority.	Local Authority, Landowner, English Nature, Witton Area Conservation Group, Wildlife Trusts, Butterfly Conservation.	R	•	•	•	•	•	•
5. Remediation of appropriate sites+.	Local Authority.	Environment Agency, Landowner.	U						
6. Develop a database of sites.	Environment Agency (S Lever)	Local Authorities	U	•	•				

A = principally costs to Brunner Mond

Issue 13 Ensuring the Beneficial Effects of Land - Spreading of Waste Under the Waste Management Licensing Regulations

This Issue is not being taken forward into the Action Plan for the following reasons:

- The proposed actions include items which will be dealt with through the Agency's core work activities,
- The issue is best dealt with as a national policy matter. An Agency research project is currently in progress which will report with guidelines on the beneficial application of wastes to land.
- There is no local event which can be cited as a specific problem to be addressed.

Any adverse environmental impacts which may arise, such as the contamination of watercourses, will be dealt with through our pollution control duties.

Issue 14 Need to Promote the Waste Hierarchy

The Agency has roles in educating, providing information and statistics, but also in forming 'on-the-ground' partnerships with appropriate interest groups so as to promote the waste hierarchy and help to deliver the UK's commitment to the relevant aims of the Rio Earth Summit agreement.

Failure to reduce waste output will lead to increasing pressure on landfill and alternative disposal options, which have significant environmental impacts. One effect of high waste production will be high disposal costs, and a knock-on effect of that is likely to be continuation of the problem of flytipping. Hence waste minimisation and creation of more effective outlets for recycling should reduce flytipping.

Recycling of Waste

Local Authorities have a significant part to play in achievement of the targets and the Agency seeks to work in partnership with them, and with other interest groups[1]. Ongoing activity includes Agency involvement in Cheshire Chambers Ltd and in the 'Farming 2000' project, both of which include waste minimisation within their remit, but it is intended to investigate further opportinities for partnership within this LEAP area.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Enhance partnerships with interest groups to promote the benefits of sustainable waste management.	Environment Agency, (R Lamming)	Local Authorities, Business Links, Groundwork, Consultancies, Community and voluntary sectors.	R	•	•	•	•	•	•
2. Promote waste minimisation to industry and to the public.	Environment Agency, (R Lamming)	Local Authorities, Business Links, Groundwork, Consultancies, Community and voluntary sectors.	R	•	•	•	•	•	•

Note[1] Local Authorities have a statutory duty to produce and publicise local recycling plans and to meet CentralGovernments targets for recycling within the LEAP area.

Issue 15a Poor Access to Watercourses for Maintenance Activities

Poor access to stretches of watercourse can impede regular maintenance and emergency work activities. Access to watercourses in urban areas is often complicated by walls, fences and residential or industrial property. As well as looking unattractive, development to the bank top leaves little or no habitat space for wildlife. The provision of linear green spaces along watercourses can act as a buffer against damaging activities as well as providing a corridor for maintenance purposes.

The construction of suitable access to, and along, currently inaccessible watercourses is required to reduce maintenance costs and to improve the Agency's response to flooding. These works may consist of access ramps or tracks. All works are designed to be environmentally acceptable.

Bankside development, Dane-in-Shaw Brook, Congleton

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Classify areas of need, and report on the technical, economic and ecological aspects of an identified solution. A catchment wide study should consider a strategic approach to this issue.	Environment Agency (P Younge)	MAFF, Local Authorities, Developers, Riparian Owners.	2	•	•				
2. Providing, encouraging and enforcing access strips along watercourses through the development control process and land drainage consents[1] where appropriate.	Environment Agency (P Younge)	Local Authorities, Developers, Riparian Owners.	R	•	•	•	•	•	•

Note[1] If access cannot be created, it is possible that we would use specialised maintenance equipment to work in restricted areas.

Note[2] The Environment Agency has duties under land drainage bye-laws, to control works and development within 8m of the top of the bank on Main Rivers.

Note[3] This issue is linked to issue 15b The Need to Raise Awareness and Increase Public Access to Watercourses for Recreational Activities.

Issue 15b The Need to Raise Awareness and Increase Public Access to Watercourses for Recreational Activities

Poor access to watercourses, especially in urban areas, can restrict both formal and informal recreational activities. Rivers, streams and canals can become neglected and undervalued, where people cannot walk along them. Whilst considering the creation, extension and improvement of footpaths and access opportunities, consideration should be given to the possibility of not disturbing susceptible species during their breeding season and only considering areas that will benefit from increased access.

Indicating the presence of a watercourse, through signage and interpretation material, raises public awareness of the waterbody. This may help discourage mis-use of the watercourse, raise the aesthetic appeal and improve public perception of the value of the water environment. Increased signage will also encourage informal recreation. The possibility of improving access via the watercourse itself should also be considered.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Identify where improvements for public access to watercourses are necessary and encourage the creation, extention and linking of linear parks, paths and cycleways, including those in general disrepair+.	Weaver Valley Initiative.	Environment Agency (ARLee), Groundwork Trusts, Local Authorities, Riparian Owners, NFU, FWAG, Sustrans, English Nature, British Waterways, Rangers, Ramblers Association, Witton Area Conservation Group.	U [1]		•				•
2. Investigate the potential for meeting the needs for signage and interpretation boards on and near to river crossings across public footpaths and highways, and help implement.	Weaver Valley Initiative	Environment Agency (AR Lee), Groundwork Trusts, Local Authorities,Parish Paths Partnership Riparian Owners, British Waterways, Rangers, Ramblers Association.	U [1]		•				•
3. Increase public awareness of the presence of watercourses .	Weaver Valley Initiative.	Environment Agency (AR Lee), Schools, Groundwork Trusts, Rangers	U [1]		•				•

Note[1] A bid has been put forward by the Environment Agency for Millennium funding to assist with this issue.

