

local environment agency plan

WYRE LEAP
ANNUAL REVIEW
JULY 1998



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**ENVIRONMENT
AGENCY**

FOREWORD

This Annual Review details the work that has taken place in the Wyre Area on the issues that were raised in the Local Environment Agency Plan (LEAP) Action Plan October 1997. Many of the issues require partnership to achieve resolution and this work will also be reported.

The LEAP process is progressive, allowing issues to be developed as circumstances or situations change. The Annual Review is an opportunity to improve plans or include new issues where relevant. For this reason we need your continued involvement to ensure that we achieve the improvements in the local environment we are seeking.

Thank you for your continued interest in this plan and please let us know if you think we should be adding to it or changing the proposed actions.

P. C. Greifenberg

Peter Greifenberg
Area Manager
Central



The Environment Agency's Vision for the Wyre Area

The Environment Agency has a vision of “ A better environment in England and Wales for present and future generations”.

Following from this the Agency's vision for the Wyre area in 25 years is to have :

- A sustainable supply of water for abstractors that does not compromise the needs of fauna, flora and amenity and where the quality of water sustains good salmonid or coarse fisheries.
- The risk of flooding to property minimised and the design of flood alleviation and land drainage works accommodates for and seeks to enhance, where possible, species and their habitats, and also provides access to the watercourse for recreational pursuits.
- Activities in the home, in industry and rural and residential developments are managed to minimise waste production.
- Awareness of the value of ecological features such as wildlife habitats, landscape, archaeological and historic features is raised through educational initiatives. Furthermore, the protection, promotion and enhancement of these features are endorsed by legislation and adopted as policy through local development planning processes.

In achieving this vision of the Wyre area the Agency will continue to advise and work in partnership with organisations and enforce, where necessary, the relevant regulations. We cannot achieve these objectives on our own and we depend on the commitment and enthusiasm of others.

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Local Environment Agency Plans (LEAPs)

What a LEAP is for

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 agenda of integrated action for environmental improvement in order to optimise benefit for the local environment.

The Agency is the competent authority for managing and regulating the water environment, for regulating waste, major industrial processes, and contaminated land. We have duties to protect and enhance biodiversity in everything we do, to protect landscape and heritage and to promote inland navigation and recreation. It is these areas that relate to our functions and dictate the fields in which we can raise specific issues.

The Process

The production of Local Environment Agency Plans (LEAPs) within the Agency involves three stages:

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

Annual Reviews

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

The review document will comprise the following information:

- Details of progress that has taken place in the last twelve months.
- Identification of additional actions to maintain progress in the light of changes in the area.
- Consideration of the need to update the LEAP.

Update requirements will obviously depend on the particular needs of the area. It is possible to add new issues and advance those already put forward. Full updates to the LEAP will normally be undertaken every five years. Key organisations and individuals forwarding comments will receive an annual review paper to update them with the action plan progress.

Local Environment Agency Plans (LEAPs)

Partnership

The Department of the Environment's (now Department of Environment, Transport and the Regions) Statutory Guidance under Section 4 of the Environment Act 1995 (draft June 1996) describes how the Agency should contribute towards the objective of attaining sustainable development. In particular it concludes that the Agency should:

- make use of integrated catchment management planning or other integrated geographical management tools in order to take a holistic approach to the protection and enhancement of the environment.
- strive to develop close and responsive relationships with the public, local authorities and other representatives of local communities, regulated organisations and public bodies with environmental responsibilities. It should also strive to work in partnership with all such groups.

How this plan fits

The Central Area of North West Region has been split into five LEAP areas. This Annual Review of a LEAP is the first to be produced in the Central Area. Central Area covers the following areas: Lune, Wyre, Ribble, Douglas and Alt / Crossens.

The Wyre Area

The Area

The Wyre area covers 450 square kilometres and includes the catchments of the main River Wyre, Rivers Brock, Calder and Cocker and also includes Inskip Brook, Grizedale Brook, Tarnbrook Wyre and Marshaw Wyre. The area has as a major feature the coastal zone to the west, including Blackpool as an important tourist and leisure area contributing to the local economy. The area's diversity of land use incorporates both rural and urban development. These have implications for the Agency's responsibilities covering waste management, water quality and conservation issues.

1. INTRODUCTION

1.1 This Annual Review of the Wyre Local Environment Agency Plan summarises the progress made since the publication of the report in October 1997. The purpose of this annual review is to keep informed and involved, those organisations and individuals who participated throughout the preparation of the Wyre Local Environment Area Plan Consultation Report.

2. UPDATE ON THE LOCAL ENVIRONMENT

2.1 The Wyre area extends beyond the remit of Wyre Borough Council, incorporating parts of Lancaster City Council and areas within the Boroughs of Fylde, Blackpool and Preston.

2.2 The area covers a large part of Central Lancashire and is divided roughly in two along a north/south line by the M6 Motorway and the Lancaster Canal. It is mainly a rural agricultural landscape. This stretches from the Pennine moorland in the east to relatively flat and fertile land on the Fylde coast.

2.3 The main centres of population and built landscape are along the developed coastline from Blackpool to Fleetwood. Inland the area is comprised of small agricultural villages and hamlets, with larger settlements around the market town of Garstang.

2.4 A significant feature within the catchment is the Forest of Bowland, which has the following designations:

- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- Area of Outstanding Natural Beauty (AONB)

Within the area there are also a number of designated County Biological Heritage Sites. The Wyre Estuary mudflats and saltmarsh are also designated SSSI. The Wyre Estuary also supports commercial sea fish and shellfish fisheries along with a commercial elver fishery on the River Cocker.

