

M35

# local environment agency plan

**DOVE**

**CONSULTATION DRAFT**

**MAY 1999**



HO



ENVIRONMENT AGENCY

## Information Services Unit

Please return or renew this item by the due date

Due Date



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## Foreword

I am delighted to introduce the Consultation Draft for the Dove Local Environment Agency Plan. This is the third LEAP to be produced in the Upper Trent Area of the Midlands Region and looks at environmental issues within the River Dove catchment.

The Agency in consultation with key organisations has identified a number of environmental issues relevant to this area. We need to confirm that we have addressed all current issues and the options to resolve them, taking into account the often conflicting demands on the environment by its users.

The LEAP process will provide a vision for the environmental needs of the River Dove area. It will provide a framework within which we can seek to develop new partnerships with organisations and bodies with whom we wish to share a common approach on environmental issues.

This report is published as part of our commitment to being open and consulting with others about our work. This will be part of a major consultation exercise and marks the start of a three month period of consultation. Following the consultation period the Agency will produce a five year action plan which will set out a costed programme of work by the Agency and other organisations. Annual reviews over the five year period will report on significant achievements and progress being made on the issues.

Your views are extremely important. Only by letting us know your opinions will we be able to make a real difference to your local environment. I look forward to hearing from you.



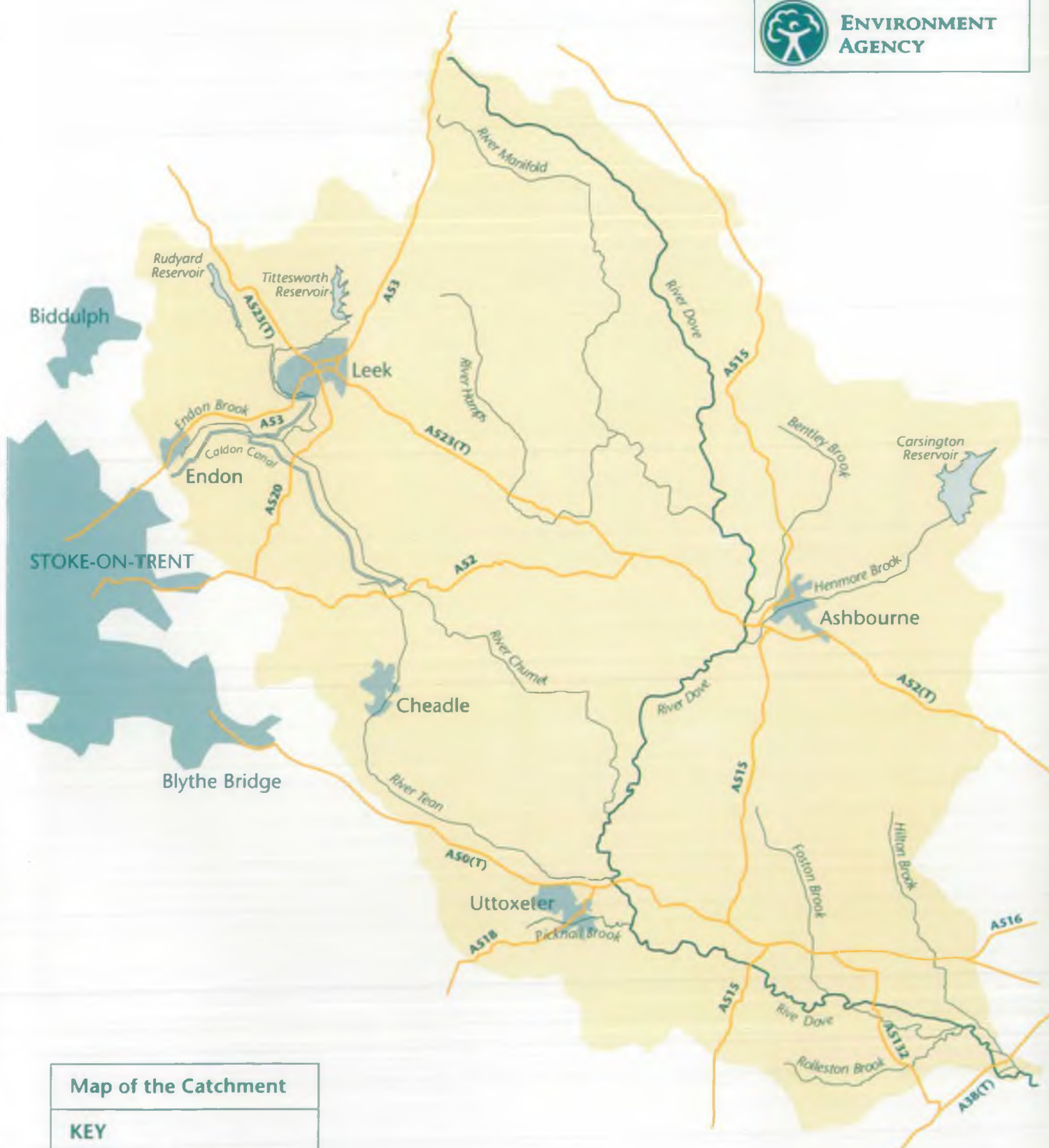
**Philip Burns**  
**Area Manager**  
**Upper Trent Area**  
**Midlands Region**  
**Environment Agency**



Dove Local Environment  
Agency Plan  
Map 1



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Map of the Catchment

KEY

- Plan boundary
- Watercourse
- Canal
- Built up area
- A roads



0 10km

# Key Details for the area

## Population:

(Census Data 1991) 110,000

## Major Settlements Population

Leek	19,801
Cheadle	11,263
Uttoxeter	10,329
Ashbourne (Town Only)	6,340
Tutbury & Hatton	5,729

## Water Resources:

Average annual rainfall	868mm
Total licensed abstraction -	323ML/d
	135589ML/a
No. surface abstractions	103
No. groundwater abstractions	262
No. licensed impoundments	18

## Conservation:

Sites of Special Scientific Interest	28
Special Areas of Conservation	2
Scheduled Ancient Monuments	185
Sites of Importance to Nature Conservation	645
Special Protection Area	1
Wildlife Trust Reserves	17
RSPB Reserves	1

## Fisheries:

Length of designated rivers (km)	
Salmonid (salmon and trout)	137
Cyprinid (coarse fish) - river	41.5
Cyprinid (coarse fish) - canal	0

## Flood Defence:

Length of "main" river (km)	186.5
Length of defended river (km)	11
No. urban flood alleviation schemes	3

## Consented Discharges:

Sewage Treatment Works	36
Sewage and Storm Overflows	156
Private Sewage Treatment Plants	68
Industrial Discharges	34

## Waste Management:

Landfill sites	14
Transfer stations	7
Licensed scrap yards	7
Exempt scrap yards	5
Civic amenity sites	2
Waste treatment plants	1
Oil treatment plants	0
Incinerators	0
In house storage facility	1

## Integrated Pollution Control (IPC):

IPC Authorised Processes	8
--------------------------	---

## Radioactive Substances (RAS):

Sites with authorisations for accumulation and disposal of radioactive waste	0
Sites with registrations to hold radioactive materials	10

## Monitored Water Quality:

### Length of river in grade (km) 1997 data

Quality	Grade	Chemistry	Biology
Good	A	97.7	121.9
	B	128.2	8.3
Fair	C	38.3	4.2
	D	6.3	12.8
Poor	E	0	10.8
Bad	F	0	0



# Questionnaire – Page 2



6 What best describes your interest in this LEAP?

- ☐ An officer working for a local authority or government agency/ department
- ☐ An officer/representative of a national organisation
- ☐ A member of an environmental pressure group
- ☐ A representative of a private company
- ☐ A member of a local sports club
- ☐ A member of a local amenity society (e.g. Civic Trust)
- ☐ A local resident
- ☐ An individual interested in environmental matters.

Other (please specify)

7 Are there other issues you would like to see included in the Action Plan? Y/N.

If "yes", please give brief details (use separate sheets if necessary).

8 Are there any major errors or omissions in the report? Y/N

If "yes" please give brief details (use separate sheets if necessary).

9 If you would like a reply, please write your name and address below. Your address will not be given to anyone else, although this questionnaire will be available for public inspection.

Name:

Address:

Post Code:

## Comments

If you have any further comments, please write them here or continue on another piece of paper.

**Thank you for completing this questionnaire.**

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Environment Agency  
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Staffordshire  
WS13 8RR

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# Questionnaire – Your Views Count



## The aims of the Dove LEAP Consultation Draft and Summary Leaflet are:

To inform you of our vision and the issues we think need tackling, whilst providing background environmental information.

To receive your views and comments. This is your opportunity to tell us what you think and you can help by filling in this questionnaire or by sending a separate written statement. All comments received will be treated as public information unless you state otherwise.

i) Please answer the following questions (it should only take 5 minutes).

ii) Please add any further comments on the back of the sheet.

iii) Detach the questionnaire and send it to us in the FREEPOST envelope provided.

## Questions

1 Have you heard of the Environment Agency before? Y/N

2 How did you find out about this Local Environment Agency Plan? (Please tick box)

Letter from the Environment Agency	<input type="checkbox"/>
Environment Agency displays	<input type="checkbox"/>
Radio	<input type="checkbox"/>
Television	<input type="checkbox"/>
Newspaper	<input type="checkbox"/>
Other (please state)	

3 Where did you get this report/summary leaflet?

4 The principal aim of the Environment Agency is to "contribute to sustainable development".

Do you understand what is meant by the term "sustainable development"? Y/N

5 We have identified issues and options in Chapter 3 of the Consultation Draft and in the summary leaflet. Please circle and mark the five issues of most importance to you, ranking them in order. (1=Most important, 5=Least important)

Issue 1 **Herbicide** contamination at Tittesworth Reservoir

Issue 2 **Flooding** along the lower Dove valley

Issue 3 **Control** of activities at John Pointon & Sons Ltd

Issue 4 **Contaminated** groundwater at Leek

Issue 5 **Environmental** monitoring – Blue Circle works, Cauldon

Issue 6 **River** Churnet flooding problems in the Leek area

Issue 7 **Landscape** and ecology in the Dove catchment

7.1 **Impact** of tourism on the landscape and ecological habitats of Dovdale

7.2 **Developments** within floodplains including development along the A50 corridor

7.3 **Changes** in agricultural landuse

7.4 **Loss** of habitat diversity in the lower reaches of the Dove catchment

Issue 8 **Reintroduction** of salmon to the River Dove

Issue 9 **The genetic** biodiversity of brown trout in the River Dove

Issue 10 **Environmental** practices at rural industrial estates

Issue 11 **Pollution** from sheep dip in the Dove catchment

Issue 12 **Water resource** management in the Dove catchment

12.1 **Low flows** in the Croxden Brook

12.2 **Tittesworth Reservoir / Deep Hayes** compensation discharge arrangements

12.3 **Dove catchment** abstraction licensing policy

Issue 13 **Sustainable** river bank management

Issue 14 **Water level** management plans

Issue 15 **Biodiversity** in the Dove catchment

Issue 16 **Water quality** objectives, standards and Directives

Issue 17 **Sustainable** waste management

Issue 18 **Investment** by Severn Trent Water Ltd to improve water quality

Issue 19 **Easter 1998 floods:** Lessons learned by the Agency

**More questions overleaf**

## Acknowledgements

This report has been compiled by the Agency with contributions from key organisations operating in the area.

The following Agency staff are members of the Project Group responsible for the development of this report. Other members of staff have also contributed through the Project Group.

Christia Aspinall	Tactical Planning Officer (Waste)
Susan Bowen	Team Leader – Environment Protection
Vic Brown	Team Leader – Development Control
Rachel Cowlshaw	IPC/RAS Technical Support Officer
Rosemary Coyne	Environment Assessment Officer
Tim Jacklin	Fisheries Scientist
Kirsten Johnstone	Hydrogeologist
Sam Levey	LEAPs Officer
Birgitte Nielsen	Tactical Planning Officer (Water)
David Othen	Team Leader – IPC/RAS
Paul Swain	Team Leader – Planning Liaison

This is the third Local Environment Agency Plan (LEAP) to involve the Upper Trent Area Environment Group, our local consultative panel for all aspects of Agency activity. The Agency wishes to express its thanks to the Area Environment Group, in particular the Dove Sub-Group for their comments and advice regarding the production of this report. The members of the Sub-Group and their interests are shown below:

Mr Robert Ball	Local Authority
Dr Phillip Bennion	Farming
Dr Peter Bottomley	Fisheries
Mr Frank Gribble	Nature Conservation



## What is this report about?

This report is about the environment of the River Dove catchment. This area covers 1,002 sq km (387 sq miles) within North East Staffordshire and West Derbyshire and has a population of approximately 110,000 people. The report will highlight specific environmental problems that the Environment Agency and key organisations have identified and suggestions on how they can be tackled.

## Why should I read it?

The Agency wants to hear your views on the issues facing the environment of the area and what you think should be done about them. Telling us your views will enable you to contribute to environmental protection and improvement and influence what the Agency and others do. We will be pleased to receive any comments that you wish to make but in particular we are very keen to know:

- ☐ how important do you think the issues are?
- ☐ what you think should be done about them?
- ☐ what do you think of our proposals?
- ☐ are there problems or opportunities that we have not included?
- ☐ whether you can help to tackle any of the issues.

## What will the Agency do with my comments?

The Agency will consider your comments prior to the production of an Action Plan, which will set out proposals to protect and improve the environment of the area. If you want us to, we will reply to you on your specific comments, letting you know how they have influenced our actions, and if appropriate, the actions of others. **All comments will be treated as public information unless you ask us otherwise.**

If you want more copies of this document for colleagues or other organisations that you think would be interested, we will be pleased to send them free of charge.

Your views on this report will be considered in preparing the next phase, the Action Plan. **The consultation draft will not be rewritten as part of the action plan process.** However, any errors or omissions will be acknowledged in a statement on the public consultation response, to be published soon after the consultation period which ends on 13 August 1999.

The Agency hopes that the Dove Action Plan should also influence the policies and actions of Local Authorities, developers and others as well as assisting the Agency in the day to day management of the LEAP area.

***Please return your comments to us by 13 August 1999***



## How can I make my views known?

We will be holding public events from May through to August 1999 that will provide an opportunity for you to discuss this plan with us.

Further details on the times and venues of these events are available from Sam Levey at the address shown below.

You can contact us by:

- ☐ Using the questionnaire and freepost envelope included at the back of this report;
- ☐ Writing to us and using the freepost envelope;
- ☐ Telephoning us on 01543 444141;
- ☐ Faxing us on 01543 444161;
- ☐ Or you can e-mail us at [sam.levey@environment-agency.gov.uk](mailto:sam.levey@environment-agency.gov.uk)

Please address your comments to: Miss Sam Levey  
LEAPs Officer  
Environment Agency  
Sentinel House  
9 Wellington Crescent  
Fradley Park  
Lichfield  
Staffordshire  
WS13 8RR

### Privacy Note

*Response to this consultation is purely voluntary. The content of all responses will be used by the Agency to assist in carrying out its statutory duties and the general details will be made public. Unless you specifically request otherwise or indicate that your response is confidential, we will also make public your name and a general summary of your comments in response to this consultation. If you have no objection to or would prefer the full content of your response being made public and copied freely please indicate this in your response. Your right of access to the information held and right to apply for rectification of the information are as prescribed in current data protection legislation.*

If you are reading this document after the consultation period has ended, 13 August 1999, we would still be interested in hearing your comments and your views, as they will be useful for future plans, and quite possibly for our current activities. The address for sending your comments is shown above.

### Copyright Waiver

This report is intended to be used widely and may be quoted, copied or reproduced, provided that the extracts are not quoted out of context and that due acknowledgement is given to the Environment Agency.

Photograph 1 – Thorpe Cloud at Dovedale





# memo



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To See Distribution List

Our ref AHB/L/G

From Ann Binks

Your ref

Ext. Number 4460

Date 28 July 1999

## DOVE DRAFT LEAP

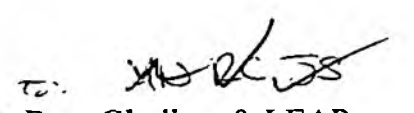
Please find attached the Dove "Consultation" report, together with a very impressive Consultation Draft Summary.

1. A useful table on <sup>page</sup> table 4 - Yes!
2. Page 27 onwards - I do like the way they have put their Issues (apart, of course, from using the EA abbreviation)..
3. Page 99 - useful? - Yes! Could be produced nationally and become a standard appendix, but it will need

Regards and Happy reading! Please return to Brigid Newlands at the Regional Library, regular Peterborough. Brigid has kindly offered to keep LEAPs in the Regional Library, so if you want updating any old issues, contact her.

and 'local' leaflets should be added

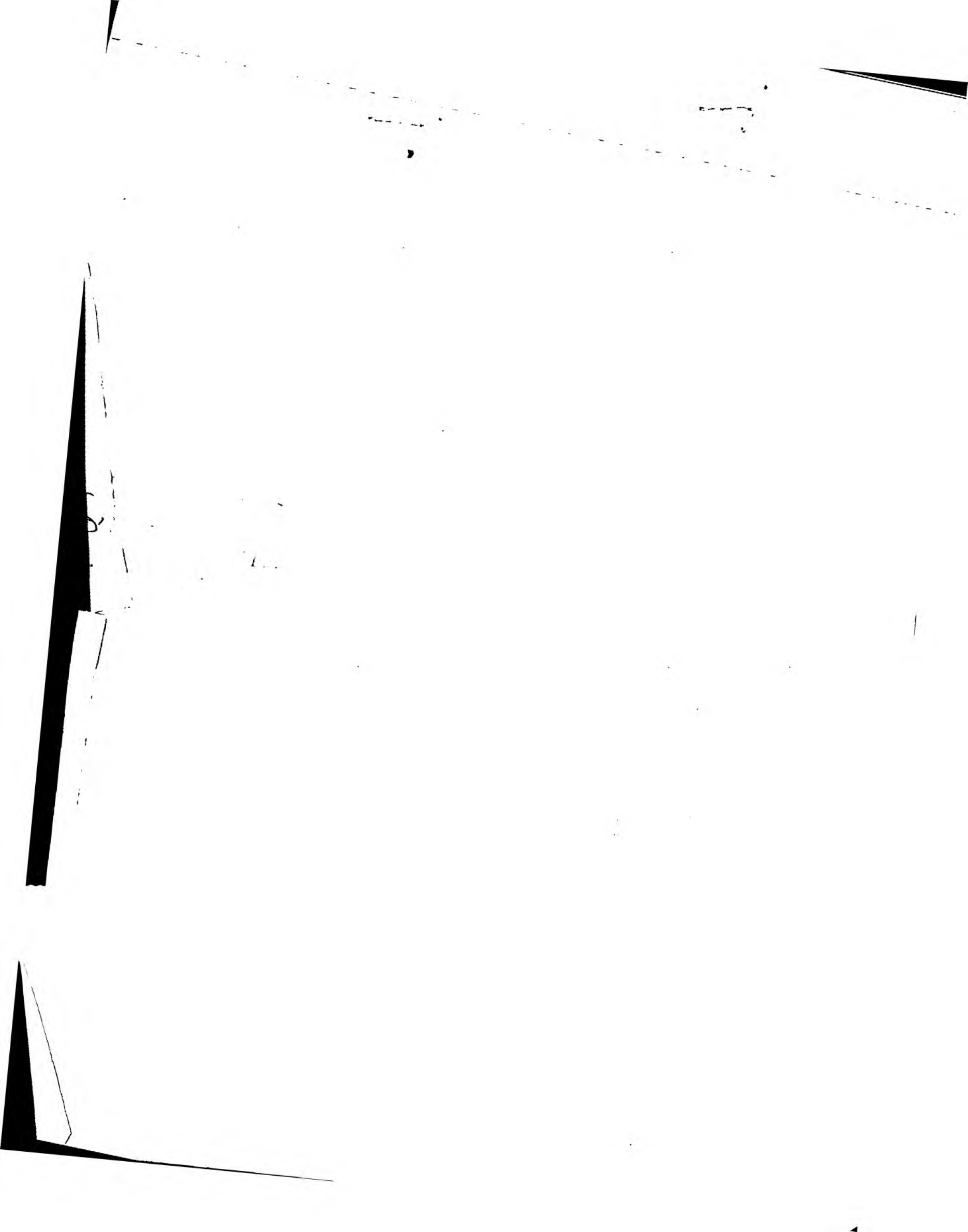
ANN BINKS  
ASSISTANT TECHNICAL PLANNER

  
Distribution List ~~John Macrae and LEAPs Team, Ipswich, Roma Chelley & LEAPs Team, Brampton, Richard Kisby & LEAPs Team, Lincoln, Paul Dykes, Public Relations, Michelle Doyle, Technical Planning Manager, Brigid Newlands, Regional Library Manager.~~

Comments

Not used the theme icons properly - draws incorrect.





## **A Vision for the Dove Catchment**

The Dove catchment is predominantly rural in character and contains some of the most highly regarded landscapes in England. Part of the plan area lies within the Peak District National Park. Topography, geology, natural history, land use and human influence have created the distinct landscape characters found within this area.

The Agency's aim for the catchment is to:-

- Educate and raise awareness of the local environment and environmental issues.
- Influence people's behaviour so that we may all act in a more environmentally sustainable way.
- Work in an integrated manner towards resolving those issues and problems identified in the plan.

The key objectives of the Agency in the plan area are to:-

- Maintain and improve the water quality of rivers, canals and groundwater.
- Alleviate flooding by enhancing flood defences that are inadequate and providing additional defences where justifiable.
- Enhance flood warning systems.
- Promote waste minimisation and recycling and encourage better management of waste products.
- Support biodiversity through the protection and enhancement of species and habitats.
- Ensure proper management of the catchments valuable water resources.
- Restore a population of salmon to the River Trent, utilising the River Dove as spawning grounds, whilst ensuring the existing trout and coarse fishery is preserved.

Most of these objectives complement each other, although some may require a degree of compromise between differing demands on the resources of the area. The challenge for the catchment is to ensure that the needs of all users and the environment are balanced and we aim to do this through integrated and sustainable environmental management. Together, through commitment and enthusiastic co-operation our vision for the Dove Catchment can become reality.

## Dove Local Environment Agency Plan

Contents	Page
<b>CHAPTER 1    The Environment Agency and LEAPs</b>	<b>1</b>
1.1            The Environment Agency	1
1.2            Local Environment Agency Plans (LEAPs)	5
<b>CHAPTER 2    The LEAP Area</b>	<b>9</b>
2.1            Land	12
2.2            Air	15
2.3            Water	15
2.4            Wildlife and Heritage	19
<b>CHAPTER 3    Issues and Proposed Actions</b>	<b>23</b>
Issue 1        Herbicide Contamination at Tittesworth Reservoir	27
Issue 2        Flooding along the lower Dove valley	29
Issue 3        Control of activities at John Pointon & Sons Ltd	31
Issue 4        Contaminated land at Leek which is affecting groundwater resources	34
Issue 5        Environmental monitoring, Blue Circle Works, Cauldon	36
Issue 6        River Churnet flooding problems in the Leek area	38
Issue 7        Landscape and ecology in the Dove catchment	41
Issue 7.1      Impact of tourism on the landscape and ecological habitats of Dovedale	41
Issue 7.2      Developments within floodplains including development along the A50	43
Issue 7.3      Changes in agricultural landuse	44
Issue 7.4      Loss of habitat diversity in the lower reaches of the dove catchment	44
Issue 8        Re-introduction of salmon to the River Dove	46
Issue 9        The genetic integrity of brown trout in the Dove catchment	48
Issue 10       Environmental practices at rural industrial estates	49
Issue 11       Pollution from sheep dip in the Dove catchment	51
Issue 12       Water resource management in the Dove catchment	53
Issue 12.1     Low flows in the Croxden Brook	53
Issue 12.2     Tittesworth Reservoir / Deep Hayes compensation discharge arrangements	54
Issue 12.3     Dove catchment abstraction licensing policy	55
Issue 13       Sustainable river bank management	56
Issue 14       Water level management plans	58
Issue 15       Biodiversity in the Dove catchment	60
Issue 16       Water quality objectives, standards and directives	65
Issue 17       Sustainable waste management	67
Issue 18       Investment by Severn Trent Water Ltd to improve water quality	69
Issue 19       Easter 1998 Floods: Lessons learned by the Agency	71



<b>CHAPTER 4</b>	<b>A better environment through partnership</b>	<b>73</b>
4.1	Sustainable Development	73
4.2	Protection through Partnership	75
4.3	Education	79
4.4	Land Use Planning	81
4.5	Development and Infrastructure	84
<b>Appendix 1</b>	Glossary	87
<b>Appendix 2</b>	Organisations consulted prior to the publication of this report	95
<b>Appendix 3</b>	Dove CMP Issues	97
<b>Appendix 4</b>	Environment Agency Leaflets and Information	99
<b>List of Maps</b>		
1	Map of the Dove Catchment	inside cover
2	Local Authority boundaries	11
<b>List of Tables</b>		
1	Environmental concerns: who is responsible?	4
2	Upper Trent Area LEAP programme	7
3	Administrative details	12
4	Local Agenda 21 in the Dove area	76
5	The status of Development Plans within the plan area	85
<b>List of Figures</b>		
1	The four LEAP catchments in the Upper Trent area	1
2	The Agency's Planning Framework	6
3	The LEAP process and the main outputs in the five-year cycle	8
4	Waste Hierarchy	76
<b>List of photographs</b>		
1	Thorpe Cloud	v
2	River Dove at Marchington	9
3	New A50 M1-M6 link	10
4	Visitor centre at Carsington Reservoir	17
5	Caldon Canal at Cheddleton Mill	17
6	Tutbury Church	20
7	Flooding along the lower Dove valley	30
8	Flooding of River Churnet at Leek	40
9	Stepping Stones at Dovedale	41
10	Erosion by tourism at Dovedale	42
11	Reintroduction of salmon parr to the River Dove	46
12	Old River Dove SSSI	58
13	Otter	60
14	Himalayan Balsam	61
15	Alder disease	62
16	Glass bottles ready for recycling	67
17	Final effluent discharge from a sewage treatment works	70

## The Consultation Draft

The Consultation Draft introduces the work and responsibilities of the Environment Agency and the LEAP process. It gives a brief description of the resources of the area and highlights the environmental issues that we consider need to be tackled. It also looks at partnerships, areas of joint working and the work of others which, in the long term, will raise the quality of the local environment.