Note[2] This issue is linked to issue 15a Access to Watercourses for Maintenance Works.

Issue 16 Culverts Causing Flood Risk and Loss of Habitat

Culverts can prevent or impede the free flow of water along watercourses and reduce natural wildlife habitat. In urban areas culverts can cause flooding to property due to blockage or collapse, this inherent risk of flooding is managed by regular maintenance. The detection of pollution is also complicated when surface water systems discharge within culverts.

The Agency's policy is to approve only those applications for consent to culvert a watercourse where there is a demonstrable need, no practical alternative and there is minimal impact on habitats. Wherever practical, the Agency will seek to restore existing culverted watercourses to open channels.

Culverted section of Biddulph Brook, Biddulph

Action	Responsibility		Total cost (£K)	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	Future
	Lead	Other							
1 Identify and gather information on all culverts suitable to be opened up when the opportunity arises[1].	Environment Agency (A R Lee)	Local Authorities, Developers, Riparian Owners.		•	•				
2 Reduce flows into culverts by attenuating flows, storing flood waters or providing alternative routes for flood flows.	Environment Agency (P Younge) Local Authorities, Developers, Riparian Owners.		U(A)	•	•	•	•	•	•
3. Identify and investigate the potential flood risk problem. Report on the technical, economic and sustainability of any potential solution.	Environment Agency (P Younge) Local Authorities, Developers, Riparian Owners.		2		•	•			

Note[1] Action 1 will be progressed through multi-functional projects and through River Rehabilitation schemes.

A As and when opportunities arise. These will be reported in future reviews of this plan.

Issue 17 Properties at Risk of Flooding

Certain urbanised localities within the LEAP area have been highlighted as being vulnerable to potential flooding from rivers and watercourses. At the same time, pressure for the development of flood plains within urban areas is increasing.

Our overall aim in relation to floodplains is to secure and where necessary restore their effectiveness for flood defence and environmental purposes[1]. As such we will continue to advise agaisnt development within floodplains, and seek to ensure that policies relating to their protection are incorporated into Local Plans and are enforced.

However, where areas of urbanisation exist, to allow the Agency to meet its objective of "reducing the risk of flooding", supplementary to general maintenance work, we have permissive powers to build new flood defences.

The Agency recognises that irrespective of attempts to reduce the risk of flooding through either our policies or actions, flooding can still occur. Arrangements for warning residents within a formal Flood Warning Zone have been agreed in consultation with local authorities and emergency services. We aim to provide a two hour warning of the commencement of flooding wherever practicable.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Identify areas at risk. (Section 105)[2].	Environment Agency (P Younge)	Local Authorities, Developers.	U	•	•	•			
2.Investigate the known flooding problem and report on the technical, economic and sustainability of its potential solution.	Environment Agency (P Younge).	Local Authorities, Developers, Riparian Owners.	2	•	•				

Note[1] Our Policy Document : Policy and Practice for the Protection of Flood Plains (April 1997) sets out the Agency's flood defence policies in relation to river and coastal floodplains and explains the reasoning behind them.

Note [2] The Agency is responsible under Section 105 of the Water Resources Act 1991 to produce maps showing the location and extent of areas at risk of flooding.

Issue 18 In-river Structures Causing Flood Risk, Restriction of Fish Migration and Reduced Recreational Use

In-river structures such as weirs and sluices can cause obstructions to the migration of fish, and recreational users such as canoeists and rowers. These structures are also vulnerable to silt deposition which in some instances, increases the risk of flooding.

The installation of landing and launching platforms above and below impassable weirs may be beneficial for the passage of canoeists, rowers and other small craft.

If fish are restricted from free movement within the river system, they are unable to migrate to their spawning grounds. This will reduce spawning success and hence sustainability.

A Weir

Action	Responsibility		Total cost (£K)	1998/ 1999	1998/ 1999	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Investigate and collate information on the existing structures, assessing the full impact on recreation, canoeing, rowing, fisheries and flood defence activity. Prioritise and seek funding for restoration, enhancement, or removal of in-river structures+.	Environment Agency (A R Lee)	Local Authorities, Riparian Owners, British Canoe Union, N.W. Rowing Council, Sports Council, English Heritage, British Waterways, Angling Clubs, CPRE.	U						

Issue 19 The Need to Protect and Increase the Diversity of Wildlife, Habitat and the Landscape

A diversity of natural features, such as meanders, riffles, pools, emergent vegetation and bankside cover within wide river corridors, ponds and wetland habitats, woodlands, trees, hedgerow and hay meadows are required to sustain viable populations of a wide range of wildlife species and maintain the landscape character of the Weaver/Dane area.

The Agency is the contact point for 15 species in the U.K. Biodiversity Action Plan (BAP). As a lead partner we will stimulate action to achieve targets in the U.K. BAP, set monitoring standards, act as a contact point and field enquiries, and agree work programmes with the identified lead partner.

Local Biodiversity Action Plans will highlight targets for specific habitats and species. The Environment Agency will be in a key position to influence many of these targets since a number of Action Plans will be concerned with wetland and aquatic species.

