

# local environment agency plan

## WEST MIDLANDS-TAME

### ACTION PLAN

MARCH 1999



ENVIRONMENT AGENCY

### Information Services Unit

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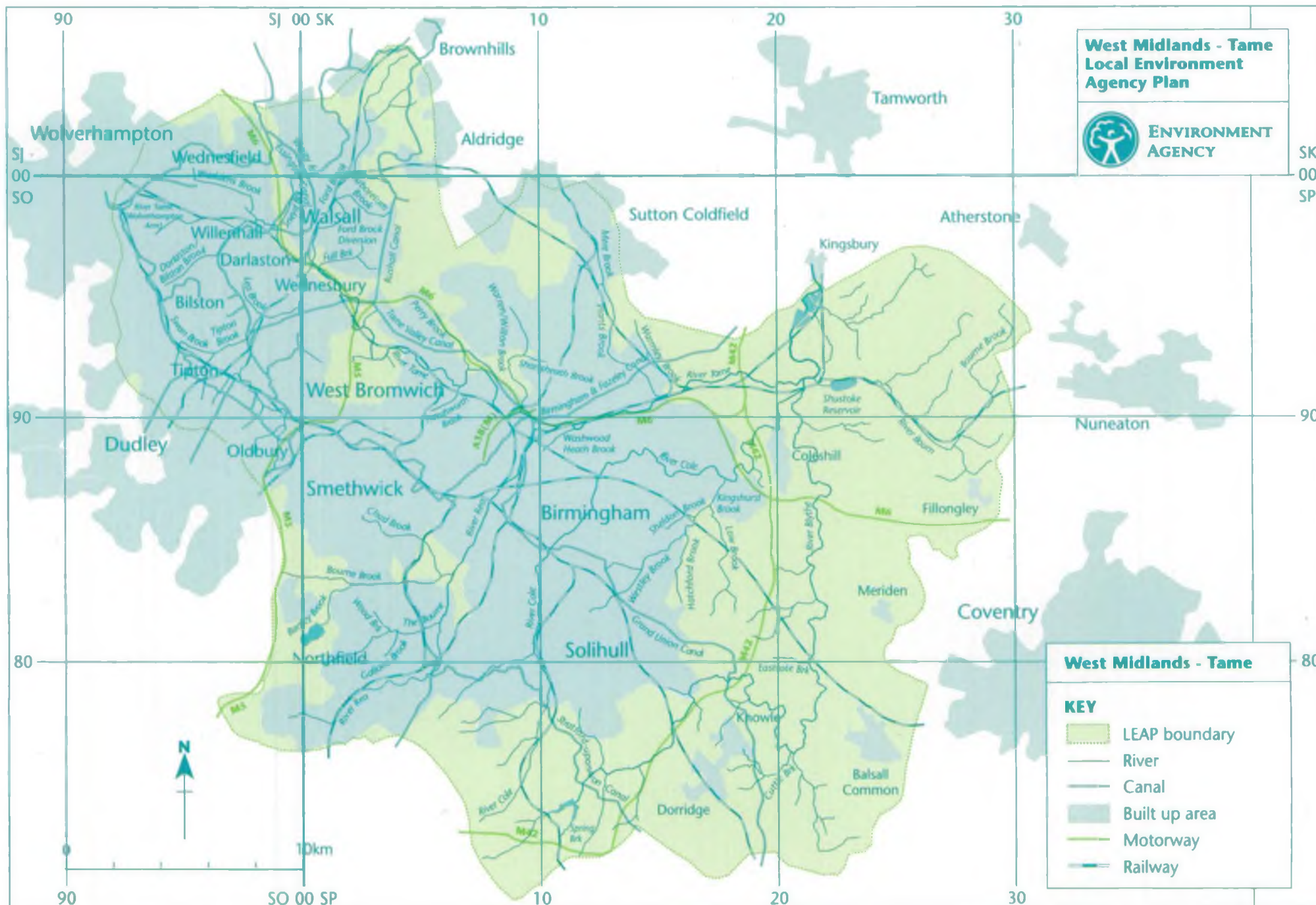
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# Key Details

<b>Area</b>	805 sq km	<b>Topography</b>	
<b>Population</b>	1.8 million (approximately)	Maximum Level	270m (AOD) Lickey Hills
Urban Population		Minimum Level	70m (AOD) Kingsbury
Birmingham	961,050	<b>Conservation</b>	
Sandwell	294,700	Sites of Importance to Nature Conservation	330
* Wolverhampton	83,000	Sites of Special Scientific Interest	18
Walsall	263,000	Special Areas of Conservation	1
* Dudley	34,700	Local Nature Reserves	21
Solihull	203,000	RSPB Reserves	1
* Part of district lies outside of boundary		Scheduled Ancient Monument	30
		National Nature Reserves	2
<b>Monitored Water Quality</b>		<b>Water Resources</b>	
Length of river in Grade (Km) 1996		Average annual rainfall	710mm (approx.)
<b>Quality</b>	<b>Grade</b>	<b>Chemistry</b>	<b>Biology</b>
Good	A	0	2
	B	49.7	34.7
Fair	C	60.6	34.8
	D	32.7	45.8
Poor	E	75.8	38
Bad	F	18.2	23.3
(Lengths measured for chemistry & biology differ slightly)			
<b>Fisheries</b>		<b>Waste Management</b>	
Length of designated rivers and canals (km)		Landfill Sites	34
Salmonid (salmon and trout)	0	Transfer Stations	90
Cyprinid (coarse fish) — river	41.7	Licensed Scrap Yards	109
Cyprinid — canal	41.2	Exempt Scrap Yards	107
		Civic Amenity Sites	11
		Waste Treatment Plants	14
		Oil Treatment Plants	9
		Incinerators	2
		Sewage Treatment Works	19
<b>Integrated Pollution Control (IPC)</b>		<b>Flood Defence</b>	
IPC Authorised Sites	46	Length of "Main" river (km)	147.8
		Length of defended river (km)	96.6
<b>Radioactive Substances (RAS)</b>			
Sites with Authorisations for accumulation and disposal of radioactive waste	14		
Sites with Registrations to hold radioactive materials	59		

	West Midlands Region	
County Councils	Unitary Authorities	District/Borough Council
Warwickshire CC	Birmingham CC	North Warwickshire BC
Worcestershire CC	Solihull MBC	Bromsgrove DC
	Walsall MBC	Stratford on Avon DC
	Wolverhampton MBC	Warwick DC
	Dudley MBC	County of Herefordshire DC
	Sandwell MBC	





# Foreword

Welcome to the Environment Agency's local action plan for the West Midlands — Tame area. The plan sets out the work that the Agency and others will do over the next five years to meet the environmental issues and problems that have been identified and can be tackled locally.

The document has been produced after extensive public consultation following the launch of the West Midlands — Tame Consultation Report in March 1998. The comments we received have enabled us to evaluate the issues raised in the original report and refine them into this Action Plan. The plan will be monitored and a series of Annual Reviews will report on the progress being made as well as any new issues that arise.

The work of the Agency is increasingly being implemented through partnerships and many of the issues in this plan reflect the need for co-operation, bringing together the complementary responsibilities, powers and finances of different groups.

I believe that the implementation of this Action Plan will lead to improvements in the environment of the West Midlands — Tame area. If you have any comments or wish to become involved in addressing the issues raised we would like to hear from you.

A handwritten signature in dark ink, reading "Philip Burns". The signature is written in a cursive style with a horizontal line underneath the name.

**Philip Burns**  
**Area Manager – Upper Trent**

ENVIRONMENT AGENCY



038178



# A Vision for the West Midlands – Tame Area

The Environment Agency's vision for the West Midlands — Tame area is:

*An improved and balanced relationship between human activity and the environment so that neither is adversely affected and each may draw sustainable benefits from the other.*

The impact of urban development and social and economic activities in the West Midlands on the resources of air, land and water, as well as its wildlife and heritage has been considerable. Development can have a negative effect on both the quality of the environment and the quantity available for other uses and where the environment has been damaged by human activity it can have an adverse effect on people's health and well being.

Through integrated and sustainable management we will be able to realise and develop the environmental potential of the West Midlands — Tame LEAP area and at the same time ensure that its economic and social needs are met.

Our key objectives for the West Midlands Tame area are:

- To educate and raise awareness of the local environment and environmental issues.
- To promote and encourage sustainable development in the West Midlands.
- To regulate effectively across the broad spectrum of our licensing, inspecting and monitoring functions.
- To increase our knowledge of air quality so we can determine where to concentrate efforts to improve it.

- To promote the reduction, treatment and better management of waste.
- To minimise the effects of urban run-off and contaminated land.
- To maintain and improve the water quality of rivers, canals and groundwater.
- To manage water resources in an environmentally sustainable way by balancing the needs of legitimate users with those of the environment.
- To protect and enhance biodiversity.
- To maintain and improve fisheries.
- To promote the recreational and amenity value of river corridors, canals and ponds without prejudicing the diverse heritage of the West Midlands.
- To protect people, property, wildlife and our heritage from short and long term harmful environmental events.
- To work in partnership with local people and organisations to realise the potential of the area and encourage stewardship of the local environment.

Many of these objectives complement each other, although some may require a degree of compromise between differing demands on the resources of the area. The realisation of these objectives will be achieved through the development of links with local authorities, industry, agriculture, water companies, environmental groups and local communities.



Vision

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# 1.0 Introduction

This action plan is the second stage in the Local Environment Agency Plan (LEAP) process for the West Midlands — Tame area. The plan sets out in a series of action tables, a programme of work to be undertaken by the Agency and others over the next five years. It also looks at education, planning policy and existing partnerships within the area as a means of addressing wider, long-term issues. Progress against the plan will be monitored and reported annually.

The plan covers the majority of the former county of the West Midlands including Birmingham, Solihull and much of the Black Country. Walsall and Sandwell lie within the area, although only the eastern parts of Wolverhampton and Dudley are included, as these boroughs are built on the watershed draining east to the River Tame and west to the River Stour with parts of Wolverhampton also draining north to the River Penk. The east and south of the LEAP area lies in the rural parts of Solihull and Warwickshire and also skirts into the counties of Herefordshire and Worcestershire.

The Agency uses water catchment boundaries for LEAPs because they represent firm environmental boundaries. The map inside the fold out cover shows some of the features that make up the catchment.

## 1.1 The Environment Agency

The Environment Agency is a national government agency, a public body, formed on 1 April 1996. It inherits the many and varied responsibilities of the National Rivers Authority, Her Majesty's Inspectorate of Pollution, The Waste Regulation Authorities and some technical units from the Department of the Environment (now part of the Department of the Environment, Transport and the Regions (DETR)).

The Agency has eight regions in England and Wales, sub-divided into twenty-six areas. The Midlands Region comprises four areas and the West Midlands — Tame plan is within the Upper Trent Area.

Our principal aim is to protect and enhance the environment, thus contributing to the Government's overall commitment to sustainable development. We will do this by integrating environmental protection for land, air and water. Pollution prevention and control, education and enforcement, where necessary, will be the key means of achieving this aim.

Most of the Agency's work operates at a local level and this allows an integrated and personal approach to managing the environment.



Figure 1: The LEAP Process and the main output in the five year cycle.

Our work is focused on the following nine themes:

- addressing the causes and effects of climate change;
- helping to improve water quality;
- managing our water resources;
- enhancing biodiversity
- managing our freshwater fisheries;
- delivering integrated river-basin management;
- conserving the land;
- managing waste;
- regulating major industries

The strategic nature of the LEAP as a planning tool means that the plan is not designed to reflect fully our routine activities within the plan area. Our everyday work commits substantial resources to managing the environment, including extensive monitoring and survey operations.

### 1.1.1 The role of other organisations in protecting and improving the environment

The Environment Agency is not the only organisation involved in managing human activities to protect and improve the environment. We share many of our responsibilities with local authorities, in particular waste management and the regulation of emissions to air. Other bodies who have responsibility for the environment were referred to in the Consultation Report (p.5).

## 1.2 The Local Environment Agency Plan Process

LEAPs are non-statutory, integrated action plans. They take a holistic approach to the management of the environment and provide a focus for those concerned with the future of the local area. The Agency is committed to producing LEAP consultation reports to cover all of England and Wales by the end of December 1999. In the Upper Trent Area we are producing four LEAPs: (see table 1)

Catchment	Start	Consultation Starts	Issue Action Plan	1 <sup>st</sup> Annual Review
Staffordshire Trent Valley	October 1996	June 1997	February 1998	April 1999
West Midlands Tame	May 1997	March 1998	March 1999	May 2000
Dove	August 1998	May 1999	February 2000	April 2001
Burton, Nuneaton & Tamworth	February 1999	November 1999	August 2000	October 2001

Table 1 The Upper Trent Area LEAP Programme

### 1.2.1 LEAPs and other plans

Whilst LEAPs are the Environment Agency's plans, their content and development will reflect the shared responsibility for managing the environment that the Agency has with other bodies. They will complement and integrate with other organisation's plans e.g. Local Waste Plans, Local Air Quality Management Plans, Local Biodiversity Action Plans and Local Agenda 21 Action Plans.

Public participation in this LEAP will increase awareness of environmental issues and it is hoped that this will lead to involvement in, and a feeling of ownership of, our local environment.



## 1.2.2 Agency Statutory Committees

In order to ensure openness, objectivity and accountability, the Agency is required by law to consult committees on all aspects of its work. Three statutory committees serve the Midlands Region:

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

Membership of the committees consists of local people drawn from public life, including industry, agriculture, local authorities and environment groups.

## 1.2.3 Area Environment Groups

An advisory Area Environment Group serves the Upper Trent Area. Membership consists of 20 local people who live or work in the area and who represent a wide spectrum of interests. The group advises the Agency on LEAPs, the delivery of local services and acts as a link between the local community, the Agency and its statutory committees.

## 1.3 Sustainable Development, Biodiversity and Global Climate Change

### 1.3.1 Sustainable Development

The most commonly used working definition of sustainable development was provided in 1987 in the Brundtland Report 'Our Common Future':

*"...development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*

The Agency's principal aim is set out in the 1995 Environment Act:

*"in discharging its functions the Agency is required so to protect or enhance the environment, taken as a whole, as to make the contribution that ministers consider appropriate towards achieving sustainable development"*.

Integrated environmental management is a means by which the Agency can promote sustainable

development and LEAPs are an important part of this process. The Government guidance given to the Agency on its contribution to sustainable development is summarised in the Consultation Report on pages 9&10.

### 1.3.2 Biodiversity

Biodiversity is commonly used to describe the number, variability and variety of living organisms. The Biodiversity Convention, signed by the Government at the Rio 'Earth Summit' in 1992, seeks to ensure that the full range of animal and plant species are conserved. A national action plan for biodiversity was subsequently published in January 1994.

In pursuance of the Governments commitment to biodiversity conservation, the Agency has significant responsibilities regarding implementation of the Biodiversity Action Plan and will be developing targets for species and habitats of conservation concern. In the Upper Trent Area the Water Vole, Crayfish, Great Crested Newt and Black Poplar are of particular concern, as is the control of invasive plants such as Japanese Knotweed and Himalayan Balsam.



Dragonfly

Additionally there are other water-related species and habitats in the area that will require protection and enhancement.

### 1.3.3 Global Climate Change

Modelling climate change is difficult and predictions vary. However it is generally accepted that temperatures are rising across the world and that this global warming is in part caused by the emission of carbon dioxide, methane and nitrous oxide. Regardless of the cause it is essential to allow for changes to the climate of the UK in the foreseeable future.



To address climate change the Agency is working to the following objectives:

- Help to ensure that the Government's greenhouse gas emission targets are met.
- Develop methods to improve our estimates of the emission of methane into the atmosphere from landfill sites.
- Promote tax incentives to reduce energy production from burning fossil fuels.
- Set an example by reducing our own energy and fossil fuel consumption.
- Invest in research to predict the likely effects of climate change on the environment of England & Wales, and how to manage them.
- Provide improved mapping of low-lying coastal areas at risk from sea-level changes.
- Develop techniques to identify changes in plant life, using remote sensing techniques, to measure the effects of different weather patterns in sensitive areas.
- Contribute our knowledge and expertise to national and international forums dealing with climate change.