The Consultation Draft is divided into four sections:-

**Section 1 – Introduction** This section is an introduction to the Environment Agency and to the LEAP process.

**Section 2 – The LEAP Area** This section provides a general description of the plan area and the resources of air, land, water, wildlife and heritage.

**Section 3 – Issues and Options** Here we identify the issues and problems that we consider should be addressed locally in the short to medium term and put forward a number of options for their resolution.

**Section 4 – Protection through Partnership** This section looks at sustainable development, partnerships, land use planning and education which can be used to address longer term issues and problems and raise the quality of the local environment.

The Consultation Draft will be supported by a separate document produced by the Environment Agency 'Environmental Overview for the Dove LEAP', this should be completed by July 1999. This provides additional information on the activities, uses and pressures on the environment and the state of the local environment as measured by the Agency and others in relation to local, national and international targets. The Environmental Overview will not be included in the consultation process.

## 1.1 The Environment Agency

The Environment Agency of England and Wales was established on 1 April 1996 by the 1995 Environment Act. It is a "non-departmental public body" accountable to the Secretary of State for the Environment, Transport and the Regions and has taken over the functions of previous, separate environmental regulators:

- The National Rivers Authority (NRA) which had responsibility for the water environment;
- Her Majesty's Inspectorate of Pollution (HMIP) which had responsibility for regulating the largest and most potentially polluting industrial processes and regulated the use and disposal of radioactive material;
- the 83 Waste Regulation Authorities which had responsibility for waste regulation in local authorities; and
- a small number of technical sections from the Department of the Environment.

This merger allowed for a more comprehensive and holistic approach to the protection and management of our environment and the Environment Act also gave the Agency new responsibilities and duties.

The Agency covers England and Wales (with separate organisations for Scotland and Northern Ireland) and is divided into eight regions and twenty-six areas. The Dove is one of four LEAP catchments in the Upper Trent Area of the Midlands Region. Most of the Agency's work is undertaken at the Area level and this allows for an efficient and appropriate response to the delivery of our services.



Figure 1 – The Four LEAP catchments in the Upper Trent Area



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

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

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

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

Much of the UK's environmental legislation originates from the European Union. To date there have been five EC Environmental Action Programmes which have collectively given rise to several hundred pieces of legislation of relevance to environmental protection, one of the most recent being the Directive on Integrated Pollution Prevention and Control. A number of other directives are currently under consideration, covering issues such as water management, air quality and the management of waste using landfill.

The Agency also has to work in a wider international context because it is now generally accepted that environmental changes are occurring on a global scale. Individual countries contribute to these changes, and respond to them, in different ways. The Agency's long-term strategy therefore has to reflect these global issues, and it has to be delivered within the framework of international and national commitments.

Perhaps the major international issue is that of climate change. The UK is a contributor to the emission of gases (such as carbon dioxide) into the atmosphere, which are believed to contribute to long-term climate changes. The UK will also be affected in a complex way as and when the climate does change. It is therefore a signatory to the Framework Convention on Climate Change, as agreed at the Rio Summit in 1992, and is taking an active part in international negotiations to obtain commitments beyond the year 2000 for credible, effective, and achievable reductions of greenhouse gas emissions.

Another outcome of the United Nations "Earth Summit" held in Rio de Janeiro in 1992 was agreement by governments that, in order to solve global environmental problems, local action is crucial: we must all therefore think globally but act locally. The Local Agenda 21 initiative sets out actions needed to achieve sustainable development, including the need to make clear the links that exist between local life-styles and the use of resources. In the UK, LA21 plans have now been formulated by local government and local communities to identify and address a wide range of environmental issues including natural resource use, pollution, health, local amenity and quality of life. These programmes set out long-term solutions that take account of global implications, such as the use of resources that affect the global environment and local communities in other parts of the world.

The Agency is committed to a programme of Local Environment Agency Plans (LEAPs) to produce a local agenda of integrated action for environmental improvement. These LEAPs will also allow the Agency to deploy its resources to best effect and optimise benefit for the local environment. These plans will reflect our close contact with industry, the public and Local Government and will contribute towards achieving sustainable development.

The process of drawing up the plans will involve close consultation with all interested parties. It will promote the effective, accountable and integrated delivery of environmental improvement at a local level. The plans will translate policy and strategy into delivery on the ground and will result in actions, either for the Agency to fulfil, or for others to undertake through influence and partnership. We believe the process will benefit the local community by influencing and advising external decision-makers and public opinion. It will build trust by being open and frank when dealing with all issues.

### 1.1.1 The Principal Aim of the Environment Agency

The principle aim of the Agency is to contribute to sustainable development. In doing so, the Agency must have regard to Ministerial guidance, and must take into account the likely costs and benefits.

The principle aim is defined under Section 4 of the Environment Act 1995 as: *"In discharging its functions so to protect or enhance the environment, taken as a whole, as to make the contribution towards attaining the objective of achieving sustainable development .... that ministers consider appropriate".*

### 1.1.2 The Environment Agency's Vision

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

In September 1997 the Environment Agency published *"An Environmental Strategy for the Millennium and Beyond"* which clearly sets out a new environmental approach to meet the Agency's principal Aim and to achieve the Agency's Vision. The strategy states the overall aims of the Environment Agency. These are:

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

This will be done by:

- Being open and consulting others about our work
- Basing our decisions around sound science and research
- Valuing and developing our employees; and
- Being efficient and business like in all we do

### 1.1.3 Responsibilities of the Agency and those outside our remit

The Agency's work and responsibilities do not cover all aspects of environmental legislation or services to the general public. There are other statutory and non-statutory bodies who have responsibilities and Table 1 summarises those environmental concerns the Agency has responsibility for and those we do not.

**Table 1 - Environmental concerns: who is responsible?**

Environmental concern	Responsible party
Low flows in main rivers	Environment Agency
The use and disposal of radioactive materials	Environment Agency
Water quality in Main rivers & ordinary watercourses	Environment Agency
Flooding of property from Main river	Environment Agency
Air pollution from large industry (Part A processes)	Environment Agency
Navigation on some rivers	Environment Agency
Fish Mortalities and Pollution Incidents	Environment Agency
Waste Management	Environment Agency
Waste Minimisation / Recycling	Environment Agency / Local Authority
Waste Planning	Environment Agency
Regulation of waste disposal facilities	Environment Agency / Local Authority
Flooding from property from non main river (ordinary) watercourses	Local Authority
Local planning issues	Local Authority
Environmental Health	Local Authority
Noise	Local Authority
Litter	Local Authority
Smoke from bonfires	Local Authority
Smoke from domestic chimneys	Local Authority
Air pollution from traffic	Local Authority/Police
Air pollution from small industry (Part B processes)	Local Authority
Contaminated land	Environment Agency / Local Authority
Strange taste, smell or colour of mains tap water	Water company
Problem with mains water supply	Water company
Burst water mains	Water company
Flooding of property from foul sewer	Water company
Navigation on canals and some rivers	British Waterways
Damage to SSSI's	English Nature

***If you know of other environmental concerns which are not shown in the above table and would like to know who has responsibility then please contact us.***



### 1.1.4 Regional Committees and Area Environment Groups (AEGs)

In order to support openness, objectivity and accountability, the Agency is required by law to consult committees on all aspects of its work. Membership of the regional committees consists of local people drawn from public life including industry, agriculture, Local Authorities and environment groups.

Three committees serve the Midlands Region: -

- **Regional Environment Protection Advisory Committee (REPAC).** This Committee was appointed under the Environment Act 1995. Under the Act it is the duty of the Agency to consult the Committee about proposals relating generally to how the Agency carries out its functions. This broad remit allows the Committee to take a strategic overview of Agency activities, identify issues of special importance to the Region, and act as a sounding board for policy initiatives.
- **Regional Flood Defence Committee (RFDC).** This is the executive Committee through which the Agency is required to discharge its flood defence and land drainage functions in the Region.
- **Regional Fisheries, Ecology and Recreation Advisory Committee (RFERAC).** The Agency has a statutory duty to:
  - a) consult RFERAC on how the Agency carries out its duty to maintain, improve and develop salmon, trout, freshwater and eel fisheries, and
  - b) also to consult the Committee on recreation, navigation and relevant conservation issues

The Upper Trent Area is served by its own Area Environment Group (AEG). Membership consists of local people who live or work in the area and who represent a wide range of interests. These include Local Authorities, industry, agriculture, conservation, amenity and recreational interests and riparian owners. The group advises the Agency on LEAPs, the delivery of local services and act as a link between the local community, the Agency and its statutory committees. The AEG has set up sub-groups to consider all draft LEAP documents. The members of the sub-group involved with the development of this LEAP are detailed on page ii.

## 1.2 Local Environment Agency Plans (LEAPs)

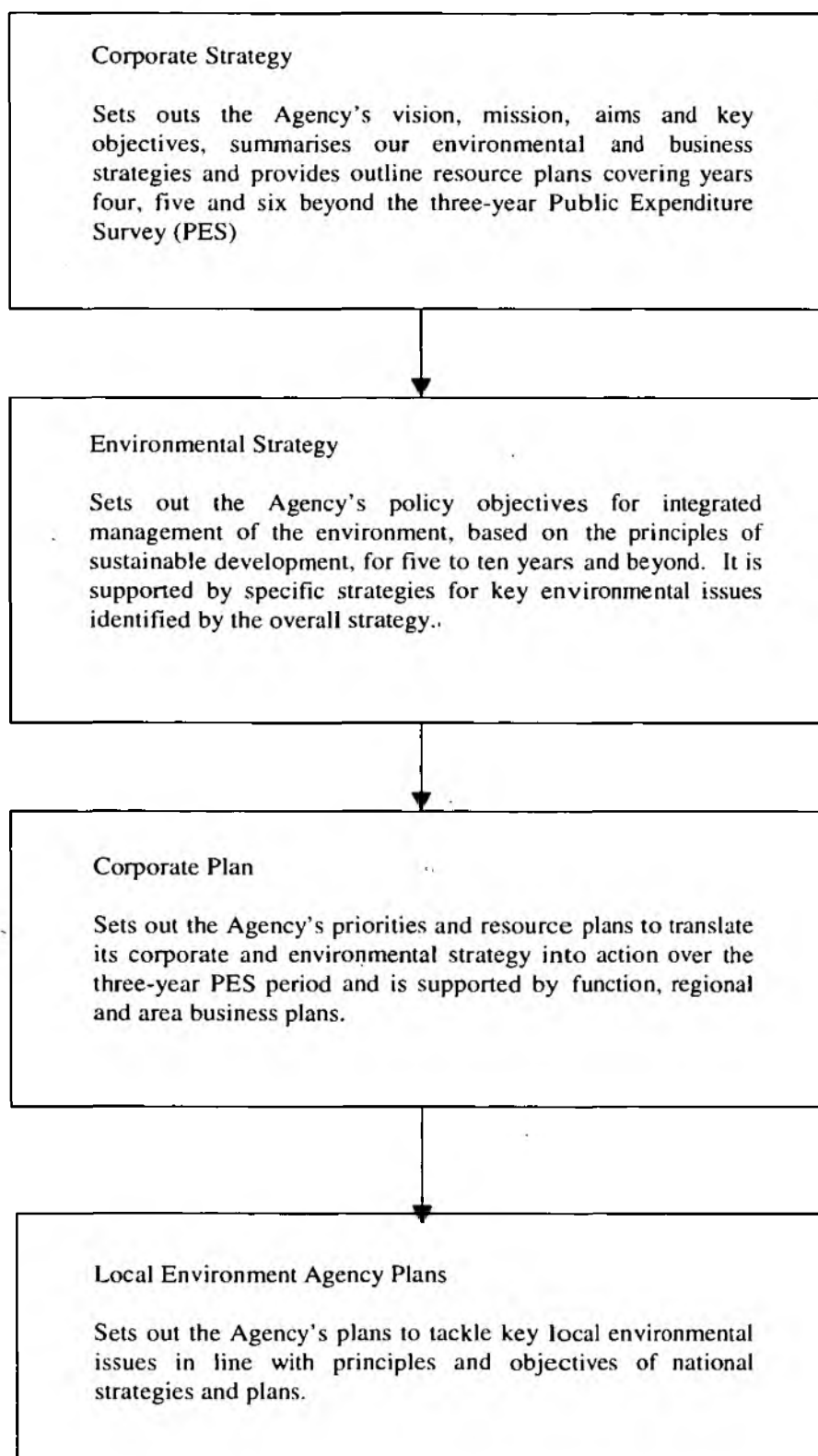
A LEAP is the Environment Agency's integrated local management plan, for identifying and assessing, prioritising and solving local environmental issues related to the Agency's functions, taking into account the views of the Agency's local customers. The outcome of the process is a local programme of integrated actions for environmental improvement in order to optimise benefit for the local environment.

LEAPs are a first step towards environmental planning. The plans are non-statutory integrated action plans based on river catchments. They provide a focus for those concerned with the future of the local area.

Each LEAP will provide a framework to enable:

- Setting of local targets for improving environmental quality;
- Translation of national policies and priorities into local actions;
- Assessment of the costs and benefits of proposed actions;
- Partnerships for solving environmental issues, in connection with Local Agenda 21 initiatives;
- Promotion of the Agency's own work through education and our interface with local planning authorities

The "Environmental Strategy for the Millennium and Beyond" and LEAPs are key parts of the Agency's corporate planning framework. Together with management plans, core-functional business plans and Regional and Area business plans, they will translate our strategic goals into local objectives and targets. The corporate planning framework is summarised in figure 2.



**Figure 2 – The Agency's Planning Framework**

The Dove LEAP is part of a national programme whereby every catchment in England and Wales will be covered by a LEAP Consultation Draft by 31 December 1999. The Upper Trent Area LEAP programme is shown in Table 2.

**Table 2 - Upper Trent Area LEAP programme**

Catchment	Start	Consultation Starts	Issue Action Plan	1st 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

### 1.2.1 The Consultation Draft

This document, the Consultation Draft, is the first output from the LEAP process, and is not the final plan. To assist in the preparation of this report, an informal consultation exercise was undertaken with a range of organisations and groups in November 1998. Those who were consulted and responded are listed in Appendix 2.

### 1.2.2 The Action Plan

Through consultation a shared vision will be developed, along with a strategy for action. This will guide Agency activities for the next five years and influence the activities of other groups. Public participation is important as it increases environmental awareness and encourages greater involvement and ownership of the local environment.

The target date for the production of the Action Plan is February 2000. Implementation of the Action Plan will be the five-year period from publication (February 2000) through to 2005.

### 1.2.3 Annual Reviews

Regular monitoring and updating of the plan will be an integral part of the process. Annual review reports will be published leading to a full review and fresh consultation at the end of five years.

Figure 3 - The LEAP process and the main outputs in the five-year cycle



#### 1.2.4 LEAPS and other plans

The Agency shares the regulation and management of the environment with others. Whilst LEAPs are the Agency's plans, their content and development will reflect these shared responsibilities. LEAPs will compliment and integrate with other organisations' plans such as Waste Local Plans, Local Air Quality Management Plans, Local Development Plans and Local Agenda 21 plans.



## Introduction

The 1,000 sq km of the Dove catchment covers parts of Derbyshire and Staffordshire, the area includes a number of market towns and villages, these include Leek, Cheadle, Ashbourne, Uttoxeter, Hatton, Tutbury, Alstonefield and Cheddleton, the resident population of the area was approximately 110,000 in 1991 and is estimated to rise to 115,000 in 2001.

The River Dove rises on the eastern side of Axe Edge, a high gritstone moor and flows almost southwards to the boundary of the Peak, forming the boundary between Derbyshire and Staffordshire for the whole of its length. The Dove is a famous trout fishing river immortalised by Izaak Walton in his book 'The Compleat Angler' with the following quote:

**'We have as many fine rivers, riverlets and brooks, as any country whatever; and they are all full of trouts, and some of them the best, it is said by many degrees, in England' -**

This plan covers not only the River Dove but also its many tributaries and the Caldon Canal. Tributaries of the Dove include the rivers Manifold, Tean, Hamps and Churnet as well as the Hilton, Henmore, Marchington and Rolleston Brooks. The Manifold has a remarkable feature between Welton Mill and Ilam Hall, it disappears underground leaving its upper bed almost dry except during very wet seasons.

### Photograph 2 – River Dove at Marchington



The Caldon Canal, opened in 1779, is a branch of the Trent and Mersey canal and runs from Etruria, Stoke on Trent to Froghall. It is 28 Km in length and has 17 locks. The canal passes through the Churnet valley and at Oak Meadow Ford Lock it enters the River Churnet for a mile to Consall Forge.

The valley of the Dove together with that of the Manifold form part of the Peak District National Park. Considerable portions of this area have been donated to the National Trust.

Major road improvements have been undertaken in the catchment, with the recent completion of the A50 trunk road which follows the route of the River Tean and the lower reaches of the River Dove. The Doveridge bypass and A518 Uttoxeter bypass have also recently been completed. Other proposed road schemes include the Alton and Denstone relief road and A521 / 522 Cheadle inner bypass.

**Photograph 3 – New A50 M1-M6 link**



Local plans and the requirements of the Derbyshire and Staffordshire Structure plans will have provided an additional 3,700 dwellings between 1991 and 2001. Housing development will be concentrated around Cheadle, with around 550 new dwellings proposed for the town by 2001, and Ashbourne. Other smaller developments are proposed for Uttoxeter, Rolleston, Hilton and Rocester. Proposed development land for commercial activity is also concentrated around Cheadle and Ashbourne.

Approximately 40% of the catchment now benefits from designation by the European Union as eligible for Objective 5B assistance. This results in EU funding being available to assist in the development of the rural economy. Matched funding (up to 50%) can be used to support economic and business development, farm diversification, infrastructure, tourism and environmental enhancement. Future European funding is likely to be focussed through the new Regional Development Agencies.



**High  
Peak  
B.C.**



## 2.1 Land

### 2.1.1 Local Administration

Local administration for the Dove catchment is shared between two county councils, five district councils and the Peak District National Park Authority. These are listed in table 3 below and shown on Map 2.

**Table 3 - Administrative Details**

Local administration in the plan area		
County Councils	National Park Authorities	District/Borough Councils
Derbyshire Staffordshire	Peak District National Park Authority	High Peak Borough Council Derbyshire Dales District Council South Derbyshire District Council Staffordshire Moorlands District Council East Staffordshire Borough Council

### 2.1.2 Landscape

The Dove catchment contains some of the most highly regarded landscapes in England. Topography, geology, natural history and human influence through settlement patterns and agricultural and other land uses have created a distinctive landscape character. The landscape value of the LEAP area is recognised not only by statutory and non-statutory designations but also by the high number of visitors attracted to it each year.

The landscape of the LEAP area falls mainly into four of the landscape character areas as defined by the Countryside Commission and English Nature:

- 52 White Peak
- 53 South West Peak
- 64 Potteries and Churnet Valley
- 68 Needwood and South Derbyshire Claylands

with two further character areas defining small areas north of Burton and north-east of Ashbourne:

- 50 Derbyshire Peak Fringe and Lower Derwent
- 69 Trent Valley Washlands (CoCo), Trent Valley and Rises (EN).

Staffordshire and Derbyshire County Councils, together with various District Councils, are currently refining the methodology to further detail the character areas. The Environment Agency has been working with consultees to ensure it has the information it requires to carry out its duties to protect and enhance landscape features associated with rivers and water-related elements of the LEAP area. A brief description of the main character areas follows.

#### White Peak

The White Peak is a distinctive area of Carboniferous limestone forming a gently rolling plateau dissected by steep sided dales, the most well known of which is Dovedale. The karst scenery and spectacular caves are notable features. Grassland, scrub, surviving woodland and exposed rock habitats add to the spectacular scenery and are important ecological habitats. The natural woodland has been largely cleared and limestone walls and shelterbelts define and protect highly productive meadows and permanent pasture. The piecemeal process of enclosure resulted in small walled fields which are characteristic of the area. Lead mining has also resulted in distinctive field patterns and small hillocks of waste material. Active aggregate quarries dominate the landscape to the west. Nucleated stone villages are linked by crest and valley roads, some of Roman origin.



### **South West Peak**

Folding and faulting of gritstones and shales followed by dissection by watercourses has produced a varied and often dramatic landscape. High altitude and heavy rainfall have helped create acidic soils dominated by moorland vegetation. Fast flowing streams have cut deep valleys, in some of which, ancient semi-natural woodland survive. The Dove, Manifold, Churnet and Hamps rivers rise in this area.

The highest parts of the moorland are remote, criss-crossed by pack-horse routes incised by heavy usage. The wild, exposed area north of Leek is well known for the gritstone edge of the Roaches. It is further isolated by the military training area.

Small villages, hamlets and isolated farmsteads are scattered throughout the lower land, often clustered in the valleys where hedged meadows, rush pastures and more productive farmland are found. At higher levels the fields are enclosed by gritstone walls.

### **Potteries and Churnet Valley**

The Churnet Valley runs through a smoothly undulating upland pasture landscape to which it is linked by short, steeply incised side valleys. These well wooded valleys, with remnants of ancient sessile oak woodland, have attractively sited small villages, scattered farmsteads, hamlets and buildings indicative of the former industrial heritage, such as stream-side mills and lime kilns. In the lower valley, the parklands at Alton Towers and Wootton add to this rich and visually complex landscape. Above the valley on its northern side, hedges gradually give way to drystone walls and stone farmhouses linked by narrow winding lanes. The fields become larger and take on the rectilinear pattern of eighteenth and nineteenth century enclosure.

### **Needwood and South Derbyshire Claylands**

The area consists of a rolling plateau divided by the wide, shallow valley of the River Dove. In the south, the landscape is characterised by areas of deciduous and coniferous woodland, straight roads and rectilinear enclosure fields bounded by hedgerows. The remnants of the semi-natural woodlands include core fragments of the Needwood Forest on heavy, poorly drained soils.

The northern prominent wooded scarp above the Dove becomes gently rolling and less wooded, dissected by numerous small valleys. Much of the former oak woodland dominated parkland character remains although it is becoming increasingly used for agriculture.

On higher ground, the dispersed more recent settlements and farmsteads occur mostly around road junctions. To the south, red brick villages and sandstone churches lie on the edge of forest areas and in the fertile northern stretch of the River Dove valley.

### **Trent Valley Washlands**

Where the Dove meets the Trent, it enters an area of flat, broad valleys, contained by gentle side slopes, dominated by large rivers. There is an increasing extent of urban development and extended transport corridors mixed with pasture and arable farmland. Riverside pasture, unimproved meadows, mixed hedgerows and riparian scrub are increasingly rare features.

### **Derbyshire Peak Fringe and Lower Derwent**

An area around Carsington Reservoir and the Henmore Brook falls within the Derbyshire Peak Fringe. As woodland is generally sparse within the predominantly pastoral landscape, the hedges at lower altitudes make a significant contribution to the character of the area.

### 2.1.3 Geology

The geology of the catchment can be sub-divided into three distinctive areas. Within each, the underlying rocks exert a controlling influence on the local landscape and the interaction between ground and surface waters.

The northern half of the catchment is dominated by Carboniferous Limestones and Namurian Gritstones. These are the oldest exposed rocks in the area, outcropping to form the uplands of the Staffordshire Moorlands and Derbyshire Peak District. A localised area of coal measures strata also occurs around Cheadle, east of Stoke on Trent. Much of the southern half of the catchment is underlain by mudstones and marls of Triassic age. These give rise to an area of lower, more uniform relief. Between these two contrasting areas lies a narrow central belt of Triassic Sandstones, extending from around Cheadle in the west towards Ashbourne in the east. A further outcrop occurs west of Leek in the Churnet Valley.

### 2.1.4 Hydrogeology

The flow of underground water through the Carboniferous Limestone is very rapid through fractures in the rock. The water is of high quality and provides important baseflow to the rivers Dove, Hamps and Manifold. This water is very vulnerable to pollution and the Environment Agency maintains a policy of resisting potentially polluting activities from being located on Carboniferous Limestone.

### 2.1.5 Natural Radiation

We are all exposed to radiation all the time. Most people receive their greatest dose or exposure from natural radiation, mainly from radon. Radon is a natural radioactive gas. It comes from uranium that occurs naturally in all rocks and soils and is given off at the ground surface. We all breathe it throughout our lives. Out of doors, it disperses in air so levels are very low, but it can build up in enclosed spaces such as indoors where ventilation is poor.