2.5 The area's popularity is partly due to the diverse range of recreational features which it offers.

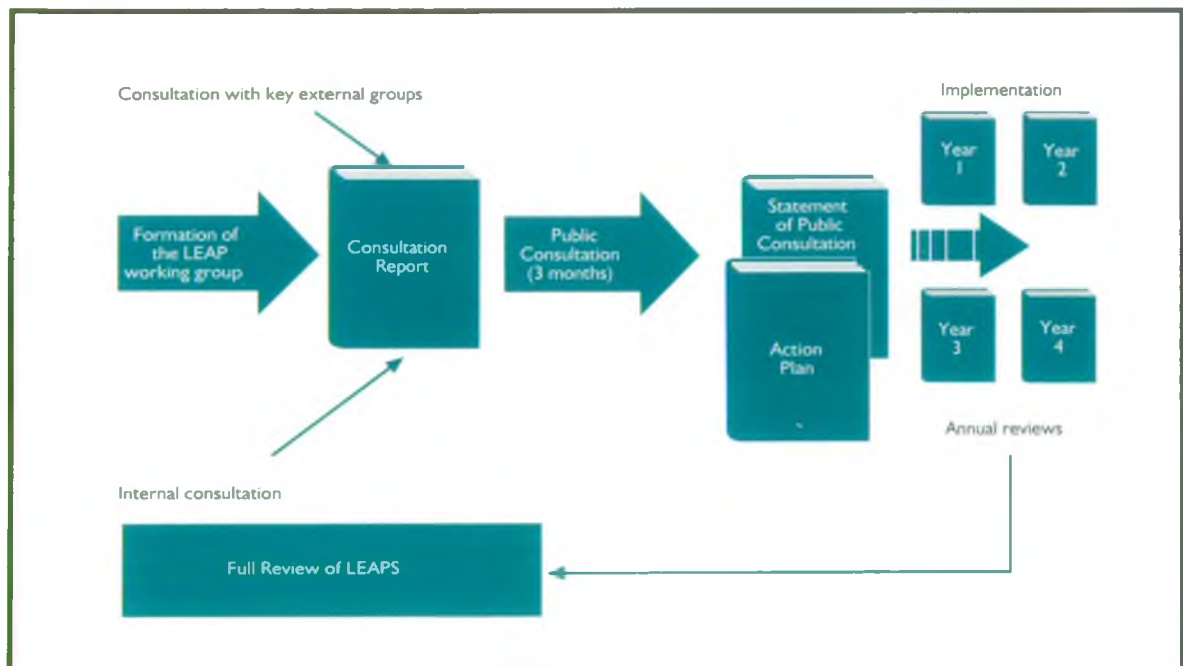
Amongst these are:

- Game, coarse, salmon and sea trout fishing.
- Lancashire Cycle Way.
- Water sports such as yachting and water-skiing.

2.6 In terms of water abstractions, water is available in the Lune, if required, and transferred via pipeline to the Wyre at Abbeystead for re-abstraction. There are also residual flow conditions on the Lune and Wyre to protect the rivers.

2.7 The area has an important agricultural element contributing to the local economy. This intensive activity has led to serious diffuse pollution problems resulting from silage, slurry and other farm waste. Consequently, the Agency is actively promoting the use of Farm Waste Management Plans to control these types of pollution.

2.8 Waste management activities in the area are concentrated in the coastal zone around Blackpool, due to population densities. Resulting from this, the area has numerous transfer stations and metal recycling facilities. A high concentration of waste activities, mainly transfer operations, exists at Poulton-le-Fylde Industrial Estate. This site is subject to close scrutiny by the Agency.



3. SUMMARY OF PROGRESS

3.1 Since the publication of the action plan a number of significant issues have been resolved or projects completed in partnership with other organisations including:

- The alteration of Churchtown Weir fish pass and improvements made to Street Bridge Weir to ease distribution of fish in the Wyre area were completed August 1997.
- The installation of low flow measuring stations on Grizedale Brook and River Calder.
- The completion of spawning and gravel seeding at Abbeystead in October 1997.
- An agreement reached with riparian owners for the erection of fencing at River Wyre, Scorton and Abbeystead.

The Issues

3.2 Implementation

This section gives information on the progress of the implementation of the Action Plan for the Wyre LEAP Area.

3.3 The issues are presented with a number of actions, a target timetable and the identification of responsible parties. Where possible, costs have been outlined for the period covered by the plan. This does not necessarily reflect the total cost of the schemes and is sometimes a projected estimate to be more accurately costed later. This document recognises current priorities, both within the Agency and other organisations. The issues are not numbered in any order of priority or importance.

Key to Estimated Costs

>	Greater than.
<	Less than.
—	Action in the year indicated.
R	Recurring non-additional cost to annual budgetary provision.
U	Unknown cost at this time.
U(i)	Individual costs will be identified and agreed during negotiations.
U(ii)	Capital costs will be identified during negotiations and surveys.
*	Only Agency costs (other than normal working costs) identified here.
	Costs to other organisations unknown.
K	£,000.

Abbreviations

The Agency	Environment Agency.
AC	Angling Clubs.
AMP	Asset Management Plan.
BW	British Waterways.
CSO	Combined Sewer Overflow.
FA	Forestry Authority.
FWAG	Farming and Wildlife Advisory Group.
Las	Local Authorities.
LCC	Lancashire County Council.
LWT	Lancashire Wildlife Trust.
MAFF	Ministry of Agriculture, Fisheries and Food.
NFU	National Farmers Union.
NWW Ltd.	North West Water Ltd.
RO	Riparian Owner.
RSPB	Royal Society for the Protection of Birds.

Ponds and the associated pondscape resulting from earlier digging works are a characteristic element of the Lowland Wyre, and are of landscape and heritage value, in addition to their habitat and associated species resource. The wildlife value of a pond is considerably increased if it is part of a network of ponds. This network of ponds is under continual threat from development, changes in agricultural practice, infilling and poor management or total neglect and has suffered a 40% decline in the last 50 years. Fragmentation of the network needs to be addressed by viewing ponds as part of a wider pondscape, and developing a strategic approach to their protection.