Much of the Agency's existing work will help to achieve many of these objectives.

## 2.0 The West Midlands – Tame Plan Area

A detailed description of the area was produced for the Consultation Report. The following chapter provides a brief overview of the main points.

### 2.1 Introduction

The West Midlands — Tame LEAP area covers the majority of the former county of the West Midlands including Birmingham, Solihull and much of the Black Country. Walsall and Sandwell lie within the area plus the eastern parts of Wolverhampton and Dudley. The population of the area is approximately 1.8 million, the vast majority of whom live in the main conurbation.

The area has a history of industrial usage. In the 1800s large quantities of mineral resources in the Black Country enabled the development of heavy industries such as steel, iron, brick and glasswork, which in turn enabled the establishment of final assemblers, often based in Birmingham and Solihull. After 1860 the Black Country began to decline in prosperity as the natural mineral resources were exhausted and light engineering with new technology gradually replaced the heavier industries. Since the early 1980s a lot of effort has gone into revitalising older industrial areas.



Birmingham City Centre

Today the economy is more diverse with the growth of services, shops, offices and the expanding leisure industry. The principle industries in the area are engineering, metal

finishing and vehicle manufacture and Birmingham is a major administrative and financial centre and England's second city.

Despite the largely urban nature of the area, there are 18 Sites of Special Scientific Interest (SSSIs) and two National Nature Reserves, Sutton Park in Sutton Coldfield and the geologically important Wren's Nest in Dudley. The urban area is an important stronghold for water voles.



The National Indoor Arena

The area has a number of sites of archaeological interest, not least the vast industrial heritage of the Black Country and the largest canal network in Britain.

### 2.2 Summary of Uses, Activities and State of the Environment

#### 2.2.1 Waste Disposal and Management

An estimated 7 million tonnes of controlled waste is generated in the West Midlands each year, however because the West Midlands — Tame LEAP area is smaller than the West Midlands, the quantity of waste produced in the LEAP area is likely to be significantly less.

There are over 270 licensed waste management facilities within the West Midlands — Tame catchment and landfill remains the predominant route for the disposal of waste. The largest site is



at Packington in North Warwickshire, which handles over 50 percent of the total waste landfilled within the catchment. Three landfill sites in the LEAP area extract methane to produce electrical energy.

### 2.2.2 Air Quality

Nationally there have been significant improvements in air quality since the infamous London smogs of 1951. Levels of sulphur dioxide and black smoke have fallen considerably.

Air quality over parts of the Birmingham/Black Country conurbation is sometimes poor, particularly over the road networks where traffic accounts for over 96 percent of emissions of carbon monoxide, benzene and 1-3 butadiene, 85 percent of emissions of oxides of nitrogen and 75 percent of black smoke. The need for better monitoring is highlighted in Issue 21 and specific air quality problems at Pleck and Walsall are discussed in issues 22 and 23.

### 2.2.3 Water Quality

#### **Surface Waters**

Water quality in the upper urbanised catchment remains poor. The River Tame contains a high proportion of treated sewage and industrial effluent. At Lea Marston the average flow in the river consists of 55 percent treated sewage effluent and industrial waste. In dry weather this can rise to 90 percent. Pollution from contaminated land continues to affect water quality and under storm conditions the river also receives large amounts of polluted run-off from the conurbation. Water quality in the River Tame improves significantly downstream of the Lea Marston Purification lakes and this allows a viable fish population to survive.

Canal water quality in the catchment is generally fair but the presence of algae and the disturbance of sediments by boat traffic have depressed water quality results.

#### **Groundwater**

The quality of groundwater varies across the catchment dependent upon the type of aquifer and the present and former use of the land. In the Black Country, natural minerals in the rocks dissolve in water to give elevated concentrations of metals and dissolved solids. Industrial activity

has had its effect across the urban West Midlands reducing water quality through polluting discharges, poor waste disposal and bad site management. In the Triassic Sandstones under Birmingham, eighty percent of boreholes show evidence of solvent and heavy metal contamination in groundwater derived from areas with historical industrial practises. Reduced abstraction from this aquifer by industry is leading to rising groundwater levels, with a consequent pollution risk. This is discussed in Issue 13.

### 2.2.4 Fisheries

Still water coarse fisheries are widespread and there is good coarse fishing on the extensive canal network. The catchment includes a valuable fisheries resource on the River Blythe which is an excellent coarse fishery for much of its length, with the middle reaches managed exclusively for trout.

The rivers Bourne and Cole support only sparse coarse fish populations, insufficient to encourage serious angling. In the River Tame (above Lea Marston) and the River Rea there are no sustainable fish populations.

### 2.2.5 Water Resources

The area is not self sufficient in its water resources and receives up to 600 megalitres per day from the Elan Valley in mid-Wales, and from groundwater sources north and east of the catchment. Across the catchment there are, in general, sufficient resources to grant new abstraction licenses (both surface water and groundwater) subject to there being no local derogation problems.

Throughout the area a major use of surface water is for canal operation. Impoundments and abstractions are made at a number of locations for this purpose. Under present legislation such impoundments and abstractions do not require a licence from the Agency. Several reservoirs are owned and operated by British Waterways (BW) to maintain canal water levels. The canals themselves however, support abstractions and BW applies for licences in the normal way.

Most developed areas are covered by impermeable hardstanding (tarmac, concrete



etc.) where rainfall is channelled directly to surface water sewers and then rivers. This reduces the amount of water that can soak into the ground to replenish groundwater and subsequently river baseflow supplies. Increased use of sustainable urban drainage methods may help to tackle this problem (Issue 5).

## 2.2.6 Nature Conservation

There are 18 Sites of Special Scientific Interest (SSSIs) within the West Midlands — Tame LEAP area. The River Blythe is classified as a SSSI for most of its length, as a fine example of a lowland river on clay, one of only three lowland clay rivers in England to be given SSSI status. It features a diversity of substrate types and botanically it is one of the richest rivers in the country, supporting a rich variety of submerged and floating-leaved species, tall emergents and wetland edge species.

Two of the SSSIs, Wren's Nest and Sutton Park, are National Nature Reserves. Sutton Park SSSI contains the largest and richest area of ancient woodland, heath and wetland in the West Midlands.

There are over 330 Sites of Importance for Nature Conservation (SINCs) of which many are of wetland interest. There are 9 Wildlife Trust

Reserves and one RSPB reserve, at Sandwell Valley.

## 2.2.7 Heritage

There are a variety of Scheduled Ancient Monuments (SAMs) and many other sites of archaeological interest to be found in the area. These include the very early indications of human activity provided by stone axes and flint tools in the river gravels of Birmingham, Iron Age hill forts, Roman military sites and the internationally important relics of the industrial revolution found throughout the West Midlands conurbation. The canal network provides many significant examples of our industrial past.

## 2.2.8 Development and Infrastructure

The housing allocation in the area (up to 2001) amounts to some 140ha, of which approximately 36ha is known to be brownfield (26% of total). Some 650ha of land has been allocated for employment areas, of which 270ha (42% of total) is known to be brownfield. The largest single new housing site in the West Midlands — Tame LEAP area is on land allocated in the Solihull MBC Development Plan, where 800 to 1000 houses covering about 40ha of greenfield



Flood defences on the River Cole at Colehill

land are to be built at Dickens Heath on the headwaters of the River Blythe.

The largest employment proposal (170 ha) in the area is at the site of the former Hams Hall Power Station in Warwickshire. Outline planning permission has been granted to the West Midlands Development Agency for use and development of land for industrial activity on 56ha of land between the A38 Sutton Coldfield Bypass and Wishaw Lane, Minworth.

Major new infrastructure work includes the Birmingham Northern Relief Road (BNRR). The majority of the route itself will be outside the boundary of this LEAP, although it will meet the M6 at Packington in the north east of the LEAP area. The relatively short stretch of road in the catchment is not expected to have a major effect on the watercourses of the area as long as pollution prevention measures are implemented.

### 2.2.9 Flood Defence and Land Drainage

The upper reaches of the River Tame had their natural hydrological and hydraulic features modified in the pre-industrial revolution days by over 50 water mill sites. The Industrial Revolution and subsequent urbanisation drastically changed

the river. This has resulted in a very rapid run-off response to rainfall and considerable encroachment into the flood plain by development with a consequent reduction in the river's natural flood storage capacity.

Extensive flood defence works to provide protection to property have been carried out on the River Tame within the LEAP area. The works have comprised of channel capacity uprating in conjunction with the creation of strategic flood balancing areas. There are extensive flood banks on the River Tame at Witton, Hamstead, Bescot and Oldbury. Five flood balancing areas have been constructed at Ocker Hill, Sheepwash, Bescot, Sandwell and Perry Hall Playing Fields. A number of surface water balancing systems have been installed on new developments on the River Blythe, downstream of Solihull, to reduce peak surface water discharges from such sites.

### 2.2.10 Agriculture and Forestry

Despite the domination of the LEAP area by the urban environment, about 45 percent of the land is used for agricultural purposes, particularly in the east and south.

The only major forestry initiative in the catchment is that of the Black Country Urban Forest. This initiative is described in the Consultation Report (p.67).

### 2.2.11 Traffic and Transport

Road traffic continues to increase in the West Midlands and projections are for increases of between 27% and 44% to 2001 across the country. Planning and development policies are being developed to reduce car use and to promote public transport and walking/cycling. Much will depend however on new government proposals for an integrated transport policy.

### 2.2.12 Industry

The Environment Agency is responsible for regulating emissions to land, water and air from industrial processes that have the greatest potential to pollute through their scale, complexity, or the toxicity and persistence of the materials that could be released. These are the processes prescribed as "Part A" processes under the Integrated Pollution Control provisions of



Tyseley Waste Incinerator



The Environmental Protection Act 1990. Local authorities regulate emissions to air from less potentially polluting industries ("Part B" processes). In the West Midlands — Tame LEAP area there are 76 IPC processes on 46 sites mainly concentrated along the M6/M5 corridor.

## 2.2.13 Minerals

The area has been extensively mined and quarried for its mineral resources including limestone, coal, ironstone, clay, brickclay, sandstone, sand and gravel. The majority of this activity has now ceased and the area is a net importer of its mineral requirements.

## 2.2.14 Power Generation

There are no major power stations within the West Midlands — Tame LEAP area, but at least three stations (Rugeley, Drakelow and Ironbridge) are sufficiently close to influence air quality if wind direction and weather conditions permit, although this is rare. There are two small power stations within the area, at Ocker Hill and Fort Dunlop, and electricity is also produced at

Tyseley Waste Incinerator. Three landfill sites at Rowley Regis, Meriden and Queslett extract methane to produce electrical energy (see Consultation Report, page 128).

## 2.2.15 Recreation

The rivers in the LEAP area provide relatively few water based recreational facilities. Poor water quality and habitat restricts angling opportunities while canoeing and other water sports do not normally take place on the urban river system because of the health and safety risks. Apart from the River Blythe, angling and other water sports are frequently restricted to the canals, ponds and lakes in the area.

There are opportunities for birdwatching in the urban areas at Sandwell Valley and Sutton Park, and at some of the canal corridors, as well as on the rivers Blythe, Bourne and Cole.

Access to riverbanks, particularly in the urban areas is generally poor. The canal network in the area provides extensive recreational opportunities including canal boating, angling and other associated activities.



Birdwatching in Sandwell Valley





Spaghetti Junction, Birmingham

# 3.0 Review of the Public Consultation Process

## 3.1 Summary of Public consultation

The Environment Agency is committed to full consultation through all stages of the LEAP process. During the compilation of the West Midlands — Tame LEAP Consultation Report and following its publication, we undertook extensive consultation with interested parties and the general public.

This section reviews that process and briefly summarises some of the comments and our actions in response. A more detailed review of the comments, including individual responses, is given in a separate document entitled 'Statement of Public Consultation', copies of which are available from the Agency's Upper Trent Area office.

### 3.1.1 Informal Consultation

In July 1997 the Agency wrote to 87 key groups including local authorities and other representative bodies, asking for comments on the Agency's initial list of issues and problems affecting the environment in the area. In total 32 organisations responded. All comments from this initial information gathering exercise were considered and where appropriate, were incorporated into the consultation report.

Staff from the Agency, with valuable input from Upper Trent Area's AEG sub-group, developed the report.

### 3.1.2 Formal Consultation

The consultation report was published on 25 March 1998.

The publication marked the start of a three-month consultation period that ended on 25 June 1998. During that time the report was promoted by:

- Radio and TV interviews, press releases and public notices in the press

- Distribution of over 8,000 summary leaflets which included a questionnaire
- Display boards at libraries throughout the plan area
- Copies of the report placed on deposit at local authority offices and libraries
- 2 consultation seminars in Walsall and Birmingham

## 3.2 Summary of Responses

A total of 76 written responses to the consultation exercise were received — 42 letters and 34 questionnaires. The response was encouraging, with those consultees who responded representing a wide cross section of interests. A list of all those who commented is included in Appendix 1. All letters and questionnaires were acknowledged and detailed follow-ups were sent to the majority of those who sent letters.

All comments have been considered and where appropriate and practicable, incorporated into the action plan. During the consultation process and via the responses, many organisations expressed an interest in working in partnership with the Agency towards resolving issues highlighted in the plan. We received many helpful and welcome suggestions. Errors and omissions were also highlighted, and these are summarised in Appendix 2.

The consultation process has given the Agency a more comprehensive understanding of the issues and options presented in the LEAP and of the public's concern in the area.

The questionnaires asked for respondents to rank the issues that they considered were the most important. Of the responses received the most important issues were:



Issue 1 — Biodiversity

Issue 6 — Investment by Severn Trent Water Limited to improve water quality

Issue 16 — Litter and the Aesthetic Pollution of Rivers and Canals.

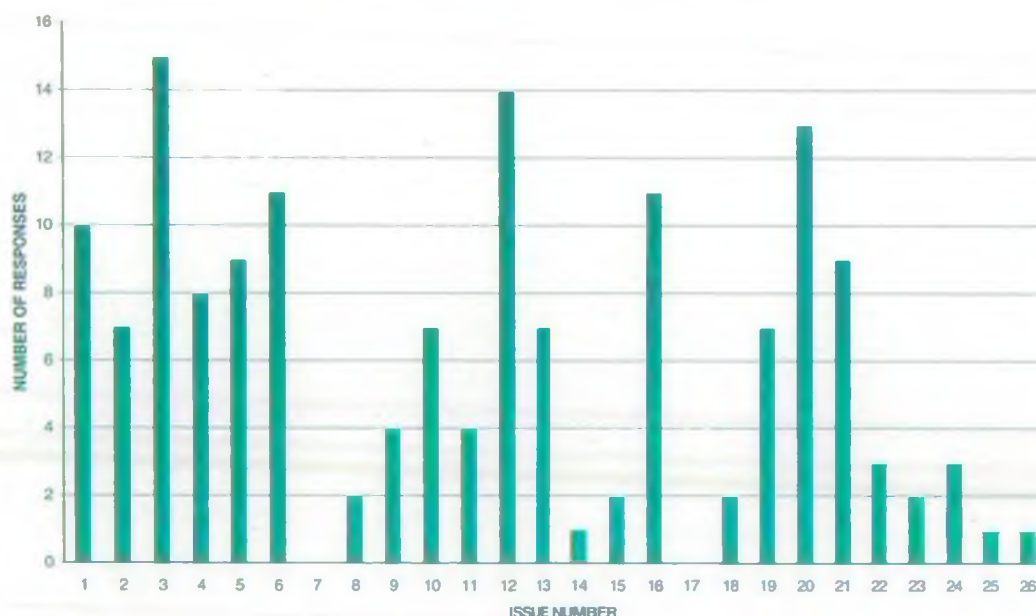
Issue 20 — Sustainable Waste Management.