The Cheshire Local Biodiversity Action Plan, part funded by the Agency, was produced in 1997 and lists the Agency as a possible action plan implementer for 8 species and 2 habitats. In addition the Agency is represented in the North West Biodiversity Steering Group, Cheshire Local Agenda 21 Group, the Sustainable Cheshire Forum, Cheshire Barn Owl Group, Cheshire Wildlife Working Group and Cheshire and Wirral Amphibian and Reptile Group.

Action	Responsibility		Total cost (£K)	1998/ 1999	1998/ 1999	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Continue to contribute to the development of Biodiversity initiatives.	Local Authorities, Cheshire Wildlife Trust, EN, RSPB, specialist local groups.	Environment Agency (A.R. Lee)	R						
2. Further the conservation of important species and habitats through opportunist projects as funds become available.	Wildlife Trusts, Local Authorities, Pond Life, local wildlife organisations and specialist groups.	Environment Agency (A.R. Lee)	U						
3 Continue to monitor the distribution and status of the water vole and otter within the study area in order to protect and enhance populations[1].	Environment Agency (A.R. Lee) Cheshire Wildlife Trust.	Local Authorities, local wildlife organisations and specialist groups.	U(ii)						

Action	Responsibility		Total cost (£K)	1998/ 1999	1998/ 1999	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
4 Using survey and research information, identify sites which can be targeted for re-establishing populations of water voles, as resources become available.	Environment Agency (A.R. Lee)	Cheshire Wildlife Trust, Local Authorities.	U						
5. Encourage the incorporation of Barn Owl boxes into new developments, where appropriate.	Environment Agency, (A R Lee)	Local Authorities, Cheshire Wildlife Trust, developers.	R*	•	•	•	•	•	•
6. Contribute to the Black Poplar Action Plan Group, investigate the genetic diversity of the Cheshire Black Poplar population and, if appropriate, plant local stock as part of river corridor enhancement schemes, through opportunistic projects as funds become available.	Environment Agency (A.R. Lee) Cheshire Wildlife Trust, English Nature	Local Authorities, CCC, FWAG, Forestry Commission.	U	•	•	•	•	•	•
7. Continue to contribute to and support the Pond Life Project.	Liverpool John Moores University.	Environment Agency (A.R.Lee)[2]	9[3]	•	•				
8. Protect habitat for Great Crested Newt and encourage development of new habitat.	English Nature, Environment Agency (A.R. Lee)	Local Authorities, Cheshire Wildlife Trust, Specialist Groups, Landowners, Developers.	R	•	•	•	•	•	•

Note[1] £10k will be provided by the Agency to carry out Phase 3 of the Cheshire Otter Project within the South Area of the North West Region in 1998/99. A proportion of this total will be spent on work within the Weaver/Dane LEAP area.

Note[2] The number of partners contributing to the Pond Life Project are too numerous to list here.

Note[3] £9k is available from the Agency to fund the Pond Life project within the South Area of the North West Region over the next two years.

Issue 20 Channelised Watercourses Creating Loss of Habitat and Amenity

Many watercourses in this area have been artificially straightened, deepened and shortened. Land next to urban watercourses has often been developed in the past, right to the bank top. Banks have been reinforced or reprofiled to prevent natural erosion, silt deposition and meandering. Rural watercourses have been modified to create more land for agriculture and to drain land more effectively.

The Environment Agency, through its activities as a statutory consultee, works to retain stretches of watercourse and river corridor which have a natural variety of features. It is possible to enhance degraded watercourses by, for example, tree planting, creating wet margins or reinstating riffles and pools.

Bank reinforcement along the River Dane near Middlewich

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1 Identify stretches suitable for enhancement and rehabilitation.	Environment Agency (A.R. Lee)	Local Authorities, Groundwork, Cheshire Wildlife Trust.	R	•	•	•	•	•	•
2 Implement enhancement and rehabilitation schemes as funds become available.	Environment Agency (P. Younge, A.R. Lee)	Local Authorities, Groundwork, Cheshire Wildlife Trust.	U						

Issue 21 Invasive Non-Native Pest Species

The non-native plants, Japanese Knotweed and Himalayan Balsam are widespread in this LEAP area. Giant Hogweed has also been reported at several localities.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Project to map the distribution of bankside invasives : Japanese Knotweed, Himalayan Balsam and Giant Hogweed+.	Environment Agency (P. Younge)	Cheshire Wildlife Trust, Ranger Services, British Waterways, general public.	4.3		•				
2. Collate information on distribution of all water-related invasive plant species (Azolla,Crassula, etc)+.	Environment Agency (A.R. Lee)	Wildlife Trusts, Local Authority, Ranger Services, landowners, British Waterways, Police Wildlife and Enforcement Officer.	R	•	•	•	•	•	

Issue 22 The Impact of Nutrient Enrichment on Aquatic Communities

Nutrient enrichment problems are thought to be affecting a number of waterbodies within the Weaver/Dane catchment. These areas of open standing water support local, national and internationally recognised wildlife communities which can be detrimentally affected by a number of factors including occurences of algal blooms. Algal blooms occur naturally but occurences are increased by an excess of nutrients, principally phosphates which are usually in limited supply in freshwater ecosystems. These blooms can be a serious threat to fish and other aquatic life as dissolved oxygen levels drop at night when algal respiration removes oxygen from the water. They can also lead to adverse effects on recreation, health and water treatment.

It is important that eutrophic conditions are monitored to assess the full impact of nutrients on these waters and to implement management strategies which will prevent an increase in these nutrient loads.