Update on progress since October 1997:

- Assessing the existing pond and pondscape resource - Actions are not scheduled to commence until April 2000.
- Development of Pond Information Network in the Wyre area - Action not scheduled to commence until April 2000.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Loss of Fylde pond habitat due to infilling and development.	Assess the existing pond and pondscape resource - identifying key sites for protection; degraded sites for enhancement and opportunities for pond creation.	The Agency	Pond Life Project	£10 K				—	—	
	Encourage the continued development of the database "Pond Information Network" in the Wyre area.	Pond Life Project	Pond Warden Scheme							
	Encourage the promotion of ponds and pondscape through publicity and education.	Pond Life Project	The Agency			—	—			

Issue 2 THE PROTECTION AND RESTORATION OF EXISTING AND DEGRADED IMPORTANT HABITAT TYPES AND THEIR ASSOCIATED SPECIES, TO PROTECT AND INCREASE DIVERSITY.

An English Nature survey in 1993 identified a decline in lowland wet grassland around St.Michaels, Pilling and Cockerham Mosses. This habitat is important for waders and wildfowl. The Agency will work with key partners to recreate and restore these areas.

Peatland areas around Pilling, Winmarleigh, Rawcliffe, St.Michael's, Inskip, Elswick and Wesham are being cut and drained. A North West Wetland Survey has shown that these areas provide archaeological finds such as the severed head found at Pilling. Maintenance of the peatland is important not only as a habitat, but also to preserve the archaeological remains within them.

Water-voles are short-listed on the bio-diversity action plan. Water voles are present in the Wyre, but suitable habitat is limited and promotion is necessary to ensure its survival. The area identified for study is the area to the west of the M6. The Environment Agency is working in partnership with Local Authorities, Wildlife Trusts, English Nature and Societies to address this.

There is a shortage of suitable spawning substrate in the Wyre area for salmonid and coarse fish. The Agency is seeking to rectify this by forming work parties to undertake cleaning of existing gravels in collaboration with angling clubs. Where gravels are absent, gravel replenishment work will be carried out. This action is necessary to promote an increase in the distribution and density of fish populations in the Wyre area.

The creation of riparian buffer strips along certain rivers and streams may act to reduce diffuse pollution and land run-off. They would also increase the diversity and distribution of habitat for fish and other wildlife by providing extra cover and food.

The fencing-off of river banks would also reduce damage through over-grazing. This is a serious problem on the Wyre downstream of Churchtown and on the River Brock. Banks would become more stable, thereby reducing erosion and siltation which should enhance flood defence management and maintain existing defence standards.

Lancashire has one of the lowest levels of woodland cover in the country. Within the Wyre catchment linear broad leaved woodlands associated with the rivers are the most noticeable. The Wyre Tree Strategy highlights the sparsity of tree cover, in particular the lower reaches of the Wyre downstream from Garstang. Riparian owners will be encouraged to create and plant up buffer strips through grants available from the Countryside Stewardship Scheme, although this may conflict with access requirements to the watercourses for flood defence purposes and recreational users and, in addition, put at risk current flood defence standards of protection. The upper reaches of the catchment have suffered from poor woodland management and excessive grazing from livestock resulting in the degradation of some areas of Ancient Woodland (that is, woodland that has existed since at least 1600 AD).

Update on progress since October 1997:

- Lowland Wet Grassland and Peatland - Actions are not scheduled to commence until April 2000
- Water Voles National Strategy- Actions are not scheduled to commence until later in 1998
- Use of national strategy ...of habitat and species protection - Actions are not scheduled to commence until April 1999
- Manual cleaning of existing gravels - Spawning and gravel seeding at Abbeystead completed October 1997.
- Removal of accumulated silt - An agreement has been reached with riparian owners for fencing at River Wyre, Scorton and Abbeystead.
- Use of Wyre Tree Strategy - An agreement has been reached with riparian owners.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
The protection and restoration of existing and degraded important habitat types and their associated species, to protect and increase bio-diversity.	Lowland Wet Grassland and Peatland. Use the EN 1993 report and Wetland Survey to identify key locations where existing peat and lowland wet grassland can be protected; and locations where lost habitat can be recreated and restored.	The Agency	RSPB EN LCC Arch.Unit	£10K				—	—	
	Water Voles National Strategy. This needs to be taken into consideration prior to any locally based initiative.	The Agency	LWT	£5K		—	—			
	Make use of national strategy to implement a programme of habitat and species protection in the Wyre catchment.	The Agency	LWT				—	—		
	Manual cleaning of existing gravels. Further seeding of suitable gravels and transference of gravels from above Abbeystead Reservoir.	The Agency AC RO		£400 per annum	—	—	—	—	—	—
	Removal of accumulated silt in areas of high deposition by either extraction or modification of channel engineering.	The Agency AC		£500	—					
	Use Wyre Tree Strategy as a catalyst to encourage riparian owners to undertake set aside buffer strips increasing bankside vegetation.	The Agency	RO FWAG	£1K		—	—	—	—	—
	Revegetation of river channels to reduce erosion and silt deposition.									

Issue 3 IMPACT OF BARRIERS RESTRICTING THE DISTRIBUTION OF FISH IN THE WYRE AREA

Several barriers, either full or partial, to fish migration have been identified including: Churchtown Weir, Dolphinholme, Street Bridge Weir, the Aqueduct Weir on the River Brock and Lee Bridge Weir at the foot of Tarnbrook Wyre with some smaller obstructions created by bedrock falls. In addition, the modification of bridge culverts and the selective removal of fallen trees should ease the passage of fish. The fish pass at Churchtown Weir is currently inefficient and needs to be improved. Additional sites identified but not actioned in this plan include: Foxhouses Brook, Grizedale Dam and Cam Brook Force.