Two issues were not highlighted in the returned questionnaires, these were Issue 7 — Lea Marston Purification Lakes and Issue 17 — Enclosure of Waste Transfer Activities.

The letters and questionnaires raised a number of new issues:

- Provision of bends /meanders in rivers.
- Implications to the environment of large-scale use of genetically modified organisms.
- Industrial development in the green belt from Minworth along the A38 corridor.
- Transportation of radioactive waste through and over the West Midlands.
- New housing developments on greenfield/brownfield sites and the provision

FIG 2. THE NUMBER OF RESPONSES TO EACH ISSUE



The graph demonstrates that the most popular issues (those most frequently referred to in the rankings) were:

Issue 3 — Enhancement of watercourse corridors in urban areas for wildlife

Issue 6 — Investment by Severn Trent Water Limited to improve water quality

Issue 12 — Contaminated Land

Issue 16 — Litter and the aesthetic pollution of rivers and canals

Issue 20 — Sustainable Waste Management

of proper public transport when greenfield sites are unavoidable.

- Canalside improvements away from the high profile areas of Gas Street Basin and the National Indoor Arena
- The proposed restoration of the Dudley No.2 canal
- Proposals for improved access to the Titford canal
- Production of Water Level Management Plans

The Agency has considered the responses received and the new issues raised. With the exception of Water Level Management Plans the suggested issues have not been included in the action plan.

Some are already covered by the everyday work of the Agency or, as in the case of canal restoration, the Agency has limited responsibility or funding available for such schemes. Others, such as housing developments and transport, are outside the remit of the Agency.

## 3.3 Further Action

A number of changes to the issues, options and proposals have been made as a consequence of the public consultation and a new issue, "Water Level Management Plans" has been included. Changes to the existing issues are identified in the activity tables in Section 4. The action plan reflects a balance between the opinions expressed and the need to ensure a feasible and workable plan.





Sutton Park in Winter

# 4.0 Actions

## 4 Actions

### 4.1 Implementation

Implementation of the plan is based on the 27 key issues set out below. Following the end of the consultation period the Agency has undertaken extensive negotiations with key groups and individuals. Actions to resolve issues are intended to be SMART (Specific, Measurable, Agreed, Realistic and Time based) and as such the plan represents the non-routine investment by the Agency and others in the plan area.

The consultation process generally supported the issues raised by the Agency. Many of the options

have been carried through into the activity tables but some new actions have been added and new approaches taken.

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

All changes will be highlighted in the annual review (see section 6).

#### 4.1.1 List of Issues

- Issue 1** Biodiversity
- Issue 2** Lack of public access routes along riverbanks
- Issue 3** Enhancement of watercourse corridors in urban areas for wildlife
- Issue 4** Urban run-off and deoxygenation of the River Tame
- Issue 5** Sustainable Urban Drainage
- Issue 6** Investment by Severn Trent Water Limited to improve water quality
- Issue 7** Lea Marston Purification Lakes
- Issue 8** River flows and water quality in the River Blythe
- Issue 9** Excess nutrient levels in the Sutton Park pools
- Issue 10** The current quality of rivers and canals
- Issue 11** The effect of the West Midlands — Tame catchment on downstream water quality
- Issue 12** Contaminated land
- Issue 13** The impact of rising groundwater beneath Birmingham
- Issue 14** Baseflow contribution to the River Tame
- Issue 15** Water resources development strategy for canals
- Issue 16** Litter and the aesthetic pollution of rivers and canals
- Issue 17** Enclosure of waste transfer activities
- Issue 18** Little Packington Landfill site
- Issue 19** Flytipping
- Issue 20** Sustainable Waste Management
- Issue 21** Air quality monitoring
- Issue 22** Industrial heavy metal pollution in Pleck, Walsall
- Issue 23** Odour problems in Sandwell
- Issue 24** Review of flood defences on the River Tame
- Issue 25** The proliferation of surface water balancing systems in Solihull
- Issue 26** The future management of Park Hall Farm
- Issue 27** Water Level Management Plans



LEAPs translate the Agency's 'Environmental Strategy for the Millennium and Beyond' into action on the ground. The Strategy is based on the need to take an integrated approach to the management of the whole environment and identifies nine environmental themes that are of principal and immediate concern to the Agency. The themes and the issues in the Tame LEAP which fall within them, are given below:



## ADDRESSING CLIMATE CHANGE

No specific local issues in this category. Locally the Agency's main influence on climate change will be to help ensure that the Government's greenhouse gas reduction targets are met by regulating emissions from major industrial processes. We will also set an example by reducing our own energy and fossil fuel consumption.



## IMPROVING AIR QUALITY

Issue 21

Air quality monitoring



## MANAGING OUR WATER RESOURCES

Issue 13

The impact of rising groundwater beneath Birmingham

Issue 14

Baseflow contribution to the River Tame

Issue 15

Water resources development strategy for canals



## ENHANCING BIODIVERSITY

Issue 1

Biodiversity

Issue 3

Enhancement of watercourse corridors in urban areas for wildlife and amenity

Issue 9

Excess nutrient levels in the Sutton Park pools



## MANAGING OUR FRESHWATER FISHERIES

No specific local issues in this category, although actions in Issues 4 and 7 will contribute to the delivery of this theme.



## DELIVERING INTEGRATED RIVER BASIN MANAGEMENT

Issue 2

Lack of public access routes along river banks

Issue 4

Urban run-off and deoxygenation of the River Tame

Issue 5

Sustainable Urban Drainage

Issue 6

Investment by Severn Trent Water Limited to improve water quality

Issue 7

Lea Marston Purification Lakes

Issue 8

River flow and water quality in the River Blythe

Issue 10

The current quality of rivers and canals

Issue 11

The effect of the West Midlands-Tame catchment on downstream water quality

Issue 25

The proliferation of surface water balancing systems in Solihull

Issue 26

The future management of Park Hall Farm

Issue 27

Water Level Management Plans



## CONSERVING THE LAND

Issue 12

Contaminated land

Issue 24

Review of Flood Defences on the River Tame



## MANAGING WASTE

- Issue 16 Litter and the aesthetic pollution of rivers and canals
- Issue 17 Enclosure of waste transfer activities
- Issue 18 Little Packington landfill
- Issue 19 Flytipping
- Issue 20 Sustainable Waste Management



## REGULATING MAJOR INDUSTRIES

- Issue 22 Industrial heavy metal pollution in Pleck, Walsall
- Issue 23 Odour problems in Sandwell

## 4.2 Action Tables

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

## ABBREVIATIONS

AMP	Asset Management Plan	MAFF	Ministry for Agriculture, Fisheries & Food
B'ham CC	Birmingham City Council	NVZs	Nitrate Vulnerable Zones
BW	British Waterways	OFWAT	Office of Water Services
CIRIA	Construction Industry Research & Information Association	RQOs	River Quality Objectives
CSO	Combined Sewer Overflow	STW	Sewage Treatment Works
DETR	Department of the Environment, Transport and Regions	STW Ltd	Severn Trent Water Ltd
EA	Environment Agency	TBG	Tidy Britain Group
EN	English Nature	UWT	Urban Wildlife Trust
GQA	General Quality Assessment	WCC	Warwickshire County Council
HA	Highways Agency	WTs	Wildlife Trusts
LAs	Local Authorities	WQOs	Water Quality Objectives

## KEY

- < Less than
- > Greater than
- Action in the year indicated
- R Recurring — no additional costs to annual budgetary provision
- U Unknown costs at this time
- \* Only Agency costs identified here. Costs to other organisations unknown
- K £1,000



# ISSUE 1 Biodiversity



## OBJECTIVE:

- To protect rare and endangered animal and plant species to promote diversity of Flora and Fauna

The Agency has significant responsibilities regarding the implementation of the UK Biodiversity Action Plan and will be developing targets for species and habitats of conservation concern to contribute to both local and national initiatives.

This issue looks at those species for which the Agency has some responsibilities and also attempts to address the problems caused by invasive plants.



An Otter

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
<b>1.1 Otters</b>										
- Support Wildlife Trust Otter Projects and encourage Trust to monitor otter distribution in the catchment by surveys, particularly on the River Blythe	EA	UWT	1*	●						A Crawford
- Identify habitat improvement and holt creation sites	EA	UWT	1*	●	●					A Crawford
- Improve habitat where appropriate	EA	UWT	U	●	●	●	●	●	Ongoing	A Crawford
- Ensure needs of otters are included in waterside developments	EA	Landowners/ Developers	U	●	●	●	●	●	Ongoing	A Crawford
<b>1.2 Water Voles</b>										
- Identify areas for habitat improvement following publication of the Agency's Water Vole Manual.	EA	UWT, BW	U	●	●					A Crawford
- Improve habitats where appropriate	EA	Landowners/ Developers	U	●	●	●	●	●	Ongoing	A Crawford
- Ensure needs of water voles are included in waterside developments	EA	UWT, BW, Developers	U	●	●	●	●	●	Ongoing	A Crawford
- Modify maintenance methods where appropriate to ensure protection of water voles	EA	LAs, BW	U	●	●					J Buckingham
<b>1.3 Crayfish</b>										
- Carry out surveys to determine range	EA	UWT	1-2*	●	●					A Crawford
<b>1.4 Great Crested Newts</b>										
- Use UWT survey (Agency funded) & other data to produce a distribution map and identify gaps in knowledge	EA	UWT	1*	●						A Crawford
- Carry out further surveys to fill gaps identified in above survey	EA	UWT	<3*	●	●					A Crawford

# Actions 4

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
1.5 Black Poplar – Survey river banks to identify any existing trees and ensure their protection with Tree Preservation Orders	EA	LAs UWT	U	●	●					A Crawford
– Plant new trees from genetically pure stock	EA, Urban Forestry Group	LAs, UWT,	U	●	●	●	●			A Crawford
1.6 Control of Invasive Plants – Draw up methodology for recording areas of colonisation by Japanese Knotweed near watercourses	EA	LAs	U	●						A Crawford
– Agree a co-ordinated programme of spraying	EA	LAs, Landowners	U		●	●	●			D Watson
– Alter maintenance programme to ensure cutting of Himalayan Balsam prior to seeding where possible	EA	LAs	U	●						J Buckingham

## Cross reference to other issues

Issue 3	Enhancement of watercourse corridors in urban areas for wildlife and amenity
Issue 7	Lea Marston Purification Lakes
Issue 8	River flows and water quality in the River Blythe
Issue 11	The effect of the West Midlands – Tame Catchment on downstream water quality
Issue 26	The future management of Park Hall Farm



Japanese Knotweed on the River Tame

## ISSUE 2 Lack of Public Access Routes along River Banks



### OBJECTIVE:

- To improve public access for pedestrians and cyclists to and along river banks for transport and recreation.

Public access to rivers in urban areas is often poor. Recent consultations on government regional and national transport strategies emphasised the importance of opening up public access routes, particularly in urban areas. River corridors often provide the opportunity to develop routes for both pedestrians and cyclists, not only for recreation but also for going to work and to school without the danger of using roads.

Better access to watercourses will heighten public awareness of litter and aesthetic pollution and aid in the development of river corridors for wildlife and amenity purposes.

The Agency and its predecessors have a long history of support for riverside paths and have contributed significantly to the creation of the River Tame Walkway.



ACTIONS	RESPONSIBILITY		Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
	LEAD	OTHER								
2.1 Complete consultants report on Tame Walkway feasibility and make it available to all LAs	EA		1	●						A Crawford
2.2 Agree a programme of development for Tame Walkway from Willenhall and Sheepwash to Lea Marston	EA	LAs Countryside Commission, Sustrans, Landowners	<1*	●						A Crawford
2.3 Carry out agreed development programme	EA	As above	U	●	●	●	●			A Crawford
2.4 Develop other riverside footpaths, bridleways and cycleways	EA	As above	U	●	●	●	●			A Crawford
2.5 Link riverside paths to existing paths, rights of way, canal towpaths etc	EA	As above BW	U	●	●	●	●			A Crawford

Cross reference to other issues

Issue 3 Enhancement of watercourse corridors in urban areas for wildlife and amenity.

Issue 16 Litter and the aesthetic pollution of rivers and canals

## ISSUE 3 Enhancement of Watercourse Corridors in Urban Areas for Wildlife and Amenity



### OBJECTIVE:

- To improve the conservation and amenity value of urban watercourses and to develop their use as wildlife corridors

Watercourses and their associated floodplain often provide important open space in built up urban areas but their modification to maximise the use of valuable land and reduce the risk of flooding has resulted in the canalisation and culverting of watercourses. In addition the elimination of the transition zone between land and water coupled with the removal of trees and scrub, results in an extremely hostile environment to aquatic and terrestrial organisms.

The improvement of environmentally hostile riverbanks serves not only to improve the immediate habitat availability but also provides links between upstream and downstream habitats. This in turn improves the stability of the river ecosystem and provides isolated areas away from public access where wildlife is undisturbed.

The Agency recognises that some past flood defence works have caused environmental deterioration and is now seeking to regenerate river features where possible without

compromising flood protection and causing damage to existing archaeological and historic features.



Canalised section of the River Rea at Digbeth

# Actions 4

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
3.1 Create a continuous wildlife corridor by encouraging all new developments back from river banks and promote the creation of a landscaped strip next to the watercourse	EA, LAs	Developers	R*	●	●	●	●			A Crawford V Brown P Swain
3.2 Resist further culverting of watercourses on new developments and restore existing culverts to open channels	EA LAs	Developers	R*	●	●	●	●			As above
3.3 Undertake detailed survey of river corridor (including aerial surveys) to identify enhancement opportunities	EA		S	S						A Crawford V Brown
3.4 Draw up regeneration programme from above survey	EA		S		S					A Crawford
3.5 Carry out regeneration programme as opportunities arise through redevelopment: - Replace hard bank reinforcement with soft engineering or create a transition zone in front - Re-profile river banks to create habitat diversity and access to river - Carry out tree and shrub planting	EA     EA, LAs, Developers	Developers, Wildlife Trusts    Urban Forestry Unit	U     U	     ●	     ●	●     ●	●     ●	●     ●	●     ●	A Crawford     A Crawford

Cross reference to other issues

- Issue 1 Biodiversity  
Issue 2 Lack of public access routes along river banks  
Issue 16 Litter and the aesthetic pollution of rivers and canals

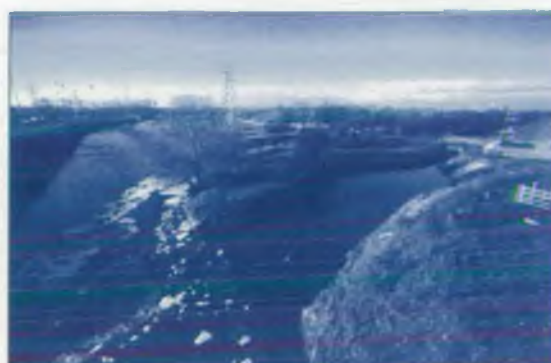
## ISSUE 4 Urban run-off and de-oxygenation of the River Tame



### OBJECTIVE:

- To reduce the harmful effects of urban run-off into the River Tame

In all urban areas, little rainfall is absorbed into the ground and rivers and streams rise quickly in response to rainfall. Rainwater runs off roads, factory yards, roofs, industrial estates and other impermeable surfaces subject to atmospheric pollution and spillages. Rainfall also has a significant impact on drainage systems, flushing accumulated solids from surface water sewers and causing dilute but untreated sewage effluent to overflow from foul sewers. Large volumes of



Fish refuge on the River Tame



poor quality water enter into, and move quickly down, the river system.

The adverse effects of urban run-off include discolouration of watercourses, smothering of aquatic life where solid matter settles out, and the depletion of oxygen present in the water as chemical and biological processes breakdown pollutants. The Agency has sought to mitigate against some of these adverse impacts by

developing a monitoring and response system during severe oxygen depletion in the River Tame and also to provide off-line pools as refuges for fish at times when the river is unfit for them to survive.

The Agency seeks to regulate all discharges, via its consenting procedures and discussions with developers and local planning authorities, to minimise urban run-off (see Issue 5).