The average radon level in homes in Derbyshire is  $76 \text{ Bq m}^{-3}$  and  $44 \text{ Bq m}^{-3}$  in Staffordshire. These figures are below the "Action Level" dose of  $200 \text{ Bq m}^{-3}$  recommended in the National Radiological Protection Board's Control Strategy in 1990. However, the whole of the Derbyshire Dales area lies within a geological area that is affected by radon. Derbyshire Dales District Council has pursued an awareness programme for residents on the effects of radon and adaptations to dwellings. By September 1998 41% of homes within the Dales area had been tested for radon gas. Effective remedial measures have been provided in 60 council houses at a cost of £60,000. For further information regarding radon levels in the Dales area please contact Derbyshire Dales District Council.

### 2.1.6 Managing Waste

In Derbyshire, an Agency study has determined that approximately 3 million tonnes of waste was landfilled during 1995/96, with 83% originating from within the County. Approximately a third of the waste types deposited were industrial and commercial waste, the remainder mainly comprising construction and inert waste (36%) and household waste (26%).

In Staffordshire, the dominant county within the plan area, the 58 operational landfill sites accepted a total input of approximately 3.2 million tonnes of controlled waste, 72% of which originated from within the county. During 1995/96 the largest component of the deposited waste was construction and demolition waste (60%), household waste comprised 17% of that deposited and commercial waste comprised 15%.

The figures given above are for the counties of Derbyshire and Staffordshire as a whole, obviously these figures will be significantly reduced for the plan area as only parts of these counties are within its borders. Actual figures for each local authority are not available at this time.

## 2.2 Air

The Agency contributes to the control of air quality mainly through regulation of emissions to air from Part A processes. Air quality may be significantly influenced by other sources not controlled by the Agency, such as traffic, smaller industries and domestic sources. The main responsibility for delivery of the Government's National Air Quality Strategy (published in March 1997) lies with local authorities, although the Agency plays a role through its regulation of emissions from major industries. The National Air Quality Strategy established objectives for eight key pollutants: Benzene; 1,3 Butadiene; Carbon monoxide; Lead; Nitrogen dioxide; Ozone; PM<sub>10</sub> and Sulphur dioxide to be achieved by the year 2005. As part of the strategy local authorities have been asked to review and assess air quality within their areas and, where they identify a likely breach of those objectives, to propose Action Plans to ensure such exceedances are avoided.

## 2.3 Water

### 2.3.1 Surface Water

The upper reaches of the River Dove and its main tributaries upstream of the the River Churnet, are high quality rural rivers. This northern part of the catchment is underlain by Carboniferous Limestone and the waters are therefore hard. The high quality groundwater provides an important baseflow to the rivers. The land use is mainly rough grassland and upland pasture dominated by sheep farming, there is very little industry. As a result of an increase in the number of pollution incidents caused by the dispersal of sheep dip the aquatic life in parts of the upper reaches and tributaries of the River Dove has been adversely affected with consequent damage to high quality game fisheries (See Issue 11).

The upper reaches of the River Churnet, upstream of Leek, are good quality rural rivers. The catchment is predominantly underlain by Carboniferous Namurian Sandstone (millstone grit). The water is impounded in Tittesworth reservoir and used as drinking water supply for Stoke. In 1997 high levels of herbicide were detected in the raw water from the reservoir, due to the use of herbicides along the tributaries upstream of Tittesworth reservoir (See issue 1). Pollution prevention visits to the landowners along the river stretches has raised the awareness of the problems associated with the use of herbicides.

The lower reaches of the River Churnet are fairly good quality rivers and characterised by soft water. The catchment is mainly on Triassic Mercia Mudstone. The quality of the rivers has improved since the Second World War and in particular over the last decade as a result of investment in sewage works.

The River Tean flows from just east of Stoke on Trent and passes near Uttoxeter before entering the Dove. The only major discharge to the River Tean is from Checkley Sewage Treatment Works. The treated sewage effluent discharge makes up over half the flow in the river in dry weather. Installed as part of the Asset Management Plan 2 (AMP2) investment a new activated sludge plant and sandfilters are now operating at Checkley STW. This has resulted in visual improvements and increased biological quality in the river stretch downstream of the discharge.

The periodic review of water company prices is currently taking place. As part of the periodic review, priorities for investments in the water company infrastructure (AMP3) in the catchment will be identified, in order to embrace environmental restoration and improvements. Discussions are currently taking place between the Environment Agency, OFWAT and Severn Trent Water Ltd to finalise a prioritised programme for improvements necessary within the AMP3 programme (2000 – 2005).

### 2.3.2 Groundwater Quality

There are no widespread problems of groundwater pollution in the catchment and variations in quality tend to be natural. During 1999 the Environment Agency will be extending the sampling programme in the carboniferous limestone area to gain more background information on the quality of groundwater.

#### Discharges to the Carboniferous Limestone

The Carboniferous Limestone in the Dove catchment forms a highly vulnerable aquifer. Groundwater is generally of high quality and provides baseflow to the streams and rivers of the area. It also supports abstractions for both potable, industrial and agricultural use. Any contamination of groundwater can therefore also affect surface water systems, as well as sensitive biological and geological features associated with the underground cave systems.

As of 1 April 1999, the Agency acquires new powers with respect to controlling discharges to groundwater, called the Groundwater Regulations. The aim of the Regulations is to prevent the pollution of groundwater by controlling actual or potential discharges, and disposal associated with current activities.

Contamination may be caused by a wide range of activities, and the new Regulations will seek to address those activities which are not currently controlled by authorisations under the Waste Management Licensing Regulations and the Water Resources Act 1991, such as agricultural land spreading and sheepdip disposal.

The Regulations introduce a new system of authorisations for the disposal of certain listed substances. Before an authorisation can be granted, an application must be subject to "prior investigation", which could be a simple desk study through to a full site investigation with monitoring boreholes. The authorised disposal may be required to be monitored by "requisite surveillance" of the associated groundwater, to ensure that pollution of groundwaters is prevented. The Agency can in addition issue notices to prevent and minimise the entry into groundwater of these substances if required, and issue codes of practice for those industries which may unintentionally discharge such substances.

### 2.3.3 Fisheries

Uniquely within the Trent catchment, the Dove and its tributaries include numerous high quality salmonid fisheries many of which are designated under the EC Freshwater Fisheries Directive. The River Dove has recently been re-stocked with 150,000 young salmon, this is part of a programme of restocking which will continue over the next few years (see issue 8). Brown trout and grayling are the dominant upland species and much of the main River Dove is restocked annually with brown and rainbow trout (see issue 9).

Fish populations in the middle reaches of the Rivers Churnet and Tean have been detrimentally affected in the past by the impact of sewage and trade effluents. However these populations should show signs of recovery with the introduction of tighter consent conditions on some effluent discharges.

The lowland reaches of the catchment generally provide good mixed and coarse fisheries, the lower Dove being of exceptional quality and noted for its barbel populations. Still water fisheries are widely dispersed but day ticket opportunities are limited. Nevertheless the reservoirs at Tittesworth and Carsington offer day ticket fishing for rainbow and brown trout.

### 2.3.4 Recreation and Navigation

The catchment is a popular tourist destination with a range of formal and informal recreational activities. The presence of the National Park draws many millions of visitors per year to the northern part of the catchment for walking, rambling, birdwatching and cycling as well as the more formal organised sports. Popular beauty spots are under great pressure from tourist numbers such as Dovedale (see issue 7). Angling is the major water based recreational activity in the catchment.



The Churnet valley between Leek and the confluence with the River Dove and Carsington Reservoir are also popular locations for formal and informal recreation and are in easy reach of a large population.

**Photograph 4 – Visitor centre at Carsington Reservoir**



The Caldon Canal is the only navigable waterway in the catchment. It is owned by British Waterways and was raised to "touring" standard in the 1980's and adds to the attractiveness of the Churnet Valley as a tourist destination.

**Photograph 5 – Caldon Canal at Cheddleton Mill**





### 2.3.5 Flood Defence & Land Drainage

#### i) Flooding History

Flood defences have been constructed in many parts of the catchment to provide protection for property and agricultural land. These are generally either hard defences (flood walls made of brick, concrete or sheet piling), or soft defences (earth embankments). There are extensive flood banks on the River Dove between Marchington and Egginton as well as on the Endon, Henmore, Picknall, Foston and Hilton Brooks. More flood defences are proposed in the catchment over the next few years (See issues 2 and 6)

Other forms of flood protection have been provided within the catchment. On the Henmore Brook at Ashbourne, a balancing lake has been constructed to restrict flows through a culvert under the town which cannot cope with flood flows. At Leek, a bypass channel on the River Churnet has been completed over recent years which has reduced the risk of flooding to a number of residential and industrial properties. The scheme is being reappraised following the severe flooding in October 1998, which exceeded the design capacity.

#### ii) Land Drainage

In the 1970's and 1980's MAFF promoted land drainage schemes involving dredging of watercourses in order to lower normal water levels and to improve the outfall facility of agricultural field drainage systems. The overall aim was to ensure the country was self sufficient in food production. Unfortunately some wetland areas particularly in upland grazing areas subsequently dried out with loss of wetland habitat.

#### iii) Flood Warning

The Agency operates a flood warning service in England and takes the lead role in passing flood warnings to people at risk in order that they can take the necessary action to protect themselves and their properties. The latest technology is used to monitor rainfall and river levels for 24 hours a day, 365 days a year. The flood warning service is provided for certain reaches of Main River where there is a risk to people and property and where there is sufficient time for the warnings to be effective. Main rivers are designated by the Ministry of Agriculture, Fisheries and Food, and are usually larger streams and rivers, but also include smaller watercourses of strategic drainage importance.

Flood warnings are issued to the police, Local Authorities and the public through a variety of media including AA Roadwatch, Teletext, radio and television. The Agency also provides a Floodcall 'dial and listen' service which provides 24 hour recorded information on the latest flooding situation (See issue 19). The Agency uses the best information available to predict the possibility of flooding but no warning system can cover every eventuality.

It is the responsibility of those who live in flood prone areas to be aware of any risk and to know what action should be taken to protect them if flooding occurs.

### 2.3.6 Water Resources

The catchment contains important water resources, stored within upland reservoirs and major sandstone and limestone aquifers. The low density of urban and industrial development has made only modest local demands on this resource. As a consequence, the area has long been utilised as a provider of water resources to adjacent conurbations, such as Stoke and Leicester.

The major rock formations within the catchment exhibit a variable ability to store and transmit groundwater. The Triassic sandstones form the areas principal aquifer, with significant resources of groundwater widely exploited via boreholes, mainly for public water supply. The gritstones to the north and marls to the south are less permeable and provide only minor local water supplies.

The majority of water is taken from surface water sources, although groundwater from the sandstone aquifers provides around 20% of the 323 Ml/d total licensed quantity. Most abstractions (over 80%), are licensed to Severn Trent Water Ltd for public water supply, however parts of the catchment receive water supplies from South Staffordshire Water plc.



Groundwater is taken from 14 public water supply boreholes. It is also used to supply a number of industrial activities, principally around the Leek area. The majority of groundwater licences, however, authorise a large number of very small abstractions for domestic or agricultural use.

A network of monitoring boreholes is used to assess the groundwater quality across the catchment. On both the Carboniferous Limestone and Triassic Sandstone aquifers, the water is of very high natural quality and is used for potable supply. Direct groundwater abstraction occurs from the sandstones, whilst baseflow discharge from the limestone to the River Dove and its tributaries, is subsequently abstracted downstream at Eggington.

The significant export of water out of the catchment results in a net loss of resource which can create pressures on the environment during droughts. For example; depleted river flows reduce the dilution available for sewage works effluent, leading to water quality problems. This in turn impacts on fisheries, wildlife and amenity interests.

The Namurian Gritstones also contain good quality water, but yields are limited and they only support small agricultural supplies. The coal measures groundwater tends to contain elevated concentrations of chloride and iron due to the minerals in the rocks.

## 2.4 Wildlife and Heritage

### 2.4.1 Wildlife

The plan area supports a wide range of habitats that are of wildlife value. Some of these habitats have been designated as SSSI's due to their importance at national level or are locally designated as SINC's. There are 28 SSSI's and 406 water-related SINC's within the catchment. In addition, parts of three European Habitats Directive sites fall within the catchment. These are a Special Protection Area, the Peak District Moors, designated for its upland ground-nesting birds and two Special Areas of Conservation, the Peak District Dales and the Peak District Dales Woodlands. The South West Peak Environmentally Sensitive Area also falls within the plan area.

The national importance of habitats in terms of nature conservation has been assessed by the UK Biodiversity Steering Group, which was set up by the Government in 1994 as part of its response to the 1992 Rio Earth Summit.

The group have produced a list of key habitats of which 9 are present in the plan area. These habitats are those which are under threat, are important for key species, or which the UK has international obligations to protect.

The UK Biodiversity Steering Group Report produced lists of species which are either globally threatened or have declined nationally by over 50% in the last 25 years. The short list contains 116 species for which priority action plans were produced in an attempt to stabilise and increase their populations. The middle list contains a further 300 species for which action plans have been produced during 1998. There is also a long list which, although not comprehensive, contains species of conservation concern. 8 short list and middle list species occur in the plan area.

The Key Habitats in the plan area are reedbeds, fens, grazing marsh, fen/carr/marsh/swamp, standing open water, rivers and streams, canals, blanket bog and urban habitats.

The Key Species in the plan area are water vole, otter, pipistrelle bat, bittern, reed bunting, common scoter, great crested newt and white clawed crayfish.

Six of the UK's Natural Areas, defined by English Nature on the basis of their ecological characteristics, fall within the Dove catchment. These are the South-West Peak, White Peak, Potteries and Churnet Valley, Needwood and South Derbyshire Claylands, Trent Valley and Rises and the Derbyshire Peak Fringe and Lower Derwent. The boundaries of these areas correspond to the Countryside Character areas (see 2.1.2)

### 2.4.2 Heritage

The cultural heritage of the LEAP area is extremely rich and diverse. The nature of the landscape and geology has both influenced human activities and been changed by them. Human artefacts dating from 9000BC have been discovered in the Manifold Valley and since then earthworks, burial mounds, settlement patterns, communication corridors and land uses have shaped a complex landscape, which continues to evolve.

The landscapes of the area range from moorlands and steep sided wooded valleys to broad river valleys that are well known today. A predominantly agricultural land use resulted in the settlement and field patterns that are characteristic of the area, with drystone field boundaries on higher ground and hedgerows on lower lying land. Much of the area falls within the Peak District National Park. In addition, many towns and villages contain Conservation Areas. It is this mix of semi-natural, highly managed and built landscapes full of man-made features that provides the high quality and rich heritage of the area.

Bronze age burial mound and ancient earthworks have been found in the Manifold Valley. A prehistoric flint working site is known near Throwley Cottage and prehistoric, Roman and Anglo-Saxon finds have been made in a number of caves. A Bronze Age burial mound was also found at Bridestones Burial Chamber near Leek. Bronze Age finds have also been made at Rocester.

Lead found in the area was important to the Romans and the area is bounded by the A515 Roman road. Rocester, near Uttoxeter was a Roman building within a fortified settlement and many Roman finds have been made there.

Mediaeval settlement of the area had an enormous impact on the landscape. Mediaeval and post-mediaeval ridge and furrow and strip lynchets survive in abundance. Ancient woodland is thought to have been partially managed from the mediaeval period. The remains of Tutbury Castle, dating from the fourteenth century, are an imposing feature in the landscape.

Increasing wealth is reflected in the many sandstone churches built across the area including the church at Tutbury and the 'Cathedral of the Peak' dating from 1241 at Ashbourne. Market towns exist across the area, with regular agricultural markets still held at Uttoxeter and Leek.

**Photograph 6 – Church at Tutbury**





The custom of well-dressing, now enjoying a revival, is believed to have begun in 1350 and ceremonies take place in a number of villages in the area during the year.

Walls and hedgerows reflect the widespread impact of the enclosures and much of the existing field pattern was established at that time.

The industrial revolution has left many marks on the landscape. The wooded hillsides provided charcoal for the metal industries based in the valleys and stream side mills and lime kilns are a feature of the Churnet valley. Railways were laid and the Caldon Canal was cut, terminating at Froghall Wharf. Rudyard Lake was constructed as a feeder reservoir for the canal and Tittesworth Reservoir was built to serve mills lower down the valley. Leek became famous for its silk and textile mills and is still a centre of production today, as is the cotton mill at Rocester.

Many large houses and gardens were built with the wealth generated by the pottery and coal industries. These include Wooton Hall and Alton Towers, a Grade I registered Park and Garden and a major tourist attraction with the theme park developed in the gardens. Pugin designed the well visited church at Cheadle.

The recent construction of the new A50 M1-M6 link has increased pressure for large-scale development of business parks, industrial estates and housing estates. This kind of development tends to dominate the landscape and use a range of imported and non-local materials that do not relate to the cultural heritage of the area (see issue 7). The associated lighting and reshaping of the landscape further reduce the quality of the area. The nature of the landscape previously regulated the size of development and disguised its impact, hiding mills in valley bottoms and preventing the clearance of forests for agriculture. The cultural heritage of the area requires protection not only by means of statutory designations but also outside those areas.



## Introduction

This chapter provides a detailed description of the issues, which the Agency considers, need to be addressed in the Dove catchment. An issue is a problem that needs tackling or an opportunity that should be realised.

For each issue the text describes the problem or opportunity, which organisations are involved and what is currently being done about it. The tables included set out options for action together with potential partnerships, the impacts of each proposal, along with estimated costs and timescales. The Agency officer responsible for the issue has also been identified. The boxes at the end of each issue highlight how the proposed actions are linked to national Agency targets set out in the publication "*An Environmental Strategy for the Millennium and Beyond*" (1997). A copy of this document is available on request from our Customer Services department.

The issues are grouped into the following three sections:

- Section 1 – Site specific issues  
These are issues that are key to a specific location.
- Section 2 – Plan wide issues  
These issues occur in a number of locations within the plan area.
- Section 3 – National issues in the plan area  
These issues have a national profile but important examples can be found in the Dove catchment.

The proposed options for action are intended to facilitate improvements to the environment for the benefit of all users and are put forward for discussion and consideration. The Action Plan that leads from this report will set agreed actions with more detailed budget and timetable information.

The issues have been identified by:

- Using the knowledge of Agency staff.
- Informal consultation with a range of organisations and individuals and by taking into account representations received from key groups.
- Comparing the current state of the catchment with national and regional targets.

When identifying the issues consideration has also been given to the Agency's Environmental Themes. These are:



**Addressing CLIMATE CHANGE** – by ensuring the Government's greenhouse gas emission targets are met. Through the use of predictive modelling and contributions within international fora. By reducing the Agency's own environmental impact.



**Improving AIR QUALITY** – by assisting in the delivery of the UK Air Quality strategy. By ensuring the reduction of emissions to air and by discouraging the use of solvents which contribute to the major photochemical pollutants.



**Managing WATER RESOURCES** – by encouraging more efficient use of water by its major users. By promoting water saving measures over the exploitation of environmental resources and by ensuring environmental needs are taken into account in the next round of Asset Management Plan talks with water companies.



**Enhancing BIODIVERSITY** – by implementing the EC Habitats Directive, through the delivery of the UK's Biodiversity Action Plan and by undertaking specific projects to restore habitats and thereby increase biodiversity.



**Managing our FRESHWATER FISHERIES** – by securing a robust funding base for fisheries management. By reducing poaching and rod licence evasion and by developing specific long term strategies for salmon, trout and coarse fisheries.



**Delivering INTEGRATED RIVER-BASIN MANAGEMENT** – by delivering a continual improvement in overall water quality and habitats and providing effective flood defences and warning systems.



**Conserving THE LAND** - by addressing such diverse issues as contaminated land, town and country planning and by determining the state and extent of soil erosion and developing a strategy to alleviate it.



**Managing WASTE** – by providing a high quality waste regulation service. By combating illegal practices and by ensuring that proposals for radioactive waste disposal provide the necessary level of protection for mankind and the environment.



**Regulating MAJOR INDUSTRY** – by continuing the delivery of Integrated Pollution Control. By maintaining and expanding the Chemical Releases Inventory, implementing EC Directives and taking part in European initiatives. By developing pollution prevention control tools including projects relating regulation to emission, efficiency and economic benefits.

The boxes at the end of each issue highlight how the proposed actions are linked to these themes set out in the publication "An Environmental Strategy for the Millennium and Beyond" (1997). A copy of this document is available on request from our Customer Services department at the Fradley offices.

#### Dove Catchment Management Plan

In 1995 the National Rivers Authority published the Dove Catchment Management Plan (CMP). It set out the NRAs vision for the future of the river catchment and highlighted problems that needed to be addressed and actions needed to resolve them. This LEAP now supersedes that document and any of the outstanding issues have been incorporated into the LEAP. Appendix 3 shows the progress of the outstanding Dove CMP issues and where appropriate relates them to issues within this LEAP.

*The Environment Agency wants to hear your comments on the issues and proposals in this document together with any new ideas and suggestions.*

*Please use the questionnaire and freepost envelope or fax or e-mail.*

## The Dove Issues

The issues are separated into three sections. There is no priority order to the sections or the issues within each section.

### Site specific issues

- Issue 1      Herbicide Contamination at Tittesworth Reservoir
- Issue 2      Flooding along the lower Dove Valley
- Issue 3      Control of activities at John Pointon & Sons Ltd
- Issue 4      Contaminated groundwater at Leek
- Issue 5      Environmental monitoring – Blue Circle Works, Caudon
- Issue 6      Flooding of River Churnet at Leek

### Plan wide issues

- Issue 7      Landscape and ecology in the Dove catchment
  - 7.1      Impact of tourism on the landscape and ecological habitats of Dovedale
  - 7.2      Developments within floodplain including development along the A50 corridor
  - 7.3      Changes in agricultural landuse
  - 7.4      Loss of habitat diversity in the lower reaches of the Dove catchment
- Issue 8      Reintroduction of salmon to the River Dove
- Issue 9      The genetic integrity of brown trout in the Dove catchment
- Issue 10      Environmental practices at rural industrial estates
- Issue 11      Pollution from sheep dip in the Dove catchment
- Issue 12      Water resource management in the Dove catchment
  - 12.1      Low flows in the Croxden Brook
  - 12.2      Tittesworth Reservoir / Deep Hayes compensation discharge arrangements
  - 12.3      Dove catchment abstraction licensing policy
- Issue 13      Sustainable river bank management

### National issues in the plan area

- Issue 14      Water level management plans
- Issue 15      Biodiversity in the Dove catchment
- Issue 16      Water quality objectives, standards and Directives
- Issue 17      Sustainable waste management
- Issue 18      Investment by Severn Trent Water Ltd to improve water quality
- Issue 19      Easter 1998 floods: Lessons learned by the Environment Agency and action to be taken

*The Environment Agency wants to hear your comments on the issues and proposals in this document together with any new ideas and suggestions.  
Please use the questionnaire and freepost envelope or fax or e-mail.*



**Abbreviations**

<b>AC</b>	Angling Clubs
<b>AEG</b>	Area Environment Group
<b>ALF</b>	Alleviation of Low Flows
<b>AMP</b>	Asset Management Plan
<b>BAP</b>	Biodiversity Action Plan
<b>BW</b>	British Waterways
<b>BC</b>	Borough Council
<b>CC</b>	County Council
<b>CMP</b>	Catchment Management Plan
<b>CoCo</b>	Countryside Commission
<b>DC</b>	District Council
<b>DETR</b>	Department of the Environment, Transport & Regions
<b>EA</b>	Environment Agency
<b>EN</b>	English Nature
<b>FA</b>	Forestry Authority
<b>FWAG</b>	Farming & Wildlife Advisory Group
<b>GQA</b>	General Quality Assessment
<b>HA</b>	Highways Agency
<b>IPC</b>	Integrated Pollution Control
<b>IPPC</b>	Integrated Pollution Prevention & Control
<b>LPA</b>	Local Planning Authority
<b>LWCA</b>	Local Waste Collection Authority
<b>MAFF</b>	Ministry of Agriculture, Fisheries and Food
<b>NFU</b>	National Farmers Union
<b>OFWAT</b>	Office of Water Services
<b>REPAC</b>	Regional Environment Protection Advisory Committee
<b>RFDC</b>	Regional Flood Defence Committee
<b>RFERAC</b>	Regional Fisheries, Ecology and Recreation Advisory Committee
<b>RO</b>	Riparian Owner
<b>RQO</b>	River Quality Objective
<b>RSPB</b>	Royal Society for the Protection of Birds
<b>SINC</b>	Site of Importance for Nature Conservation
<b>STA</b>	Salmon & Trout Association
<b>STW Ltd</b>	Severn Trent Water Ltd
<b>TBG</b>	Tidy Britain Group
<b>U</b>	Cost unknown at this stage
<b>WDC</b>	Waste Disposal Companies
<b>WT</b>	Wildlife Trust
<b>WTW</b>	Water Treatment Works

## **Issue 1    *Herbicide Contamination at Tittesworth Reservoir***

**Objective – To prevent herbicide pollution of Tittesworth Reservoir and its feeder streams by raising awareness of the issue and promoting best practice.**

### ***What is the problem?***

Tittesworth Reservoir is a surface water reservoir situated north of Leek. Severn Trent Water Ltd (STW Ltd) abstract water from the reservoir and treat it in an on-site Water Treatment Works (WTW) prior to supplying it as drinking water to the Potteries.

The water quality at the reservoir is generally very good. However, in May 1997, STW Ltd detected elevated levels of herbicides in the raw water from the reservoir, predominantly Mecoprop. These levels were above the maximum limit for any individual pesticide in drinking water, which is 0.1 micrograms/litre as stipulated in the Water Supply (Water Quality) Regulations 1989. 0.1 micrograms/litre is equivalent to just five drops of pesticide in an Olympic sized swimming pool.