Update on progress since October 1997:

- Alteration of Churchtown Weir fish pass - Completed cleaning repairs and minor alterations in August 1997.
- Investigation of new fish pass at Churchtown - Plan drawings are available for future projects. Maintenance has been carried out on existing fish pass.
- Improvement on Street Bridge Weir - Improvements made in October 1997.
- Selective removal of fallen trees - Work party carried out on Foxhouses Beck in collaboration with Wyresdale Angling Club.
- Modification of road bridge culverts - No progress.
- Installation of fish pass on the River Brock Weir - Discussions have been held with Brock Anglers over the implications of installing the fish pass.
- Removal of several smaller obstructions - Future work parties to be organised; a contact list for volunteers is being organised.
- Investigation to modify major weirs to allow constant flow at Calder and Barnacre Intake - There will be a requirement to establish river flow objectives in partnership with NWW.
- Restoration of fish stocks in tributaries - 1000 each of chub and dace stocked into Woodplumpton Brook, Barton Brook and New Draught Brook in December 1997. 5000 chub stocked into main River Wyre in December 1997.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Impact of barriers restricting the distribution of fish in the Wyre area.	Alter Churchtown Weir fish pass.	The Agency	RO	<£1K	—					
	Investigate the possibility of creating a new fish pass at Chuchtown.	The Agency	RO	£70K	—	—	—	—	—	—
	Improve Street Bridge Weir.	The Agency AC	RO LA	<£1K	—	—				
	Selective removal of fallen trees.	The Agency	RO LA	<£1K	—	—	—	—		
	Modify road bridge culverts to ease the passage of fish.	The Agency LCC	AC	£1K	—	—				
	Install a fish pass on the River Brock Weir.	The Agency BW	RO AC	£60K			—	—	—	—
	Remove several smaller obstructions.	The Agency AC	RO	£1K	—	—	—			
	Investigate improvements to modify major weirs to allow constant flow at Calder and Barnacre Intake.	The Agency	BW NWW	U	—					
	Restore the fish stocks in tributaries following future water quality improvements.	The Agency	AC RO	£5K						—

There is a lack of footpaths in some areas of the catchment, particularly in the areas between Little Singleton and Little Eccleston, between Great Eccleston and St. Michael's and at Gubberford Lane in Scorton. In addition to which the coastal path is being pushed inland at Pilling. Some existing footpaths, between Skipool Bridge and Little Singleton and between Hambleton and Out Rawcliffe become waterlogged and others are littered by the effect of the tide. This has been raised not only by recreational users but by Lancashire County Council who have expressed their concern at the general lack of good quality open space amenity, especially within urban areas. The Agency does not own the majority of flood banking but has agreements with local landowners for flood bank protection and maintenance. The Agency, in collaboration with Local Authorities and landowners, will seek to improve and promote current facilities and act as honest broker in discussions to extend access for walking and cycling.

The recreational use of the river corridor occasionally gives rise to a conflict of interest between different types of users, for example motor boats in the Estuary can disturb people interested in bird-watching. In these instances, the Agency will attempt to resolve conflict by education and liaison with the users of the recreational resource for diverse recreational purposes.

Canoeists have identified a lack of parking and access to the river for canoeing in some areas, for example in Garstang. Canoeing does occur from Garstang to Fleetwood on an ad-hoc basis. The Agency will seek to promote access for a canoe trail in this area with landowners and other recreational users during suitable river flows and times of the year.

Update on progress since October 1997:

- Identification of areas where existing footpaths can be extended - No progress to date.
- Identification of areas where canoe access can be improved - No progress to date.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Poor access to the watercourse and coast for recreational use.	Identify areas where existing footpaths can be extended and where new paths can be created.	LA The Agency	RO Ramblers Association	U(i)	—	—				
	Identify areas where canoe access to the river can be improved. Facilitate negotiations for the use of the river for canoeing in suitable areas and periods with the aim of brokering an access agreement.	The Agency BCU LA	RO AC	U(i)	—	—				

Issue 5 ARTIFICIALLY INDUCED LOW FLOW CONDITIONS WITHIN THE CATCHMENT

Historical rights for the abstraction of water from the Wyre catchment results in artificial low flows. Detrimental effects have been identified in fauna and flora within 27kms of the Rivers Wyre and Calder (12kms affected by surface water abstractions / 15kms due to groundwater abstractions). These historic rights are enjoyed by North West Water Ltd (NWW) for public water supply and by British Waterways (BW) for maintaining water levels within the Lancaster Canal. The Agency is working with NWW and BW to identify solutions and policies to reduce or remove the detrimental effects of these abstractions.

During the pre-consultation exercise carried out in July 1996, public concern was expressed regarding the environmental effects of both surface water and groundwater abstractions. In particular in Tarnbrook Wyre, Grizedale Brook and River Calder but also over other extensive reaches over the Fylde aquifer. This was also confirmed in the results issued in the APEM Report detailing a study of the Fylde prepared for the Agency in 1996.

The Agency has recently conducted a Fylde Aquifer / Wyre catchment study which highlighted a number of issues regarding the hydrology and hydrogeology of the Fylde Aquifer. Observations including declining groundwater levels, loss of river flows over extensive reaches of most watercourses and losses/deterioration in wetland features. Based upon the study a number of recommendations have been made which have been incorporated into the solutions.

Update on progress since October 1997:

- Evaluation of effects of licensed abstraction conditions - Low flow measuring stations installed on Grizedale and Calder in 1997 / 98.
- Investigation of feasibility of construction of drift boreholes -
- Investigations are underway for 1998 / 99.
- Investigation of feasibility of installing a permanent gauging station on Woodplumpton Brook - Investigations are underway for 1998 / 99.
- Review of current status... of continuous recording flow measuring stations - A review is currently on-going.
- Evaluation of effects of licensed abstractions ... at River Wyre, River Brock and Woodplumpton Brook - The Fylde Aquifer catchment study is complete. Recommendations are to be evaluated and a programme devised.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Artificially induced low flow conditions within the catchment.	Evaluate effect of licensed abstraction conditions from surface water sources: Tarnbrook Wyre Grizedale Brook River Calder	The Agency The Agency The Agency	NWW NWW NWW	R £2K	— — —	— — —				
	Investigate feasibility of construction of drift observation boreholes adjacent to: NWW source L Winmarleigh Moss SSSI	The Agency The Agency	NWW EN	U(ii)R R	— —	— —	—			
	Investigate the feasibility of installing a permanent gauging station on Woodplumpton Brook	The Agency		U(ii)R	—	—	—			
	Review of the current status and reliability of continuous recording flow measuring stations, particularly with regard to low flows.	The Agency		R		—	—			
	Evaluate effects of licensed abstraction and augmentation conditions from groundwater sources on the following: River Wyre River Brock Woodplumpton Brook	The Agency The Agency The Agency	NWW	R		—	—			
	Enhance environmental monitoring (resulting from APEM report)	The Agency	EN	U	—	—	—	—		

Several watercourses within the Wyre LEAP area are designated as salmonid fisheries under the Freshwater Fisheries Directive (EEC/78/659). (See also Issues 2 and 3). The following rivers are presently failing to meet the standards for ammonia: Barton Brook, New Draught Brook, Sparting Brook, Westfield Brook, River Calder and Little River Calder.