ACTIONS	RESPONSIBILITY LEAD OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
4.1 General	EA								M Haslam
– Assess the results of the River Tame, Identification of Wet Weather Pollution Problems Report		R	●						
– Identify target catchments for additional survey work to identify sources requiring remediation	EA	R	●						D Freakley M Haslam
– Carry out surveys and targeted Pollution Prevention work	EA	STW Ltd LAs	U*	●	●	●			S Baker
– Review analytical data, post survey work	EA		R		●	●	●		M Haslam
4.2 Implement automatic peroxide dosing facility at Lea Marston to counteract low dissolved oxygen events			100	100	●	●	●		D Watson D Freakley
4.3 Encourage creation of off-line refuges for fish	EA	Developers	U*	●	●	●	●		A Crawford
4.4 Road run-off									
– Monitor road run-off quality within target catchments identified by the above study	EA		U	●	●	●			S Baker
– Provide additional pollution prevention and treatment systems on new road schemes	EA, DETR, HA	LAs Other road builders	U*	●	●	●	●		S Baker
– Review Midlands-link motorways de-icing programme and seek improvements as necessary	EA	DETR, HA	R*	●	●	●	●	Ongoing	M Haslam S Baker
4.5 Industrial Sites									
– Regular site visits and awareness campaigns	EA STW Ltd		R*	●	●	●	●		S Baker
4.6 Sewerage Systems									
– Monitor surface water sewers for wrong connections and correct where found	STW Ltd, EA		U*	●	●	●	●		S Baker
– Identify problem CSOs for inclusion in improvement programmes (See Issue 6)	EA		U	●	●	●	●		S Baker

Cross reference to other issues

Issue 5 Sustainable Urban Drainage

Issue 6 Investment by Severn Trent Water Ltd to improve water quality

Issue 7

Issue 11 Lea Marston Purification Lakes  
The effect of the West Midlands — Tame Catchment on downstream water quality



## ISSUE 5 Sustainable Urban Drainage



### OBJECTIVE:

- To encourage and promote the appropriate use of source control techniques to reduce the impact of urban run-off

"Sustainable Urban Drainage", or "Source Control" are the terms used to describe site drainage techniques that minimise the quantity of rainwater collected as well as minimising the quantity of water discharged, thus reducing the polluting and damaging physical effects of the first flush of contaminated surface water after heavy rainfall. Such techniques include the use of soakaways, grass swales, wetlands, infiltration systems, porous attenuation ponds and porous pavements.

One of the biggest issues in promoting the use

of such methods is that of adoption of a system and identification of a party to undertake long term maintenance. Sewerage undertakers and many local authorities need to be persuaded to adopt infiltration systems.

The Agency is developing Source Control Area Maps to show the suitability of an area for source control techniques. These would be used in conjunction with other guidance for local authority Building Control Officers when determining the suitability of a site with regard to general hydraulic properties.

# 4 Actions

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
5.1 Workshops/seminars between Agency, LAs, Water Companies to discuss adoption issues	EA	LAs, Water Cos. DETR	R*	●						V Brown
5.2 Develop pilot projects using source control techniques	LAs	EA	R*	●	●	●	●	●		V Brown
5.3 Publicise pilot projects	EA	LA Developers	R*		●	●	●	●		V Brown
5.4 Promote use of CIRIA 156 "Manual of Good Practice on Infiltration Drainage" with LAs and others	EA	LA	R*	●	●	●	●	●		V Brown
5.5 Identify source control suitability area maps	EA		15	15						A Dacey
5.6 Produce and publicise source control suitability area maps	EA		U		●	●				V Brown
5.7 Promote conservation use of balancing areas and swales	EA		U	●	●	●	●			A Crawford

### Cross reference to other issue

Issue 3 Enhancement of watercourse corridors in urban areas for wildlife and amenity  
Issue 4 Urban run-off and deoxygenation of the River Tame

Issue 24 Review of flood defences on the River Tame  
Issue 25 The proliferation of surface water balancing systems in Solihull

## ISSUE 6 Investment by Severn Trent Water Limited to improve water quality



### OBJECTIVE:

- Improvement of the sewerage system to reduce environmental pollution by regulation, and through targeting future investment

Asset Management Plans (AMPs) are strategic plans for programmed investment in the infrastructure of private water companies, so that they might meet obligations relating to water supply and sewage treatment. The money available for delivering the programme is determined by OFWAT.

The programme of work for AMP2 (1995-2000) is now being delivered. Top priority for expenditure was given to meeting present and future statutory obligations, both EC and domestic, including EC Directives for Freshwater Fisheries, Dangerous Substances and Urban Waste Water Treatment. A significant proportion of expenditure is also being used on discretionary schemes to achieve River Quality



Minworth sewage treatment works outfall to River Tame at Water Orton

Objectives (RQOs). This work will lead to improvements including at both Minworth and Coleshill sewage treatment plants by the year 2000. The programme of improvements for AMP3 (2000-2005) is being considered by the Agency, the Water Companies and OFWAT

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
6.1 Monitor implementation of the AMP2 improvement schemes listed below and assess water quality commencing 1 year after completion of the scheme:	EA		R							S Baker M Haslam
– Spring Rd CSO, Walsall				●	●	●	●	●		
– Green Lane CSO, Walsall				●	●	●	●	●		
– Hildicks Crescent CSO, Goscote				●	●	●	●	●		
– Brasshouse Lane CSO, Smethwick				●	●	●	●	●		
– High Street/Brasshouse Lane CSO, Smethwick				●	●	●	●	●		
– Stony Lane CSO, Smethwick				●	●	●	●	●		
– Bradbury Road Pumping Station,				●	●	●	●	●		
– Black Country Trunk Sewer: A major improvement scheme which should improve the performance of a number of sewer overflows.					●	●	●	●		
– Minworth STW					●	●	●	●		
– Coleshill STW					●	●	●	●		
6.2 Complete submission for schemes to be considered by OFWAT under AMP 3	EA		R	●						M Haslam

### Cross reference to other issues

- Issue 4 Urban run-off and deoxygenation of the River Tame  
Issue 5 Sustainable Urban Drainage

- Issue 7  
Issue 9  
Issue 10  
Issue 11

- River flows and water quality in the River Blythe  
Excess nutrient levels in Sutton Park Pools  
The current quality of rivers and canals  
The effect of the West Midlands  
– Tame catchment on downstream water quality



## ISSUE 7 Lea Marston Purification Lakes

### OBJECTIVE:

- To review the future operation of Lea Marston Purification Lakes



Aerial view of the purification lakes at Lea Marston

The construction of Lea Marston purification lakes has led to improved downstream water quality and reduced the impact of wet weather induced pollution incidents which previously had adverse effects as far downstream as the River Trent.

The Agency owns the lakes and they play an important part in contributing to the UK's commitment to reduce toxic metal inputs to the

North Sea. The existence of the lakes has led to the achievement of a viable fish population in the River Tame and River Trent downstream. It is this population that the Agency seeks to protect, as any fishery upstream of the lakes is adventitious and vulnerable to intermittent pollution.

The Agency has a contingency plan for responding to incidents of oxygen depletion in the River Tame at Lea Marston and this is under continual review.

The lakes form part of a chain of wetlands that extend along the Middle Tame Valley, a chain that is of national importance for wintering wildfowl.

A management plan for conservation of the Lea Marston purification lakes will be developed by the Agency, to complement North Warwickshire Borough Council and Staffordshire County Council's Middle Tame Management Strategy.

# Actions 4

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	future	Agency Officer
7.1 Continue to review current operations and practice at Lea Marston with a view to achieving a sustainable operation	EA		R	●	●	●	●			D Watson
7.2 Continue to examine upstream water quality and seek to eliminate pollution sources across the catchment	EA	STW Ltd, LAs	R	●	●	●				M Haslam
7.3 Remediation of low dissolved oxygen events (see Issue 4)	EA		100	100	●	●	●	●		D Freakley D Watson
7.4 Prepare a Conservation and Recreation Management Plan for the Lea Marston Lakes site and seek partnership opportunities for the development and management of non-operational areas	EA	WCC	U	●						A Crawford

### Cross reference to other issues

- Issue 1 Biodiversity  
Issue 4 Urban run-off and deoxygenation of the River Tame  
Issue 12 Contaminated land



## ISSUE 8 River Flows and Water Quality in the River Blythe



### OBJECTIVE:

- To protect and enhance a Site of Special Scientific Interest and safeguard an important source of drinking water

The River Blythe is designated as a site of Special Scientific Interest (SSSI) along most of its length as a fine example of a lowland river on clay. It forms one of the most important conservation resources in the area and is the most important river fishery. The river is subject to significant and diverse human influences including the provision of drinking water and the disposal of treated sewage effluent. Maintaining the ecology of the River Blythe therefore requires effective management of the complex and competing demands on the entire river system.

To combat reduced baseflows in the headwaters of the River Blythe and possible adverse impacts on water quality from Earlswood Lakes, an operating agreement between British Waterways and the Agency concerning the flow of the Spring Brook has been trialled successfully.

Consultants on behalf of the Agency have prepared a Water Level Management Plan for the River Blythe. The plan recommends possible measures to safeguard the SSSI and the Agency intends to pursue the actions identified in the plan.

Under dry weather conditions nearly 50% of the flow of the river downstream of the Eastcote Brook confluence is treated sewage effluent from Barston sewage treatment works. A new dis-

charge consent for the works was issued in 1998 to meet the requirements of the Urban Waste Water Treatment (UWWT) Directive and ensure a sustainable improvement in effluent quality.

Recent survey work on the River Blythe has indicated that there are elevated nutrient levels in the river. Further consideration needs to be given to determine if this represents stress to the river environment. Phosphate levels from Barston STW will be reduced in 1999 as a requirement of the UWWT Directive.

Investigations by the Agency have indicated a widespread problem of low levels of pesticides in the River Blythe. Although it appears that there has been little effect on the biology of the river the Agency must ensure that pesticide levels do not represent a threat to the drinking water abstraction point at Whitacre water treatment works.

In Solihull MBC's Development Plan, 800 to 1000 houses are to be built over a 40ha greenfield site at Dickens Heath, on the headwaters of the River Blythe. The Agency will seek to ensure that sustainable urban drainage techniques are considered by the local authority and developers to minimise adverse impacts on the headwaters of the river.

English Nature and the Agency are in the process of finalising a "Conservation Strategy for the River Blythe SSSI". This will provide a framework for action by both parties and a reference point for dealing with proposals which may affect the river. A consenting protocol is also being developed.



River Blythe near Shustoke

# Actions 4

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
8.1 Monitor for the presence of pesticides in the catchment and implement actions to deal with detected problems at source	EA		R	●	●	●	●	●		D Freakley
8.2 Continue nitrate and phosphate monitoring in particular d/s of the Eastcote Brook	EA		U	●	●	●	●			D Freakley
8.3 Review results of earlier diatom and macrophyte survey – carry out further investigations where necessary (following improvements to Barston STW)	EA		U	●	●	●				G Fretwell
8.4 Agree a continuous operating regime at Earlswood Lakes with British Waterways	EA, BW		R*	●	●					A Dacey
8.5 Implement recommendations of Water Level Management Plan	EA	BW, Riparian Owners	U	●	●	●	●			V Brown
8.6 Review land spreading of sewage sludge and other wastes in the Blythe catchment	EA		U	●						M Haslam D Freakley
8.7 Agree a conservation strategy for the River Blythe SSSI and implement its recommendations	EA, EN	LAs, Riparian Owners, BW	U	●	●	●	●	●	Ongoing	A Crawford

## Cross reference to other issues

Issue 1	Biodiversity
Issue 5	Sustainable Urban Drainage
Issue 6	Investment by Severn Trent Water Limited to improve water quality
Issue 10	The current quality of rivers and canals
Issue 25	The proliferation of surface water balancing systems in Solihull



## ISSUE 9 Excess Nutrient Levels in Sutton Park Pools



### OBJECTIVE:

- To protect the water environment in Sutton Park, Site of Special Scientific Interest and National Nature Reserve

Sutton Park is designated as a site of Special Scientific Interest (SSSI) and National Nature Reserve because of the rich and diverse plant life to be found there. Recent survey work has shown that several species of aquatic plants that are sensitive to high nutrient levels have become extinct and there is an increasing amount of blue-green algae in the pools.

Problems with the sewer system, such as sewer overflows and wrong connections, plus the unquantified level of nutrient input from the feeding of wildfowl by members of the public,

have contributed extra nutrients to the water environment. It is hoped that the recent closure of two sewer overflows, coupled with an Agency campaign completed in 1998 to increase public awareness of domestic wrong connections, will reduce nutrient inputs.

Birmingham City Council has written a Water Management Plan for Sutton Park and is responsible for producing a Water Level Management Plan in conjunction with English Nature which is needed to ensure the adequate protection of the Sutton Park water environment.

ACTIONS	RESPONSIBILITY		Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
	LEAD	OTHER								
9.1 Continue chemical monitoring and sewer event monitoring upstream of Longmoor and Bracebridge Pools	EA	STW Ltd	R*	●						D Whitford
9.2 Carry out feasibility study on construction of silt traps/settling pools on all surface water inflows to the park	B'ham CC, STW Ltd	EA, EN	U*	●	●					A Crawford
9.3 Investigate methods for nutrient removal from pools	B'ham CC	EN, EA	U*	●	●					A Crawford
9.4 Implement recommendations from existing Water Management Plan	B'ham CC	EN, EA	U*	●	●					A Crawford
9.5 Produce and implement Water Level Management Plan	B'ham CC	EN, EA	U*	●	●					A Crawford
9.6 Review associated abstraction licences in the vicinity of Sutton Park	EA		U	●						A Dacey

Cross reference to other issues

Issue 6 Investment by Severn Trent Water Limited to improve water quality



# ISSUE 10 The Current Quality of Rivers and Canals



## OBJECTIVE:

- To improve river water quality to meet strategic objectives and to make further water quality improvements

The Environment Agency has set strategic targets called River Quality Objectives (RQOs) for rivers and canals. These provide a basis for water quality management decisions and are based on the Rivers Ecosystem Classification Scheme. This comprises five quality classes that reflect the chemical quality requirements of different types of river ecosystems.

There are also statutory targets for some rivers and canals, called Water Quality Objectives (WQOs), for the purposes of implementing several EC Directives such as Surface Water Abstracted for Potable Supply, Freshwater Fisheries and Dangerous Substances.

This issue addresses those river and canal stretches where quality is poor and/or there has been a failure to comply with the objective.

Some stretches of canal are reported as having poor water quality despite maintaining healthy fish populations. Because of the slow flowing nature of water in canals, algal blooms often develop and these, coupled with the disturbance of sediments by boat traffic, may adversely affect the perceived water quality. Despite this the Agency has no plans at this time for a separate classification scheme.