Action	Responsibility		Total cost (£K)	1998/ 1999	1998/ 1999	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Continue to develop and implement a management strategy for the Cheshire Meres.	English Nature	Environment Agency (A R Lee)	R*	•	•	•			•
2. Continue chemical monitoring programme for selected Cheshire meres.	Environment Agency (A Wither)		R	•	•				
3. Continue to monitor freshwater macrophytes and the presence of blue-green algae as appropriate	English Nature, Environment Agency (A R Lee)		R	•	•	•	•		•
4. Produce paper on Stillwaters in order to raise awareness and develop future objectives.	Environment Agency (C Gaskell)		R	•					
5. Carry out case studies on selected meres to identify possible management strategies which can be applied to any waterbody within the catchment.	English Nature	Environment Agency	R	•					

Issue 23 Lack of Sustainable Fish Populations

There are river stretches where fish populations are restricted due either to poor water quality or habitats being denuded by siltation. In particular, there is a perceived decline in the brown trout population in the River Dane above Congleton.

Water quality improvements or habitat rehabilitation would increase the diversity and quality of the fish populations present.

Action	Responsibility		Total cost (£K)	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	Future
	Lead	Other							
1. Carry out detailed survey of the fish and invertebrate communities in the upper River Dane to assess any decline and determine causes.	Environment Agency (A R Lee)	Angling organisations	R	•					
2. Identify stretches suitable for habitat enhancement and rehabilitation+.	Environment Agency (A.R. Lee)	Local Authorities, Groundwork, Cheshire Wildlife Trust.	R	•	•	•	•	•	•
3. Implement appropriate enhancement and rehabilitation schemes as funding becomes available+.	Environment Agency (A.R. Lee, P. Younge)	Local Authorities, Groundwork, Cheshire Wildlife Trust.	U						

New Issue 24 Need for a Long Term Management Plan for Bottom Flash, Winsford[1].

Bottom Flash at Winsford is large flash formed by land subsidence due to brine pumping. The lake is used for recreation, principally fishing and sailing and is also designated as a Site of Biological Importance due to the diverse range of plants found around the edges of the flash. The site is also of importance for birds.

Bottom Flash at Winsford

The flash would benefit from a long term management plan which could help to integrate the needs of all users and minimise conflict.

Options	Responsibility	Advantages	Disadvantages
1. Investigate the setting up of a user group for Bottom Flash which involves all interested parties.	Owners of Bottom Flash, Countryside Management Service, CCC, Environment Agency, WVI, Vale Royal BC, CWT, Winsford Anglers, Sailing Club, EN.	A long term management plan will ensure the resource of Bottom Flash is protected. Will establish a forum which will raise awareness of the different needs of all users and will seek to resolve any conflict.	Group will need to be chaired and coordinated.
2. Do nothing			Failure to establish such a group will lead to conflict between users.

Note[1] This is a new issue which has been included as a result of the consultation process. Actions to resolve this issue will be included in the first Annual Review of this LEAP. We welcome consultation on this issue in the interim period.

5 Protection Through Partnership

5.1 Introduction

Much of the day to day work of the Agency is aimed at protecting the environment through education, prevention and environmental improvement. However, the Agency recognises that it is not the only body operating in the field of environmental protection and improvements and that our responsibilities often overlap with those of other organisations.

Where appropriate, the Agency will work with partners to achieve environmental protection and improvements. Much of this co-operation is carried out daily between officers in the field and does not require any formal setting up. Examples include negotiation between Agency inspectors and representation of individual companies over programmes of investment to improve environmental performance, or assistance afforded by the Police in difficult enforcement action. However, in some cases the Agency does get involved in more formal partnerships and some of those which are relevant to this LEAP area are outlined below.

5.2 Development

The Environment Agency is taking a pro-active role in the land-use planning system. This is in terms of guiding and advising Local Planning Authorities (LPAs) and developers on matters concerning air quality, the water environment and waste management.

The aim is to ensure future development is sustainable and land use change is guided and implemented within the overall aim of protecting and enhancing the whole environment.

Planning policy within the Plan area is guided by Regional Planning Guidance for the North West RPG13, April 1996. This sets the strategic planning framework for the Region, highlighting development pressures and the development framework for such issues as the environment, the economy and housing.

5.3 Partnerships

Mersey Basin Campaign

The Mersey Basin Campaign is a 25 year, government backed partnership which brings together local authorities, businesses, voluntary organisations and government sponsored agencies, to deliver water quality improvements and waterside regeneration throughout the Mersey Basin river system which includes the Weaver/ Dane LEAP area.

The aims of the Campaign are:

- to improve water quality so that all rivers, streams and canals are clean enough to support fish;
- to stimulate the development of attractive waterside environments - for businesses, housing, tourism, heritage, recreation and wildlife;
- to encourage people to value and cherish their watercourses and waterfront environments.

The Mersey Basin Campaign also established Water Watch, which is a major initiative to clean up and improve the water environment. Water Watch is now working throughout the Mersey Basin area to tackle problems in the area's rivers and canals. It is managed by the Tidy Britain Group and works closely with the Agency.

Stream Care is also a project to come out of the Mersey Basin Campaign. It has been funded by the Countryside Commission, North West Water Ltd and the Agency. The project supports local groups on small scale projects, such as clean-ups and tree planting. The campaign also runs the Water Detectives project, which helps teachers to carry out river studies with their students, by providing hands on expertise and resources.