The stretches listed below presently fail to comply with strict limits on water quality, in particular the concentration limits for ammonia. The causes of these high levels of ammonia are believed to originate primarily from agricultural practices. Slurry and silage liquor discharges occur from farms with inadequate containment facilities. The spreading of slurry to land is also a significant contributor but is difficult to control due to the widespread nature of spreading activities. Other potential inputs of ammonia are discharges of treated sewage effluent from NWW WwTW's, and discharges from smaller private sewage treatment works and septic tanks.

Visits to farms by Agency staff are continuing. The visits provide an opportunity to advise and educate farmers on best farming practices. Advice is given about improvements that may be needed to contain farm wastes and how pollution can be avoided when spreading wastes to land. Irrigation advice is also available to reduce water usage.

Update on progress since October 1997:

- Provision of information and advice to agricultural community on pollution prevention, efficient spraying and spreading techniques is currently taking place.
- Initial water quality and ecological surveys completed in 1997. Further monitoring is continuing.
- A farm pollution control campaign has started with the objective of rectifying sources of farm pollution.
- Initial fisheries surveys have been completed and habitat surveys are planned for 1998.
- In relation to the provision of additional treatment at Barton WwTw, a refurbishment scheme is currently under consideration and appropriate consent standards have been identified.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Failure to meet Freshwater Fisheries Directive Standards	Provide information / advice to agricultural community on pollution prevention, efficient spraying/ spreading techniques.	The Agency	MAFF Agricultural Consultants	R	—	—	—	—	—	
	Carry out intensive water quality and ecological monitoring to identify and quantify inputs to the various stretches.	The Agency		£5K	—	—				
	Carry out farm pollution control campaigns to rectify sources of farm pollution.	The Agency	Farmers	U(i)	—	—	—	—	—	
	Carry out surveys of habitat and present fisheries status.	The Agency		£5K	—	—				
	Provision of additional treatment at Barton WwTW / revision of consent standards (if above actions prove this to be necessary)	NWW	The Agency	U(ii)						May become a statutory requirement.

**Issue 7 IMPACT OF DISCHARGES FROM NORTH WEST WATER (NWW) LTD.
WASTEWATER TREATMENT WORKS**

Flows into Pilling WwTW presently only receive primary treatment. These are locked in at Broadfleet at certain states of the tide causing significant failure to meet the long term objective of RE4 in Broadfleet for BOD, ammonia and dissolved oxygen.

Update on progress since October 1997:

- During 1997 some minor improvements to existing treatment facilities have been undertaken at Pilling WwTW.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Impact of Pilling WwTW on water quality of Broadfleet.	Install additional treatment at Pilling WwTW. Relocation of point of discharge to downstream of tidal gates.	NWW	The Agency	U(ii)						

Flows into Hambleton WwTW presently only receive primary treatment and are discharged into the high amenity watercourse Wardleys Creek before entering the Wyre Estuary. The poor quality of the effluent and the poor location of the outfall results in bad smells and sewage derived litter associated with the discharge impinging on boat users in the area.

Update on progress since October 1997:

- The abandonment of Hambleton WwTW and transference of flows to Fleetwood WwTW was not programmed to occur within this review period.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Impact of Hambleton WwTW on Wyre Estuary/ Wardleys Creek	Abandonment of Hambleton WwTW and transfer of flows to Fleetwood WwTW for treatment (preferred solution).	NWW		U(ii)						
	Provision of secondary treatment at present site.	NWW		U						

Of the 60 or so combined sewer overflows (CSOs) situated within the Wyre area around 20 are considered to be in an unsatisfactory condition by the Agency due to adverse impacts on water quality and aesthetics arising from poor design and / or lack of solids retention facilities. NWW are committed to addressing 3 unsatisfactory overflows that presently discharge to Marton Mere via the culverted Main Dyke in the 1997/98 financial year.

10 overflows in the Poulton area including 3 CSOs discharging to the Old Field Carr culvert in Hardhorn, 4 overflows discharging to Horsebridge Dyke in Normoss and 3 CSOs discharging to Main Dyke are due to be addressed in the period 2000 - 2005. The other unsatisfactory overflows will be considered for inclusion in NWW's AMP3 programme.

Update on progress since October 1997:

- Resolution of unsatisfactory Marton Mere CSO - A scheme which will abandon the unsatisfactory overflows is underway. This is due to be completed by March 1998.
- Review designations for remaining CSOs - Review is underway. A prioritised programme of work for AMP3 will be produced later in 1998.
- Pursue further improvements to sewerage network to resolve problem of remaining unsatisfactory CSOs - A scoping study has been undertaken to investigate and pool together existing information on the Poulton sewerage network.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Impact of discharges from combined sewer overflows.	Ensure resolution of unsatisfactory Marton Mere CSOs within present AMP 2 programme.	NWW	The Agency	U	—					
	Review designations for remaining CSOs and prioritise problems to be resolved.	The Agency	NWW LAs	R						
	Pursue further improvements to sewerage network to resolve problem of remaining unsatisfactory CSOs (eg Poulton)	NWW	The Agency	U(ii)						

Issue 9 **IMPACT OF CONTAMINATED SURFACE WATER DISCHARGES FROM SEPARATE SEWERAGE SYSTEMS.**

In areas served by separate sewerage systems, surface water systems are liable to contamination when foul water is incorrectly plumbed to the surface water system or where contaminated liquids are poured down surface water drains instead of drains connected to the foul sewer. This is a particular problem in the Thornton area where there has been a lot of new housing constructed that is served by separate sewers for foul and surface waters. There are numerous contaminated surface water (CSW) outfalls that discharge to Hillylaid Pool and Royles Brook causing poor water quality.