Water quality sampling

# Actions 4

ACTIONS	RESPONSIBILITY		Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
	LEAD	OTHER								
10.1 Investigate failures in water quality caused by dangerous substances on the following reaches:	EA		U	●	●					S Baker
R Tame				●	●					
Wolverhampton Arm, Bescot										
– Oldbury Arm, d/s Brassways										
– u/s Ford Bk, Bescot										
– d/s Minworth STW										
– d/s Coleshill STW										
Ford Bk — d/s Potters Clay				●	●					
Sneyd Bk — Anson Bridge				●	●					
Rough Bk — Rushall				●	●					
Walsall Canal — Pleck Rd				●	●					
Chemical Arm Canal				●	●					

ACTIONS	RESPONSIBILITY		Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
	LEAD	OTHER								
10.2 Investigate the reasons for RQO failures at the following sites:	EA		U	●	●					S Baker
R Tame				●	●					
– Coton Lane										
– Kingsbury Rd										
Tipton Brook				●	●					
– Alexandra Rd										
Griffins Brook				●	●					
– Bournville										
– Stirchley										
Bourn Brook				●	●					
– Pershore Road										
Plants Brook				●	●					
– Pye Hayes										
– Stubbers Green										
River Blythe				●	●					
– Ryton End										
– Sandalls Bridge										
Eastcote Brook				●	●					
– Hampton Bridge										
River Cole				●	●					
– Trittiford Mill										
B'ham/Wolv Canal				●	●					
– Sheepcote St										
– Western Rd Bridge										
Tame Valley Canal				●	●					
– Holloway										
– Salford Bridge										
– Newton Rd										
Walsall Canal				●	●					
– Bull Bank Lane										
– Ryders Green Lane										
Ridgeacre Canal				●	●					
– Phoenix St										
Grand Union Canal				●	●					
– Lapworth										
– Catherine de Barnes										
Stratford on Avon Canal				●	●					
– Hockley Heath										
Daw End Branch Canal				●	●					
– Aldridge										
– Clayhanger										
Wyrley & Essington Canal				●	●					
– Slacky Lane										
10.3 Upgrade river and canal objectives, where justified, to protect water quality	EA	R	Qualifying stretches & timetable to be announced following national review of RQO determination							M Haslam
10.4 Assess the effectiveness of canal de-silting operations following Project Aquarius and Digbeth canal improvement schemes	BW	EA	U	●	●					V Wilkinson M Haslam

## Cross reference to other issues

Issue 6 Investment by Severn Trent Water Limited to improve water quality

Issue 8 River flows and water quality in the River Blythe

Issue 11 The effect of the West Midlands — Tame Catchment on downstream water quality

Issue 12 Contaminated Land



# ISSUE 11 The Effect of the West Midlands – Tame Catchment on Downstream Water Quality



## OBJECTIVE:

- To improve river water quality from the catchment so that it does not compromise downstream quality requirements

There are uses of the water environment outside the West Midlands — Tame catchment which additionally demand tight control of potentially polluting activities within the catchment. Such strategic downstream uses include the presence of a good coarse fishery in the River Trent, the abstraction for public water supply from the Trent at Shardlow, the planned transfer of water from the Trent at Torksey to the Anglian region via the Fossdyke Canal and even much further downstream at the Humber Estuary Special Protection Area (SPA) for birds which is proposed as a Special Area of Conservation.

Occurrences within the West Midlands — Tame catchment which might have a significant impact on downstream water quality include:

- The quality of motorway (M6) run-off from its elevated sections during winter de-icing with urea
- The disposal of "exotic" organic materials by waste disposal companies and other industries which are not removed by their own treatment plants or the subsequent sewage treatment process
- Urban runoff, particularly resulting from summer storms after a long dry period
- Discharges from contaminated land

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
11.1 Formulate and carry out investigative work resulting from the organics survey report.	EA		U	●						M Haslam S Baker
11.2 Review consents to ensure compliance with EC Directives: – Urban Waste Water Treatment – Dangerous Substances – Habitats – Groundwater – Fisheries – Surface Water Abstraction	EA	STW Ltd, Discharge Consent holders	U	●	●	●	●	●	2005	R Matthews
11.3 Investigate and seek to control the impact of diffuse run-off into the catchment following the Tame initial UPM study. Consider: – Control of urea from motorways – Urban run-off – Contaminated land drainage – Waste management companies	EA	HA, STW Ltd, LAs, Industry	U	●	●	●	●	●		M Haslam S Baker
11.4 Carry out catchment surveys to detect sources in 11.3	EA		U	●	●	●	●			M Haslam S Baker
11.5 Undertake a detailed Urban Pollution Management Study of the catchment	STW Ltd	EA, Consultants	U	Timetable to be determined in 1999						M Haslam

Cross reference to other issues

- Issue 1 Biodiversity  
Issue 4 Urban run-off and deoxygenation of the River Tame  
Issue 6 Investment by Severn Trent Water Limited to improve water quality

- Issue 10 The current quality of rivers and canals  
Issue 12 Contaminated land

## 4 Actions



## ISSUE 12 Contaminated Land



### OBJECTIVE:

- To remediate and minimise the impact of land contamination on the environment and work towards its beneficial re-use

In the West Midlands conurbation there is a legacy of contaminated land that can present particular problems with respect to human health, air quality and the quality of groundwater and surface water.

Some sites are of particular concern, partly due to the lack of resources required to clean them up and partly because the historical nature of the contamination prevents legal redress from the polluter. Such sites include Slacky Lane and Bentley Mill Way in Walsall, where toxic metal polluted water from historical tipping discharges, via old mine workings, to the Rough Brook and the River Tame respectively. These sites are major contributors to heavy metals in the River Tame and the Agency will support and contribute to the implementation of schemes that result in their remediation.

As an environmental regulator the Agency is involved with many of the problems associated with land contamination, particularly where it is causing water pollution. Its ability to deal effectively with such problems will be increased with the advent of the contaminated land provisions under Part IIA of the Environment Protection Act 1990 (as amended by the Environment Act 1995) which will give wide-ranging powers to Local Authorities and the Agency. Local Authorities will have responsibility for identifying contaminated land and regulating its remediation, but in certain circumstances some contaminated sites will be classified as "Special Sites" and these will be regulated by the Agency.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
12.1 Progress remediation of contaminated sites:										
a) Slacky Lane – Investigate all potential remediation schemes and determine costs of practical options	EA, Walsall MBC		U	●	●	●				D Whitford
– Seek funding	EA, Walsall MBC	Landowners, Developers	U		●	●				
– Prepare joint development and funding briefs with relevant partners	EA		U	●	●	●				
– Implement steering board recommendations										
b) Bentley Mill Lane – Undertake further investigations to establish contaminant pathways	EA	Landowners, Developers	30*	15	15					D Freakley
– Work with potential developers to promote remediation at the site	EA, Walsall MBC	Landowners, Developers	U	●	●					
– Where appropriate seek funding to undertake remediation	EA, Walsall MBC	Landowners, Developers	U	●						
– Set up partnership group	EA, Walsall MBC	Landowners, Developers	U	●						
12.2 Prepare and deliver a campaign to inform stakeholders of their and Agency obligations under the Contaminated Land Provisions	EA	LAs	U	●						P Carroll

Cross reference to other issues

Issue 7 Lea Marston Purification Lakes  
Issue 10 The current quality of rivers and canals

Issue 11 The effect of the West Midlands – Tame catchment on downstream water quality  
Issue 14 Baseflow contribution to the River Tame (Action 14.3)



Contaminated seepage at Bentley Mill Way, Walsall

## ISSUE 13 The Impact of Rising Groundwater beneath Birmingham



### OBJECTIVE:

- To identify the extent, risks and potential uses of rising groundwater beneath Birmingham

Groundwater levels beneath parts of Birmingham City Centre continue to rise to their natural, pre-abstracted levels. This can be attributed primarily to the reduction in actual abstractions from boreholes in the aquifer and partly due to leakage from water mains and sewers.

The Agency has no responsibility in respect of the effect of rising groundwater on residential dwellings, offices and factories, only its effect on the water environment. Every assistance will be given to those who want to use this water as the secondary benefit from increasing abstraction.

ACTIONS	RESPONSIBILITY LEAD OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
13.1 Set up working group to pursue available development options	EA B'ham CC	Other interested parties	U	●					A Dacey
13.2 Continue development of a contingency plan for the issue of rising groundwater. Generate increased public awareness of the issue	EA B'ham CC	Members of working group	5*	5					A Dacey
13.3 Liaise with and assist potential abstractors to ensure the best use of a valuable resource	EA	Potential Abstractors	R*	●	●	●	●	●	Ongoing A Dacey P Stewart

Cross reference to other issues

Issue 14 Baseflow contributions to the River Tame

Issue 15 Water resources development strategy for canals



## ISSUE 14 Baseflow Contributions to the River Tame



### OBJECTIVE:

- To quantify the interaction between surface waters and groundwaters in the Coal Measures aquifer of the West Midlands Tame

It is currently difficult to quantify the contribution of groundwaters to the baseflow of the River Tame. In order to assess any

contribution a detailed study of the hydrological regime is required.

ACTIONS	RESPONSIBILITY		Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
	LEAD	OTHER								
14.1 Review existing hydrogeological/hydrological information and make recommendations for further works	EA		15			15				A Dacey
14.2 Resulting from the review – Drill observation boreholes – Undertake gauging survey	EA		69			9	60			P Stewart A Dacey
14.3 Reinstall James Bridge Gauging Station on the Wolverhampton Arm of River Tame	EA		150	Timetable to be determined for completion date in 2003						J Buckingham
14.4 Define water requirements within the aquifer and consider future demands	EA		U		•	•	•	•	•	A Dacey P Stewart

Cross reference to other issues

Issue 12 Contaminated land

Issue 13 The impact of rising groundwater beneath Birmingham

## ISSUE 15 Water Resources Development Strategy for Canals



### OBJECTIVE:

- To produce a water resources strategy to maintain sufficient and efficient supplies in the local canal systems

There are over two hundred kilometres of canals within the Tame LEAP area. The successful operation of these canals throughout the year requires a substantial amount of water from a variety of sources.

The use of locks creates a high demand on canal water resources, and this demand is compounded by the dominance of summer recreational boat traffic at a time when water resources are typically under the greatest pressure. In addition there are demands for water to compensate for losses from seepage, leakage and evaporation.



Birmingham/Fazeley canal near Brindley Place, Birmingham

# Actions 4

The recent drought, which started in Spring 1995, raised a number of water management issues, which require consideration in the longer term.

British Waterways will need to produce a long term strategic plan for the LEAP area identifying in one document, the current availability of water resources, the yield and security of existing sources, and the predicted demands within the canal system over the next few decades.

Emphasis should be placed on ensuring that effective management arrangements for water resources within the canal system are in place before claims are made on new sources in order to meet demands, and before new canals are built or restored.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
15.1 Production of a Water Resource Development Strategy										Ratcliffe A Dacey
- Review of draft National Water Strategy published by BW in December 1997	BW	EA	U	●						
- Undertake hydrological modelling of the canal system to confirm the current resource calculation	BW	EA	U	●	●	●	●			
- Where appropriate re-negotiate operating agreement to cover abstractions from sensitive sources	BW, EA		U	●	●	●				

Cross reference to other issues

Issue 13 The impact of rising groundwater beneath Birmingham

Issue 14 Baseflow contribution to the River Tame



## ISSUE 16 Litter and the aesthetic pollution of rivers and canals



### OBJECTIVE:

- To reduce litter and improve the overall appearance of rivers and canals

Watercourses in urban catchments are susceptible to litter, unauthorised tipping and other forms of aesthetic pollution.

The Agency has developed and is trialling an assessment scheme that measures the aesthetic pollution of watercourses.

The Agency will seek to reduce litter and unauthorised tipping by working with local groups to tackle specific problem areas and increase the awareness of the public to such matters through the development of an environmental education strategy.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
16.1 Continue development of GQA aesthetics monitoring programme	EA		U	Timetable to be determined						S Baker M Haslam
16.2 Implement GQA aesthetics monitoring programme as required	EA		U	Timetable to be determined						S Baker
16.3 Promote clean up initiatives through: – The encouragement of stewardships by voluntary groups and others – The disposal of unauthorised tipped material and reduction of its future re-appearance through site management – Promote measures to reduce sewage derived debris by reduction at source	EA, LAs	TBG, Groundwork, BW	U	●	●					A Crawford
	EA, LAs, BW, Riparian Owners		U	●	●					S Baker
	STW Ltd	EA, TBG, Product Mfrs	U	●	●					S Baker
16.4 Develop a local education strategy and establish partnerships to deliver it	EA	LAs, Community Groups, WTs Others	U	●	●					J Elsy

Cross reference to other issues

Issue 3 Enhancement of watercourse corridors in urban areas for wildlife and amenity

Issue 17 Enclosure of waste transfer activities  
Issue 19 Fly-tipping

## ISSUE 17 Enclosure of Waste Transfer Activities



### OBJECTIVE:

- To reduce the nuisance associated with the operation of commercial transfer stations

Large quantities of household, commercial and industrial waste generated in the West Midlands are taken to "transfer stations" where they are sorted, mixed and loaded into large bulk vehicles for transportation to landfill sites, often outside the area. Sites where such activities are undertaken in the open and that are close to houses or commercial and industrial premises can generate nuisances such as dust, litter,

odours and pests (flies and rodents) and present an unattractive visual impact.

All such open sites require a waste management licence from the Agency. The Agency will review the licences of all existing large commercial transfer stations in urban areas with the aim of enclosing waste handling activities to reduce the impact of such sites on the local environment.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
17.1 Undertake a review of all licences for waste transfer stations and prioritise the sites in terms of the need for enclosure	EA		R	●						S Baker
17.2 Promote the enclosure of waste transfer activities	EA	Operators, Planning Authority	U	●	●					S Baker
17.3 Modify Waste Management Licences at the sites concerned	EA		U	●	●					I Brindley

Cross reference to other issues

Issue 16 Litter and the aesthetic pollution of rivers and canals

Issue 19 Fly-tipping

Issue 20 Sustainable Waste Management

## ISSUE 18 Little Packington Landfill Site

### OBJECTIVE:

- To assess the possible impact of Little Packington Landfill Site on nearby SSSIs



Sita Packington Limited operates Little Packington Landfill. The site is located within a predominantly rural location within green belt land. Adjacent to the site are the Coleshill and Bannerly Pools and River Blythe, Sites of Special Scientific Interest. Currently the site covers some 385 acres.

In 1998, planning permission was given for the Eastern Arm extension, allowing 5-10 years additional tipping depending on inputs. This extension remains within the existing landfill footprint.

The Environment Agency is responsible for regulating the activities at the site to prevent pollution of the environment and harm to human health. The site is licensed by the Agency

to accept up to 12,500 tonnes per day of domestic, commercial, industrial and construction wastes, plus certain wastes which contain Polychlorinated Biphenyls (PCBs) as a low level incidental component.

Continuing investigations are required to ensure that any persistent and potentially harmful chemicals are not affecting the environment beyond the site boundary.

NB the inclusion of this site does not infer any poor operational management at Little Packington Landfill. It has been included as an issue due to its size, the nature of waste accepted, its sensitive location and its long term potential to pollute.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
18.1 Assess impact of site on River Blythe and Coleshill and Bannerly Pools SSSIs by:	EA Operator									
- Review of existing/ current data			R	●						D Freakley P Carroll A Dacey C Thomas
- Use of risk assessment model (developed by independent consultants with input from Agency's Regional Groundwater section)			U*	●						
- Sampling and analysis from appropriate locations			U	●	●					P Carroll A Dacey D Freakley



ACTIONS	RESPONSIBILITY		Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
	LEAD	OTHER								
18.2 Assess Impact and potential movement of PCBs from landfilled PCB bearing wastes	EA Operator									
– Review existing data			R*	●						D Freakley
– Use of risk assessment model			U*	●						P Carroll
– Additional sampling/analysis from appropriate locations			U	●	●					D Freakley
18.3 Develop and implement a leachate management strategy using, in part, the outputs from the above computer models (see 18.1)	EA, Operator, EN	STW Ltd	U	●	●					D Freakley C Thomas P Carroll
18.4 Implement strategy and monitor	EA, Operator	EN				●	●	●	Ongoing	D Freakley

Cross reference to other issues  
Issue 20 Sustainable Waste Management

## ISSUE 19 Fly-Tipping

### OBJECTIVE:

- To develop a consistent approach to fly-tipping within the LEAP area. To maximise limited resources, and to develop public awareness of the problem



Fly-tipping is the illegal disposal of waste on public and private land that is not licensed to receive it.

The cost for clearing up fly-tipped material is the responsibility of the landowner, but if the deposit has occurred on public land then the Local Authorities have a duty to remove the waste.

Fly-tipping can cause significant environmental problems. The Environment Agency uses a classification system to determine the severity of an environmental pollution incident. The classification will then be used as part of the Agency's Enforcement and Prosecution Policy to determine the level of enforcement action which may be taken against an identified polluter. Enforcement action can vary from a written warning, to prosecution in the Crown Court with a potential penalty of up to 5 years imprisonment and/or an unlimited fine.