Farming 2000 is a three year project supported by the Mersey Basin Campaign, the Agency and Manweb. This initiative aims to introduce an Environmental Management System onto farms in the Weaver catchment. This system is designed to encourage improved environmental performance by providing a means by which businesses can set clear goals and achieve an improvement in the environmental effects of its operations. ADAS, the Agricultural Advisory Service, is the project manager for Farming 2000.

At a local level River Valley Initiatives (RVIs) are realising the aims of the Mersey Basin Campaign with the Weaver Valley Initiative taking the lead in this LEAP area.

Weaver Valley Initiative

The Weaver Valley Initiative (WVI) aims to create a working partnership of public, private and voluntary sector organisations between Winsford Flashes and the rivers confluence with the Manchester Ship Canal. Partnership is the key to the WVI and partners of the Initiative include: Cheshire County Council, Environment Agency, Special Landscapes Project, Mersey Basin Trust, Vale Royal Borough Council, British Waterways, Cheshire Wildlife Trust, ICI, and Brunner Mond. The valley has many rich wildlife and landscape features as well as a unique heritage and industrial archaeology. It also provides opportunities for recreation, access and sympathetic re-development. The Agency works closely with the WVI and has representatives on the Steering group and Education groups. Financial assistance has been provided by the Agency to many projects within the Initiative area.

A Project Officer post, part funded by the Agency, has provided a focus and allowed co-ordination of the many activities and publicity of the Initiative within the valley. The appointment of the Project Officer has acted as a stimulus for many groups and organisations leading to many valuable projects within this LEAP area.

British Waterways

British Waterways are a key partner for the Weaver area, especially concerning the Weaver Navigation. Many of the issues in this plan will involve British Waterways as a partner particularly in relation to in river structures.

Local Agenda 21

Agenda 21 is a global action plan for the 21st century that was produced at the Rio Earth Summit in 1992. It brings together economic, environmental and social concerns into a "blueprint" for a more sustainable way of life for everyone.

Local authorities across the world were seen as the focus of promoting and encouraging local community action and were charged with producing a **Local Agenda 21**. Local government in the UK has overwhelmingly accepted this challenge with 70% of local authorities now committed to participating in the process.

The Agency is committed to encouraging more sustainable lifestyles for all, through our work and in partnership with others. We are also keen to develop closer

relationships with local communities. Playing our part in Local Agenda 21 helps us to achieve this; we are already involved in advising a number of Local Agenda 21 groups on the state of their local environment.

In the Weaver/Dane area, the Agency is involved in Cheshire's Sustainability Forum and task groups and Vale Royal's roundtables. The Agency has also helped Halton in the establishment of its Waste Minimisation club and Environment Forum.

Sustainable River Management Project

The Sustainable River Management Project aims to introduce and implement river management practices which tackle problems where they occur, rather than repeatedly carrying out remedial actions. To tackle such problems at source, this project aims to provide a mechanism for influencing farming practices. To do this, target catchments are being selected in each Area of the North West Region and the Agency is collaborating with the Farming and Wildlife Advisory Group (FWAG) as a conduit into the farming community.

A stretch of the river Weaver is being used as a demonstration of one good practice - excluding livestock from river banks. This has benefits to the land owner, Agency functions and the river system.

FWAG advisers are also visiting each farm in the target area to produce a farm wide report called Landwise. Landwise will highlight farming practice which may be affecting the river and suggest alternatives. FWAG will also assist with grant applications and securing alternative funding to ensure there is uptake of best practice advice.

The Cheshire Wildlife Trust

The Environment Agency works closely with the Cheshire Wildlife Trust (CWT). The Agency has commissioned the CWT to carry out Otter Projects within the Weaver/ Dane LEAP area and across other river catchments in the South Area. The CWT's Countdown Programme, part funded by the Agency, sets out the priority action required to conserve the most vulnerable plants and animals in Cheshire through setting targets and compiling Local Biodiversity Action Plans (LBAPs). In 1997, LBAPs were drawn up for 26 species and 5 habitats. The Agency is a key partner in many of these plans and works to achieve their aims through both day to day work, LEAPs and project work when funding is available.

Project Pathway

Project Pathway is a major ICI initiative started in 1993, relating to the assessment of potential impact from land contaminative activities, resulting from over 150 years of chemical production at the Runcorn site. The project comprises a five stage protocol to investigate and where necessary ameliorate the impact from contaminated land. The stages are:

- Historical Review
- Investigation
- Risk Assessment
- Option Review and Solution Design
- Implementation and Monitor

The Historical Review has been completed, prioritised investigation stages are being advanced and conceptual Source-Pathway-Receptor models developed. ICI involve international specialists to review project activity. The Agency acts in liaison with ICI upon the advancement of the Project.

6 Future Review and Monitoring

The Agency will be jointly responsible, with other identified organisations and individuals, for implementing this Action Plan. Progress will be monitored and reported annually by the Agency to all key partners and other interested parties. The first Annual Review is due at the end of May 1999.

The Annual Review will take the form of a short progress report and will:

- Highlight new issues as they arise.
- Examine the need to update the LEAP in the light of changes in the area.
- Compare actual progress with planned progress and explain the reason for any changes to the content or timing of individual actions.
- Report on other matters, including any legislative and classification scheme changes, affecting the LEAP.
- Roll forward the detailed activity plans.