Update on progress since October 1997:

- Ensure identified CSW problems are investigated and resolved - A prioritised list of CSW problems in the NW Region has been produced. Work is due to commence in 1998 on the high priority problems. This will include some CSWs discharging to Hillylaid Pool.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Impact of contaminated surface water discharges from separate sewerage systems.	Ensure identified CSW problems are investigated and resolved	NWW	The Agency LAs	Approx. £1m likely to be spent in North West Region over next few years.		—	—	—	—	—

Issue 10 FAILURE TO COMPLY WITH WATER QUALITY OBJECTIVES DUE PRIMARILY TO AGRICULTURAL ACTIVITIES.

A large number of the classified watercourses within the Wyre LEAP Area presently fail to comply with the proposed short term and / or long term water quality objectives. Some of these failures are attributable to discharges from NWW WwTWs (see Issue 7), discharges from combined sewer overflows (see Issue 8) or discharges of contaminated surface water (see Issue 9).

However, due to the intensively agricultural nature of most of the Wyre LEAP area, many failures to meet water quality objectives are due primarily to agricultural practices, although in some cases there will also be inputs from NWW WwTWs and smaller private sewage treatment works and septic tanks.

Update on progress since October 1997:

- Carry out intensive water quality and ecological monitoring at Weeton Watercourse, Potters Brook, River Wyre below Garstang - This monitoring is on-going.
- Continue farm inspections and campaigns - Barton Brook campaign is underway.
- Provision of additional treatment at WwTWs - Appropriate consent standards have been identified. WwTW improvement schemes have been proposed for AMP3.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Failure to comply with Water Quality Objectives due primarily to agricultural activities.	Where appropriate carry out intensive water quality and ecological monitoring to identify and quantify inputs e.g. Weeton Watercourse, Potters Brook, River Wyre below Garstang WwTW.	The Agency		£5K	—	—				
	Continue farm inspections and where necessary carry out farm pollution control campaigns to identify and rectify sources of farm pollution e.g. Barton Brook	The Agency	Farmers	U(i)	—					
	Inskip Brook					—	—			
	Lancaster Canal				—					
	Thistleton Brook						—	—		

Issue 11 LOSS OF AQUATIC SPECIES DIVERSITY AND FLOODING PROBLEMS DUE TO THE IMPACT OF HIGHWAY DRAINAGE FROM M6 (JUNCTIONS 32-33) AND M55 MOTORWAYS.

All major roads are constructed with drainage systems to remove surface water which can cause hazardous driving conditions. These surface water drains often discharge to the nearest available watercourse. The disposal of drainage from roads can place a significant burden on the aquatic environment affecting the risks of both flooding and increasing the pollution load.

Decreases in the diversity and abundance of pollution sensitive species e.g. mayflies and stoneflies have been detected in the River Wyre, Bacchus Brook and River Cocker.

Update on progress since October 1997:

- There has been no progress to date on both actions because no work was scheduled to commence during this review period.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Loss of aquatic species diversity and flooding problems due to the impact of highway drainage from M6 (Junctions 32-33) and M55 Motorways.	Undertake further monitoring to assess the scale of highway drainage impact.	The Agency		£5K		—				
	Liaise with Highways Agency to seek improved drainage arrangements where impacts are identified as being significant.	The Agency	HA	R			—			

Issue 12 DETERIORATION IN WATER QUALITY DUE TO LACK OF SEWERAGE FACILITIES.

Section 22 of the Environment Act 1995 places a new duty on sewerage undertakers, via Section 101A of the Water Industry Act 1991, to provide, where appropriate and cost beneficial first time sewerage facilities in areas suffering from environmental or amenity problems caused by the existing sewage disposal arrangements. Developments in these areas will be restricted due to the inadequate drainage facilities.

Failure to meet objectives / Other Water Quality Problems:

Problems due to inadequate sewerage facilities were identified in the following areas in the Consultation Report:

Singleton Village; upper reaches of Potters Brook; tributaries of the Old River Brock; Halfpenny Lane, Longridge; Mains Lane, Little Singleton; Bartle and Swillbrook; Catforth.

Update on progress since October 1997:

- There have been no applications received for a first time sewer connection during this review period.
- Provision of sewer connection or new WwTW - Some investigative feasibility work has been completed.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Deterioration in water quality due to a lack of sewerage facilities.	Pursue provision of first time sewerage facilities.	Householders	LAs The Agency	U	—	—	—	—	—	
	Provision of sewer connection for new WwTW.*	NWW		U(ii)		—	—	—	—	

Issue 13 **FAILURE TO MEET BATHING WATER DIRECTIVE STANDARDS AT FLEETWOOD AND BLACKPOOL SOUTH BEACHES IN 1996.**

Despite completion of North West Water's Fylde Coast Resewerage Scheme failures to meet the Bathing Water Directive standards (for total and faecal coliforms) were recorded at Blackpool South and Fleetwood beaches for the 1996 bathing season.

The Fylde Coast Resewerage Scheme was completed in 1996. Fleetwood Marsh WwTW provides secondary treatment for wastewater flows that were previously discharged with only preliminary treatment via the Manchester Square, Anchorsholme and Chatsworth Avenue pumping stations at Blackpool, Cleveleys and Fleetwood together with wastewater from the Poulton area which was previously discharged to the River Wyre Estuary at Skippool. Wastewater generated in the Blackpool area is now transferred via a 12km long tunnel flowing underneath the promenade to the new WwTW. Treated effluent is discharged via a 5 km pipeline to an area of Morecambe Bay known as Lune Deeps.