We will also seek to encourage local agreements to combat fly-tipping, based on the protocol detailed within the existing Memorandum of Understanding between the Environment Agency and the Local Government Association.

A campaign to educate the public and highlight the problems associated with fly-tipping may help to reduce the problem and encourage the public to report incidents so that offenders may be caught and effective action taken against them.



Fly-Tipping at Bentley Mill, Walsall

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
19.1 Carry out campaigns to publicise the Duty of Care targeted at the following sectors:  – Registered Waste Carriers  – Commercial Premises  – Waste Tyre producers  – Itinerant community	EA	LAs	U							S Baker Campaigns Officer (TBA)
19.2 Review the results of the above campaign and repeat as necessary based on the incidents of fly-tipping	EA, LAs		U	•	•	•	•	•		S Baker
19.3 Liaise with local authorities and others to implement the Agency and local authorities' protocol on fly-tipping	EA, LAs, Police		U	•	•					S Baker

Cross reference to other issues

Issue 16 Litter and the aesthetic pollution of rivers and canals

Issue 17

Issue 20

Enclosure of waste transfer activities

Sustainable Waste Management

## ISSUE 20 Sustainable Waste Management

### OBJECTIVE:

- To reduce the amount of waste produced in the West Midlands — Tame area, to minimise the risks of immediate and future environmental pollution and harm to human health and to increase the proportion of waste managed through reuse, recycling and energy generation



The Government's recent consultation paper "Less Waste More Value" discussed ways to reduce the amount of waste that the UK has to deal with each year. The main objectives are to reduce the amount of waste that is produced, to make best use of that which is produced and to adopt practices that minimise risks to the environment and to human health. The paper sets out options for achieving these objectives and includes the reduction of waste going to landfill, the recovery of value from municipal waste and the recycling and composting of household waste.

The Agency has recently completed a national waste production survey to gather information

on the types and quantities of waste produced in the industrial and commercial sector, and the disposal route.

Landfilling of waste is normally the least sustainable waste management option. By reducing the proportion of waste going to landfill there will be a shift in focus up the waste hierarchy, benefiting the environment and ultimately reducing waste production to the lowest possible level. The main constraint is the limited number of statutory duties on waste producers.

The Agency will be expected to play a major role in ensuring that Government targets are met.



ACTIONS	RESPONSIBILITY		Cost (£k)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
	LEAD	OTHER								
20.1 Work closely with local authorities, industry and commerce to identify and implement joint initiatives and working arrangements	EA, LAs, Local Businesses		R*	●	●	●	●	●		M Haslam
20.2 Following completion of the waste survey, provide data collected to LAs to assist them in developing their waste strategies and local plans	EA		R	●	●	●				M Haslam
20.3 Monitor and report on local household, industrial and commercial recycling figures, relating to the area and to historical data	Audit Commission, EA, LAs		10k*	●	●	●	●			M Haslam

Cross reference to other issues  
Issue 17 Enclosure of waste transfer activities

Issue 18 Little Packington Landfill site  
Issue 19 Flytipping

## ISSUE 21 Air Quality Monitoring



### OBJECTIVE:

- To establish the current level of air quality monitoring in the West Midlands — Tame LEAP area

There are no actions restricted to the LEAP area to address this issue. Lead responsibility for the management of air quality lies with local authorities, however the Agency has a complementary role in protecting and improving it. The Agency's "10 Point Action Plan" for 1998-99 includes the following Air Quality Target:

"Identify and quantify key sources of air pollution and, working with others, develop regional action plans to improve air quality".

The Regional Air Quality Action Plan for Midlands Region has been developed and is being implemented centrally through the Regional PIR/RSR Team. The responsible Agency Officer is Graham Marsh.

Cross reference to other issues  
Issue 23 Odour problems in Sandwell

## ISSUE 22 Industrial Heavy Metal Pollution in Pleck, Walsall



### OBJECTIVE:

- To assess the historical and on-going levels of heavy metal pollution in and around the Pleck area of Walsall in order to address public concerns and provide a sound basis for proportionate action by health and environmental authorities and industry.

Industrial pollution, particularly from metallurgical industries, has historically been a serious problem in the Pleck area of Walsall. As a result there is a significant legacy of lead and other heavy metals in the local soil, representing a potential and poorly quantified health issue. The relative contributions to current local pollution levels from IMI Refiners, other local industry, and the M6 motorway needs to be more clearly defined, particularly in view of the new tightened National Air Quality Objective for lead in air of  $0.5\mu\text{gm}^{-3}$ .

A review of past surveys undertaken by the local authority, DETR, and the Agency and its predecessor bodies will be consolidated by a directional sampling programme for airborne heavy metal pollution and a programme of soil sampling and analysis. A report will be generated to enable informed and proportionate action by the Agency and other responsible bodies in tackling the health and environmental issues.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
22.1 Compile and review the available data on heavy metal pollution in the area	EA	LA		●						P Carroll
22.2 Directional air sampling programme	EA		£15k*	●						P Carroll
22.3 Soil sampling & analysis	EA			●						P Carroll
22.4 Preparation and publication of report	EA		R*	●						P Carroll
22.5 Assessment and development of action plans	EA, LA,	LA Health Authority, Industry	R*	●	●					D Hudson
22.6 Implementation of action plans	EA, LA	Health Authority, Industry	R*		●	●	●	●	Ongoing	D Othen

### Cross reference to other issues

Issue 21 Regional Air Quality Action Plan — likely to be classified as a ZIP (Zone of Industrial Pollution) requiring more detailed assessment by Agency of effects on NAQS objective

# Actions 4



## ISSUE 23 Odour Problems in Sandwell



### OBJECTIVE:

- To improve responses to complaints regarding odour problems from industry in the Sandwell area

The area of Oldbury and West Bromwich has a long history of odour problems from a variety of local industry. Both the Environment Agency and the local authority are responsible for controlling offensive odours from different industry sectors, and have a common interest in the rapid and accurate identification of the source of a problem.

It is proposed to establish a joint initiative with Sandwell MBC to list and categorise the potential sources of offensive odour, for more efficient and effective regulation by both parties.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
23.1 Establish joint working group on odour problems	EA	Sandwell MBC	R*	●						P Carroll D Othen
23.2 Review complaint records held by both enforcing authorities	EA, Sandwell MBC		R*	●						P Carroll D Othen
23.3 Survey of potential odour sources to categorise odour types and locations affected	EA, Sandwell MBC		R*	●	●					P Carroll D Othen
23.4 Report issued, and joint methodology for odour source identification established	EA, Sandwell MBC		R*		●					P Carroll D Othen
23.5 Modify Authorisations (when necessary) to control identified sources	EA, Sandwell MBC		R*			●	●	●		Site Inspector

Cross reference to other issues  
Issue 21 Air Quality Monitoring

# ISSUE 24 Review of Flood Defences on the River Tame



## OBJECTIVE:

- To review and improve flood defences on the River Tame

The effectiveness of flood defences on the River Tame are being reassessed. The flood defences in the West Midlands conurbation were originally designed to provide a 1 in 50 year flood protection standard and consideration is now to be given to update these to the current Agency standard of 1 in 100 years. Whilst the defences downstream of the conurbation at Water Orton, Minworth and Whitacre Heath were designed originally for 100 year protection they may need uprating and extending in places.



Flood defence works on the River Tame at Perry Barr

Mathematical modelling of the whole length of the River Tame is nearing completion to give best current design flood levels and in addition a structural assessment of the defences is being carried out under an asset survey contract.

## 4 Actions

ACTIONS	RESPONSIBILITY		Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
	LEAD	OTHER								
24.1 Complete the ongoing mathematical modelling exercise to determine flood levels on the whole length of the River Tame including a review of the operation of the Bescot controlled washlands	EA		25	25						V Brown R Burton
24.2 Complete ongoing asset survey report of the River Tame Flood Defences	EA		300	300						R Burton C May
24.3 Undertake capital or revenue works to provide appropriate standard of flood protection for River Tame Flood Defences	EA		U		●	●	●	●		R Burton
24.4 Reinstate James Bridge Gauging Station (See also 14.3)	EA		150	Timetable to be determined for completion in 2003						J Buckingham

### Cross reference to other issues

Issue 3	Enhancement of watercourse corridors in urban areas for wildlife and amenity
Issue 5	Sustainable Urban Drainage
Issue 25	The proliferation of surface water balancing systems in Solihull



## ISSUE 25 The Proliferation of Surface Water Balancing Systems in Solihull



### OBJECTIVE:

- To assess the effects of the proliferation of surface water balancing systems in Solihull

Although the River Blythe catchment is predominantly rural, urbanisation and motorway run-off in the Solihull area have resulted in the principle watercourses responding very rapidly to rainfall, with artificially increased rates of flow. The Agency is working closely with Solihull MBC to promote source control and there are a number of surface water balancing systems in

the catchment which help smooth out the flashy response. However, these may cause the raising of flood levels downstream by the coincidence of the delayed outflows from the balanced systems.

The Agency, in partnership with Solihull MBC, recently completed a mathematical modelling exercise to determine the possible adverse effects of such systems on the River Blythe catchment.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
25.1 Use existing mathematical model to assess the potentially adverse effects of any proposed balancing systems	EA	Solihull MBC	U	●	●	●	●	●	●	V Brown R Burton
25.2 Develop a policy for surface water balancing in the River Blythe catchment	EA	Solihull MBC	U	●	●					V Brown

### Cross reference to other issues

- Issue 5 Sustainable Urban Drainage  
Issue 24 Review of flood defences on the River Tame

## ISSUE 26 The Future Management of Park Hall Farm



### OBJECTIVE:

- To review the future management of Park Hall Farm



Park Hall Farm is an area of land of approximately 200ha, owned by the Agency and located in the River Tame valley on the eastern edge of the West Midlands conurbation between Castle Vale and Castle Bromwich. The land was originally bought for flood defence reasons but is no longer required for that use.

It is proposed that the land remain in the ownership of the Agency, but consideration may be given to the possible transfer of the land to a conservation trust or charity if this could be seen to be in the best management interests of the land.

Park Hall Farm

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
26.1 Produce a Management Strategy to include further development of the Tame Walkway	UWT, EA	LAs	15*	10	5					A Crawford
26.2 Continue negotiations with UWT on leasing the site	EA, UWT		R*	●						A Crawford

Cross reference to other issues  
Issue 1 Biodiversity

Issue 2  
Issue 3

Lack of public access routes along river banks  
Enhancement of watercourse corridors in urban areas for wildlife and amenity

## ISSUE 27 Water Level Management Plans



### OBJECTIVE:

- To review the requirement for water level management plans within the LEAP area.
- Seek out any shortfalls and encourage the relevant authorities to take the necessary action

The document "Conservation Guidelines for Drainage Authorities" (MAFF/Department of the Environment/Welsh Office 1991) states that Water Level Management Plans should be produced for areas where water levels are managed and that priority should be given to Sites of Special Scientific Interest. Guidance for their production is given in the MAFF booklet "Water Level Management Plans — A procedural guide for operating authorities". Upper Trent Area has produced eight Water Level Management Plans, two of which fall within the Tame LEAP area. Plans for the River Blythe SSSI and Whitacre Heath SSSI have been finalised and agreed with English Nature. Each plan has a list of actions which will maintain or enhance the

interest on the site as well as gather more information to allow decisions on future management.

On sites where the Agency does not act as drainage authority i.e. sites associated with ordinary watercourses, the production of Water Level Management Plans has been less successful. A plan is proposed for Sutton Park SSSI that will be produced by Birmingham City Council in conjunction with English Nature.

The deadline for plan production is 1999 and it is important that all the relevant authorities (District Councils except in an Internal Drainage Board area) are made aware of their role in this process.

ACTIONS	RESPONSIBILITY LEAD	OTHER	Cost (£K)	99/00	00/01	01/02	02/03	03/04	Future	Agency Officer
27.1 Update list of SSSIs requiring Water Level Management Plans	EN	EA	R*	●						V Brown
27.2 Discuss any outstanding Water Level Management Plans with the relevant District Council	EN	EA	R*	●						V Brown
27.3 Produce Water Level Management Plans	EN, LA	EA	U	●						V Brown
27.4 On completion of Agency plans begin work on action lists	EA	EN	U	●						V Brown
27.5 Full plan review to be undertaken in 2002	EN	EA LA	U				●			V Brown

Cross reference to other issues  
Issue 1 Biodiversity  
Issue 3 Enhancement of watercourse corridors in urban areas for wildlife and amenity

Issue 8  
Issue 9

River flows and water quality in the River Blythe  
Excess nutrient levels in Sutton Park Pools





# 5.0 Protection through Partnership

## 5.1 Partnerships

The Agency is well placed to influence many of the activities affecting the environment through our own operations, using the Environment Act 1995 and other legislation. However, achieving environmental improvement often depends on co-operation between the Agency and others. For example, the Memorandum of Understanding between the Agency and the Local Government Association sets out how we will work with local authorities to protect and improve the environment. It seeks to establish a framework to promote better integration of our work and ensure the best use of public resources.

The Agency is involved in a number of joint initiatives with local authorities and other groups.



Sandwell Council House

### 5.1.1 Local Agenda 21

Agenda 21 is a global action plan for the 21<sup>st</sup> century that was produced at the Rio Earth Summit in 1992. Local authorities across the world were seen as the focus for promoting and

encouraging local community action and were charged with producing a Local Agenda 21 (LA21).

The Environment Agency supports LA21 groups and projects by providing information, expertise and support where possible.

All the local authorities in the Tame LEAP area have produced, or are producing LA21 action plans for their community (see Consultation Report p.62).



Cans for recycling

### 5.1.2 Waste Minimisation

The key objective for a more sustainable waste strategy is to minimise the amount of waste that is produced, make best use of the waste that is produced and to minimise the pollution from waste.

The West Midlands Waste Minimisation Demonstration Project shows local businesses the gains that can be made from reducing waste at source. The project is sponsored by DETR/DTI Environmental Best Practise Programme, Severn Trent Water Ltd., The Environment Agency, the BOC Foundation for the Environment and is supported by local environmental clubs — the Midlands Environmental Business Club and the Black Country Business Environment Association. The project is managed by manufacturing management consultants Orr & Boss, and environmental consultants Entec.



The Agency is also involved with several other waste minimisation initiatives across the Tame LEAP area, which are detailed in the Consultation Report (p.62).

### 5.1.3 Water Company Asset Management Plans

Major improvements have been made to the quality of our rivers in the past nine years since the privatisation of the water utilities, principally through the large sums of money spent on upgrading sewage treatment works. Improvements to sewage treatment works and the sewerage system are prioritised in the water companies' Asset Management Plans (AMPs). New investment schemes will be included in the third Asset Management Plan (AMP3) to run from the year 2000 — 2005/10. This has been prepared by the Government and the Agency, in consultation with the water companies, for approval by OFWAT and represents an investment in the order of £6.5 billion, nationally.

In the West Midlands — Tame LEAP area the Agency is seeking in particular to secure improvements to the performance of a number of combined sewer overflows on the sewerage network, which are considered to contribute to water quality problems.

### 5.1.4 Other Partnership Schemes

Agency partnerships in the LEAP area were referred to in detail in the Consultation Report. They include:

- Waste Minimisation Groups
- Working with regulated businesses to improve the environment through Integrated Pollution Control Improvement Programmes
- Working with Wildlife Trusts, local authorities and others on Conservation and Recreation Collaborative Projects
- Pollution Prevention Initiatives with the Fire Service

### 5.1.5 Urban Regeneration Initiatives

The Government believes it is important to mobilise a partnership-based approach to local regeneration. Central and local government, bodies such as the Environment Agency and the private and voluntary sectors must combine their programmes, responsibilities, skills and resources to respond to local circumstances in order to achieve urban regeneration objectives. The Government office for the West Midlands co-ordinates the spending programme (arising from various funding streams) for the region. In the West Midlands — Tame area initiatives include City Challenge, Newtown/Ladywood Task Force and Castle Vale Housing Trust.