As there is no in built facility for pesticide removal at Tittesworth WTW, STW Ltd had to dose the water with powdered activated carbon as an emergency measure, which was both difficult and expensive. Reservoir water was also blended with groundwaters to ensure treated water supplies complied with drinking water quality standards. However, this created a risk for STW Ltd of exceeding their abstraction licences issued by the Agency for their groundwater boreholes.

### ***Who is involved?***

Environment Agency (EA), Severn Trent Water Ltd (STW Ltd), local landowners and farmers

### ***What is happening already?***

Sampling surveys of the tributaries feeding the reservoir identified Meer Brook as the most likely source of the herbicide pollution.

The Agency and STW Ltd carried out joint visits to all the landowners in the Meer Brook catchment in July and August 1997 to try and identify the source of the herbicides and to remind users of the best practice guidelines. Overall, the survey only identified minor problems and no single problem or source was found. However, the survey did raise awareness of the small amount of herbicide which could cause a pollution problem.

An open day was held at Tittesworth WTW to which all the landowners and farmers in the total catchment were invited. The idea was to explain and promote best agricultural practice to protect water and show what impact herbicide pollution had on the treatment of drinking water. Unfortunately, attendance at this event was poor.

In May 1998, a letter was sent out by the Agency to all landowners in the Meer Brook catchment reminding them to be vigilant in their use of herbicides. The sites identified from the surveys as being most risky were also revisited. Only marginal exceedance of the 0.1 micrograms/litre limit were observed in the reservoir water in 1998.

ISSUE 1 : Herbicide Contamination at Tittesworth Reservoir							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
1.1 Continue a seasonal chemical sampling of Meer Brook and reservoir (additional to routine monitoring carried out by STW Ltd).	EA	STW Ltd	+ Early warning of herbicide pollution problem	£5,000 approx per annum	£5,000 approx per annum	2000 / 2005	Susan Bowen
1.2 Consider extending the pollution prevention visits to landowner/ farmers in the total catchment of the reservoir.	EA	STW Ltd	+ one to one visits shown to be most successful in getting the message across  - Resource hungry	U	U	2000 / 2005	Susan Bowen

The above proposals will work towards achieving the following Agency objectives on delivering integrated river-basin management:



Manage river-basins in an integrated way, via Local Environment Agency Plans;

Ensure that all waters are of sustainable quality for their different uses;

Deliver a continual improvement in overall water quality.

## Issue 2     *Flooding along the lower Dove valley*

**Objective – To review and improve flood defences in the lower Dove valley.**

### *What is the problem?*

Serious flooding occurred along the lower Dove valley in 1932, 1946, 1957 and 1960 causing extensive property damage in the villages of Scropton, Hatton, Marston-on Dove and Egginton which lie in the natural floodplain. Following the 1960 floods, the former Trent River Board commissioned a physical model from the Trent confluence to Doveridge. This led to the River Dove Improvement Scheme being undertaken in the late 1960's and early 1970's and consisted of alterations to existing floodbanks and the construction of several new embankments and ring banks which were designed to provide protection against the 1 in 100 year flood.

In December 1991 a major flood occurred in the Dove valley. On this occasion, flood levels upstream of Sudbury railway bridge exceeded those predicted by the 1960's model and water overtopped the floodbank, although the return period of the event was calculated at less than the 1 in 100 year design.

### *Who is involved?*

Environment Agency (EA)

### *What is happening already?*

The Agency's mathematical modelling exercise of flood flows on the River Dove at Marston-on-Dove to the head of main river at Mappleton was completed in early 1998. The model has been used to appraise the need for uprating the existing flood defences or providing additional defences. In the light of the appraisal repair works have been carried out to the existing flood defences at Scropton and the need established for flood defences in the Hatton / Tutbury area, accordingly a capital scheme providing a 1 in 100 year protection for the location has been included in the capital programme. As an interim measure at the location in Summer 1998 the Agency constructed a minor flood bank adjoining Old Marston Lane providing a 1 in 10 year protection and the existing flood defence in Station Road was repaired together with enlargement of the flood relief openings under the old tramway crossing of the River Dove.

An appraisal of the remaining flood defences in the lower Dove valley is currently being carried out.

ISSUE 2 : Flooding along the lower Dove valley							
Options for Action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
2.1 Instigate Flood Protection Capital Scheme at Hatton	EA		+ Protection against flooding	£243K		2000 / 2005	Vic Brown
2.2 Use the River Dove model to appraise the need for uprating existing defences or providing additional defences	EA		+Protection against flooding	U		2000 / 2005	Vic Brown

These proposals will work towards achieving the following Agency objectives on conserving the land:



Develop new methods to survey and manage flood defences.

**Photograph 7 – Flooding along the lower Dove valley**





### **Issue 3    Control of Activities at John Pointon & Sons Ltd (Animal Renderers), Cheddleton**

**Objective – To reduce the environmental impact of the operations of the above Company**

#### ***What is the problem?***

When meat and food products are produced from animals, a proportion of the carcass is not used. These waste materials (heads, hooves, some internal organs etc) are collected by John Pointon & Sons for rendering at their Cheddleton factory. The animal byproducts are macerated and fed into automated continuous cookers to give three products, tallow, meat and bone meal, and condensate.

Condensate is the aqueous content of the byproducts boiled off and recondensed during the cooking process. Because the animal byproducts are received at the plant in large batches some material is quite old and the proteins have begun to break down liberating ammoniacal nitrogen. This ammonia is driven off with the water during the boiling process and thus the ammonia concentration in the condensate is very high.

In the period from Autumn 1996 to 1 January 1998 the plant accepted whole carcasses from the Government's 'Over Thirty Month Scheme' designed to eradicate Bovine Spongiform Encephalopathy (BSE) from the British cattle herd. Since 1 January 1998 the plant has ceased to process this material. The plant does however continue to process 'Specified Risk Material' (SRM) which includes the heads, spinal columns and thymus of animals slaughtered for human consumption; these materials being identified as those tissues most likely to contain BSE infectivity should an animal be infected but not display any symptoms.

Disposal of the condensate produced from the process raises many problems. The ammonia level in the condensate is approximately 50 to 100 times greater than normally found in domestic sewage. Severn Trent Water Ltd's local sewage treatment works at Cheddleton is a relatively small facility and is not able to treat all of the condensate production from the factory. Disposal of the condensate to larger sewage treatment works with sufficient spare treatment capacity is possible, but this does involve transporting the condensate by road tanker for a significant distance giving its own environmental impact.

Disposal of the condensate onto farmland has been the company's preferred option for some time, but this practice raises its own problems. The material is extremely pungent with a distinctive smell and gives rise to complaints of 'odour nuisance' to the Local Authority's Environmental Health Department wherever it is applied. Attempts by the company to lessen the smell by changing the application methods have had limited success.

The material is extremely mobile having little in the way of solids or fibre to bind it to land. When spread, it can run-off easily via land drainage systems causing water pollution.

The Agency considers the condensate to be a waste. Its disposal would therefore fall within the control of the Environmental Protection Act 1990, thus land application would require a Waste Management Licence. The Agency's view that this material is waste is currently being tested through the courts, as there is no definitive definition of waste.

Public concerns were raised in respect of the land spreading of condensate and a perceived risk of the spread of BSE into the environment. The Agency commissioned an independent risk assessment into this activity. This assessment concluded that the human risk of exposure to BSE infectivity through drinking spring derived water in the vicinity of the land spreading was extremely small. It also concluded that 'cattle grazing on treated land would be extremely unlikely to be exposed to a dose large enough to result in infection with BSE.

#### ***Who is involved?***

Environment Agency (EA), John Pointon & Sons Ltd, Staffordshire Moorlands District Council, Staffordshire County Council, Trading Standards, MAFF, Charlotte Atkins MP, Joan Walley MP, SEAC (Independent Advisors to the Government on Spongiform Encephalopathy), Local Councillors, Members of the public.

***What is happening already?***

In late 1997 John Pointon & Sons Ltd consulted the Agency about installing an effluent treatment plant to treat liquid effluent generated on the site, including all condensate, and discharge it direct to the River Churnet. A Consent to Discharge was duly applied for. As part of the application, John Pointon & Sons Ltd commissioned a risk assessment by independent consultants to assess the potential for the transmission of BSE into the aquatic environment. The Environment Agency commissioned its own risk assessment to give an independent view on this highly contentious issue. Both risk assessments showed that the barriers within the treatment system were more than adequate to achieve an extremely low level of risk. The Consent to Discharge was issued in July 1998. Planning permission for the treatment plant has not yet been granted by the local authority.

At present most of the condensate is tankered to sewage treatment works in North West Water's Ltd's area. The remaining condensate continues to be landspread. Several instances of water pollution involving the land spreading of condensate have been investigated by the Agency over the last year. Appropriate enforcement action is being considered.

It is thought that the rendering industry will come within the Integrated Pollution Prevention and Control Directive (IPPC) from 1999 on. This will require the industry to use 'Best Available Techniques' (BAT) to achieve Environmental Improvement. It is thought that the proposed treatment plant at John Pointon & Sons Ltd will achieve the standard of BAT.

The Fertilisers (Mammalian Meat and Bone Meal) Regulations 1998 specify that "No person shall use on agricultural land as a fertiliser any mammalian meat and bone meal or any material derived from or containing mammalian meat and bone meal to any extent".

These Regulations are enforced by Staffordshire County Council, Trading Standards Division. SEAC have considered the land spreading of condensate from John Pointon & Sons animal renderers. Due to the presence of mammalian protein in all samples of condensate taken at the plant and other local factors, SEAC recommended a precautionary approach and advised that landspreading of rendering condensates should stop. The Government consider that the Fertiliser Regulations provide a mechanism for control of the activity, but are reviewing the relevant Animal Health legislation to include further controls as necessary.

<b>ISSUE 3 : Control of activities at John Pointon &amp; Sons Ltd, Cheddleton</b>							
<b>Options for action</b>	<b>Options for action</b>		<b>Impacts (+ or -)</b>	<b>Estimated Cost</b>		<b>Timescale</b>	<b>EA Officer</b>
	<b>Lead</b>	<b>Others</b>		<b>EA</b>	<b>Others</b>		
3.1 Continue to support the treatment plant planning application to the Local Authority	EA	Local Authority	+ speeds an end to land spreading	£1,200 approx	U	2000 or beyond	Susan Bowen
3.2 Facilitate tankering of condensate to more local Severn Trent Water sewage treatment facilities	EA	STW Ltd	+ reduced road traffic movement	£1,200 approx	U	1999 / 2000 or beyond	Susan Bowen

ISSUE 3 Cont.: Control of activities at John Pointon & Sons Ltd, Cheddleton							
Options for action	Options for action		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
3.3 IPPC. All emissions will come under one regulator. BAT on all emissions	EA	Local Authority	+ net improvement in site operation	U	U	1999 / 2005	Susan Bowen
3.4 Enforcement action – waste regulation and water pollution	EA		+ Continued pressure to stop land spreading	U		1999 / 2005	Susan Bowen

The above proposals will work towards achieving the following Agency objectives on delivering integrated river-basin management and regulating major industries;



Ensure that all waters are of sustainable quality for their different uses;



Implement the requirements of the EC Directive on Integrated Pollution Prevention and Control;

#### ***Issue 4 Contaminated land at Leek which is affecting groundwater resources***

**Objective –** To investigate and understand the contaminated groundwater plume at Leek. To agree remediation objectives and methodology with various site owners that will safeguard both the public water supply sources of Abbey Green and Pool End, and the groundwater resources of the Leek area.

##### ***What is the problem?***

The sandstone aquifer underneath Leek is an important source of water supply. Two potable groundwater abstractions, Pool End and Abbey Green, which are operated by Severn Trent Water Limited, are located nearby.

A site investigation undertaken in 1991, prior to a proposed sale of industrial land at Leek, indicated that groundwater contamination had been detected across the site. A series of further investigations, identified the presence of hydrocarbons, chlorinated solvents and other organic compounds within the existing site drainage system, and within former landfilled areas on two adjacent industrial sites. A number of separate sources of contamination were located across the sites, some with associated groundwater pollution beneath them.

##### ***Who is involved?***

Environment Agency (EA), Severn Trent Water Ltd (STW Ltd), site owners.

##### ***What is happening already?***

Additional site investigation work has been undertaken to understand the extent and mobility of areas of still existing soil contamination. The groundwater flow regime in the area has been examined, and numerical modelling has been undertaken to enable the assessment of the risk to nearby potable abstractions at Pool End and Abbey Green. STW Ltd have been kept informed and are aware of the situation. There is not considered to be any significant threat to the abstractions.

The site owners involved have investigated and replaced existing site drainage, and have instigated site practices to prevent further contamination from occurring. In addition, contaminated material has been removed from the site.

A trial pump and treat programme has been undertaken to monitor the effects that this type of remediation scheme has on the underlying pollutant plumes, to appraise the most effective remediation method for groundwater clean-up. This trial resulted in a decrease in the groundwater contamination levels which have not subsequently returned. A long term monitoring strategy has been put in place to monitor the migration of the contaminated groundwater. The Agency has undertaken initial analytical calculations to develop site specific risk based clean-up standards for long term remediation of the polluted groundwater.

Ongoing monitoring of another location/plume has resulted in additional site investigations and probable further remediation in the future.



ISSUE 4 : Contaminated land at Leek which is affecting groundwater resources							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
4.1 Formulate site specific trigger levels above which action will be needed.	EA	Site owners	+ protection of sensitive receptors taking into account local conditions and geology	U	U	1999	Kirsten Johnstone
4.2 Continue monitoring and instigate remedial work and treatment of contaminated groundwater as required.	Site owners	EA	+ limited movement of contaminated groundwater away from the site  + reduction in the overall level of contamination	U	U	1999-2005	Kirsten Johnstone Susan Bowen
4.3 Pursue further site investigations	Site owners	EA	+ delineation of further problem areas and behaviour of contamination plumes	U	U	1999/2005	Kirsten Johnstone Susan Bowen

The above proposals will work towards achieving the following Agency objectives on conserving the land:



Regulate identified "special" contaminated land sites effectively;  
Research into the specific risks and remediation needs of contaminated land.

## **Issue 5    Environmental Monitoring – Blue Circle Works, Caudon**

**Objective –** To carry out an in-depth assessment of the impact of Blue Circle, Caudon, Cement Works on the local environment, in order to address public concerns and provide a sound basis for future regulation and the Agency's contributions to the National debate on the use of waste-derived fuels in cement kilns.

### ***What is the problem?***

The making of cement must be authorised by the Environment Agency under the Integrated Pollution Control provisions of the Environmental Protection Act 1990. The process is regulated by the Agency to ensure that emissions are, wherever possible, prevented or minimised. Any substances that are emitted must be rendered harmless.

After trials in 1994 to ensure that there would be no detrimental effect on the environment, the Environment Agency permitted Blue Circle, Caudon, works to burn scrap tyres in their kilns. Tyres have a high calorific (fuel) value, and this is an environmentally beneficial usage in that it reduces consumption of fossil fuels and helps to relieve the considerable environmental problems posed by the large quantities of scrap tyres generated every year.

Increasing restrictions have been placed on the landfill of tyres since 1986, and the latest EU Directives propose a complete ban by 2006. Stockpiled or illegally dumped tyres are a fire risk, and the uncontrolled pyrolysis of tyres under such conditions is a major environmental hazard.

Although the tyre burning trials seemed to show a reduction in some pollutants compared to the coal and coke normally used, tyre burning is perceived by the general public as a highly polluting activity.

The use of waste-derived fuels in general in cement kilns and similar combustion processes has been growing, and there has been growing concern over how the use of such fuels is regulated. To this end the House of Commons Select Committee on the Environment has made recommendations on how the Agency's regulatory activities could be strengthened.

In addition the National Air Quality Strategy, which is implemented through the Local Authorities, includes objectives for maximum acceptable levels of particulate matter, sulphur dioxide, and other pollutants released from the Caudon works. Both the Agency and the Local Authority therefore need to ensure that the contribution from the works to local ambient levels is acceptable.

### ***Who is involved?***

Blue Circle, Environment Agency (EA), Staffordshire Moorlands District Council (SMDC)

### ***What is happening already?***

Blue Circle have a comprehensive monitoring programme to confirm that the emission limits in their Authorisation are complied with.

ISSUE 5: Environmental monitoring – Blue Circle Works, Caudon							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
5.1 Undertake dispersion modelling to predict effect of the operation on air quality	Blue Circle	EA	+ More complete understanding and greater awareness of the effects  - Availability of modelling facilities / staff resource	U	U	1999 / 2000	D Other
5.2 Undertake air monitoring to assess the effect of the operation on air quality	Blue Circle	EA	+ More complete understanding and greater awareness of the effect; increase in public confidence through feedback  - Financial and staff resources	U	U	2001 / 2005	D Other

These proposals will work towards achieving the following Agency objectives on regulating major industry and improving air quality:



Continue the efficient and effective delivery of Integrated Pollution Control;  
Ensure emissions from the major industrial processes to the atmosphere are reduced.



Help the Government deliver its Air Quality Strategy.



## **Issue 6     River Churnet flooding problems in the Leek area**

**Objective – To alleviate flooding relating to the River Churnet affecting 15 residential properties and 9 commercial premises at Leek and a proposed 10 hectare industrial site with outline planning permission at White's Bridge, Leek. To extend the existing flood warning system on the River Churnet upstream of Basford and enhance the flood forecasting model for the River Churnet to allow for Tittesworth Reservoir discharges.**

### ***What is the problem?***

On October 23<sup>rd</sup> 1998 serious and extensive flooding occurred on the Churnet Works Industrial Site, Leek Football Club, a petrol filling station, garden centre, public house and 15 residential properties in the Churnet valley upstream of White's Bridge. In addition the out of bank flood flows upstream of White's Bridge flowed through the Churnet Works Industrial Site and onto the Macclesfield Road to a depth of 1 metre and then onto the proposed White's Bridge Industrial Estate which is a 10.4 hectare site with outline planning permission. The existing and planned industrial areas were considered to be protected to a 1 in 100 year flood protection by the River Churnet Flood Alleviation Scheme completed in 1992 by the former National Rivers Authority, as the Agency's predecessor land drainage Authority.

During the same flood event existing commercial premises were affected at the Churnet Business Park at Cheddleton.

At present the Agency's flood warning system on the River Churnet extends upstream only as far as Basford Bridge, Cheddleton which is downstream of the flooded locations.

### ***Who is involved?***

Environment Agency (EA), Severn Trent Water Ltd (STW Ltd), Staffordshire Moorlands District Council (SMDC).

### ***What is happening already?***

The Agency is undertaking an appraisal of the hydrological aspects of the October 1998 event and will then reappraise the standard of flood protection provided by the flood alleviation scheme completed in 1992, possible uprating measures to the capital scheme will also be investigated. The Agency is in discussion with Staffordshire Moorlands District Council regarding the planned industrial estate at White's Bridge and the measures to be incorporated in the detailed planning application to ensure that floor levels are suitably designed above flood levels and that the site layout, and in particular the open space and roadway areas are designed to allow the safe passage of flood flows across the site.

The Agency is currently enhancing its river level telemetry monitoring system in the upper reaches of the River Churnet to provide an additional warning reach from Basford Bridge to Tittesworth Reservoir.

The flood forecasting computerised model for the River Churnet is to be reappraised with a view to incorporate an input for Tittesworth Reservoir overflow discharges in times of flood. In addition the inadequacies of Basford Bridge Gauging Station at high flows will be investigated and possible improvements considered.

ISSUE 6 : River Churnet flooding problems in the Leek area							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
6.1 Reappraise the River Churnet flood alleviation scheme in the light of the October 1998 flood event	EA		+ increased flood protection	£40K		March 1999	Vic Brown R Burton
6.2 In the light of 6.1 uprate works to the capital scheme & consider works for AP chemicals site at Cheddleton	EA		+ increased flood protection	U		1999/2000	Vic Brown R Burton
6.3 Construct flood embankment for No.s 200-2-4 Abbey Green Rd (subject to economic appraisal)	EA		+ increase flood protection	£10K		Sep 1999	R Burton
6.4 Uprate the flood flow forecasting model for the River Churnet to receive input from Tittesworth Reservoir discharge	EA	STW Ltd	+ increase flood protection	U	U	March 1999	Vic Brown
6.5 Extend the River Churnet flood warning system upstream of Basford Bridge to Tittesworth Reservoir	EA		+ increase flood protection	U		March 1999	Vic Brown
6.6 Investigate with a view to overcoming the high flow inadequacy at Basford Bridge Gauging Station	EA		+ increase flood protection	U		March 1999	Vic Brown
6.7 In the light of 6.6 carry out improvements	EA		+ increase flood protection	U		1999/2000	Vic Brown



These proposals will work towards achieving the following Agency objectives on conserving the land:



Report regularly on the state of flood defences.

Secure an adequate level of investment in flood defence;

Report regularly on the state of flood defences;

Photograph 8 – Flooding of River Churnet at Leek





## **Issue 7    Landscape & Ecology in the Dove Catchment**

**Objective - To protect and improve the existing landscape and ecology in the Dove catchment**

The Dove catchment contains some of the most highly regarded landscapes in England. The landscape and ecological value of the LEAP area is recognised not only by statutory and non-statutory designations but also by the high number of visitors attracted each year. However, the whole LEAP area is highly managed and land uses reflect economic influences which determine agricultural management, pressures for built development and increased opportunities for recreation. The characteristic high quality landscapes of the LEAP area are largely historical and are increasingly subject to pressures for change. The nature and scale of development will determine the nature of the cultural heritage and environmental quality of the area.

*What are the problems?*

### **7.1 Impact of tourism on the landscape and ecological habitats of Dovedale**

The pressure of tourism is causing damage to scree slopes, river embankments and river terraces at the base of Thorpe Cloud, Dovedale. It is estimated that during the busiest times of the year up to 3,000 people per hour visit Dovedale. Serious erosion is evident on the east bank of the River Dove from the stepping stones downstream to the footbridge at Thorpe Cloud.

*What is happening already?*

The Environment Agency is supporting the National Trust (landowners), Staffordshire County Council, Peak District National Park Authority and English Nature, in seeking ways to reduce this problem. Discussions have been held between these organisations to decide the best option for resolving this problem.

*Who is involved?*

As above. Ramblers Association.

**Photograph 9 – Stepping Stones at Dovedale**





ISSUE 7.1 : Impact of tourism on the landscape and ecological habitats of Dovedale							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
7.1.1 Relocate existing footbridge near car park further upstream, just downstream of existing stepping stones	SCC	NT, PDNPA, EA	+ reduction in erosion of east bank of R.Dove  + enhanced ecology and landscape	U	U	1999 / 2005	R Coyne A Crawford
7.1.2 Improved access across River Dove at stepping stones at Gypsy Bank	NT	EA	+ improved access across R. Dove in high flow conditions	U	U	1999 / 2005	R Coyne A Crawford

Photograph 10 – Erosion problems at Dovedale



**7.2 Development within floodplains including development along the new A50 corridor**

Degradation in the landscape character and quality of floodplains has been caused by inappropriate location and scale of developments as well as the introduction of new building materials. Examples of this can be found along the floodplains between Uttoxeter and Burton on Trent, particularly south of Scropton and at Rolleston.

The greatest change to the character of the agricultural valley landscape is occurring as a result of the increasing rate and extent of built development including new industrial estates and communication routes – rail/roads and electricity power lines. The new A50 M1-M6 link-road corridor is leading to new urbanisation pressures. The road itself is a new feature in the surrounding landscape and will lead to the pressure for the development of large industrial sites along the corridor. The scale and nature of such developments may be unrelated to the form and character of the existing landscape and will lead to increased loss of habitats and reduce the ecological diversity eg. Impacts are likely to include changes in surface water drainage patterns.

***What is happening already?***

Inappropriate development within floodplains should be controlled through the issue of 'best practice guidelines' at the planning stage.

***Who is involved?***

Local Planning Authorities (LPA), Landowners, Environment Agency (EA), Developers

<b>ISSUE 7.2 : Development within floodplains including development along the new A50 corridor</b>							
<b>Options for action</b>	<b>Responsibility</b>		<b>Impacts (+ or -)</b>	<b>Estimated Cost</b>		<b>Timescale</b>	<b>EA Officer</b>
	<b>Lead</b>	<b>Others</b>		<b>EA</b>	<b>Others</b>		
7.2.1 Survey and assess landscape and ecological characteristics of the area and analyse the damage to the existing environment	LPA	EA	+ identify good points and problem areas	U	U	1999 / 2001	R. Coyne A. Crawford
7.2.2 Establish good practice guidelines to strengthen the landscape character and encourage sustainable development	LPA	Developers EA	+ minimise landscape and ecological damage and maximise gains	U	U	2000 / 2005	R. Coyne A. Crawford
7.2.3 Identify actions to be taken to allow new development to be more easily absorbed into the landscape	LPA	EA	+ ensures landscape and ecological needs are taken into account during the planning phase of developments	U	U	2000 / 2005	R. Coyne A. Crawford
7.2.4 Publicise the problem	LPA	EA	+ take environmental considerations into account before the planning stage	U	U	2000 / 2005	R. Coyne A. Crawford

### 7.3 Changes in agricultural land use

Much of the area remains agricultural and includes hill farming and pasture in the north and mixed arable and pasture in the south of the area. Changes in hill farming may affect the future management and character of the area. A decline in the maintenance of such features as drystone walls, hedgerows and hedgerow trees may be expected to continue.