Update on progress since October 1997:

- Undertake / commission major project including intensive monitoring and investigations... - Major investigative projects completed in relation to the failures at St. Annes and Blackpool resulting in the identification of bacteriological budgets and main sources of contamination. Further improvement schemes are now being considered for the 1998 bathing season. Further investigative work is planned around Fleetwood.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Failure to meet Bathing Water Directive Standards at Fleetwood and Blackpool South beaches in 1996.	Undertake/ commission major project including intensive monitoring and investigations to assess reason for failures and to identify any further work required.	The Agency	NW LAs	>£100K in Central Area.	—	—				
	Resolution of any outstanding problems found.	The Agency	NWW LAs	U	—	—				

Landfill gas produced at Jameson Road contains a useful amount of energy that can be recovered using a special plant and equipment, provided that the gas production rate is sufficient. If the rates of production are uneconomic for energy recovery, landfill gas can be burnt off with specialised flares to reduce its potential for harm and consequently reduce its environmental impact.

Energy recovery from this site's landfill gas can contribute towards a more sustainable use of resources in the UK and can also assist in reducing the contribution of waste management activities to global warming.

Operation of the site gives rise to leachate which affects groundwater quality but it is not known to what extent.

Measures are now necessary to isolate the source of the leachate and to contain it.

Update on progress since October 1997:

- Implement gas extraction and energy recovery - Test boreholes have been drilled for landfill gas and to check level of quantity as a viable option.
- Undertake chemical study of impact of leachate on surface and groundwaters - No progress was made during this review period.
- Undertake detailed study of the site to determine sources of leachate - A preliminary study has been undertaken which has also involved the digging of a trench and soakaway to prevent leachate seeping onto the marsh.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Environmental impacts of Jameson Road Landfill Site.	Implement gas extraction and energy recovery at Jameson Road Landfill Site.	LWS	The Agency	U	—	—	—	—	—	
	Undertake chemical study of leachate on surface and groundwaters.	The Agency		U	—	—	—	—	—	
	Undertake detailed study of the landfill site to determine sources of leachate.	The Agency		U	—	—	—	—	—	
	Remedy situation by installing a leachate handling facility on site.	LWS		U	—	—	—	—	—	

Issue 15 IMPACT OF CONTAMINATED LAND ON THE ENVIRONMENT AND THE ENVIRONMENTAL IMPACT OF CLOSED LANDFILL SITES

There are areas of land within the Wyre LEAP which have been subjected to previous use; contamination of soil and underground waters with a variety of substances may have occurred. Consequently, these substances have the potential to pollute the environment. Ideally, the entire catchment should be subjected to a desk-study exercise to identify all such areas and to propose remediation work appropriate to the individual sites and the risk of pollution they present. Notable examples of contaminated land are closed landfill sites and former industrial sites.

The Agency holds information on closed landfill sites within the county of Lancashire, although in many cases the records are incomplete. As a consequence of earlier waste disposal practices, many closed landfill sites lie in or close to urban areas and have the potential not only to impact upon the natural environment but also upon existing or proposed built developments.

Where the Agency holds adequate information on closed landfill sites it is able to provide advice to Local Authorities, landowners, developers and the general public as to the likely effects of the sites on existing or proposed developments. All too often the information is lacking in some way and the advice is of correspondingly lesser detail.

The Environment Agency would like to gather more information on the impact of these sites within the area, enabling better advice and information to be made available. The Agency will encourage the gathering of such information as is necessary by those involved in land and property transactions, in particular where the information has a direct bearing on the transaction. When advising Planning Authorities on these matters, the Agency will seek to encourage the Authority to require the developer to submit any information they gather to the Agency and will in all cases seek to ensure that the information is made available as widely as possible.

The responsibility for ensuring remediation of land which is identified as being seriously contaminated rests in the main with the Local Authority. In respect of the Wyre catchment five local authorities are involved. New statutory controls relating to contaminated land are expected in 1997 and may well affect this LEAP issue.

Within the period of this plan the Agency proposes to focus attention on two areas of concern, all of which impact on water quality.

These are the former Fleetwood Metals site and the Wyre Waste Management site (both of which are located within the vicinity of Fleetwood Docks). The Agency intends to work with landowners and Local Authorities in an attempt to secure the clean-up of the two sites at Fleetwood Docks to allow their use for non-sensitive developments.

The following closed sites are close to the River Wyre:

1. Back Farm at Staynall
2. Stanah, River Road, Thornton
3. BTBP Fleetwood (Catterall Station)
4. Barnacre Water Treatment Works.

Update on progress since October 1997:

- To date there is little information relating to these sites. As a consequence of the LEAP process the Agency is currently researching to find out more.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Impact of contaminated land on the environment.	Assess potential risk posed to ground and surface waters and take appropriate remedial action.	Landowner	Developer LA The Agency	U	—	—	—	—	—	—
The environmental impact of closed landfill sites.	Liaise with local authorities to ascertain the location and potential threat posed by any previously unidentified sites and seek additional information on sites where this is lacking. Seek funding and undertake remedial measures as necessary.	LA Landowner	Agency Developers	U	—	—	—	—	—	—

Future increases in urban development in the Wyre area and increases in industrial activity can have a significant impact on total waste produced and future demands for water. Therefore, the Agency seeks to promote water efficiency and waste minimisation throughout the catchment, in industry and in the home.

Waste minimisation is a key issue in working towards a more sustainable future. The less waste that is produced the less the impact on the environment as resources are more effectively managed. It is an objective of the Environment Agency to find ways in which to encourage waste producers to reduce waste at source. There is a real need to reduce waste being produced by industry, commerce and from municipal collections.

To encourage waste minimisation, the Environment Agency will look to develop links with industry, schools, colleges and various interest groups in order to help educate and inform them as to the benefits and savings that can be made through effective waste minimisation.

Moreover the Agency will seek to influence the various waste management techniques employed at present in order to ensure best practice in the management of that waste which is produced. This will assist in achieving the aim of waste being dealt with in a more sustainable manner.