Other high profile urban regeneration initiatives in the area include:

- **Urban Regeneration and the Environment (URGENT)**

This is a major research programme initiated by the Natural Environment Research Council (NERC) to stimulate regeneration of the urban environment through understanding the interaction of natural and man-made processes in the atmosphere, hydrological systems, the shallow subsurface and ecology. The URGENT project has the partnership and support of many different universities, institutes, businesses and authorities in the area including the Environment Agency.

- **Black Country Regeneration Framework**

The Black Country Framework has been commissioned by the Black Country local authorities and Training Enterprise Councils in order to support existing local strategies. The Agency provides support to the Environment working group.

- **Renaissance**

British Waterways canal-based regeneration strategy for the years 1995-2000.

- **The National Urban Forestry Unit**

The Black Country Urban Forestry Unit was established in 1990 to develop the Black Country as a centre of excellence in urban forestry and to promote the concept of urban forestry more widely. The success of the unit resulted in the formation of the National Urban Forestry Unit.

During the life of this Action Plan the focus for regeneration will be through Regional Development Agencies (RDAs) supported by Regional Chambers. RDAs will have a duty to further sustainable development and we will seek to work closely with the Agencies and Chambers throughout the Midlands region.

## 5.2 Education

There is a need for a greater level of environmental education by the Agency and a need to raise awareness of environmental issues. It is essential for the delivery of a more sustainable environment in the long term. In many cases a lack of information and awareness is one of the factors that leads to environmental damage or neglect whether it be accidental or deliberate, and we need to encourage ownership and responsibility for the local environment.

The production of this LEAP is one step towards increasing the accessibility of information of our local environment. The Agency has a wide range of leaflets and publications (see Appendix 4) which are available from our Customer Contact team at the Area office. Information is also available on the Internet at our web site. The web site will also provide links to other sources of environmental information.

**General Enquiry Line —**  
0645 333 111

**Upper Trent Area Office —**  
Tel: 0154 444 141 Fax: 01543 444 161

**Internet World Wide Web —**  
[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

**E-mail messages —**  
[Enquiries@environment-agency.gov.uk](mailto:Enquiries@environment-agency.gov.uk)

**Flood Warning Information Service —**  
0645 88 11 88

**Emergency Hotline (24 hours) —**  
0800 80 70 60  
(To report any incidents involving water, land and air).

## 5.3 Land Use /Planning Guidance

Land use is the single most important influence on the environment. The location of activities can have both positive and negative effects.

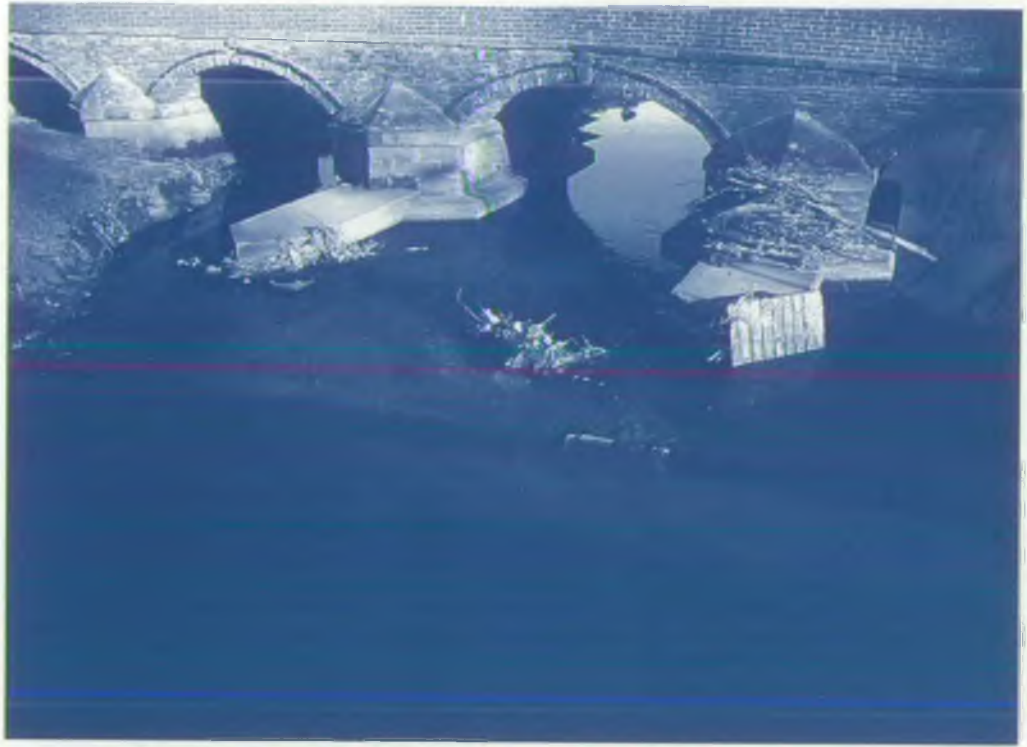
Redevelopment and renewal of urban or waste land can do much to repair the damage of the past, while appropriate control over new development can protect sensitive habitats, the variety of wildlife and can minimise or prevent increased emissions of pollution to air, land and water.

Land use planning is the responsibility of the county, district and unitary planning authorities and control of land use change is through the Town and Country Planning Acts and Government Planning Guidance. The Agency is committed to maintaining close working relationships with the local planning authorities to ensure effective links between planning and environmental protection.

LEAPs are non-statutory documents. Regional Planning Guidance makes reference to the need for local authorities to take into account Catchment Management Plans (the forerunner to LEAPs), developed by one of our predecessor bodies the National Rivers Authority, and to integrate policies that take into account the effects of land use on the water environment. It is hoped that future Regional Planning Guidance will take into account the Agency's broader remit.

The Agency supports the broad principles in Regional Planning Guidance 11 (for the West Midlands). Appendix 3 contains a series of statements that fit within the framework of RPG11 and the Agency hopes Local Planning Authorities will consider these when development plans are reviewed.





Litter/debris on the River Cole, Coleshill

# 6.0 Future Review and Monitoring

## 6 Review

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 2000.

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

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



# APPENDIX 1

## LIST OF ORGANISATIONS AND INDIVIDUALS WHO MADE WRITTEN RESPONSES TO THE CONSULTATION REPORT

Mr C Ashmore  
N F Cripps  
Cllr M Holmes  
Mr S Harrison  
Mr H Hussain  
Ms J Lea  
Mrs B Meades  
Mr G Neale  
Mr H Reeves  
Mr A Singh  
Mr T Singh  
Mr R D Snowden  
Mr J Taylor MP  
Ms S Thompson  
Mrs D M Weir  
Miss H Young  
Birmingham City Council  
British Trust for Conservation Volunteers  
British Waterways  
Countryside Commission  
English Nature  
Friends of the Earth  
Groundwork  
Inland Waterways Association  
jdt  
MAFF  
Merevale & Blyth Estates  
National Urban Forestry Unit  
NFU  
Powergen  
Ramblers Association  
River Cole & Chinn Brook Conservation Group  
RSPB  
Uplands Allotments Association  
Warwickshire/West Midlands Association of Parish  
& Town Councils  
Sutton Park Visitors Centre

In addition to those listed above, ten  
questionnaires were returned anonymously.

# APPENDIX 2

## AMENDMENTS TO THE CONSULTATION REPORT

Section	Issue or sub-section	Error or Omission	Raised by
2.3 — 2.4	Wildlife	The LEAP report gives some space to water habitats in the Tame basin but it does not mention the Edgbaston Pool SSSI fed by the Chad Brook.	Birmingham Natural History Society
Overview	Key Details	There is no inclusion of the River Blythe as a salmonid fishery despite having noted on p.20 that the middle reaches are managed exclusively for trout.	Friends of the Earth
2.3	Canals	The list of canal related activities available should include navigation.	British Waterways
2.4	Air	The data in the chapter dedicated to air quality does not reflect the current status of information held by Sandwell MBC on air quality monitoring.	Sandwell MBC Dept of Environment and Development Services
2.4	Heritage	The number of scheduled ancient monuments is too low with new sites being identified during the ongoing monument protection programme.	jdt
2.4	Wildlife and Heritage	This section fails to provide a thorough description of the catchment's important species, habitats and sites.	RSPB
3.0	Issue 1	An omission from the list of proposed actions are any specifically relating to the freshwater habitats for which the Agency is lead organisation e.g. reed beds and Alder woodland.	English Nature
3.0	Issue 1	There is no mention of the natural methods for controlling Japanese Knotweed or Himalayan Balsam.	Friends of the Earth
Section	Issue or sub-section	Error or Omission	Raised by
Appendix 1	New Development — Hams Hall	It is incorrect to say that the Freight Terminal will create Ladywalk Nature Reserve since it has existed for several decades.	English Nature
Appendix 2	Management of Water Resources	There is little or no reference to the water level management plan process being undertaken by operating authorities in consultation with English Nature.	RSPB
Appendix 3	Surface Water	Discrepancy between nomenclature of gradings for chemical water quality.  p.132 Table 11 Fair = C p.133 Map 17 Fair = D	Albright & Wilson
Appendix 3	Table 13	The Grand Union Canal "48km length Camphill to B'ham/Fazeley Canal" should read 4.8km.	British Waterways
Appendix 3	General	The report does not mention Rotton Park and Titford Reservoirs.  Both BCDC and B'ham Heartlands Dev. Corp. were dissolved on 31 March 1998.  Hereford and Worcester CC is now Worcestershire CC and The County of Herefordshire District Council.	Inland Waterways Association (IWA)  IWA  IWA
Appendix 3	Map 23	The following sites are missing: <ul style="list-style-type: none"><li>• Eastern Part of Bickenhill Meadows</li><li>• Brook Meadow, Darley Green on a trib. Of Cuttle Brook.</li><li>• Windmill Naps Wood on the headwaters of the River Blythe.</li></ul>	English Nature



# APPENDIX 3

## PLANNING GUIDANCE STATEMENTS

### SUSTAINABLE DEVELOPMENT

In developing regional, structure, unitary, mineral and local plans, local authorities should undertake appropriate environmental assessment and work to the sustainable development principles outlined below:

- Strategic Environmental Assessment (SEA): Appropriate levels and locations of development can only satisfactorily be identified after the environmental characteristics of the region have been assessed. SEA which seeks to evaluate alternative locations for development, as well as SEA of plans, policies and strategies can make an important contribution to the pursuit of sustainable development.
- Environment Assessment (EA): This process is an important mechanism for ensuring that the environmental impacts of projects are identified prior to a decision being taken. The Agency welcomes the opportunity to provide advice particularly at the scoping and evaluation stages.
- Precautionary Principle: The Agency adopts and promotes the precautionary principle. If there are potentially significant risks of damage to the environment but scientific knowledge is not conclusive then the precautionary principle dictates that development should not go ahead.
- Polluter Pays Principle: A significant amount of environmental pollution and resource depletion occurs because those who are responsible do not have to bear the costs. Where environmental damage is threatened or caused then the costs of any necessary environmental protection measures should be borne by those responsible and not by society at large; giving incentives to reduce potential environmental threats.
- Environmental Capital: The concept of environmental capital should be applied in decision making, in order to minimise development which has an irreversible impact on the quality of the natural environment. The Agency has recently produced guidance on how environmental capital can be taken into account in the preparation of development plans.

### WASTE MINIMISATION AND ENERGY CONSERVATION

Waste minimisation and energy conservation are important contributions to sustainable development. Local Authorities should seek to develop a pattern of development which takes these principles into account. In particular local planning authorities should:

- Generally discourage low-density development.
- Promote the development of buildings using local and recycled materials.
- Concentrate principal employment and community facilities.
- Incorporate recycling facilities into housing and employment sites.
- Promote the use for infrastructure projects, of recycled aggregates and other used materials.
- Locate new development along established public transport routes.
- Encourage energy saving buildings and energy sensitive siting, orientation and layouts.

## URBAN RUN-OFF AND SUSTAINABLE URBAN DRAINAGE

Developments which pose an unacceptable risk of pollution of surface waters, either directly or via the surface water sewerage system, should not normally be permitted.

Planning authorities should ensure that all new industrial and commercial developments have an adequate means of foul and surface water drainage. Hardstandings, roadways and storage areas must be properly drained with oil interceptors or other pollution prevention measures as required. All above ground oil tanks, chemical stores and sources of polluting material must be bunded or otherwise contained and the containment properly maintained for the life of the facility.

Surface water run-off should (as far as is practicable) be treated at source on all new developments through the use of swales, wetlands, soakaways, permeable pavements and roadways etc. This is to promote aquifer recharge, improve water quality and the maintenance of the natural regime of flows in watercourses.

## BIODIVERSITY

Local Planning Authorities should aim to protect and enhance the variety of flora and fauna within their boundaries. Development that adversely affects a SSSI or NNR should normally be refused and there should be a presumption against the development of Sites of Importance to Nature Conservation (SINC).

All new development should preserve and enhance existing elements of nature conservation importance. New and existing development should offer the opportunity to create new areas of habitat by the use of appropriate design and species in landscaping. The use of native species should be encouraged and layouts should incorporate low maintenance, semi-natural areas.

## DEVELOPMENT NEAR TO WASTE LANDFILL SITES AND THE OPERATION OF WASTE TRANSFER STATIONS

### Waste Landfill Sites

Planning permission should not be granted for the deposit of biodegradable waste within 250m of any development unless measures can be taken to monitor and control landfill gas. In any event permission should not be given for the deposit of biodegradable waste within 50m of development. Without correct management, the migration of landfill gas can give rise to the risk of explosion in buildings, underground services or voids. It also presents a risk of asphyxiation.

Where a proposed development might be at risk from migrating landfill gas, the Agency can advise on the work required to protect property. Applications for residential development within 50m of a known gassing landfill should be refused unless the developer can clearly show how it will be protected.

Methane generated in a landfill site must be controlled in order to minimise its impact on the environment. Collecting it and using it as a fuel has two benefits, the avoidance of pollution and the generation of energy. There should be a presumption against the passive venting of landfill gas unless it can be shown that methane oxidation is reducing methane emissions to a low level. Planning applications to utilise landfill gas for the generation of energy should generally be encouraged.



### **Waste Transfer Stations**

Waste transfer stations can have an adverse impact on the amenity of local residents through dust, noise and smell and can cause considerable pollution to rivers and streams from run-off. Planning permission for waste transfer stations accepting over 100 tonnes of biodegradable waste a day should only be permitted if the sites are operated under cover or where waste is deposited into closed containers for prompt disposal elsewhere.

## **DEVELOPMENT OF CONTAMINATED LAND**

The development of land contaminated by previous uses can pose a threat to the environment and to human health by the remobilisation of pollutants.

Developments which pose an unacceptable risk to the environment should not normally be permitted.

When development is permitted the planning authority should ensure that, before development commences, the site has been thoroughly investigated and an appropriate remediation strategy developed. Where the site is known or strongly suspected to be contaminated to a significant degree, the planning authority should ensure that site investigations are undertaken before the determination of any planning application. Where there is only a suspicion that the site might be contaminated, or where evidence suggests that there may be only slight contamination the planning authority should use planning conditions to ensure that the site investigation is carried out before development commences.

To achieve satisfactory development, which does not cause pollution of the environment, the planning authority should consult the Agency. It is important that the applicant provides the appropriate information to allow the Agency to determine the need for a site investigation, the extent and nature of contamination, and the effectiveness of any remediation measures.

## **WATER RESOURCES**

Development which poses an unacceptable risk of pollution of surface waters or groundwater resources should not normally be permitted. Where development is permitted in areas where the groundwater is vulnerable, the planning authority should ensure that appropriate pollution control measures are included to prevent an unacceptable risk of pollution of the water resource.

## **FLOODPLAIN PROTECTION**

The floodplains of rivers and watercourses need to be safeguarded from development to protect existing developments from increased risk of flooding. For further guidance please see the "Policy and Practice for the Protection of Floodplains" — Environment Agency 1997. As well as protecting existing flood plain areas, new development must not increase levels of surface water run off which in itself can lead to increased flooding in times of heavy rain. Source control techniques should be used where appropriate to balance flows and where possible, through redevelopment and renewal to reduce the level of urban run-off.