In the central part of the LEAP area, an undulating landscape with hedgerows in an agricultural landscape dominated by dairy farming has developed. However, there has been a decline in the quality and extent of hedgerows as a result of agricultural intensification and arableisation. Hedgerow and parkland trees are also severely affected by close ploughing. There are many examples of hedgerows becoming dissected or growing up to become lines of unmaintained trees as a result of lack of maintenance.

#### *What is happening already?*

Landscape Character Assessments are being undertaken by the County Councils in conjunction with local authorities.

#### *Who is involved?*

Ministry of Agriculture, Fisheries and Food (MAFF), Countryside Commission (CoCo), English Nature (EN), Environment Agency (EA), Farming and Wildlife Advisory Group (FWAG)

ISSUE 7.3 : Changes in agricultural land use							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
7.3.1 Survey & assess the extent of changes and identify target areas	MAFF CoCo EN	EA FWAG	+ identify problems areas	U	U	2000 / 2005	R. Coyne
7.3.2 Promote best practice including the Countryside Stewardship Scheme	CoCo MAFF	EA FWAG	+ improved countryside diversity	U	U	2000 / 2005	R. Coyne

### 7.4 Loss of habitat diversity in the lower reaches of the Dove Catchment

To the South of the LEAP area, low-lying land on alluvial plains with a mixed arable/dairy landscape contained by hedgerows is found. Shelter-belt planting and lines of roadside poplar trees are more recent developments in the rural landscape. The character of the landscape is strongly affected by the nature of the building materials. New building and the modernisation and improvement of many dwellings using non-local materials urbanises the character of the landscape and reduces its landscape quality and the differences between places.

Pressure from over-grazing of pasture is occurring, together with urban fringe pressure for horse paddocks and public access, which is altering the landscape of this area.

Large blocks of newly introduced coniferous forestry planting can also be seen in this part of the area.

River management by landowners and others has resulted in habitat degradation of the lower reaches of the Dove from Rocester to the Trent confluence. Tree cover and natural features of the river such as exposed river gravels are lacking. Tree cover is further threatened by the incidence of *Phytophthora* on alder.

#### *What is happening already?*

Some tree and shrub planting has already taken place but further survey and implementation is required. Soft engineering trials are also being undertaken rather than hard engineering in bank stabilisation work. The EA is also working with gravel companies and landowners to enhance biodiversity.

#### *Who is involved?*

Environment Agency (EA), Landowners

ISSUE 7.4 : Loss of habitat diversity on the lower reaches of the Dove							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
7.4.1 Develop a riverside tree planting and fencing programme	EA	Land Owner	+ Improve riparian habitat	£5K	U	2000 / 2005	R. Coyne
7.4.2 Develop a buffer strip creation programme	EA	Land Owner	+ Improve riparian habitat	U	U	2000 / 2005	R. Coyne
7.4.3 Investigate the possibility of instream features including recreating gravel shoals	EA		+ Improve in-channel habitat	U		1999 / 2000	T. Jacklin

These proposals will work towards achieving the following Agency objectives on delivering integrated river-basin management and enhancing biodiversity:



Improve riverside landscapes;  
Manage river-basins in an integrated way, via LEAPs;  
Work with local authorities to maximise the value of our river-basins.



Ensure that all aspects of the UK's Biodiversity Action Plan are incorporated into the Agency's guidance and become part of its LEAP's;  
Allocate specific resources to conservation projects aimed at increasing biodiversity.



## Issue 8 Re-Introduction of Salmon to the River Dove

**Objective** – To restore a population of salmon to the River Trent catchment, utilising the River Dove as spawning grounds, contributing to an overall strategy for the protection of salmon stocks and their diversity in the UK.

Photograph 11 – Reintroduction of salmon parr to the River Dove



### What is the problem?

Atlantic salmon (*Salmo salar*) is a globally threatened species, listed in the Biodiversity steering Group report. They were prolific in the Trent catchment until increasing pollution destroyed the population in the early part of the 20<sup>th</sup> Century.

### Who is involved?

Environment Agency (EA), riparian owners, fishery interests.

### What is happening already?

In October 1998, 150,000 salmon parr were re-introduced to the River Dove downstream of Rocester. The Agency is seeking to establish the 'Trent Salmon Trust' to progress the re-establishment of the species.

Concerns have been raised by trout angling interests on the river regarding competition between juvenile salmon and brown trout, and as a result of this, a possible decline in the quality of brown trout fishing. In recognition of these concerns, the introduction of salmon parr carried out in 1998 was carried out downstream of Rocester weir, a barrier approximately delineating the game fishing interests in the upper river and mixed / coarse fishing interests in the lower river.

It is intended to continue the annual introduction of salmon parr and this will continue to be downstream of Rocester weir. Research on the River Teme detailed by North (1986) demonstrated that the creation of juvenile salmon populations had no detectable detrimental effect upon resident trout populations. Density-independent factors rather than competition governed the fluctuations in abundance and structure that occurred in wild trout populations. The presence of an anadromous species would provide a net contribution to food resources in the river through eggs and juveniles that may enhance existing trout and grayling populations.

The Environment Agency perceives no threat to brown trout populations in the upper Dove from the return of salmon, and the return of a species lost relatively recently from the catchment would greatly enhance the conservation value of the river.

ISSUE 8 : Re-introduction of salmon to the River Dove							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
8.1 Establish the Trent Salmon Trust	EA	Riparian owners, fishery interests, commercial sponsors	+ Raise the profile of water quality issues in the Trent catchment ie maintained at levels sufficient to support salmonids + Conservation of a threatened species	U	U	2000/2005	Martin Cooper
8.2 Annual stocking of salmon parr	EA	Riparian owners, fishery interests, commercial sponsors	+ as in 8.1	£30K per annum	U	2000/2005	Martin Cooper
8.3 Consider potential smolt entrainment problems	EA	Water abstractors	+ as in 8.1	U	U	2000/2005	Martin Cooper

The above proposals will work towards achieving the following Agency objectives on delivering integrated river-basin management, enhancing biodiversity and managing freshwater fisheries:



Manage river-basins in an integrated way, via Local Environment Agency Plans;  
Ensure that all waters are of sustainable quality for their different uses.



Carry out research into the management of species in the aquatic environment in order to meet fully all Biodiversity Action Plan targets;  
Play a full and active part in delivering the UK's Biodiversity Action Plan, either singly or in collaboration with others;  
Ensure that all aspects of the UK's Biodiversity Action Plan are incorporated into the Agency's guidance and become part of its Local Environment Agency Plans.



Develop specific longer-term strategies for salmon, trout and coarse fisheries.



## Issue 9 The Genetic Integrity of Brown Trout in the Dove Catchment

**Objective** – To develop a policy to protect the existing stocks of native brown trout

### What is the problem?

Genetic studies have shown that farmed fish, stocked into the River Dove can interbreed with wild trout, altering the genetic composition of the offspring. It is important from the point of view of genetic biodiversity that 'pristine' populations remain unstocked, so that their integrity is not compromised.

### Who is involved?

Environment Agency (EA), Local Riparian Owners, Angling Clubs, Wildlife Trusts.

### What is happening already?

Recent studies have enabled wild trout populations to be identified from their genetic composition. An assessment of the geographic distribution of these populations is currently being undertaken in the Upper Dove catchment. On the basis of these results a policy will be constructed, aimed at protecting pristine stocks by controlling the extent of stocking of farmed fish.

ISSUE 9 : The genetic integrity of brown trout in the Dove catchment							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
9.1 Extend the Brown Trout assessment	EA		+ determine scale of the problem	£2K		1999/2000	Roy Sedgwick
9.2 Construct and implement a policy designed to protect the native brown trout	EA		+ protection of existing native stocks	U		2000/2005	Roy Sedgwick

The above proposals will work towards achieving the following Agency objectives on managing freshwater fisheries:



Develop specific longer-term strategies for trout fisheries.

## Issue 10 Environmental Practices at Rural Industrial Sites

**Objective – To improve environmental practices at rural industrial estates**

### *What is the problem?*

Rural industrial estates generally have a number of factors leading to environmental problems. Drainage and sewerage systems are often inadequate leading to pollution of ground and surface waters.

Waste disposal and recycling facilities are often located away from the estates, and collection rounds are not normally viable for small isolated estates. This discourages companies from investigating waste disposal best practice and occasionally means that undesirable practices such as burning of controlled wastes in the open occurs.

To compound the problem Trading Estates and Business Parks tend to have lots of small and medium size Enterprises (SMEs) that do not normally have a dedicated environmental adviser. Individually, SMEs are not usually heavy polluters. However, they account for over 55% of employees in the manufacturing sector or 29% of total UK employment. Because of the number of companies involved it is now recognised that they can have a diffuse but nonetheless major impact on the environment.

### *Who is involved?*

Environment Agency (EA), Local Planning Authorities (LPA), Green Business Clubs, Estate Managers, Business Links, Federation of Small Businesses, companies.

### *What is happening already?*

The EA in collaboration with Staffordshire University and Business in the Environment, is currently developing a code of good practice for Trading Estates and Business Parks. Businesses have found that working together on Trading Estates and Business Parks benefits all those involved. Similar issues, such as energy consumption or resource utilisation, affect every company on an estate, joint initiatives can succeed where individual projects may fail due to lack of resources or knowledge.

ISSUE 10 : Environmental practices at rural industrial estates							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
10.1 Develop a strategy for identifying and targeting relevant trading estates and business parks.	EA	LPA	+ assess scope of the problem	U	U	2000 / 2005	Mark Haslam
10.2 Establish Environmental Committees on rural trading estates to encourage good practice and demonstrate cost savings	EA, Estate Managers, LPA	Green Business Clubs, Universities, Business Links	+ Increased environmental, fewer pollution incidents, increased compliance with legislation, sustainable resource utilisation and cost savings to business	U	U	2000 / 2005	Mark Haslam



These proposals will work towards achieving the following Agency objectives on improving air quality, managing water resources, delivering integrated river-basin management and managing waste:



Demand a more efficient use of water by industry in general;

Vigorously apply our Groundwater Protection Policy to ensure that the quality and use of our groundwaters is improved.



Manage river-basins in an integrated way, via Local Environment Agency Plans;

Deliver a continual improvement in overall water quality.



Implement the "Producer Responsibility" regulations;

Encourage and inspire industry to develop new and improved techniques for the management of special and industrial wastes;

## **Issue 11    *Pollution from Sheepdip in the Dove catchment***

**Objective – To increase awareness of the effects of sheepdip on the aquatic environment**

### ***What is the problem?***

Biological monitoring of the upper reaches of the River Dove and its upland tributaries since 1997, has shown a worrying increase in examples of serious toxic pollution with persistent damage to invertebrate life and consequently the fisheries they support.

Farmers have switched to newer pyrethroid-based (SP) sheepdips following concerns about the health hazards posed by traditional organophosphate-based (OP) products. This has resulted in an understandable perception that the new dips are 'safer'. In fact, the new SP dips are actually between a hundred and a thousand times more toxic to aquatic life and can destroy it along long stretches of watercourses. This has resulted in a large increase in sheepdip pollution incidents nationally.

### ***Who is involved?***

Environment Agency (EA), National Sheep Association (NSA), National Farmers Union (NFU), Farming and Wildlife Advisory Group (FWAG), British Agrochemical Association, Pesticides Trust, National Association of Agricultural Contractors (NAAC), Ministry of Fisheries and Food (MAFF).

### ***What is happening already?***

The Agency has investigated reports of biological deterioration of watercourses in the Dove catchment and has identified some sources of sheep dip pollution with prosecution following in the more serious cases. Some cases are still pending. A number of pollution prevention visits to inspect sheepdip facilities/usage have been carried out. A targeted programme of biological and chemical monitoring is in place. The Agency's fisheries section have carried out electro-fishing exercises to assess damage to fish stocks.

The Agency has worked with the National Association of Agricultural Contractors and the National Sheep Association (NSA – representing sheep farmers) to provide a guide to reducing pollution risks which has been distributed to all its members. Sheep sales and markets have been visited by Agency officers to talk to farmers on a one-to-one basis.

New regulations to be introduced under the EU Commission's Groundwater Directive in April 1999, will create an offence covering the disposal of sheepdips on land. Farmers must apply and pay for, an authorisation from Agency officers prior to disposal of potential pollutants onto open land.

Additionally, the certificate of competence required to purchase OP sheepdips, will be extended to SP sheepdips and the part on water pollution prevention strengthened.

The application of the Agency's strategy for sheepdip usage and disposal (available in draft – Jan. 1999) will mean that we may need to review the Action Plan

ISSUE 11 : Pollution from sheepdip in the Dove catchment							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
11.1 Maintain a special programme of biological and chemical surveillance of watercourses at risk from sheepdip	EA		+ Rapid detection of pollution allowing effective targeting of resources to minimise impact	£5,000 approx per annum		2000/2005	Susan Bowen
11.2 Continue to publicise environmental risks associated with sheepdip use and disposal with special targeting of information to sheep farmers and sheep farming areas	EA	NSA NAAC MAFF NFU FWAG British Agro Chemical Association Pesticides Trust	+ Reduced Environmental Pollution	U	U	2000/2005	Susan Bowen
11.3 Continue to undertake sheep farm visits to survey sheepdip facilities and carry out risk assessment. Apply new EU groundwater regulations including issuing of Authorisations for safe disposal of sheepdip to open land	EA		+ Prevent environmental pollution	U		2000/2005	Susan Bowen

These proposals will work towards achieving the following Agency objectives on delivering integrated river-basin management:



Manage river-basins in an integrated way, via Local Environment Agency Plans;  
Ensure that all waters are of sustainable quality for their different uses;  
Deliver a continual improvement in overall water quality.



## Issue 12 Water Resource Management in the Dove catchment

**Objective – To manage three specific water resources problems within the Dove catchment**

*What is the problem?*

### 12.1 Low flows in the Croxden Brook

The Croxden Brook is a tributary of the River Dove which joins it downstream of Rocester, Staffordshire. The watercourse has a high amenity value to both local residents and visitors as it flows through the village of Greatgate, and alongside footpaths through the English Heritage site at Croxden Abbey. Groundwater is abstracted by STW Ltd at Greatgate for public supply and by Tarmac Ltd at Croxden Quarry for gravel washing.

There have been long standing problems of depleted flows, perceived to be principally due to the abstraction of groundwater. These problems have been exacerbated during the drought years of 1976 and 1989-1997. In response to the problem, survey work has been undertaken by the Environment Agency to identify those sections of watercourse where water is being lost through seepage into the surrounding ground.

*Who is involved?*

Environment Agency (EA), STW Limited (STW Ltd), Local community

*What is happening already?*

The feasibility of a number of options to alleviate the low flows problem have been reviewed. A short term solution has been proposed involving the water company pumping groundwater into a lined stretch of the Croxden Brook, in order to maintain acceptable flows during critical periods. In the meantime a programme of flow monitoring continues. The Agency has also initiated plans to undertake further hydrogeological reviews and studies within the area. These studies will seek to further understand the interaction between groundwater and surface water flows, and also to examine the impact upon the local water environment of a number of different activities, including quarrying, operating in the vicinity of the Croxden Brook.

ISSUE 12.1: Low flows in the Croxden Brook							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
12.1.1 Pumped borehole discharge to the Croxden brook to maintain flow. Stream bed to be lined	STW Ltd	EA	+ improved flows in the Croxden Brook	U	U	2002	Anne Dacey
12.1.2 Undertake an additional hydrogeological review and appraisal of the Croxden Brook area	EA		+ improved understanding of the water environment and the potential impacts upon it	U		2001	Anne Dacey

**12.2 Tittesworth Reservoir / Deep Hayes compensation discharge arrangements*****What is the problem?***

Severn-Trent Water Ltd are required, under the terms of the Staffordshire Potteries Water Board Act 1949, to make compensation water discharges to the River Churnet from their public water supply reservoir at Tittesworth and a compensation reservoir at Deep Hayes. In 1979 Deep Hayes Reservoir was effectively replaced by three smaller reservoirs, in order to comply with the Reservoir Safety Act, and a borehole constructed to supplement the discharge from the catchment. The borehole is licensed, but the Potteries Act needs to be varied before it can be used for compensation purposes.

The level of compensation discharge required needs to be re-examined in the light of changes that have taken place in the catchment since the present regime was first established. We need to consider the requirements for river quality, fisheries, amenity, nature conservation, navigation, abstractors, dischargers and flood defence (land drainage).

***Who is involved?***

Environment Agency (EA), Severn-Trent Water Ltd (STW Ltd)

***What is happening already?***

W.S. Atkins Ltd is carrying out a habitat and flow survey on the River Churnet between Tittesworth and Consall Forge.

The data obtained from this survey will be used to determine the most preferable flow regime. The study is due to be completed in January 1999.

<b>ISSUE 12.2: Tittesworth Reservoir / Deep Hayes compensation discharge arrangements</b>							
<b>Options for action</b>	<b>Responsibility</b>		<b>Impacts (+ or -)</b>	<b>Estimated Cost</b>		<b>Timescale</b>	<b>EA Officer</b>
	<b>Lead</b>	<b>Others</b>		<b>EA</b>	<b>Others</b>		
12.2 Review the Tittesworth Reservoir / Deep Hayes compensation discharge arrangements	EA	STW Ltd	+ Effective and efficient management of compensation discharges to the River Churnet. + Increased flexibility in the use of Tittesworth Reservoir for public water supply.	U	U	2000 / 2005	Anne Dacey

**12.3 Dove catchment abstraction licensing policy****What is the problem?**

Severn-Trent Water Ltd hold a licence to abstract water from the River Dove at Egginton for public water supply purposes. New or varied licences that result in a net loss to the catchment can not currently be granted due to the requirement to protect Severn-Trent Water Ltd's licence from derogation.

**Who is involved?**

Environment Agency (EA), Severn-Trent Water Ltd (STW Ltd).

**What is happening already?**

Negotiations are on going with Severn-Trent Water Ltd to agree an amount by which they can be derogated (resource bank).

ISSUE 12.3: Dove catchment abstraction licensing policy							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
12.3 Review Dove catchment abstraction policy.	EA	STW Ltd	+ Allow some additional small abstractions from the River Dove	U	U	2000/2005	Anne Dacey

These proposals will work towards achieving the following Agency objectives on delivering integrated river-basin management and managing our water resources:



Manage river-basins in an integrated way, via Local Environment Agency Plans;  
Improve river habitat quality.



Ensure that all environmental needs are fully taken into account within the next Asset Management Plans (AMPs) negotiations with the water companies.  
Examine water transfer schemes carefully to ensure that no environmental damage would result from their introduction.



## Issue 13 Sustainable River Bank Management

**Objective – To promote sustainable methods of river bank management**

### *What is the problem?*

The River Dove catchment has a number of specific problems which the Agency is trying to tackle through its Local Environment Agency Plan process. One of these problems is the increasing amount of tipping of inert materials taking place in the floodplain and on the banks of the river. Some of the tipping has been undertaken as a crude form of erosion control and the Agency is concerned that these inappropriate methods of protection may result in further erosion problems and degradation of the aesthetic and ecological qualities of the river bank.

Erosion of the river banks is a natural phenomenon, which produces desirable variations in the bed and banks of the watercourse providing valuable habitat for fish and the plants, and animals which live in and adjacent to the river. The Agency accepts that some erosion control may be necessary in certain circumstances, but would prefer to see methods used which are more in keeping with the natural habitat. River bank erosion is caused by a number of factors often relating to land use as well as the action of the river. Poor riparian land management practices such as over grazing, poaching (the trampling and cutting up of turf by hoofs) by livestock and intensive cultivation to up to the top of the river bank all help to de-stabilise the bank and exacerbate erosion problems.

### *Who is involved?*

Environment Agency (EA), riparian owners, Country Landowners Association (CLA), Farming and Wildlife Advisory Group (FWAG), Birmingham University

### *What is happening already?*

The Agency wrote to all riparian owners on the River Dove enclosing the booklet 'Living on the Edge' a guide to the rights and responsibilities of a riverside owner together with an information sheet on 'Sustainable River Bank Management' with this mail shot.

The Agency is looking to promote appropriate bank management by encouraging fencing off of river banks to reduce grazing pressure, creation of buffer zones between the river and cultivated field and planting of trees and shrubs along the river bank to help stabilise it.

The Agency has currently in hand a River Dove Bank Erosion Project costing £50K and has selected three sites between Uttoxeter and Tutbury for the implementation of demonstration bank stabilisation measures. These demonstration sites are aimed at encouraging riparian owners to use national methods of preventing erosion. Birmingham University will collaborate on the research aspect of the project with funding from the Natural Environment Research Council.

ISSUE 13 : Sustainable river bank management							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
13.1 Promote biodiversity and the protection of the river from pollution	EA	NFU, FWAG, MAFF, CLA	+ promote biodiversity and the protection of the river from pollution	U	U	2000/2005	Vic Brown
13.2 Carry out three demonstration trial sites on R.Dove using natural methods of preventing bank erosion	EA	Birmingham University	+ promote biodiversity	£50K	£30K	1999/2002	Vic Brown
13.3 Apply a strong presumption against granting consent for tipping of inert material as a means of erosion control	EA		+ promote biodiversity	U		2000/2005	Vic Brown

These proposals will work towards achieving the following Agency objectives on enhancing biodiversity:



Use and promote best environmental practice for the protection and restoration of river habitats:



## Issue 14 Water Level Management Plans

**Objective** – To review the requirement for water management plans within the plan area. Seek out any shortfalls and encourage the relevant authorities to take the necessary action.

### *What is the problem?*

The 'Conservation Guidelines for Drainage Authorities' (MAFF/DoE/welsh Office 1991) states that Water Level Management Plans should be produced for all areas of conservation interest where water levels are artificially controlled with priority given to all 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" published in 1994, the following plans have been drawn up in accordance with this guidance.

### *Who is involved?*

Land Drainage Operating Authorities namely Environment Agency (EA) for main river and Local Authorities (LA) for ordinary watercourses.

### *What is happening already?*

The Upper Trent area of the Agency have produced eight Water Level Management Plans, two of which fall within the Dove catchment. The River Churnet valley SSSI is currently out to consultation and the Old River Dove, Marston-on-Dove has been through the consultation stage and has been finalised and agreed by English Nature.

Each plan has a list of actions which will either maintain or enhance the interest on the site as well as gather more information to allow decisions on future management to be made. On sites where the Agency does not act as a drainage authority ie sites associated with ordinary watercourses, the production of Water Level Management Plans by District Councils has been less successful. The deadline for plan production is 1999 and it is important that all relevant authorities are made aware of their role in this process.

### **Photograph 12 – Old River Dove SSSI**





ISSUE 14 : Water Level Management Plans							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
14.1 Update list of SSSI's requiring Water Level Management Plans	EN	EA	+ ensure appropriate sites are incorporated into a plan	U	U	1999	Vic Brown
14.2 Assign any outstanding Water Level Management Plans to the relevant drainage authority	EN	EA	+ ensure appropriate sites are incorporated into a plan + action plans produced	U	U	1999	Vic Brown
14.3 On completion of Agency plans begin work on action lists and monitoring	EA	EN	+ maintenance and enhancement of SSSI's	U	U	2000/2005	Vic Brown
14.4 Full plan review to be undertaken in 2002	EN	EA, Local Authorities	+ continued maintenance and enhancement of SSSI's	U	U	2002	Vic Brown

These proposals will work towards achieving the following Agency objectives on enhancing biodiversity and delivering integrated river-basin management:



Improve the management of wetlands for conservation purposes;  
Play a full part in implementing the EC Habitats Directive.



Manage river-basins in an integrated way, via LEAPs;  
Work with local authorities to maximise the conservation value of our river-basins.

### ***Issue 15 Biodiversity in the Dove catchment***

**Objective – To maintain and enhance biodiversity within the plan area in accordance with national, regional and local Biodiversity Action Plan objectives**

#### ***What is the problem?***

The conservation value of the Dove catchment is high, especially in the Upper Dove catchment. Within the Peak National Park; it is therefore important that this resource is protected. Elsewhere, in the lower reaches of the Dove, degradation of habitats has occurred (See issue 7). Certain key biodiversity species are present in the plan area and require conservation efforts.

#### **Otter (*Lutra lutra*)**

The otter is a globally threatened species and became almost extinct in the Midlands in the 1950's. There is a need to assess the distribution of the otter within the plan area. There is also a need to assess the suitability of riverine habitat for otters and to carry out enhancement work where the habitat quality has been identified as poor. There is evidence that otters are returning to the Dove catchment. This may be due to improvements in water quality and the generally improving conditions of the river system.

#### **Photograph 13 – Otter (*Lutra lutra*)**



#### **Water Vole (*Arvicola terrestris*)**

The water vole has suffered a rapid decline in the UK. This may be due to predation, poor water quality or loss of habitat. There is a need to assess the distribution of water voles in the plan area and their habitats.



### Great Crested Newts (*Triturus cristatus*)

The Great Crested Newt is a globally threatened species and in the 1980's was found to be declining at a rate of 2% every 5 years. This species is known to occur in the plan area but its status is unknown. This decline may be due to the loss of areas of open water by the filling in of ponds.

### Freshwater White Clawed Crayfish (*Austropotamobius pallipes*)

The white-clawed crayfish is a species of global nature conservation concern. It has declined by 25% and 50% in Britain in the last 25 years due to competition by introduced species of crayfish eg. American signal Crayfish (*Pacifastacus leniusculus*). This non-native species can carry a fungal disease Crayfish Plague which can be passed onto the native population of crayfish thus adding to the decline of the native species. There is a need to assess the status of the introduced populations with a view to controlling and eradicating them. Three non-native populations have been identified in the Dove catchment so far.