View over the LEAP area

App.1

Appendix

Appendix 1: List of Respondants

R Allen
D Ashmore
J S Bailey
D Broughton
British Canoe Union
British Waterways
Brunner Mond
Butterfly Conservation, Cheshire and Peak District Branch
Cheshire County Council
Cheshire Constabulary, PC Mike Wellman,Wildlife and Enforcement Officer.
Cheshire Wildlife Trust
Council for the Protection of Rural England
CPRE, Macclesfield District
CPRE, Vale Royal District
P Downs, University of Nottingham
Freestyle Canoe Club
Friends of Anderton Boat Lift
Friends of the Earth, Halton Branch
Friends of the Earth, Northwich and Mid- Cheshire Branch
P E Frith
B Gerrard
H S Green
A Greenwell
Groundwork - Macclesfield and Vale Royal
ICI Chemicals and Polymers
Inland Waterways Association, (IWA)Head Office.
IWA - Stoke on Trent Branch
D E Kelly
C Lawton
Macclesfield Borough Council
MAFF
C McLean
Mid-Cheshire Ornithological Society
National Farmers Union
North Western & North Wales Sea Fisheries Committee
North West Water Limited
River Weaver Navigation Society
RSPB
N Slater
J G Spencer
P Snow
SUSTRANS
A Taylor
The Coal Authority
H Thompson
E Thurston
Trent & Mersey Canal Society

Vale Royal Borough Council
R Walker
Weaver Valley Initiative
Wildfowl and Wetlands Trust
B Williams
P Wisniewski
Witton Area Conservation Group
M J Wood

App.2

Appendix

Appendix 2: Erratum for the Consultation Report and Summary Document

Summary Document

Section 8 of the questionnaire did not include Issue 16 in the issues list. This led to confusion when trying to relate the list to the rest of the Summary Document.

Consultation Document

Page 24	Section 1, 'Failures to achieve the proposed River Quality Objectives'. Reference to an unsatisfactory storm and emergency sewer overflow to Loach Brook is incorrect. The designation of the overflow is satisfactory.
Page 48/49	Repetition of paragraph at end of page 48, top of page 49.
Page 77	Under section on Vale Royal. The Council featured in the United Nations Association and UK Local Government submissions to the UN General Assembly in June 1997, and not to UNCED.
Page 84	Reference is made to the presence of Floating Water Plantain in the area. There are no records for this species in the LEAP area to date.
Page 96	The graph of Mean Monthly Flow should refer to the River Weaver at Pickerings Cut not the River Gowy at Pickings Cut.
Page 139	The pie chart needs the addition of a '>' before Grassland 5 years 58,568 ha and a '<' 5 years 21,267 ha.
Page 145	'Coarse fishing' should replace 'Course fishing'
Map 3	Hatchmere has been omitted.
Map 21	Omits RAMSAR colouring for Tatton and Tabley Meres.

Appendix 3: Environment Agency Leaflets and Reports Available from the South Area Office of the North West Region

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

General Information

Customer Charter - September 1997
Corporate Plan Summary 1997/98 - report
Annual Report and Accounts 1995 - 96 - report
The Environment of England & Wales a Snapshot - report
The Environment of England & Wales - Now on the World Wide Web
The Environment Agency in the North West of England
Environment Agency - Aim, Objectives, Work
About the North West - fact file
The Agency in the North West South Area - fact file
Guardians of the Environment (Thames Barrier picture)
A Guide to Information Available to the Public
Our Complaint and Commendation Procedures
Who's Who in the Environment Agency - North West
Agency Emergency Hotline - 0800 Credit Card
River Watch Credit Card
Your Rights when Agency Warranted Officers Take Action
An Environmental Strategy of the Millennium & Beyond
Corporate Plan Summary
Annual Report & Accounts 1998-1999
Corporate Plan 1998-1999
Annual Report & Accounts 1996-1997

General Environment

Garden With Care
Managing Maize

Education

Activity book - for Primary School Children
Helping Protect the Environment - (colour in) poster
Looking after our Rivers and their Environment - (things to do) poster
Understanding your Environment - poster
Agency Poster
Recruitment Information
Floodcall - (colour in) poster

App.3

Appendix

Waste Regulation

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

Flood Defence

Flood Defence - North West - brochure
Paying for Flood Defence
Main River - fact file
Maintaining Watercourses - fact file
Paying for Flood Defence - fact file
Understanding Buffer Strips
Development with Flood Risk Implications
Flood Warning Information - For the Deaf & Blind
Flood Warning Information - What to do If Your Property is at Risk
0645 - Floodcall Credit Card
Who's On My Land?
Policy and Practice for the Protection of Floodplains

Pollution Control

Environmental Protection and Pollution Control - North West - brochure
EC Directives and the Control of Water Pollution - fact file
Water Pollution Incidents in England & Wales 1995 Report Summary
Bathing Water Quality Summary Report 1996
A Guide to Environmental Quality & Pollution Control - booklet
Looking After Our Rivers
Agricultural Pesticides and Water
Pollution Prevention Pays
Accreditation Scheme for Spill Response Contractors
Building a Cleaner Future
Water Most Foul - Action Recipe 10
Water Most Foul - Action Recipe 10 - poster
Blue Green Algae
Algae or Sewage?
Discharges to Controlled Waters - charges - 1997-98
Home Pollution and how to avoid it
River Pollution and how to avoid it
Silage Pollution and how to avoid it
Farm Pollution and how to avoid it
Farm Waste Management Plans
Farm Waste Regulations