## MINERALS

Minerals are a finite resource and should be exploited only when necessary. The practise of re-use and recycling of existing materials should be a priority and fully developed before additional sites for extraction are permitted.

The operation of mineral sites must not lead to pollution of groundwater or nearby watercourses or affect local water resources through de-watering. Mineral operators should explore means of transporting minerals other than by road.

Restoration should provide a better environment and enhanced access for local people. The Agency generally encourages the provision of wetlands and open water.

## INTEGRATED POLLUTION CONTROL (IPC)/RADIOACTIVE SUBSTANCES (RAS)

The Environment Protection Act 1990 gives the Agency responsibility for authorising and regulating potentially polluting industrial processes and the storage and use of radioactive materials. In accordance with the advice contained in Planning Policy Guidance Note 23 (PPG23) — Planning and Pollution Control; Local Authorities are required to consult the Agency on certain types of development (mainly those that house, cater for or attract people) which are proposed within 500m of IPC/RAS site.



# APPENDIX 4

## ENVIRONMENT AGENCY LEAFLETS AND INFORMATION

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 as a complete list, as new leaflets are being produced. It does not include policy documents or technical reports.

### GENERAL INFORMATION

- A Guide to Information Available to the Public
- Guardians of the Environment
- 0800 Leaflet (Emergency Hotline)
- Customer Charter
- Corporate Plan Summary 1997/1998
- Annual Report and Accounts
- Complaint and Commendation Procedure
- Worldwide Web-Agency site information leaflet
- The Environment of England and Wales — A Snapshot
- An Environmental Strategy for the Millennium and Beyond
- Partnership in Environment Protection
- Recruitment Information

### EDUCATION

- Activity Fun Book
- The Living Water
- Green Shoots
- Animal Masks

### WATER QUALITY/POLLUTION PREVENTION

- Blue Green Algae
- Identifying Freshwater Life
- "How to Avoid" Pollution Series:
  - River Pollution
  - Home Pollution
  - Silt Pollution
  - Farm Pollution
  - Silage Pollution
  - Solvent Pollution
  - Chemical Pollution
- Making the Right Connection — Avoiding Water Pollution
- Designs that Prevent Pollution — Nature's Way — sustainable urban drainage (video)
- Farm Waste Management Plans
- Farm Waste Regulations
- The Oil Care Code: a number of leaflets
- Pollution Prevention Guidelines (PPGs) 1-21
- Building a Cleaner Future, including video and poster
- Water Pollution Incidents in England and Wales — 1996 Report Summary
- Recovering the Cost of Pollution
- Accreditation Scheme for Spill Response Contractors
- Discharge to Controlled Water 1998-1999 Annual Charges
- Assessing Water Quality
- The Use of Licences to prevent pollution
- A Guide to Groundwater Vulnerability Maps
- Managing Maize
- Masonry Bunds for Oil Storage Tanks
- Pollution Prevention Pays
- What is in water — poster

## INTEGRATED POLLUTION CONTROL IPC/RADIOACTIVE SUBSTANCES (RAS)

- Integrated Pollution Control Fees and Charges 1998/99
- Radioactive devices must be registered with the Environment Agency
- Integrated Pollution Control and You
- Charging Scheme for Radioactive Substances Act Regulation 1998/99
- Best Practical Environmental Option Assessment

## WASTE

- What a Waste!
- Special Waste Regulations 1996 — How they affect you
- Classification of Special Waste
- Use of the Consignment Note
- Obtaining and Sending Consignment Notes
- Waste Regulation and You
- The Registration of Waste Carriers
- New Packaging Regulations — How do they affect you
- Clinical Waste
- Duty of Care
- Producer Responsibility Obligations 1997 (1st Ed, July 1997)
- Producer Responsibility Obligations (Packaging Waste) Regs 1997
- The Agency's Contribution to Sustainable Development Waste Minimisation

## REGIONAL AND AREA FACTS

- Midlands Region Map
- Midlands Environmental Reference Book 1995/96
- Severn Bore and Trent Aegir 1999
- Environmental Issues in the Midlands
- Our Midlands Environment
- Area Maps and Fact Sheets:
  - Upper Severn
  - Lower Severn
  - Upper Trent
  - Lower Trent



## FISHERIES CONSERVATION AND RECREATION

- Anglers and the Agency 1998/99
- Rivers and Wetlands — Best Practice Guidelines
- Buyer Beware — Your Guide to Stocking Fish
- Fisheries News
- Fishing Guide 1997/98
- Conservation — Work in the Midlands Region
- Mink
- Understanding Buffer Strips
- Control of Invasive Plants near Watercourses
- Time to renew your Rod Licence (poster)
- Wetland Creation & Management — 4 posters
- Restoration of Salmon on the River Trent
- Have Fun, Have a Care (Water Recreation Information)
- Recreation Sites (Midlands)
- Enjoy your Garden — Care for our Environment
- Conservation Designations
- Rod Fishing Bylaws
- The Severn Way
- Aquatic Weed Control Operation
- Phytophthora Disease of Alder

## FOOD DEFENCE AND WATER RESOURCES

- Flood Warning Information: What to do if your property is at risk
  - Flood Warning Information: Various rivers including the Dove, Tame and Upper Trent
  - Schedule of Main Rivers
  - Flood Warning for:
    - Disabled people
    - People for whom English is not a first language
  - Land Drainage Byelaws
  - Water Abstraction Charges 1998/99
  - Water Abstraction Can Cause Pollution
  - Abstraction Licensing and Water Resources
  - Spray Irrigation
  - Water Plant — Campaign for Water Conservation
  - Making the most of your Spray Irrigation Abstraction Licence
  - Winter Storage Reservoirs
  - Water Alert — The Campaign for Water Conservation in England and Wales
  - Flood Defence Information Sheets 1-23
  - Flood Defence Factsheet
  - Be Flood Aware (poster)
  - Application for Consent for works affecting watercourses and/or flood defences — Explanatory Notes
  - Defying the Disaster: Memories of 1947 floods
  - Safeguard the Environment: A guide for developer
- Please contact Jo Elsy the Customer Contact Team Leader at the Area office for further information and to obtain these and other leaflets (subject to stock availability).**

# APPENDIX 5

## GLOSSARY

### **Abstraction**

The removal of water from any source, either permanently or temporarily.

### **Abstraction Licence**

An authorisation granted by the Agency to allow the removal of water from a source of supply. Statutory; section 38 Water Resources Act 1991.

### **Agenda 21**

A comprehensive programme of worldwide action to achieve a more sustainable pattern of development for the next century. The UK Government adopted the declaration at the UN Conference on Environment and Development (the Earth Summit) held in Rio de Janeiro in 1992.

### **Algae**

Microscopic (sometimes larger) plants, which may be floating or attached. Algae occur in still and flowing water.

### **Aquifer**

A water bearing-stratum situated below ground level. The water contained in aquifers is known as groundwater.

### **Asset Management Plan**

Water Companies Strategic Business Plans — initiated (e.g. AMP2) by OFWAT as part of the periodic review of water company charges. Sets out the investment priorities for water resources, sewerage improvement and sewage treatment.

### **Base Flow**

The flow of a river derived from groundwater sources.

### **Biodiversity**

The variety of animal and plant life.

### **Borehole**

A well sunk into a water bearing rock from which water will be pumped.

### **Brownfield**

Land, which has been previously developed for industrial, commercial or residential, purposes and requires redevelopment.

### **Carbon dioxide (CO<sub>2</sub>)**

Gas present in the atmosphere and formed during respiration, the decomposition and combustion of organic compounds (e.g. fossil fuels, wood etc). A greenhouse gas.

### **Carbon monoxide (CO)**

A gas formed by the incomplete combustion of carbon fuels. At very high exposures prolonged exposure to CO can be life threatening. A target pollutant in the UK National Air Quality Strategy.

### **Catchment**

The total area from which a single river collects surface run-off.

### **CFCs**

Chloroflourocarbons. Volatile but inert (without active chemical or other properties) compounds of carbon and (mainly) chlorine and fluorine. Important greenhouse gases and ozone layer depleters.

### **Civic Amenity Sites**

Sites for the disposal of household waste.

### **Coarse Fish**

Freshwater fish other than salmon and trout.

### **Controlled Waters**

All rivers, canals, lakes, groundwaters, estuaries and coastal waters to 3 nautical miles from the shore, including bed and channel which may for the time being be dry.

### **CSO**

Combined Sewer Overflow.

### **Culvert**

Channel carrying water across or under a road, canal etc.

### **Dangerous Substances**

Substances defined by the European Commission as in need of special control because of their toxicity, bioaccumulation and persistence. The substances are classified as List I or List II according to the Dangerous Substances Directive.

### **Diatom**

Mostly unicellular algae whose cell wall contain silica.

### **Diffuse Pollution**

Pollution from widespread activities with no one discrete source.

### **Discharge Consent**

A licence granted by the Agency to discharge effluent of specified quality and volume. Statutory under Schedule 10 Water Resources Act 1991.



**Dissolved Oxygen**

The amount of oxygen dissolved in water. Oxygen is vital for life so this measurement is an important test of the health of a river.

**EC/EU Directive**

A type of legislation issued by the European Union that is binding on Member States in terms of the results to be achieved but which leaves to Member States the choice of methods.

**Ecosystem**

A functioning, interacting system composed of one or more living organisms and their effective environment, in a biological, chemical and physical sense.

**Effluent**

Liquid waste from industrial, agricultural or sewage plants.

**Energy Recovery**

Recovering energy from waste, usually through incineration.

**EQS**

Environmental Quality Standard. That concentration of a substance which must not be exceeded if a specific use of the aquatic environment is to be maintained.

**Eutrophication**

The biological effects of an increase in plant nutrients — nitrates and phosphates — on aquatic ecosystems.

**Fauna**

Animal life

**Floodplain**

Land adjacent to a watercourse that is subject to flooding.

**Flora**

Plant life.

**Gauging Station**

A site where the flow of a river is measured.

**Greenbelt**

A designation used by planning authorities on land adjacent to towns or cities, defined for the purpose of restricting the outward expansion of the urban area and to protect the countryside.

**Greenfield**

Land not previously developed.

**GQA**

General Quality Assessment. A national water quality assessment scheme.

**Groundwater**

Water which saturates a porous soil or rock substratum (or aquifer). Water held in storage below ground level.

**Habitat**

The locality or environment in which a plant or animal species lives.

**Hydrology**

The study of water on or below the earth's surface.

**Hydrogeology**

Branch of geology concerned with water within the earth's crust.

**Incinerators (waste)**

Site and buildings used for the burning of waste, which often produce energy.

**IPC Integrated Pollution Control**

An approach to pollution control in the UK which recognises the need to look at the environment as a whole, so that solutions to particular pollution problems take account of potential effects upon all environmental media. Relates to industrial and commercial processes with a significant pollution potential. Controlled by the Agency defined under the Environmental Protection Act 1990 (Part A).

**Landfill**

Site used for waste disposal into/onto land.

**Leachate**

Liquid formed when water reacts with, or leaches from, waste material.

**LEAP**

Local Environment Agency Plan.

**Leaching**

Removal of soluble substances by action of water percolating through soil, waste or rock.

**Municipal Waste**

Waste that is collected by local councils.

## **Nitrate Vulnerable Zones**

An area where nitrate concentrations in sources of public drinking water exceed, or at risk of exceeding the limit of 50 mg/l laid down in the 1980 EC Nitrate Directive, where farmers are required to limit the application of nitrates to levels laid down in the Code of Good Agricultural Practice (MAFF).

## **Nitrogen dioxide (NO<sub>2</sub>), Nitric oxide (NO), Oxides of nitrogen (NO<sub>x</sub>)**

NO<sub>2</sub> and NO are both oxides of nitrogen (NO<sub>x</sub>) produced by traffic and industry. NO<sub>2</sub> can have an adverse effect on human health, increasing the symptoms associated with respiratory illness. NO<sub>2</sub> is a target pollutant in the UK National Air Quality Strategy.

## **Nutrient**

A chemical essential for life.

## **Permeability**

The ease with which liquids (or gases) can pass through rocks or a layer of soil.

## **Pesticides**

Substances used to kill pests, weeds, insects, fungi, rodents etc which can have significant harmful environmental effects.

## **Phosphate**

Salt of phosphoric acid used as fertiliser and in washing powder.

## **Porosity**

The volume of water which can be held within a rock or soil, expressed as the ratio of the volume of the voids to the total volume of the material.

## **Potable Water**

Water of a quality suitable for drinking.

## **Reach**

A length of river.

## **Recharge**

Water which percolates downward from the surface into groundwater.

## **Recycling**

Using a material again.

## **Renewable Energy**

Energy produced from resources which are unlimited or can be rapidly replenished e.g. wind, water, sunlight, wave power or waste.

## **Riparian**

Of, or on, land adjacent to the river.

## **River Corridor**

A stretch of river, its banks, and a varying amount of adjacent land that is affected by the presence of the river.

## **SAC**

Special Area of Conservation. This designation will protect important species and habitats, as defined under the EC Directive on Conservation of Habitats and Species.

## **Sewage**

Liquid waste from homes, businesses etc which is normally collected and conveyed in sewers for treatment and/or discharge to the environment.

## **Sewerage**

Means of conveying foul or surface water.

## **SINC**

Site of Importance for Nature Conservation. These are non-statutory nature conservation sites of county or regional importance. Designated by County Wildlife Trusts and in some cases EN and local authorities.

## **Soakaway**

System for allowing water or effluent to soak into ground, commonly used in conjunction with septic tanks.

## **SPA**

Special Protection Areas (of importance for birds).

## **SSSI**

Site of Special Scientific Interest. The best examples of the national heritage of wildlife habitats, geological features and landforms, designated by English nature and the Countryside Council for Wales. Statutory; notified under the Wildlife and Countryside Act 1981.

## **Surface Water**

Water, which flows or is stored on the ground surface.

## **Sustainable development**

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

## **Sustrans**

A charity set up to promote cycling through the development of a network of national cycle routes.



**Trade Effluent**

Any effluent, except domestic sewage produced in the course of trade or industry, including agriculture, horticulture and research. Surface water run-off, which is significantly contaminated by site activities, constitutes trade effluent.

**Transfer Station**

Waste disposal facility where waste is collected prior to transport to final disposal point.

**Underground Strata**

A term used to signify geology under the surface soil layer. If groundwater exists, or if water is being discharged to the ground, the geology underneath the soil layer is known in the various Acts of Parliament as underground strata.

**Waste Management Facilities**

A range of sites where waste is stored, changed or transferred. i.e. landfill sites, waste transfer sites, waste incinerators.

**Waste Minimisation**

Reducing the amount of waste that is produced.

**Water Resources**

The amount of water in an area available for use.

**Water Table**

The natural level of underground water.

**Wetland**

An area of low lying land where the water table is at or near the surface for most of the time, leading to characteristic habitats.

**1:50 Year Drought/Flood**

A drought/flood event with a statistical probability of occurring once in a fifty year period (other periods may be specified in a similar way).

**UNITS**

	Mega ppb $\mu\text{g}/\text{m}^3$	Million parts per billion micro ( $10^{-6}$ ) grammes per cubic metre
Length	10mm	1cm (equivalent to 0.394 inches)
	100cm	1m (equivalent to 39.37 inches)
	1,000m	1km (equivalent to 0.621 miles)
Area	10,000m <sup>2</sup>	1ha (equivalent to 2.47 acres)
Flow	1,000l/s	1m <sup>3</sup> /s (equivalent to 35.31 cusecs)
	1,000m <sup>3</sup> /d	11.6 l/s (equivalent to 0.41 cusecs)
	MI/d	Megalitres per day
	1MI/d	11.6l/s
Energy	MW	Megawatts

## MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including Government.

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

#### ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

**0645 333 111**

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

#### ENVIRONMENT AGENCY EMERGENCY HOTLINE

**0800 80 70 60**



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