### Breeding Waders

Part of the Peak District Moors Special Protection Area falls within the Dove catchment. The moorlands include extensive wetland areas, in the form of blanket bog, which supports the important populations of upland breeding birds for which the SPA is designated. Notable amongst these are the ground-nesting waders, including golden plover, dunlin, curlew and snipe. The wetland areas have been degraded by unsympathetic management and atmospheric pollution; they need to be protected to ensure survival of the important breeding bird populations.

### Invasive Plants

The marginal vegetation of many stretches of river in the plan area has been reduced in quality by the colonisation of invasive species such as Himalayan Balsam and Japanese Knotweed.

### **Photograph 14 – Himalayan Balsam**





**Alder**

In recent years, it has been recognised that alders can suffer from a lethal disease caused by the fungus *Phytophthora*. Originally identified mainly in Southern England, instances of the disease have now been recognised further north, and potentially could cause tremendous damage to rivers such as the Dove which have extensive alder populations. Until research identifies means of controlling the disease, it is recommended that alders are not used in riparian planting schemes due to the chance of transmitting the fungus

**Photograph 15 – Alder Disease**

**Black Poplar**

The black poplar, formerly widespread in floodplains, is now one of Britain's rarest trees. It is necessary to establish current distribution of black poplar in the Dove catchment, and consider propagation from local specimens to allow planting of individuals of appropriate genetic stock.

*Who is involved?*

Environment Agency (EA), English Nature (EN), Wildlife Trusts (WT), RSPB, Peak District National Park Authority (PDNPA), Landowners, Forestry Authority (FA)

*What is happening already?*

An Environment Agency Biodiversity Action Plan (BAP) for the Midlands Region has been produced giving key species for which we have a special responsibility or interest. There are also County BAPs for Staffordshire and Derbyshire. With regard to other species not listed above, the Agency is working in partnership with other organisations to help in enhancing the local species biodiversity.

The Agency has an extensive programme of monitoring biological life in rivers and canals which includes information on target species, eg. Crayfish. We recognise the need to support activities already being undertaken and to work with others wherever possible, on collaborative studies and projects. The Agency is on the steering group of the Trent Otter Project, operating through Wildlife Trusts. This project will enable actions on the ground through a project officer in each county trust area.

The Agency has also undertaken a programme of spraying and cutting in order to control the spread of invasive plants.

ISSUE 15 : Biodiversity in the Dove Catchment							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
15.1 Survey and manage habitats for water voles, otters and great crested newt	EA Wildlife Trusts	English Nature	+ increase knowledge of species and enhance populations	£75K	U	2000/2005	Andrew Crawford
15.2 Monitor white clawed crayfish and consider control of the alien species of crayfish	EA	English Nature Wildlife Trusts	+ increase knowledge of species and remove threat from alien species	U	U	2000/2005	Garry Fretwell
15.3 Ensure conservation of wetland sites by considering water quality and supply (especially blanket bog supporting breeding waders)	EA	EN	+ conserve and improve wetland habitat	U	U	2000/2005	Andrew Crawford
15.4 Ensure appropriate management of rivers and streams (especially SSSI's)	EA	EN	+ Enhance riparian habitat	U	U	2000/2005	Andrew Crawford
15.5 Survey to discover extent and speed of spread of invasive weeds and begin control programme from top of catchment	Land Owners LA	EA EN	+ Enhance riparian habitat	U	U	2000/2005	Andrew Crawford



ISSUE 15 Cont. : Biodiversity in the Dove Catchment								
Options for action		Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
		Lead	Others		EA	Others		
15.6.1	Monitor Alder Disease	FA	EA	- Loss of riparian habitat if measures to reduce loss are not taken	U	U	2000/2005	A.Crawford
15.6.2	Development control work to encourage non-use of alder in new schemes	FA	EA		U	U	2000/2005	A.Crawford
15.6.3	Publicise problem and increase awareness and reporting back	FA	EA		U	U	2000/2005	A.Crawford
15.7.1	Survey and identify locations of black poplar	EA	LA WT	+ assess scale of problem	U	U	2000/2005	A. Crawford
15.7.2	Establish propagation programme for black poplar	EA	LA WT	+ ensures future numbers of black poplar through propagation and planting	U	U	2000/2005	M Le Ray

The above proposals will work towards achieving the following Agency objectives on enhancing biodiversity:



Play a full and active part in delivering the UK's Biodiversity Action Plan, acting either singly or in collaboration with others;

Allocate specific resources to conservation projects aimed at increasing biodiversity;

Carry out research into the management of species in the aquatic environment in order to meet fully all biodiversity action plan targets;

Improve the management of wetlands for conservation purposes;

Use and promote best environmental practice for the protection and restoration of river habitats;

Play a full part in implementing the EC Habitats' Directive;

Ensure that all aspects of the Biodiversity Action Plan are incorporated into the Agency's guidance and become part of its Local Environment Agency Plans.



## **Issue 16 - Water Quality Objectives, Standards and Directives**

**Objective – To improve river water quality in the Dove catchment to meet strategic objectives and to make further water quality improvements.**

The Environment Agency and predecessor bodies set strategic targets called River Quality Objectives(RQOs) for rivers and canals. RQOs provide a basis for water quality management decisions and are based on a chemical classification scheme called "The River Ecosystem Classification scheme". The Scheme comprises five quality classes, RE1 to RE5, which reflect the chemical quality required to support 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 EC Directives. The relevant EC Directives are the Surface Water Abstraction Directive(75/440/EEC), The Freshwater Fish Directive(78/659/EEC), The Nitrate Directive(91/676/EEC), The Urban Wastewater Treatment Directive(91/272/EEC) and the Dangerous Substances Directive(76/464/EEC).

### ***What is the problem?***

Certain river stretches in the catchment have failed to comply with their objective. This issue addresses those river stretches where there is a significant failure of the River Ecosystem or an EC Directive failure. Investigations will need to be carried out by Environment Protection Staff and Campaigns Officers, to minimise the quality problems on these river stretches.

### **River Manifold – Longor to Hulme End and Hulme End to the River Hamps**

These two stretches on the River Manifold are failing their objective on Biochemical Oxygen Demand (BOD). The water quality problem is possibly caused by farm and septic tank effluents. Additional monitoring and investigations will be carried out.

### **River Tean – Footbridge below Godley Brook to tributary at Mobberley**

This stretch of river had a failure on BOD and ammonia. The failure was caused by a pollution incident and a farm survey is currently being carried out.

### **River Tean - Upper Tean to Checkley STW**

The failure on BOD and dissolved oxygen was caused by a silage pollution incident. Prosecution has taken place and the quality has now improved.

### **River Hamps – B5053 Road Bridge Onecote to Winkhill**

The BOD failure was caused by sewage effluent. An inadequate STP has been replaced and the quality has improved significantly.

### **River Churnet – Tittesworth Reservoir to Tittesworth Flume**

Sampling occurred following a pollution incident and caused a significant failure on BOD and ammonia. Remedial action was taken and water quality has since been excellent.

Additionally the ammonia standard (0.78mg/l), laid down in the EC Freshwater Fish Directive, was exceeded on Bentley Brook at Mayfield, which is designated as cyprinid fisheries. The high concentration of ammonia in the brook coincided with elevated ammonia levels at Ashbourne Sewage Treatment works. The problems at the works are being addressed under AMP3. Please see issue 18 for further details.

### ***Who is involved?***

The Environment Agency(EA).

*What is happening already?*

The Environment Agency report River Ecosystem and EC Directive failures on an annual basis for the identified river stretches. Environment Protection staff carry out investigative work to identify the cause of the failures, and actions to address the problems are reported and undertaken.

ISSUE 16: Water Quality Objectives, Standards and Directives							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Time scale	EA Officer
	Lead	Others		EA	Others		
16.1 Investigate and report reasons for RQO non-compliance and EC Directive failures. Take action as appropriate	EA		+ Improved river water quality where sites are failing their objective	U		1999/2005 on an annual basis	Susan Bowen Birgitte Nielsen
16.2 Review of the RQOs	EA		+ Improved river water quality	U		1999	Tactical Planning Officer Susan Bowen Region
16.3 River Manifold Suspected farm and septic tank effluents. Extra sampling and investigations	EA		+ Improved river water quality	U		2003	Susan Bowen
16.4 Pollution Prevention Work and Campaigns	EA		+ Improved river water quality	U		2000/2005	Campaign Officer Geoff Harper Roy Gregg

The above proposals will work towards achieving the following Agency objectives on delivering Integrated River Basin Management:



Manage river-basins in an integrated way, via Local Environment Agency Plans;  
 Deliver a continual improvement in overall water quality;  
 Ensure that all waters are of sustainable quality for their different uses.



## Issue 17 Sustainable Waste Management

**Objective – To reduce the amount of waste produced in the Dove area, to increase the proportion of waste managed through re-use, recycling and waste recovery, and to minimise the risks of immediate and future environmental pollution and harm to human health.**

### *What is the problem?*

For every tonne of useful product made in the UK, we consume about 10 tonnes of other resources – raw materials and energy. Every year the UK produces at least 120 million tonnes of household, commercial and industrial waste, around 70 percent of this is currently disposed of to landfill (Less Waste More Value).

Waste represents an inefficient use of resources in the production and use of goods. Waste, once produced, whether through re-use, recycling, recovery or disposal, has an impact on the environment that needs to be minimised.

The most effective environmental solution is to prevent waste production or to minimise it at source. Failing that, reuse and recycling should be considered, as both will reduce the demand for primary resources. However, other factors must be considered, such as treatment to enable the re-use of waste or the distance to recycling facilities. These factors could mean that recovery (waste-to-energy or composting) produces the least environmental impacts. Only once all these options have been explored, should waste be disposed of.

### *Who is involved?*

Environment Agency (EA), Local Waste Collection Authorities (LWCA), Local Green Clubs, Industry (Including Commerce and Agriculture), Householders

### *What is happening already?*

The consultative paper 'Less Waste more Value' sets out the Governments key commitments, which include:

- Substantial increases in recycling and energy recovery
- Engagement of the public in increased re-use and recycling of household waste
- A strong emphasis on waste minimisation
- Use of economic incentives such as the landfill tax

### **Photograph 16 – Glass bottles ready for recycling**





ISSUE 17 : Sustainable Waste Management							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
17.1 Encouraging reduction in waste production, both in terms of quantity and hazard	EA LWCA Green Business Clubs	Waste Producers Local Industry	+ Reduction in environmental impacts of waste disposal and reduced resource utilisation	U	U	2000 / 2005	Mark Haslam Susan Bowen
17.2 Encourage the re-use, recycling and recovery of all wastes	EA LWCA Waste Industry	Local Industry House holders Green Clubs	+ Reduced environmental impact, more efficient resource management	U	U	2000 / 2005	Mark Haslam Susan Bowen
17.3 Promote the utilisation of methane produced in landfills wherever possible	EA Waste Industry		+ Reduction in the quantity of landfill gas release to the atmosphere	U		2000 / 2005	Susan Bowen
17.4 Promote re-use, recycling and recovery of agricultural wastes. Advise on responsible disposal actions.	EA	Farmers NFU, FWAG	+ Reduction in environmental impacts of waste disposal	U	U	2000 / 2005	Mark Haslam Susan Bowen

These proposals will work towards achieving the following Agency objectives on addressing climate change, improving air quality and managing waste:



Help to ensure that the Government's greenhouse gas emission reduction targets are met;



Help the Government to deliver its Air Quality Strategy.



Ensure achievement of national waste strategy targets for the reduction of waste disposed of to landfill;  
Ensure achievement of national targets for the recovery, recycling and composting of municipal waste;

## Issue 18 Investment by Severn Trent Water Ltd to improve water quality

**Objective – Improvement of the sewerage system to reduce environmental pollution by regulation and through targeting future investment**

In July 1994 announcements were made by the Office of Water Services (OFWAT) about the overall funding arrangements of the private water companies for Asset Management Plan 2 (1995-2000). Asset management plans 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.

Top priority for expenditure under AMP2 was given to meeting present and future statutory obligations, both EC and domestic. These include EC Directives on freshwater fisheries, dangerous substances and urban waste water treatment. The next periodic review of water company prices, Asset Management Plan 3 (AMP3) will cover the period 2000-2005

### What are the problems?

Environment Protection and Tactical Planning Officers have identified unsatisfactory continuous and intermittent discharges to surface water and groundwater as part of the Agency's National Environment Programme.

### Who is involved?

Environment Agency (EA), Severn Trent Water Ltd (STW Ltd)

### What is happening already?

In March 1999 the Government announced its support for the Environment programme identified by the Agency in the Dove catchment (as part of the Midlands Region). Discussions are currently taking place between the Environment Agency and Severn Trent Water Ltd to prioritise the programme of improvements necessary within the AMP3 programme (2000 – 2005)

ISSUE 18 : Investment by Severn Trent Water Ltd to improve water quality							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
18.1 Prepare submissions for schemes to be considered by OFWAT under AMP3 and monitor implementation of AMP3 schemes	EA	STW Ltd	+ Improved river water quality	U	U	1999/2004	Susan Bowen Mark Haslam
18.2 Monitor implementation of remaining schemes in the AMP 2 programme	EA	STW Ltd	+ Improved water quality	U	U	1999/2000	Susan Bowen Mark Haslam
18.3 Assess water quality benefits of completed schemes	EA	STW Ltd	+ Measure achievement and identify any further need	U	U	1999/2005	Susan Bowen Mark Haslam



These proposals will work towards achieving the following Agency objectives on managing water resources and delivering integrated river-basin management:



Ensure that all environmental needs are fully taken into account within the AMP 3 negotiation with the water companies.



Deliver a continual improvement in overall water quality;  
Manage river-basins in an integrated way, via Local Environment Agency Plans;  
Ensure all waters are of sustainable quality for their different uses.

Photograph 17 – Final effluent discharge from a sewage treatment works





## **Issue 19 Easter 1998 Floods: Lessons learned by the Agency**

**Objective** – The severe flooding which affected large areas of central and eastern England and parts of Wales over the 1998 Easter weekend called for urgent action from the Agency on two fronts. To improve flood warning systems and flood defences which had proved deficient in some areas and to learn the wider lessons of the Easter event.

### ***What is the problem?***

At Easter it was clear that many people were unaware of either the level of flood risk facing them or what flood warnings they could expect to receive. When the floods receded many victims were left without help, confused about how to begin the task of cleaning up the damage and anxious about the effects on their health and the safety of essential gas, water and electricity supplies.

### ***Who is involved?***

Environment Agency (EA), Emergency Services, District Councils, Internal Drainage Boards (IDB), MAFF

### ***What is happening already?***

The Agency has a supervisory responsibility for all flood defence matters. For main river we have permissive powers for improvement and maintenance and the other operating authorities namely District Councils and Internal Drainage Boards have parallel powers for ordinary watercourses and IDB areas respectively.

The Agency is empowered to provide a flood forecasting and flood warning system. In 1996 the Agency took over responsibility for flood warning from the police and is responsible for:

- 1) Issuing effective warnings to people at risk
- 2) Warning and advising the emergency services and other organisations who have prime responsibility for implementing emergency response plans eg. Evacuation, issuing of sand bags, provision of temporary accommodation and people's other immediate needs.

The Minister Elliot Morley in his Parliamentary statement of 20 October 1998 highlighted a series of specific targets for the Agency.

The following actions have been completed by the Environment Agency since this statement:

- Flood warning dissemination plans checked for errors and omissions.
- In conjunction with MAFF and other operating authorities supervisory responsibilities have been developed for all flood defence matters.
- Internal management structures have been addressed and action taken to address skills shortages.
- Local Authorities and emergency services approached to assess emergency response arrangements. Plans made for future emergency exercises to test these arrangements.
- For each river catchment flood warning needs and flood forecasting techniques have been determined.
- Rainfall and river gauge coverage required to deliver identified problems reviewed.

ISSUE 19 : Easter 1998 floods: Lessons learned by the Agency							
Options for action	Responsibility		Impacts (+ or -)	Estimated Cost		Timescale	EA Officer
	Lead	Others		EA	Others		
19.1 Publish revised flood risk maps, using the best available information	EA		+ increased awareness of flood risk areas	U		September 1999	V. Brown
19.2 Carry out a detailed review of dissemination plans for content, scope and coverage and review the content of flood warning messages	EA		+ improved flood warning system	U		September 1999	V. Brown
19.3 Complete visual surveys of all flood defences and undertake regular updates thereafter. Couple this with less frequent but more rigorous structural surveys of flood defences	EA		+ improved flood defences	U		April 2000	V. Brown

The above proposals will work towards achieving the following Agency objectives on conserving the land:



Secure an adequate level of investment in flood defence;  
 Discourage development in flood plains;  
 Develop new methods to survey and manage flood defences;  
 Report regularly on the state of flood defences.

## Introduction

Our natural environment is a complex system and must be managed in many different ways by the broad community both in the short and long term. Where we do have a good understanding of a particular element of the environment the implications of change often remain difficult to predict and understand. The linkages between our society, economy and environment vary over time and the effect of what may at first be a local issue, can have wider regional and even global effects. Work is under way in the UK and across the world to define sustainable development indicators, which can be used to assess environmental change.

It is this kind of understanding that resulted in the Earth Summit in Rio in 1992 and the adoption of sustainable development principles with a commitment to manage the environment in an integrated way through partnership.

## 4.1 Sustainable Development

### 4.1.1 Signposts to Sustainability

The Agency is committed through its principal aim to the principles of sustainable development. The most commonly used working definition was provided in the Brundtland Report "Our Common Future" (1987):

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

Rather than predicting ever increasing environmental decay and hardship in a world of ever decreasing resources, the report saw the *"possibility of a new era of economic growth, based on policies that sustain and expand the natural environmental resource base"*.

Sustainable development does not necessarily mean less economic development. One of the challenges is to promote ways of encouraging economic activity that does not harm the environment, and of discouraging or controlling environmentally damaging activity.

Sustainable development requires a full consideration of environmental, social and economic issues during the decision making process. Where the full effects of a particular proposal or policy are not known, then the *"precautionary principle"* should be adopted whereby no action is undertaken until such a time as the potential impacts can be more clearly defined. The UK Government is firmly behind the principles of sustainable development and has published "Sustainable Development - The UK Strategy" (1994).

The total of human wealth cannot be measured only by man-made capital but must allow for natural environmental capital and other contributions to our quality of life. Natural capital consists of renewable and non-renewable resources. The challenge of sustainable development is to find ways of enhancing total wealth while using common natural resources prudently, so that renewable resources can be conserved and non-renewable resources used at a rate which considers the needs of future generations. In this it is particularly important to consider whether there is a risk of irreversible environmental change and, if so, how significant this may be. Making judgements about the weight to be put on these factors when considering development will vary. However, we should make a proper allowance for the interests of future generations and for the pressures that society places on the global environment.

A lot of environmental pollution and resource depletion occurs because the people responsible do not bear the cost. It is important that policy is guided by the "polluter pays" principle, which requires that when production processes threaten or cause damage to the environment, the costs of environmental measures be borne by the producer and not society at large. However, there is an element of choice by the consumer where they are aware that damage to the environment is being caused by the producer. This also provides an incentive to reduce pollution. In the case of historical pollution, where a responsible party cannot be identified, the cost inevitably has to be met by the public.

For sustainable development to be achieved, all stakeholders should contribute to decision making and implementation. It is important that dilemmas and problems are resolved in ways that take account of the views of those concerned, for without widespread support, little will be achieved.



#### 4.1.2 Government Guidance to the Agency on Sustainable Development

In November 1996, guidance was given to the Agency by the Government on its contribution to sustainable development. The following summarises the guidance given:

- Because the environment is shared, collective action is necessary;
- Decisions should be based on the best possible scientific information and analysis of risks;
- Ecological impacts must be considered, particularly where resources are non-renewable or effects may be irreversible;
- Cost implications should be brought home directly to the people responsible - the "polluter pays" principle;
- A holistic approach should be taken to environmental objectives, the Agency should make use of integrated catchment planning or other geographical planning tools;
- A long term perspective should be taken;
- Biodiversity should be conserved and enhanced and natural heritage protected;
- A contribution should be made to protecting the global atmosphere;
- The scope for reconciling the needs of the environment and those of development with regard to regulated organisation should be investigated;
- Close and responsive relationships with the public, local authorities, and other representatives of local communities should be developed; and
- High quality information and advice should be used by the Agency and provided to others.

In November 1998 the Government launched 13 'Quality of Life Indicators' intended to reflect everyday concerns. It will allow the Government's performance to be judged by the effect of policies on the environment and social welfare. The indicators are:

- Economic Growth – Total output of the economy (GDP)
- Social Investment – Investment in 'public assets'
- Employment
- Health – Average Life Expectancy
- Education and Training – Based on qualification at age 19
- Housing Quality – Number of homes unfit to live in
- Climate Change – Greenhouse gas emissions
- Air Pollution – In urban areas
- Transport
- Water Quality – Number of rivers of fair or good quality
- Wildlife – population of wild birds
- Land Use – Number of new homes built on previously developed land (brownfield sites)
- Waste – Reduction of waste ie re-use, recycling

LEAPs play an important part in the Agency's contribution and will help it to meet many of the objectives set by Ministers. The Agency's Environmental Strategy has taken on board the above guidance and our nine themes reflect the principles of sustainable development.

#### 4.1.3 Climate Change

The Environment Agency must work in a wider context than simply the carrying out of the functions of its predecessor bodies, because it is now generally accepted that environmental changes are occurring on a global scale. Individual countries contribute to these changes, and respond to them in different ways. The Agency's long-term strategy therefore has to reflect these global issues.

Perhaps the major international issue is that of climate change. Modelling climate change is difficult, and predictions of its effects vary. However, it is now increasingly accepted that temperatures are rising globally, and that this warming may be linked to man's activities. The UK is a contributor to the emission of gases such as carbon dioxide into the atmosphere which are believed to contribute to long-term climate changes. The UK will also be affected in a complex way as and when the climate does change. The UK is a signatory to the Framework Convention on Climate Change, as agreed at the Rio Summit in 1992, and, following the 1997

Kyoto summit, is taking an active part in international negotiations to obtain commitments for credible and achievable reductions of greenhouse gas emissions. The European Union's legally binding target as a result of the Kyoto summit is an 8% reduction of greenhouse gases across the EU by 2008-2012. Any commitment to aim for a more ambitious target, or agreement of the relative contributions by each member state has not been reached at the time of writing this report.

For the Agency's part, we can help the Government to meet the greenhouse gas emission targets through regulation of emissions from major industrial processes, by developing methods to improve our estimates of the emission of methane into the atmosphere from landfill sites, by promoting and encouraging the reduction of energy production from burning fossil fuels, by research into measuring the effects of climate change and how to manage them, and of course by setting an example by reducing our own energy and fossil fuel consumption within the Agency. We can also help to mitigate the impacts of climate change through the development of plans to meet the country's water resource needs. Effective demand management of both energy and water resources is becoming increasingly important.

## 4.2 Protection through Partnerships

Partnership essentially means a number of different interests willingly coming together, formally or informally, to achieve a common purpose in the spirit of trust and commitment. In this plan it is partnerships that will enable the vision and the key objectives to be realised. Such partnerships provide accountability, as well as a means of attracting inward investment, to improve the environment, from such bodies as the European Union (EU) and the National Lottery. This helps to reduce duplication between agencies and allows the pooling of scarce resources.

The Agency is well placed to influence many activities affecting the environment through its own legislative powers, but these are limited in extent and do not necessarily confirm ownership or acceptance of the issues involved. The 1990 Government White Paper, *"This Common Inheritance"* recognised the need for co-operation and joint working when discussing overlapping responsibilities of Local Authorities and other environmental enforcement agencies. Subsequent international agreements and government guidance have further established this principle. Education is also important in changing attitudes and work practices to promote sustainable development.

The Dove LEAP raises a number of issues that will require a joint approach if they are to be solved. Partnerships will be developed in the short term to address many of the issues through the Action Plan (due Feb 2000). Environmental management often requires a long term approach which can only be effective through the policies and practices of other interested groups.

### 4.2.1 Local Agenda 21

Agenda 21 was one of four main agreements signed at the Earth conference at Rio by representatives of 150 countries including the UK government. It is intended to be a *"Comprehensive programme of action needed throughout the world to achieve a sustainable pattern of development for the next century"*. Agenda 21 is an environmental action plan for the next century, which recognises the central role of Local Authorities and the value of partnerships and the local community in achieving sustainable development.

One of the most exciting aspects of Agenda 21 is that it recognises that action by national governments alone is not enough and that all groups - civic, community, business and industrial have to be involved to bring about change. It promotes the idea of thinking globally and acting locally, and all the Local Authorities in the Dove area have, or are undertaking a consultative process with local people to produce a Local Agenda 21 for their community. Anybody interested in Local Agenda 21 should contact their Local Authority, relevant contacts and the current stage of LA21 in each Local Authority is given in Table 4.

It is the aim of the Agency to integrate LEAP and Local Agenda 21 programmes where appropriate, and it is hoped that this consultation document will assist in developing a working relationship between ourselves and others.