A number of initiatives will assist in dealing with this issue over the coming years. Notable examples are: "producer responsibility", and the "landfill tax", both of which will place incentives to minimise, recycle and re-use wastes.

Update on progress since October 1997:

- Inform commerce, industry, schools, colleges and local interest groups relating to waste minimisation and efficient water usage - It is the intention of the Agency to include the Wyre area in the Waste Minimisation Strategy during financial year 1998/99.
- Promotion of efficient water use in agriculture is currently taking place.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Waste minimisation and efficient water use.	Seek out opportunities in order to inform commerce, industry, schools, colleges and local interest groups to the benefits to be gained from waste minimisation.	The Agency	Industry Commerce Schools Colleges Householders NWW	U	—	—	—	—	—	—
	Identify and quantify potential increases in water demand through future developments identified in the areas local development plans.	NWW The Agency								
	Implement demand management measures to control future demand for water, i.e leakage control.	NWW	The Agency							
	Monitor effectiveness of demand management measures.	NWW	The Agency							
	Promote efficient use of water in agriculture by encouraging winter storage and efficient irrigation techniques.	The Agency NFU Agricultural Consultants			—	—	—	—	—	

The Wyre catchment is heavily dependent for flood defence on man made systems, which have been in place for many years. Defence standards are optimal rather than generous and are constantly under threat from new development and changes in land use and farm practice.

The Agency is limiting the effects of new development by requiring surface water run-off rates to be at a level which does not exceed existing. Advice is available on acceptable rates and alternative drainage methods. Restriction run-off can be achieved by the use of Best Management Practices (BMPs). The Agency is promoting the use of these techniques, such as "source control", e.g. storage ponds and porous surfaces to car parks.

The development pressure in the upper catchments could reduce the effectiveness of two of the areas main flood control structures, the Garstang and Catterall flood basins. There is pressure on the use of land right up to the bank edge of the flood defences in Garstang, St.Michael's, Preesall and Poulton, thus limiting access for essential maintenance.

Studies on flood risk at various sites have been commissioned over the next 5 years to aid the Agency and Planning Authorities formulate clear and concise development planning policy. Studies due in the plan period are:-

Coastal and tidal flood risk areas.

Main Dyke Poulton.

Horsebridge Dyke - Poulton.

Royles Brook - Thornton.

Woodplumpton Brook - Catforth.

Update on progress since October 1997:

- Informing Local Authorities of flood risks during strategic planning process is currently taking place.
- Promotion of the use of "source control" to limit rates and volumes of run-off is currently taking place.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Impact of new development on flood defences.	Inform Local Authorities of flood risks during strategic planning process.	The Agency	LA	£90K	—	—	—	—	—	—
	Promote the use of "source control" to limit rates and volumes of run-off.	The Agency	LA	R	—	—	—	—	—	—

Where watercourses remain unmodified water power mills still exist. This is true for Brock Mill, Caldervale Sandholme Mill, Oakenclough and Corless which have existed since the industrial revolution. Present day maps show the number of mill sites distributed over the Rivers Brock, Wyre and Calder to be 4, 5 and 5 respectively, though it is likely that there were many more. Currently these sites are not listed under the Town & Country Planning legislation. Therefore an investigation into the full extent of these sites is necessary to ensure developers are aware of their existence and features and interests recognised.

Update on progress since October 1997:

- Undertake a feasibility study - No work was scheduled to commence on this action during this current review period.

ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION					
		LEAD	OTHER		97 98	98 99	99 00	00 01	01 02	FUTURE
Loss of water power mills as a heritage feature.	Undertake a feasibility study to identify the heritage significance of water power sites on the River Wyre and Brock upstream of Garstang.	LCC The Agency	The Agency	£10K			—			

4. FUTURE REVIEWS

4.1 In accordance with the Agency's timetable for the LEAP's programme the Second Annual Review for the Wyre area will be published in June 1999.

4.2 The second annual review will:-

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

APPENDIX 1: GLOSSARY

AONB

Area of Outstanding Natural Beauty, notified by the Countryside Commission.

County Biological Heritage Sites

A network of County-designated sites which are of special value in terms of their contribution to the biological diversity of the county. A full list can be obtained from the Lancashire Wildlife Trust, or the County Ecologist.

Coarse Fish

See FRESHWATER FISH, CYPRINIDS, SALMONIDS.

County Structure Plans

Statutory documents produced by County Councils outlining their strategy for development over a 10-15 year timescale.

Cyprinids

Fish of the carp family. (See also COARSE FISH, FRESHWATER FISH, SALMONIDS).

Local Plans

Statutory documents produced by Borough or City Councils to implement the development strategy set out in County Structure Plans. Specific land use allocations are identified.

Freshwater Fish

For the purposes of the Salmon and Freshwater Fisheries Act 1975, fish other than salmon, brown trout, sea trout, rainbow trout and char (see also COARSE FISH, FRESHWATER FISH, SALMONIDS)

Hectare

Unit of area 100m x 100m, equal to 2.471 acres.

Potable Water Supply

Water supplied for domestic use, including human consumption.

Ramsar Site

A wetland site of international significance for conservation, notified under international treaty.

Residual Flow Conditions

Levels below which abstraction cannot be taken. These are set to protect the rivers.

SAC

Special Area of Conservation. A European legislation classification.

APPENDIX 1 (Continued): GLOSSARY

Salmonids

Fish classified by the Salmon and Freshwater Fisheries Act 1975 as belonging to the salmon family - salmon, brown trout and char. (Summer-spawning salmonid species such as grayling are classified by the Act as Freshwater Fish). (See also COARSE FISH, FRESHWATER FISH, CYPRINIDS).

SPA


Special Protection Area. A European legislation classification.

SSSI

Site of Special Scientific Interest. A site designated by English Nature as being in need of protection to conserve its outstanding ecological or geological features. Land use and management operations within SSSIs are subject to control.

WwTW

Wastewater Treatment Works.



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