Chemical Pollution and how to avoid it
Solvent Pollution and how to avoid it
Making the right connection
Natures Way - Designs that prevent water pollution
Whats Hidden Behind your Garden Fence? (Water Watch)
Groundwater Pollution
Oil Care Code stickers
Masonary Bunds For Oil Storage Tanks
Concrete Bunds for Oil Storage Tanks
Water pollution incidents in England & Wales 1996 Report Summary
The Use of Licences to Prevent Pollution

Fisheries and Recreation

Fisheries - North West - brochure
Fisheries in the North West - fact file
Buyer Beware - Guide to Stocking Fish
Rod Fishing Licences - 1996/97
Have Fun Have a Care (River Canoeists)
Have Fun Have a Care - poster
Wake Up To Your Watersides - Mersey Basin Campaign
Anglers and the Agency
Code of Conduct for Specialist Coarse Anglers (SACG)
A boater's guide to Navigation signs

Ecology

Mink
Invasive Plants
Pond Heaven
The Habitat's Directive
Aquatic weed control operation

Water Resources

Water Resources - North West - brochure
Annual Abstraction Charges 1997 - 98
Spray Irrigation

IPC/RAS

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

App.3

Appendix

Catchment Management /Environment Agency Action Plans

Irwell Catchment Management Plan - Annual Review
Upper Mersey Catchment Management Plan - Action Plan
Sankey/Glaze Local Environment Agency Plan - Action Plan/First Annual Review
Lower Mersey Local Environment Agency Plan - Consultation Report/Action Plan
Weaver/Dane Local Environment Agency Plan - Consultation Report/Action Plan

Appendix 4 : Glossary

Abstraction Licence

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

Aquifer

A layer of underground porous rock which contains water and allows water to flow through it.

Compensation Water

Water released from a reservoir to maintain the flow required in the river.

Culvert

A man-made structure, for example a pipe, carrying a watercourse underground or under roads or buildings.

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.

Different Units for Flow Measurements

m^3/s	Cubic metres per second (cumec)
l/s	Litres per second
Mld	Megalitres per day
mgd	Millions of gallons per day

Conversion Table

m^3/s	Mld	mgd
0.012	1	0.224
0.06	5	1.12
0.12	10	2.24
0.24	20	4.48
0.6	50	11.2
1.2	100	22.4

App.4

Appendix

Drift

Superficial deposits covering solid rock. Often deposited by rivers or by former glaciation in the form of boulder clay, peat or sands and gravels.

Dry Weather Flow

It is a selected flow that is not exceeded for ten successive days which is also referred to as a Q95 flow.

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.

Floodplain

Parts of river valleys or coastal plains which are inundated during floods.it includes areas protected by flood defences.

Flood Warning Zones

Areas where flood warnings are disseminated to the general public via local Radio, The Environment Agency's Flood Call Line, AA Road Watch, the Met. Office and page 105 of Teletext. At present, we have only one formal fluvial flood warning zone within the area covered by this LEAP which is the River Weaver at Northwich.

Fluvial

Pertaining to or found in 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.

Geomorpholigical Features

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

Invertebrate

Animal without a backbone for example insects.

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. Maps are held by the Agency and MAFF

dangerous or difficult, usually by virtue of hazard or toxicity and therefore subject to additional controls.

Strata
Layer of rock.

Terrace
A raised flat area cut out of a hillside by the action of the river.

Transfer Station (Waste Disposal)
A licensed depot where controlled waste is stored and sorted for disposal or recycling.

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

which define main river. 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.

Nutrients
Providing or contributing nourishment.

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.

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 Corrider
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.

Section 105 Surveys
The Agency is responsible under Section 105 of the Water Resources Act 1991 to produce maps showing the location and extent of areas at risk from flooding. These maps show the natural flood plain areas, where flooding by a "main river" may occur at least once in one hundred years.

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

Spate
Very high flows, usually associated with rain storms and sometimes cause flooding. Spate flows naturally cleanse the river channel.

Special Waste
A strictly defined group of controlled wastes, which are considered to be particularly

The Environment Agency's Vision For The Weaver/Dane Area

Our long-term vision of the Weaver/Dane Plan area is of a healthy and diverse environment, managed in an environmentally sustainable way, balancing the needs of all those who live, work and visit the area.

Our vision is:

- of an area where watercourses are valued as important habitat and landscape features, allowed to flow unconstrained through natural flood plains, bordered by green corridors of land. This would lead to the development of a wide variety of natural river features such as earth cliffs and meander belts, encouraging nesting Kingfishers and Sandmartins and would add to existing river features already highly valued.

- of partnerships which lead to successful outcomes for Local Biodiversity Action Plans so that the variety of our native plants and animals is increased. More native black poplars would be planted to complement existing trees within the Weaver Valley, healthy populations of native white clawed crayfish would spread from existing territories within tributaries of the Dane and Weaver and Otters successfully recolonise and thrive, in clean rivers bordered by natural trees and vegetation.