Table 4 - Local Agenda 21 in the Dove area

Local Authority	Contact	Progress on LA21
Derbyshire County Council	Maggie Birhop: 01629 580000	Local Agenda 21 - The Challenge - Autumn 1997
Derbyshire Dales District Council	Peter Corke: 01629 580580	'A Strategy for the New Millennium in the Derbyshire Dales' - September 1998
South Derbyshire District Council	Sally Knight: 01283 228028	No information to date
High Peak Borough Council	Bill Purvis: 01298 28404	Working towards EMAS. LA21 pilot study summer 1998 in Wornhill parish
Staffordshire County Council	Andrew Christelow: 01785 277252	Action Programme and First Report published March '96
East Staffordshire Borough Council	Chris Gillie: 01283 508685	Let's look forward to the 21 <sup>st</sup> Century' - the LA21 action plan, published 1997
Staffordshire Moorlands District Council	Phillip Haddock: 01538 483575	First stage in LA21 strategy being undertaken - public consultation

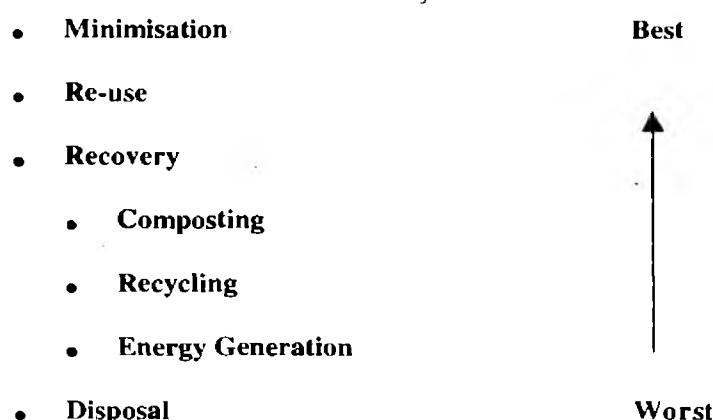
#### 4.2.2 Waste Minimisation Clubs/Business Environment Clubs

The Government's objectives for waste management given in the 1995 White Paper 'Making Waste Work - A Strategy for Sustainable Waste Management in England and Wales' are:

- To reduce the amount of waste that society produces,
- To make best use of the waste that is produced and,
- To choose waste management practices which minimise the risks of immediate and future environmental pollution and harm to human health.

The Government has defined a hierarchy of waste management options which are ranked to give a broad indication of their relative environmental impact.

**Figure 4 - The Waste hierarchy**



The best option is not to produce waste in the first place. Milk deliveries and milk bottles are a good example of re-use. Recycling includes bottles banks, newspaper banks etc. These require additional energy and the production of further wastes to make useful products. Energy generation covers incineration using waste as a fuel. The last resort is disposal to landfill which is by far the main form of waste disposal in the UK.



The Agency's objective is to move waste management further up the waste hierarchy while retaining the best practical environmental option. Clearly we all have a part to play in reducing the amount of waste produced and making the best use of the waste that is produced. Household waste can be reduced by individuals taking responsibility by re-using, recycling and composting and also by buying long life, reusable and environmentally friendly products with minimal packaging. According to the Department of the Environment, Transport and the Regions 50% of household waste is potentially recyclable. Local Authorities have been set targets by the Government to recover up to 40% of household wastes in England and Wales by 2005.

Individuals and businesses should:-

- Support local waste minimisation and recycling initiatives.
- Support the extension of minimisation and recycling initiatives in their area (such as the provision of home composting bins).
- Reduce the amount of material thrown away.
- Respond to consumer demand to reduce unnecessary packaging and other forms of waste production.

Waste Minimisation/Business Clubs generally offer information, advice and support on systematic approaches to waste minimisation. They disseminate relevant information relating to all aspects of environmental best practice. The club may be a first point of contact for industry and companies will be signposted to appropriate organisations and groups for specific advice.

The objectives of waste minimisation clubs vary according to the partners involved, but are generally:-

- To promote waste minimisation and sustainable waste management in industry and commerce.
- To build links between industries, the Agency, business groups and other interested parties.
- To share and expand existing and new waste minimisation initiatives, ideas and projects.
- To attract, encourage and interest companies that have not previously been involved in waste minimisation rather than concentrating on "preaching to the converted" companies.

Currently several waste minimisation clubs in the area of this plan are being developed, however none are presently running. There are several Business Environment Clubs operational providing a network of environmental support.

#### 4.2.3 Conservation and Recreation Collaborative Projects

By their very nature, conservation initiatives tend to involve several interested parties such as landowners, local and national conservation groups, and Local Authorities or other statutory bodies. The UK Biodiversity Strategy has already caused new partnerships to be set up, and this is a trend that is only likely to continue.

##### Desilting the Old River Dove Ox-Bow SSSI (1996)

Total cost £19K, NRA contribution £13K. A collaborative project with Burton Mutual Angling Club to help maintain the biological interest of this aquatic SSSI.

##### Fencing/Treeplanting on the River Dove

Four sites were fenced in two phases over a three year period. This was done in collaboration with landowners, Birmingham University and the Agency's flood defence section as part of an erosion control project.

##### Staffordshire Moorlands Survey

Total cost £10K, Environment Agency contribution £3K. This was a collaborative project involving Staffordshire County Council, Staffordshire Moorlands Borough Council, Staffordshire Wildlife Trust and English Nature. The survey looked at the conservation value of all sites in the Borough.

##### Dovedale Footpaths (1996)

Total cost £30K, Environment Agency contribution £5K. A collaborative project with the Peak District National Park Authority to improve recreational access at Dovedale.

#### Otter Survey of the Dove catchment

A project carried out by Staffordshire Wildlife Trust Otters and Rivers Project Officer during 1997 and 1998. The whole project was funded by the Agency at a cost of approximately £30K.

#### 4.2.4 Biodiversity

"Biodiversity" is simply a new term meaning variety of life, and biodiversity conservation is what has long been known as nature conservation. The importance of biodiversity conservation has been recognised internationally by the drawing up of a Biodiversity Convention intended to ensure the conservation of the full range of existing plant and animal species, their genetic variation and the ecosystems in which they live.

##### Biodiversity Convention

The Convention on Biological Diversity was one of the major initiatives stemming from the 'Earth Summit' in Rio de Janeiro in 1992. The United Kingdom was one of 150 signatories to the convention. Signatories recognised that action must be taken to halt this global loss of animal and plant species and genetic resources and that each country has the primary responsibility to conserve and enhance biodiversity within its own jurisdiction. The Convention agreed to 'develop national strategies, plans and programmes for the conservation and sustainable use of biological diversity', and to share resources to help implement such programmes.

##### UK Biodiversity Action Plan

The Government's response to the Biodiversity Convention, 'Biodiversity: The UK Action Plan', published in 1994, set out a broad strategy for conserving and enhancing wild species and habitats in the United Kingdom for the next 20 years.

One of the main outcomes of the UK Action Plan was the setting up of the UK Biodiversity Steering Group. The UK Steering Group Report published in December 1995 and endorsed by the Government in May 1996, contains the following key components:

- Developing costed targets for our most threatened and declining species and habitats;
- Establishing an effective system for handling the necessary biological data at both local and national level;
- Promoting increased public awareness of the importance of biodiversity, and broadening public involvement and
- Promoting Local Biodiversity Action Plans as a means of implementing the national plan.

##### Biodiversity Action Plans

Local Biodiversity Action Plans are seen as a means by which the UK Action Plan can be implemented. They focus resources to conserve and enhance biodiversity by means of local partnerships, taking account of both national and local priorities.

##### Biodiversity Action Plans and Developing Partnerships

The successful implementation of the Local Biodiversity Action Plans' objectives and targets requires involvement from various sectors. The following organisations all have a role to play: central government and its agencies, land managers, voluntary bodies, academic institutions, local authorities, wildlife trusts and commercial bodies. These partners, together with the local community need to be involved at a local level to ensure the effective development and delivery of these plans.

Having a partnership approach means that the workload can be shared and a wide range of resources and skills used. It also ensures that there is a shared commitment to and ownership of the plan process. This should provide a commitment to the implementation of the plan.

The Dove catchment encompasses three Local Biodiversity Action Plans. The Staffordshire BAP was published in November 1998; it includes action plans for certain species and habitats of particular concern to the Agency, such as otter, water vole, salmon, white-clawed crayfish, black poplar, wet woodland and rivers and streams.

The Mid-Derbyshire BAP has been produced in two parts, Part 2 appearing in April 1998. The Agency has been involved with the preparation of both these BAPs. The Peak District BAP is currently being drafted.

#### The Countryside Stewardship Scheme

The Countryside Stewardship Scheme is a MAFF scheme which makes payments to farmers and land managers to improve the natural beauty and diversity of the countryside. Its objectives are to:

- Sustain the beauty and diversity of the landscape;
- Improve and extend wildlife habitats;
- Conserve archaeological sites and historic features;
- Improve opportunities for countryside enjoyment;
- Restore neglected land or features;
- Create new habitats and landscapes;

Each county also has its own priorities and local scheme objectives. For more information on this scheme contact your nearest MAFF Regional Service Centre.

#### **4.2.5 The Fire Service**

The Agency works closely with the Fire Services (comprising of the Fire and Rescue Services for Staffordshire and Derbyshire this LEAP area) in providing a first line pollution prevention service.

The Fire Services are normally first on the scene at road traffic accidents and other major industrial accidents including chemical spillages. This gives them a unique opportunity to deal with any potentially polluting spillages before they reach a watercourse. The Fire Services have agreed to undertake this role where practicable and the Agency has provided training and pollution prevention equipment such as oil absorbent materials and sealants.

The Fire Service immediately notifies the Agency of any potentially polluting spillages or significant fires so that Agency Environmental Protection staff can be on site to give advice when required and to deal with any necessary follow up actions.

### **4.3 Education**

Education is a key objective for the Agency and plays a major role in its strategy for environmental protection and improvement. It is essential to the delivery of cleaner more sustainable environment in the long term. In many cases a lack of information and awareness is one of the factors which leads to environmental damage or neglect whether it be by accident or deliberate. There is a need for a greater level of educational involvement by the Agency and a need to raise awareness of environmental issues. The Agency has published an education strategy "Green Shoots" which considers environmental education into the next century.

Our educational goals are to:-

- Build positive partnerships through consultation, joint ventures and sponsorship;
- Help educate young people through teaching aids and other initiatives;
- Improve understanding of environmental issues, through links with education, work placements and an awards scheme;
- Work with industry and produce marketing campaigns to promote prevention of pollution rather than its remediation;
- Foster public awareness of environmental issues to encourage responsibility for the environment and its challenges; and
- Build on established and create new, international relationships to further global sustainable development.

The Agency has produced a range of educational material and leaflets, some of these are listed in Appendix 4. Please contact: Jo Elsy, Team Leader - Customer Contact Tel: (01543) 444141 Ex 4914 if you would like any of these leaflets.



#### 4.3.1 Educational initiatives

The Agency undertakes a variety of pollution prevention, waste minimisation and education initiatives with local communities, business, local authorities and others.

Specific initiatives include:-

##### Water pollution prevention

- in excess of 100 pollution prevention site inspections a year in the catchment to business and agriculture.
- Distribution of leaflets to local authorities, schools, libraries etc.

##### Local authority liaison

- Planning roadshows to improve relationships between local planning authorities and the Agency.
- Promotion of sustainable surface water drainage techniques.

##### Waste Management

- The draft Producer Responsibilities (Packaging Waste) Regulations place an obligation on certain businesses to recover and recycle specific amounts of packaging waste. The Upper Trent Area office has a nominated "Customer Advisor" who has detailed knowledge of the developing framework and regulations. Area offices are capable of responding to queries from local businesses and provide advice and information.
- We are promoting waste minimisation through Waste Minimisation Clubs, our own activities and by partnership with local groups. In addition there will be promotion of best practice in waste management and special waste regulations.

##### Water demand management

- Education and information programs (eg road-shows, high street displays, schools guides, gardening tips, help lines)
- Promotion of water efficient appliances (eg low flush or dual flush WC's, water efficient washing machines and dishwashers, trigger-gun sprinklers, water butts)
- Promotion of low cost retrofit water saving devices (eg Hippo bags, low flow shower heads, sprinkler exchange schemes)
- Promotion of water re-cycling and reuse (eg grey water recycling systems, recirculation systems, water butts)

These, and other areas of activity (water audits, waste minimisation schemes and leakage reduction programmes) are co-ordinated by the Agency's Demand Management Centre at Worthing in conjunction with regional co-ordinators.

#### 4.3.2 Schools Education

The Agency is committed to improving its educational work with schools. The Agency is one of a number of organisations working with schools and there are opportunities for joint approaches. Information to schools will dovetail into the national curriculum.

Attention is being focused at key stages 2 and 3 and there is a commitment to provide information for 'A' level and university students. The Agency is developing its own national education strategy and work in the LEAP area will accord with that framework.

#### Staffordshire Education Partnership

Staffordshire Partnerships is an organisation supported by Staffordshire County Council, the City of Stoke on Trent Council and the Staffordshire Training and Enterprise Council. It actively promotes education and business working in partnership for mutual benefit.

### 4.4 Land Use Planning

Land use is the single most important influence on the environment. Human activity can have both positive and negative impacts on the environment. Redevelopment and renewal can do a lot to repair the damage of the past, while controls on new development can protect sensitive habitats and biodiversity and can prevent increased emissions of pollution to air, land and water.

#### 4.4.1 Planning Liaison

The control of land use change is primarily the responsibility of Local Planning Authorities (LPAs) through the implementation of the Town and Country Planning Acts. Local development plans provide a framework for land use change and are key considerations in the determination of planning applications. Government planning guidance supports co-operation between LPAs and the Agency in relation to land use and the environment.

The Agency is a statutory consultee in respect of development plans and certain categories of planning applications. This allows the Agency's views to be considered by the LPA prior to a planning application being decided or policies in a development plan being approved. Planning liaison is the link between the Agency's functions and Local Authority planners. Guidance on the types of planning applications we would wish to see is contained in the Agency's document "Liaison with Local Planning Authorities".

#### 4.4.2 Development Control Guidance

The following is draft guidance to LPAs from the Agency on a number of areas of mutual interest. Town and Country Planning can support sustainable development and work towards meeting the country's commitments to biodiversity and global warming. Some of these policy approaches should be at the regional level, while others should be considered in a more local context.

#### Transport and Infrastructure

Road traffic accounts for some 25% of the UK's contribution to global warming. Vehicle use also contributes towards acid rain through the production of sulphur dioxide and oxides of nitrogen.

Regional policies should be in place to minimise the need for travel by locating as far as possible, homes, places of work and other facilities in reasonable proximity to each other. Such broad policies offer the basis for more detailed land-use policies. For example, a preference for new employment sites and retail developments to be sited close to good public transport networks and away from locations that cannot readily be served. Such an approach should also influence the Structure Plans and Part I Unitary Development Plans with respect to the distribution of new housing.

Commitments outlined in the Local Agenda 21 action programmes of Local Authorities encourage:-

- Extending the provision for cyclists and for the safe movements of pedestrians;
- Promotion of public transport as an attractive substitution for car use;
- The reduction of energy consumption and pollution by unnecessary journeys to work, shops and leisure facilities.

#### Energy

Although the Agency is responsible for the regulation of emissions to the environment from power stations it has little direct influence on the consumption of energy within the area, although we are in a position to help influence planning policy and its impact on energy use. Energy conservation is important to combat global warming and the long term sustainable use of non-renewable resources.

Planning Policy Guidance Note 12 (PPG12) states that structure plans should include policies for energy generation, including renewable energy. Structure plans and UDP Part I's should include policies and proposals for providing renewable energy in their area. Plans need to address the potential conflict within development areas for such installations and the protection of landscape and wildlife. They should propose the criteria to be applied to planning applications for renewable energy installations in National Parks and Areas of Outstanding Natural Beauty (AONB).

In addition to providing for renewable energy installations, development plans can affect energy conservation through development patterns. PPG 12 offers guidance to Local Authorities in this respect. The Council for the Protection of Rural England (CPRE) has produced a document, "Energy conscious planning", highlighting the integration of energy issues in land-use planning.

Within Local Plans, energy related policies may be expected to provide a more specific framework for development control decisions which would apply not only to greenfield developments, but also to redevelopment and infilling within existing settlements.

Given this context, it is appropriate for Local Planning Authorities to pursue policies which:-

- Discourage low density development.
- Promote some degree of concentration of principal employment activities and community facilities.
- Ensure that new development is well related to established or convenient public transport routes.
- Encourage energy-sensitive siting, orientation and layout of new development, particularly in order to allow future energy saving technologies to be accommodated.

In addition to planning, the building regulations section of Local Authorities are also influential, for example in terms of energy efficient buildings.

#### Natural Habitats and Biodiversity

Ecological issues have traditionally been reflected as restraint policies in development plans. As a result of the growing strength of wildlife groups and the more widespread use of Environmental Assessments, a wider range of ecological matters can now be addressed in plans. Policies should be in place to promote ecological diversity.

As advised in PPG 12, although the principal use of a site may be for housing or other development, schemes should be designed to retain natural features on site and where none exist, to create new habitats or features to encourage wildlife. Local Plans offer the opportunity to incorporate policies to replace wildlife resources lost through development using Section 106 Agreements.

Policies should be offered along the lines of:

*"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 semi-natural habitat by the use of appropriate design and species in landscaping schemes and to incorporate features to attract wildlife".*



Land reclaimed through derelict land reclamation offers the potential to create new areas of value.

As indicated, reclaimed open space offers greater potential for both increased habitat diversity, through large scale tree planting, wetland habitat promotion and the promotion of wildlife corridors.

#### Waste Management

The management of waste impacts on land use. The location of landfill sites and the operation of waste transfer stations affects the proposed use of land and the amenity of surrounding areas.

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. Any 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, by avoiding pollution and generating 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 can have an adverse impact on the amenity of nearby properties 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 except where waste is deposited into closed containers for prompt disposal elsewhere.

#### Flood defence and the control of surface water run-off

##### **Importance of floodplain**

River channels have a limited capacity and when this is exceeded, flooding of the adjoining land known as the floodplain occurs.

The need to protect floodplain's has not always been recognised and they have sometimes been subjected to inappropriate development. Rivers and their floodplain's are finite resources, which need to be managed in accordance with the principles of sustainable development.

If flood risks to land and property are not to be increased and the ecological value of rivers and floodplains is to be safeguarded, then rivers and their floodplain need to be protected from activities, such as development, which may adversely affect them.

##### **The impact of urban development and the control of surface water runoff**

The urban development of a catchment can have the following major effects on the hydrological regime:-

- Increased volumes of storm water runoff.
- Higher peak flow rates and flood water levels.
- Lower base flows in rivers and streams.
- Inundation of available storage in (and conveyance capacity of) river corridors.
- Reduction in soil moisture recharge leading to a reduction of groundwater resources.
- Increase in pollutant loads carried into sewers or surface waters.

Urban runoff should be considered as a resource. The management of urban runoff to mitigate its adverse impact

on the water environment is the concept of "source control" which aims to identify local and more sustainable solutions for surface water management, without giving rise to detriment in groundwater quality.

**Key Points:-**

- Wherever appropriate surface water should be disposed of as near to the point of incidence as possible. Site owners and occupiers will have to assume a greater responsibility for surface water management.
- Clean and contaminated surface water should be kept separate.
- The use of "softer" engineering structures such as swales, detention ponds, infiltration basins and porous surfaces should be encouraged as alternatives to conventional drainage where appropriate and practical. Ideally these techniques should be considered in preference to conventional drainage systems providing there are no adverse impacts on groundwater resources.
- When planning a development, surface water management should be considered as a fundamental part of the design and operation of the project. The retention of water on site for low grade usage such as landscape management and vehicle washing can also reduce the demand on the potable supply system giving further environmental benefits.
- The active promotion of surface water runoff disposal to infiltration basins may have an additional benefit as a means of artificial recharge to aquifers. The potential quality problems for groundwater where very polluted runoff could be involved may limit this option to surface waters draining non-industrial locations, but in any case full assessments will be needed.
- Infiltration drainage should be considered for developments proposed in areas where the existing combined sewer capacity is a limiting factor.
- Source control should apply to roads as well as buildings.

**Adoption**

If a source control system is to be incorporated into a road drainage system, for example by means of a soakaway system or reed bed, then such a system can become the responsibility of the highway authority. If the system is to be incorporated into an area of public open space, through a Section 106 agreement or a unilateral understanding with the developer, then the Local Authority can adopt it. It is currently the policy of the Statutory Sewerage Undertakers in England and Wales not to adopt infiltration systems. We are working with Local Authorities and sewerage undertakers to change attitudes to make adoption more acceptable.

## **4.5 Development and infrastructure**

New building works, changes in land use, development of communications and the construction of new roads, sewers and other services can have a major impact on an area and uses of the environment. The Agency has a responsibility to protect the environment and to achieve this aim it must work closely with Local Planning Authorities (LPAs).

The Agency is a statutory consultee under planning legislation and advises Local Authorities on development proposals that can have an impact on matters relevant to the Agency.

The Agency operates at all levels of the planning system. At the national level there is direct liaison with the DETR (Department of the Environment, Transport and the Regions) and Local Authority associations, seeking to influence Planning Policy Guidance Notes (PPG), Circular's and new legislation. At the regional level there is liaison with government offices and regional steering groups with the aim of influencing regional planning guidance. At the local level we are consulted on structure and local plans, mineral local plans and waste plans to ensure our interests are protected and that development proposals have positive (sustainable) impacts on the environment.

The Agency also seeks to pursue its aims and policies regarding development through the planning consultation process for individual proposals. Although the final decision on the planning matters rests with the LPA, government guidelines advise on the need to consider the Agency's concerns when determining proposals.

There are two structure plans within the Dove plan area, which are prepared by the County Councils of Derbyshire and Staffordshire. These plans provide a broad strategic framework for planning and development control. The Derby and Derbyshire Joint Structure Plan has been prepared jointly by Derby City Council and Derbyshire County Council.

The existing statutory local plans and those currently in preparation are shown in Table 5.

**Table 5 - The status of Development Plans within the plan area**

LOCAL PLANNING AUTHORITY	DEVELOPMENT PLAN TITLE	STATUS AND CONSULTATION DATE
<b>DERBYSHIRE COUNTY COUNCIL</b>	<b>Derby &amp; Derbyshire Joint Structure Plan</b>	<b>Deposit Draft April 1998</b>
<b>Derbyshire Dales District Council</b>	<b>Derbyshire Dales Local Plan</b>	<b>Deposit Draft February 1998</b>
<b>High Peak Borough Council</b>	<b>High Peak Local Plan</b>	<b>Adopted April 1998</b>
<b>South Derbyshire District Council</b>	<b>South Derbyshire Local Plan</b>	<b>Adopted March 1998</b>
<b>STAFFORDSHIRE COUNTY COUNCIL</b>	<b>Staffordshire and Stoke on Trent Structure Plan</b>	<b>Deposit Draft January 1999</b>
<b>East Staffordshire Borough Council</b>	<b>East Staffordshire Local Plan</b>	<b>Adopted Plan expected soon</b>
<b>Staffordshire Moorlands District Council</b>	<b>Staffordshire Moorlands Local Plan</b>	<b>Adopted Plan expected soon</b>
<b>PEAK DISTRICT NATIONAL PARK AUTHORITY</b>	<b>Peak National Park Structure Plan</b>	<b>Adopted April 1994</b>
	<b>Peak National Park Local Plan</b>	<b>Local Plan Inquiry held in spring 1998. Not adopted yet.</b>

**Notes:-**

The stages in the preparation of local plans prior to their adoption is as follows: consultees and member of the public may initially comment on a consultation draft of the local plan. A deposit draft is then available for a statutory six week period, after which all representations are considered. A public inquiry is then held at which objections to the plan are considered at which objectors can be represented in person and evidence cross examined. An inspector considers all objections raised and produces a report on recommended changes to the plan. The planning authority may then accept the recommendations and adopt the plan or propose modifications, in which case there is a further period of public consultation. This process may be repeated with further modifications and a second public inquiry in exceptional circumstances. Once it is satisfied that all objections have been accommodated, as far as possible, the planning authority will give notice of its intention to adopt the plan.





<b>Abstraction</b>	The removal of water from any source, either permanently or temporarily.
<b>Abstraction Licence</b>	An authorisation granted by the Agency to allow the removal of water from a source of supply. Statutory; section 38 Water Resources Act 1991.
<b>Agenda 21</b>	A comprehensive programme of worldwide action to achieve a more sustainable pattern of development for the next century. UK Government adopted the declaration at the UN Conference on Environment and Development (the Earth Summit) held in Rio de Janeiro in 1992.
<b>ADAS</b>	Agricultural Development and Advisory Service
<b>Ammonia</b>	A chemical compound found in water often as a result of pollution by sewage and farm effluents. It is widely used to determine water quality. Ammonia can be toxic to fish.
<b>AOD</b>	Above Ordnance Datum. Land levels are measured relative to the average sea level at Newlyn in Cornwall. This average level is referred to as "Ordnance Datum". Contours on Ordnance Survey maps of the UK show heights in metres above Ordnance Datum.
<b>AONB</b>	Area of Outstanding Natural Beauty.
<b>Aquatic</b>	Pertaining to the water environment.
<b>Aquifer</b>	A water bearing-stratum situated below ground level. The water contained in aquifers is known as groundwater.
<b>Asset Management Plan</b>	Water Companies Strategic Business Plans - initiated (eg AMP2) by OFWAT as part of the periodic review of water company charges. These are drawn up through consultations with the Agency and other bodies to cover a five year period
<b>Attenuation</b>	Dilute or slow the spread of contamination or the speed of flow.
<b>Augmentation</b>	The addition of water to a watercourse under artificial control. Usually to "top up" low flows in summer by either groundwater pumping or via reservoir release.
<b>Base Flow</b>	The flow of a river derived from groundwater sources.
<b>Benthic</b>	Living on the bed of a river.
<b>Benzene</b>	Air pollutant from fossil fuels released by vehicular traffic and by industry, carcinogenic. A target pollutant in the UK National Air Quality Strategy.
<b>BOD</b>	Biochemical Oxygen Demand. A measure of the amount of oxygen consumed in water (over 5 days), usually by organic pollution. Oxygen is vital for life so the measurement of the BOD tests whether pollution could affect aquatic animals.
<b>BOD (ATU)</b>	Biochemical Oxygen Demand measured in the presence of allylthiourea. The allylthiourea suppresses the oxidation of ammonia so the oxygen demand reflects the level of carbon based oxidation.
<b>Biodiversity</b>	Diversity of animal and plant life.
<b>Borehole</b>	A well sunk into a water bearing rock from which water will be pumped.

<b>Brownfield</b>	A designation used by planning authorities to describe land that has previously been used for development. It does not necessarily imply that the land is contaminated.
<b>Buffer Zone</b>	Strip of land 10-100m wide, alongside rivers which is removed from agricultural use, managed to provide appropriate habitat types and to reduce levels of nitrates and pesticides in water.
<b>1,3 Butadiene</b>	A gas derived mainly from the combustion of petrol and other materials. A carcinogen and a target pollutant in the UK National Air Quality Strategy.
<b>Carbon dioxide (CO<sub>2</sub>)</b>	Gas present in the atmosphere and formed during respiration, the decomposition and combustion of organic compounds (eg fossil fuels, wood etc). A greenhouse gas.
<b>Carbon monoxide (CO)</b>	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.
<b>Catchment</b>	The total area from which a single river collects surface run-off.
<b>Coarse Fish</b>	Freshwater fish other than salmon and trout.
<b>Condensate</b>	A substance produced by condensation
<b>Confluence</b>	The point at which two rivers meet.
<b>Controlled Waters</b>	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.
<b>CSO</b>	Combined Sewer Overflow.
<b>Culvert</b>	Channel carrying water across or under a road, canal etc.
<b>Cyprinid Fish</b>	Coarse fish belonging to the carp family, like roach, dace and bream.
<b>Dangerous Substances</b>	Substances defined by the European Commission as in need of special control because of their toxicity, bio-accumulation and persistence. The substances are classified as List I or List II according to the Dangerous Substances Directive.
<b>Demand Management</b>	The management of the total quantity of water abstracted from a source of supply using measures to control waste and consumption.
<b>Derogate</b>	To depreciate or diminish - used in abstraction licensing where a proposed new licence would reduce resources to an existing authorised abstraction.
<b>DETR</b>	Department of the Environment, Transport and the Regions (Formerly DoE and DoT).
<b>Diffuse Pollution</b>	Pollution from widespread activities with no one discrete source.
<b>Discharge Consent</b>	A licence granted by the Agency to discharge effluent of specified quality and volume. Statutory; Schedule 10 Water Resources Act 1991.
<b>DO</b>	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.



<b>Dry Weather Flow</b>	For sewage works, this is calculated by adding estimates of the domestic sewage discharge (which is the population multiplied by the per capita consumption) plus any industrial discharges plus infiltration into the sewer.  For rivers, this is calculated as the average of flows during the driest seven consecutive days in each year for the period of record.
<b>EC/EU Directive</b>	A type of legislation issued by the European Union which is binding on Member States in terms of the results to be achieved but which leaves to Member States the choice of methods.
<b>Ecosystem</b>	A functioning, interacting system composed of one or more living organisms and their effective environment, in a biological, chemical and physical sense.
<b>Effluent</b>	Liquid waste from industrial, agricultural or sewage plants.
<b>EH</b>	English Heritage
<b>EN</b>	English Nature
<b>EQS</b>	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.
<b>ESA</b>	Environmentally Sensitive Area. An area defined by MAFF for which grant aid is available for appropriate agricultural and water/land management.
<b>Eutrophication</b>	The biological effects of an increase in plant nutrients - nitrates and phosphates - on aquatic ecosystems.
<b>Evapotranspiration</b>	Water lost by evaporation and water taken up and lost by plants.
<b>Fauna</b>	Animal life
<b>Floodplain</b>	Land adjacent to a watercourse that is subject to flooding.
<b>Flora</b>	Plant life.
<b>Fluvial</b>	Land pertaining to the river itself.
<b>Flytipping</b>	The unregulated and, hence illegal, dumping of waste.
<b>Gauging Station</b>	A site where the flow of a river is measured.
<b>Greenbelt</b>	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.
<b>Greenhouse Gas</b>	Natural and man-made gases which influence the greenhouse effect. Including carbon-dioxide, methane, ozone and chlorofluorocarbons (CFCs).
<b>GQA</b>	General Quality Assessment. A national water quality assessment scheme.
<b>Groundwater</b>	Water which saturates a porous soil or rock substratum (or aquifer). Water held in storage below ground level.
<b>Groundwater Units</b>	Administrative sub-divisions of aquifers, defined on geological and hydrological criteria, which form the basis for groundwater resource management and licensing policy decisions.

<b>Habitat</b>	The locality or environment in which a plant or animal species lives.
<b>HA</b>	Highways Agency
<b>Hard Engineering</b>	River bank re-profiling for flood defence purposes using concrete, stone, metal and other hard materials.
<b>HE</b>	House Equivalent. Allocated a value in terms of numbers of houses.
<b>HSE</b>	Health and Safety Executive
<b>HMIP</b>	Formerly Her Majesty's Inspectorate of Pollution (now part of the Environment Agency).
<b>Hydraulic Continuity</b>	The degree of interconnection between two potential sources of water eg. a river and an aquifer or two clearly defined aquifers.
<b>Hydrology</b>	The study of water on or below the earth's surface.
<b>Hydrometry</b>	The measurement of water.
<b>Hydrogeology</b>	Branch of geology concerned with water within the earth's crust.
<b>Insecticide</b>	Substances used to destroy or repel insects.
<b>IDB</b>	Internal Drainage Board. Autonomous public bodies under the control of board members (including those elected by agricultural ratepayers and those nominated by local authorities), with responsibilities and powers for flood defence on ordinary watercourses (non-Main Rivers) under the Land Drainage Acts)
<b>Invertebrate fauna</b>	Animals which lack a back bone - used for biological classification. Especially macro-invertebrates (animals of sufficient size to be retained in a net with a specified mesh size).
<b>IPC</b>	<b>Integrated Pollution Control</b> - 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).
<b>IPPC</b>	<b>Integrated Pollution Prevention and Control</b> - The aim of IPPC is to prevent or, where that is not practicable, to reduce emissions to air, water and land, including measures concerning waste, in order to achieve a high level of protection of the environment taken as a whole.
<b>Landfill</b>	Site used for waste disposal into/onto land.
<b>Landfill Tax</b>	A levy per tonne or cubic metre of waste sent to landfill, used to encourage the use of recycling and waste minimisation.
<b>Leachate</b>	Liquid formed when water reacts with, or leaches from, waste material.
<b>Leachability Triggers</b>	Standards set by the Agency to ensure that land from a contaminated site is remediated to an appropriate standard.
<b>Leaching</b>	Removal of soluble substances by action of water percolating through soil, waste or rock.

<b>Lead</b>	The world's most widely used non-ferrous metal. Used also as a petrol additive but its use is now in decline. It has adverse effects on human health. A target pollutant in the UK National Air Quality Strategy.
<b>LPA</b>	Local Planning Authority.
<b>LWCA</b>	Local Waste Collection Authority
<b>Macerate</b>	To make or become soft through soaking
<b>MAFF</b>	Ministry of Agriculture, Fisheries and Food.
<b>Main River</b>	The watercourse shown on the statutory 'Main River maps' held by Environment Agency and MAFF. The Agency has permissive powers to carry out works of maintenance and improvement on these rivers.
<b>Natural Succession</b>	The evolution of an environment from water to dry land that can naturally take place.
<b>Nitrate Sensitive Areas (NSA)</b>	An area where nitrate concentrations in sources of public drinking water exceed, or are at risk of exceeding the limit of 50mg/l laid down in the 1980 EC Drinking Water Directive, and where voluntary, compensated agricultural measures were introduced in 1990 as a means of reducing those levels.
<b>Nitrate Vulnerable Zones (NVZ)</b>	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).
<b>Nitrogen dioxide (NO<sub>2</sub>)</b> <b>Nitric oxide (NO)</b> <b>Oxides of nitrogen (NO<sub>x</sub>)</b>	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.
<b>Nutrient</b>	A chemical essential for life.
<b>NRA</b>	National Rivers Authority (now part of the Environment Agency).
<b>Objective 2</b>	European funding with the aim to facilitate the redevelopment of urban areas.
<b>OFWAT</b>	Office of Water Industry's Regulator of Water Service Companies.
<b>Ordinary watercourse</b>	A watercourse that does not form part of a Main River.
<b>Ozone</b>	Caused by a chemical reaction in sunlight, at lower levels in the atmosphere by oxides of nitrogen and volatile organic compounds reacting to form ozone. The reactions can take days and maximum concentrations occur downwind of urban areas. Affects the respiratory system. A target pollutant in the UK National Air Quality Strategy.
<b>Particulates and PM<sub>10</sub></b>	Small particles of matter released from a number of sources. The Clean Air Acts led to a tenfold decrease in black smoke but new research has shown very small particles can affect the respiratory and cardiovascular systems. PM <sub>10</sub> - particulates below 10µm (a target pollutant in the UK National Air Quality Strategy).
<b>Percolation</b>	The movement of water through soil pores and rock crevices.
<b>Perennial Flow</b>	River flow present through the entire year.



<b>Permeability</b>	The ease with which liquids (or gases) can pass through rocks or a layer of soil.
<b>Permissive powers</b>	Powers which confer on the Agency the right to do things but not the duty to do them.
<b>Pesticides</b>	Substances used to kill pests, weeds, insects, fungi, rodents etc which can have significant harmful environmental effects.
<b>Porosity</b>	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.
<b>Potable Water</b>	Water of a quality suitable for drinking.
<b>RAMSAR</b>	Wetland site of International Importance that is designated under the Ramsar* convention (*a town in Iran where the international convention originally agreed in 1975 to stem the progressive encroachment on, and loss of, wetland).
<b>Raw Water</b>	Water in its natural state; before treatment.
<b>Raw Water Transfer</b>	The transfer of water from one resource to another in order to meet or anticipate demand. It is usually part of a scheme such as a reservoir or pipeline.
<b>RE</b>	River Ecosystem. Classification used to measure water quality.
<b>Reach</b>	A length of river.
<b>Recharge</b>	Water which percolates downward from the surface into groundwater.
<b>Red Data Book Species</b>	The most threatened species in Great Britain.
<b>Renewable Energy</b>	Energy produced from resources which are unlimited or can be rapidly replenished eg. Wind, water, sunlight, wave power or waste.
<b>Residual Flow</b>	The flow remaining in a watercourse after abstractions have taken place.
<b>Return Period</b>	The return period of a flood. Flood events are described in terms of the frequency at which, on average, a certain severity of flood is exceeded. This is usually expressed as a return period in years, e.g 1 in 100 years.
<b>Revetment</b>	A retaining wall.
<b>Riparian</b>	Of, or on, land adjacent to the river.
<b>River Corridor</b>	A stretch of river, its banks, and a varying amount of adjacent land that is affected by the presence of the river.
<b>RQO</b>	River Quality Objective. The level of water quality that a river should achieve in order to be suitable for its agreed uses.
<b>Salmonid Fish</b>	Game fish of the Salmon family, for example, trout and salmon.
<b>SAC</b>	Special Area of Conservation. This designation will protect important species and habitats, as defined under the EC Directive on Conservation of Habitats and Species.
<b>SAM</b>	Scheduled Ancient Monument. The key sites nationally for archaeology, designated by the Secretary of State for national Heritage, through English Heritage and CADW. Statutory; designated under the Ancient Monuments and Archaeological Areas Act 1979.

<b>Septic Tank</b>	A tank used for the treatment of sewage from properties without mains drainage. The sewage is settled and some bacterial treatment occurs. Discharge of effluent is usually to a soakaway system.
<b>Sewage</b>	Liquid waste from homes, businesses etc which is normally collected and conveyed in sewers for treatment and/or discharge to the environment.
<b>Sewerage</b>	Means of conveying foul or surface water.
<b>SINC</b>	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.
<b>Sludge</b>	The accumulation of solids from treatment processes. Sludge can be incinerated or spread on farm land.
<b>Slurry</b>	Animal waste in liquid form.
<b>Soakaway</b>	System for allowing water or effluent to soak into ground, commonly used in conjunction with septic tanks.
<b>Soft Engineering (Rivers)</b>	River bank works using earth, grass, tree planting, reeds and other natural (soft) materials.
<b>SoS</b>	Standards of Service.
<b>SPA</b>	Special Protection Areas. Areas of importance for birds.
<b>Spray Irrigation</b>	The watering of crops by spraying. Can have a high impact on water resources.
<b>SSSI</b>	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.
<b>SSW</b>	South Staffordshire Water
<b>SWQO</b>	Statutory Water Quality Objectives. Water Quality Objectives set by the Secretary of State for the Environments, Transport and the Regions, in relation to controlled waters.
<b>STP</b>	Sewage Treatment Plant (operated by non utility companies).
<b>Strata</b>	Layers of rock, including unconsolidated materials such as sands and gravels.
<b>STW</b>	Sewage Treatment Works (operated by utility companies).
<b>STW Ltd</b>	Severn Trent Water Ltd.
<b>Sulphur dioxide (SO<sub>2</sub>)</b>	A gas which dissolves in water to give an acidic solution. It is an irritant when inhaled and may cause breathing difficulties. Emissions of SO <sub>2</sub> can lead to acid rain, affecting ecosystems and water quality. A target pollutant in the UK National Air Quality Strategy.
<b>Surface Water</b>	Water which flows or is stored on the ground surface.
<b>Sustainable development</b>	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

<b>Telemetry</b>	River levels, rainfall, temperatures and wind run are recorded on data loggers connected to the telephone network. Information from the recording sites can be automatically accessed from a central point.	
<b>Trade Effluent</b>	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.	
<b>Transfer Station</b>	Waste disposal facility where waste is collected prior to transport to final disposal point.	
<b>Underground Strata</b>	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.	
<b>UWWTD</b>	Urban Wastewater Treatment Directive.	
<b>Water Table</b>	The natural level of underground water.	
<b>Wetland</b>	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.	
<b>Winter Storage Reservoir</b>	Reservoirs built by farmers to store water during the winter months when it is "plentiful" for re-use during the summer.	
<b>1:10 Year Drought/Flood</b>	A drought/flood event with a statistical probability of occurring once in a ten year period (other periods may be specified in a similar way).	
<b>UNITS</b>	ppb	parts per billion
	$\mu\text{g}/\text{m}^3$	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	$10,000\text{m}^2$	= 1ha (equivalent to 2.47 acres)
Flow	1,000l/s	= $1\text{m}^3/\text{s}$
	$1,000\text{m}^3/\text{d}$	= 1ML/d

## Appendix 2 Organisations consulted prior to the publication of this report

In November 1998, all unitary, county and district councils in the Dove plan area were contacted together with other organisations with a known interest in the local environment. Some organisations, those with a number of departments or offices were contacted separately. This pre-consultation exercise was designed to focus on groups/organisations that could provide information about the area and who may be involved in some of the environmental problems the area faces. Some additional issues and options did arise from the consultation and where appropriate have been incorporated into this report.

### List of Organisations Contacted:

ADAS	Hanley Angling Society
ARC Central	Highways Agency
Ashbourne Fly Fishing Club	High Peak District Council
Ashbourne Town Council	Inland Waterways Association
Ashbourne Wine Tavern Angling Club	Institute of Freshwater Ecology
Ballhay Green Angling Club	Institute of Waste Management
Blount Fly Fishers	JCB
Blue Circle Cement Angling Club	Joshua Wardle Ltd
Blue Circle Industries plc	Kids Grove & District Angling Association
British Canoe Union	Leek & District Fly Fishing Association
British Geological Survey	Leek & Moorlands Fishing Club
British Gypsum Angling Club	Leek Police Angling Club
British Gypsum Ltd	Leicestershire & South Derbyshire A A
British Trust for Conservation Volunteers	Local Government Association
British Waterways	Local Authority Recycling Advisory Committee
Burton Mutual Angling Association	Leek Dyeing & Finishing Co. Ltd
Callow Top Angling Club	Leek Town Council
Cheadle Angling Club	MAFF
Cheadle Town Council	Mayfield Yarns
Confederation of British Industry	National Association of Boat Owners
Council for the Protection of Rural England	National Farmers Union
Countryside Commission	National Federation of Anglers
Country Landowners Association	National Trust
Courtaulds Chemicals	Natural History Museum
Department of Environment, Transport & the Regions	Nestle UK Ltd
Derby Angling Association	Norbury Fishing Club
Derby City Council	OFWAT
Derby Railway Institute Angling Club	Okeover Hall Estate
Derbyshire Agricultural Society Ltd	Pastures Hospital Staff Angling Club
Derbyshire County Angling Club	Peak Park Joint Planning Board
Derbyshire County Council	Pride of Derby Angling Association
Derbyshire Dales District Council	Prince Albert Angling Society
Derbyshire Rural Community Council	Ripley & District A C
Derbyshire Wildlife Trust	Royal Agricultural Society of England
Dove Valley Anglers Association	Royal Commission of Historical Monuments of England
East Staffordshire Borough Council	Royal Ordnance plc
English Heritage	RSPB
English Nature	Rural Community of Staffordshire
English Partnerships	Rural Development Commission
Farming & Rural Conservation Agency	Severn Trent Water Ltd
Farming & Wildlife Advisory Group	Sheffield Trout Anglers Association
Federation of Small Businesses	Sir Thomas & Arthur Wardle
Fenton & District Angling Association	Soil Survey & Land Research Centre
Fifty Nine Fly Fishers	South Derbyshire District Council
Friends of the Earth	Staffordshire Biological Records Centre
Forestry Commission	Staffordshire County Council
George Dutton Ltd	Staffordshire Moorlands District Council
Government Offices for East Midlands	Staffordshire Wildlife Trust Ltd
Government Office for West Midlands	Standon Bowers Education Centre



## **Appendix 2 Organisations consulted prior to the publication of this report**

Stenson Fields Angling Club  
Stoke on Trent Angling Society  
Swainsley Fly Fishing Club  
The Canal Authority  
The Cheadle (Staffordshire) Water Works Co.  
Ltd  
The Ramblers Association  
The Royal Association of British Dairy Farmers  
The Salmon & Trout Association  
Thomas Bolton Ltd  
Thorley Angling Society  
Tidy Britain Group  
Tilcon Ltd  
Tissington Fly Fishers  
Town and Country Planning Association  
Trentham Outdoor Pursuits Club  
Uttoxeter Town Council  
Warrington Anglers Association  
Water UK

Parish Councils within the Catchment

### **Dove responses received from:**

ARC Central  
British Waterways  
Country Landowners Association  
Croxdon Parish Council  
Cubley Parish Council  
Derbyshire County Angling Club  
Derbyshire Wildlife Trust  
Draycott in the Clay Parish Council  
Endon with Stanley  
Parish Council  
English Nature  
Farming and Rural Conservation Agency  
Ilam Parish Council  
Inland waterways Association  
Leek & District Fly Fishing Association  
National Trust  
Okeover Estate Office  
Peak National Park  
Sheffield Trout Anglers Association  
Soil Survey & Land Research Centre  
South Derbyshire District Council  
Staffordshire County Council  
Staffordshire Wildlife Trust  
Stoke on Trent Angling Society  
Swainsley Fishing Club  
Tidy Britain Group  
Uttoxeter Parish Council  
Waterhouses Parish Council

The table below illustrates the continuity between the Dove LEAP and the Dove Catchment Management Plan (CMP) in relation to the issues raised. Progress on the CMP issues and actions were reported in the Second Annual Review of the CMP, published in May 1997. Some issues require further action and have therefore been carried over from the CMP into the LEAP, and some have been completed or are now considered to have become part of the day to day work of the Agency i.e a routine activity. New issues contained in the LEAP mainly relate to the Agency's new duties.

#### Comparison of Issues in the Dove CMP and Dove LEAP

CMP Issues	LEAP Issues
1 Flow monitoring on the River Churnet	Completed
2 Operation of Egginton intake on the River Dove	Completed
3 Water resource management in the Upper Churnet	12 Water resource management in the Dove catchment
4 Dove catchment abstraction licensing policy	13 Water resource management in the Dove catchment
5 Low flows in the Croxden Brook	13 Water resource management in the Dove catchment. AMP3 scheme
6 Contaminated land at Leek	4 Contaminated groundwater at Leek
7 Rural sewage problems	Ongoing. Three new applications under Section 101 A of the Environment Act have been applied for. Callow Top, Ashbourne has been approved, the approval for Fauld Camp, Tutbury and Butterton are pending. These schemes will come under AMP3 (2000 – 2005)
8 Inadequate foul and surface water disposal arrangements on a number of industrial estates	Ongoing. Fauld Camp, this may be resolved if the Section 101A application is approved.
9 Eutrophication at Foremark and Staunton Harold Reservoir	Completed. Staunton Harold Reservoir was designated as a Sensitive Area (Eutrophic) under the Urban Waste Water Directive in 1997. Foremark Reservoir was turned down for designation.
10 Water quality problems in the River Tean below Checkley STW	Completed. A new activated sludge plant and sandfilters are now operating at Checkley STW, which was part of AMP2 investment. This has resulted in visual improvements and biological quality downstream from the STW.
11 Flooding along the lower Dove Valley	2 Flooding along the lower Dove valley
12 Risk of flooding from the River Tean and the Marchington Brook	Completed. See also issue 20 in LEAP for improved flood forecasting.
13 Flooding at Oakamoor from the River Churnet	Completed.
14 Pressure from development in flood balancing areas adjacent to Uttoxeter	Issue deleted at CMP Action Plan stage
15 The condition of Dovecliffe weir	Completed. Weir was repaired in Autumn 1996. Monitoring of the weir is undertaken
16 Reintroduction of Salmon into the River Dove	9 Reintroduction of Salmon into the River Dove
17 The genetic diversity of brown trout	10 The genetic integrity of brown trout in the Dove catchment
18 Lack of diversity in the physical structure of the lower Dove and the loss of aquatic habitat	8 Landscape and ecology in the Dove catchment 16 Biodiversity in the Dove catchment
19 The return of otters to the catchment	16 Biodiversity in the Dove catchment
20 Impact of tourist numbers on the physical character of Dovedale	8 Landscape and ecology in the Dove catchment

CMP Issues Cont..	LEAP Issues Cont..
21 Control of invasive plants in the catchment	16 Biodiversity in the Dove catchment
22 Unauthorised tipping in the River Dove	8 Landscape and ecology in the Dove catchment 14 Sustainable river bank management
23 Poor water quality in the River Manifold upstream of Wetton Mill	17 Water quality objectives, Standards and Directives

Listed below is a selection of leaflets available from the Upper Trent office of 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.

A Better Environment for England and Wales  
Agriculture Pesticides and Water  
Anglers and the Agency  
Blue-Green Algae  
A Brief Summary of the Agency's 1998-99 Corporate Plan  
Catch and Release – A Guide to Careful Salmon Handling  
Charging for Information  
Conservation Work in the Midlands Region  
Customer Charter  
Our Complaint and Commendation Procedure  
Defying the Disaster  
Don't Ignore it, Report it  
Enjoy your Garden  
Environment Agency – General Bird and Tree Leaflets  
Environment Digest  
Environmental Issues in the Midlands – 1995/96  
Environmental Policy for the Agency's Own Activities  
An Environmental Strategy for the Millennium and Beyond  
Farm Waste Management Plans  
Farm Pollution and How to avoid it  
Fees & Charges – Waste Management Licensing  
Flood Defence Fact Sheet  
Flood Warning Information  
Get Sorted  
Green Shoots – Our vision for environmental education  
Guidance for the Control of Invasive Plants  
A Guide to Information Available to the Public  
A Guide to Home Composting  
Have Fun, Have a Care  
Home Pollution and How to avoid it  
Hormone Disruption in Wildlife  
Identifying Freshwater Invertebrate Life  
A Guide for Potential Abstractors  
Integrated Pollution Control and You – Fact Sheet  
Is Muck Brass?  
Looking After Our Rivers  
Making the Right Connection – Avoiding water Pollution  
Midlands Region – Upper Trent Area Fact Sheet and Map  
Mobile Sheep dipping  
Money for Nothing – your Waste Tips for Free  
A New Waste Management Licensing System – What it means, How it affects you  
Oil Care – Follow the Oil Care Code  
Our Midlands Environment  
Partnership in Environment Protection  
Recreation Sites  
Riverbank Erosion  
River Life – from Source to Sea  
Rod Fishing Byelaws  
Safeguard the Environment – A Guide for Developers  
Severn Bore & Trent Aegir – 1998 Timetable  
Silage Pollution and how to avoid it  
Spray Irrigation  
Waste – Duty of Care  
Waste Regulation and You – Fact Sheet  
Water Alert  
Water – Quality – Fact Sheet  
Water Resources – Fact Sheet  
What a Waste  
What did you throw out this week?



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2

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FRADLEY PARK  
LICHFIELD  
STAFFS  
WS13 6BR

LEAPS

## 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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#### WALES

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Cardiff CF3 0LT  
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Fax: 01222 798 555



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

#### ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

**0645 333 111**

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

#### ENVIRONMENT AGENCY EMERGENCY HOTLINE

**0800 80 70 60**



**ENVIRONMENT  
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