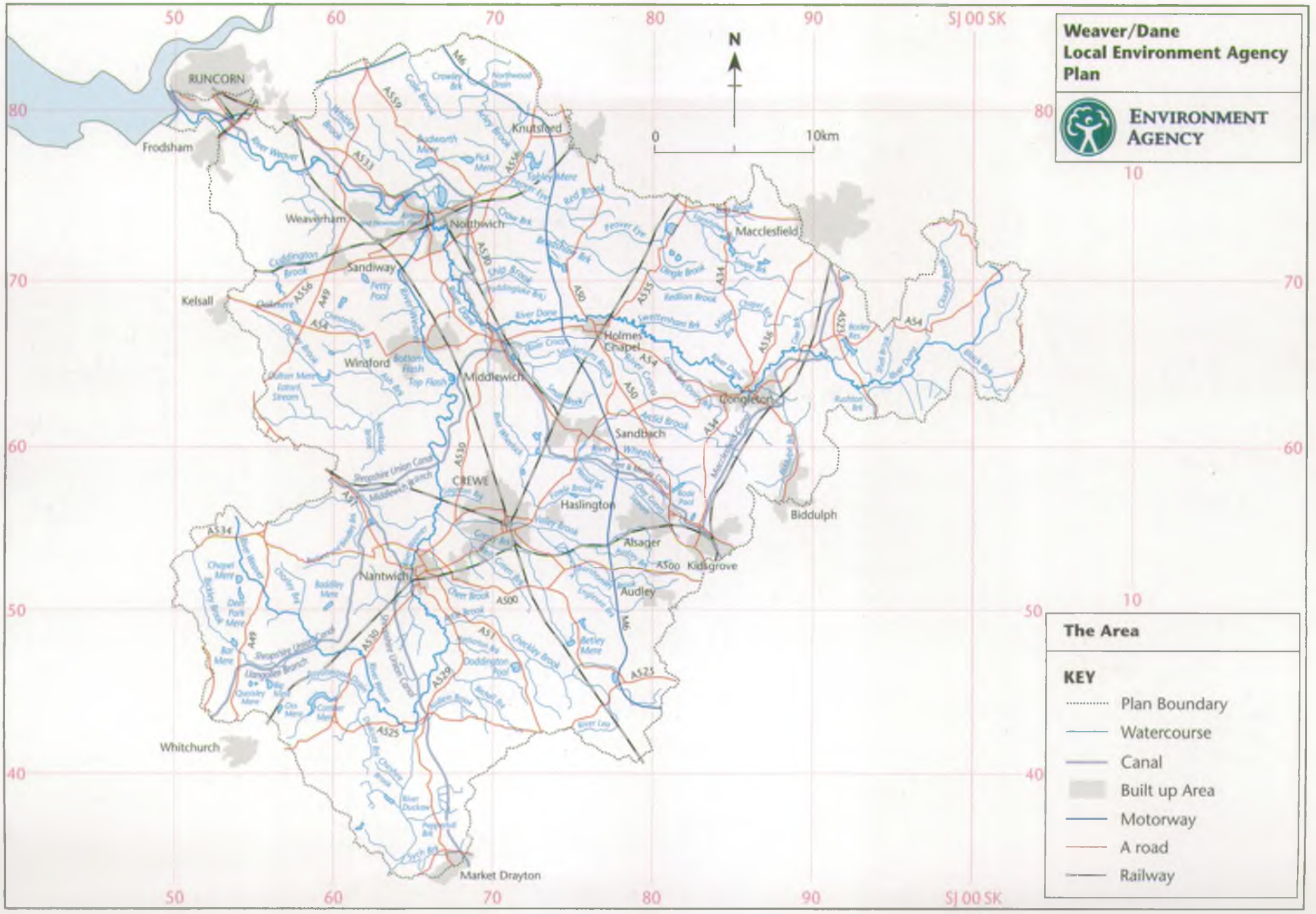
- of an area where the Cheshire Meres and Mosses and the present mosaic of ponds and wetlands are recognised and protected as an asset for future generations. There would be a balanced eco-system, sufficient to support the maximum population of fish for the available habitat throughout the Plan area and enhance the bio-diversity of species and habitats in all areas

- of continuous environmental improvements which are driven by local communities and which build on the successes of enterprises such as the Weaver Valley Initiative. New partnerships would be established and existing relationships would be enhanced to create recreational activities such as long distance footpaths and link with future opportunities to increase the amenity value of the area.

- of an area where the industrial heritage of the area is identified and conserved and where the value of canals and the Weaver Navigation for recreation, navigation and as potential sustainable transport routes are recognised.

- of addressing the industrial legacy and working in partnership to solve environmental problems in a sustainable manner. Where users and developers respect the water resources to maintain rivers and aquifers preventing water shortages and environmental problems. Of raised educational awareness of environmental issues within the Plan area especially of pollution prevention, efficient use of water to reduce all aspects of pollution and the elimination of fly-tipping.

Map Of The Area



NORTH WEST REGION ADDRESSES

REGIONAL OFFICE
Environment Agency
PO Box 12
Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 01925 653 999
Fax: 01925 415 961

NORTH AREA
Environment Agency
Chertsey Hill
London Road
Carlisle CA1 2QX
Tel: 01228 25151
Fax: 01228 49734

CENTRAL AREA
Environment Agency
Lutra House
Dodd Way
Walton Summit
Bamber Bridge
Preston PR5 8BX
Tel: 01772 339 882
Fax: 01772 627 730

SOUTH AREA
Environment Agency
"Mirwell"
Carrington Lane
Sale M33 5NL
Tel: 0161 973 2237
Fax: 0161 973 4601

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

ENVIRONMENT AGENCY
GENERAL ENQUIRY LINE
0645 333 111

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

ENVIRONMENT AGENCY
EMERGENCY HOTLINE
0800 80 70 60

ENVIRONMENT AGENCY

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Regional Headquarters:
PO Box 12
Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel 01925 653 999
Fax 01925 415 961

All enquires to:
South Area Office
"Mirwell"
Carrington Lane
Sale
M33 5NL
Tel 0161 973 2237
Fax 0161 973 4601