

catchment management plan



DOUGLAS
second annual review
JULY 1998



**ENVIRONMENT
AGENCY**

FOREWORD

The Douglas Catchment Management Plan has proven to be a valuable mechanism for the former National Rivers Authority (NRA) to initiate examination of the environmental issues within the catchment. The CMP has been instrumental in achieving improvement on issues and also establishing partnerships and collaboration with a wide spectrum of organisations.

This Second Annual Review will complete the cycle for Catchment Management Planning in the Douglas. This area will now be considered through Local Environment Agency Plans (LEAPs). Consequently, future plans will encompass the wider role now administered by the Environment Agency encompassing water based issues, waste management and industrial processes.

In addition to on-going actions listed in this plan which will be considered, you may have new issues, concerns and initiatives which the Agency can help promote and translate into feasible actions.



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ENVIRONMENT AGENCY



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VISION FOR THE DOUGLAS CATCHMENT

The Environment Agency's vision for the future of the catchment is that:

- To realise the environmental potential of the River Douglas Catchment, the Environment Agency will work in partnership with catchment users to create and maintain a river system which meets both their needs and those of the environment.
- There will be a standard of water quality throughout the catchment which supports a diverse ecosystem, including fisheries.
- The type and location of development within the river corridor and floodplain will have been influenced through liaison with local planning authorities so as to protect and enhance the water environment and associated land.
- Water resources will be effectively managed to balance the needs of all users within the catchment.
- There will be an increased biodiversity of the natural habitat along the river corridor and enhanced recreational activities such that all aspects of the river catchment can be enjoyed by local communities.
- A standard of flood defence will be provided which is both cost effective and environmentally sound.

The Environment Agency is continuing the commitment to produce integrated management plans encompassing issues arising within the areas over which it has responsibility or through partnership and liaison with other groups.

Local Environment Agency Plans (LEAP's) will be produced for all areas by 2000. This includes those areas covered by a Catchment Management Plan. The CMP will provide an update of progress until superseded by the publication of a LEAP.

**CATCHMENT MANAGEMENT PLAN
SECOND ANNUAL REVIEW
JUNE 1998**

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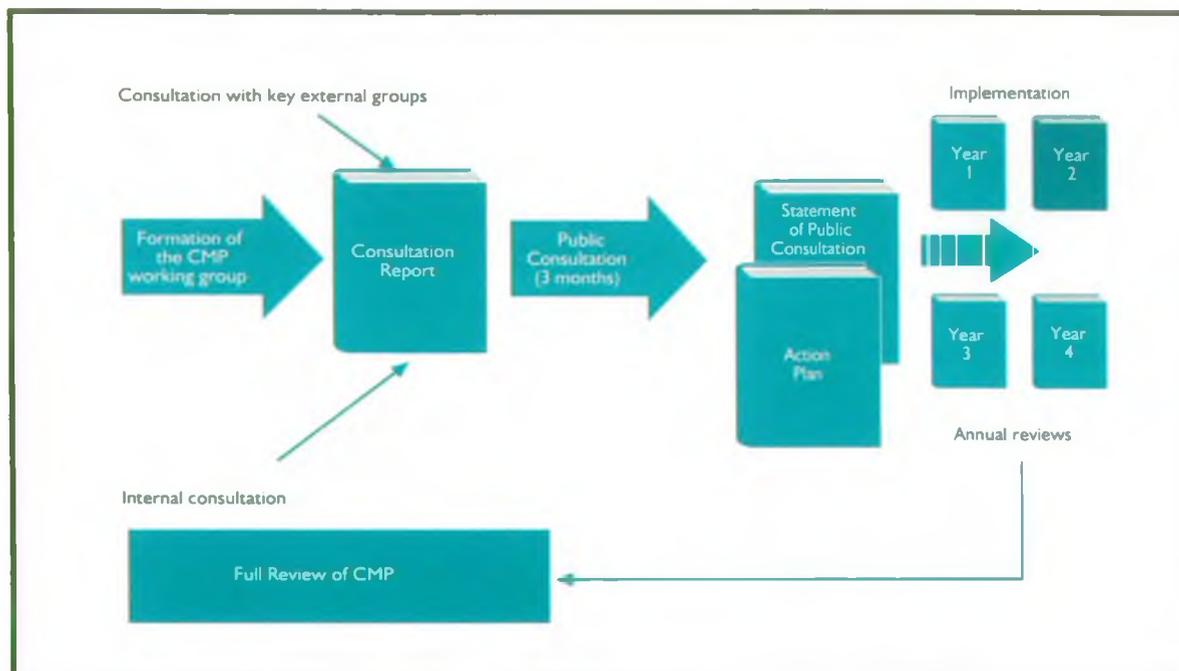
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1.0 INTRODUCTION

1.1 The Environment Agency began its work of managing the environment in England and Wales on 1st April 1996. The Agency has responsibilities for the environmental protection of water, land and air. The Douglas Catchment Management Plan was initiated by a predecessor authority, the National Rivers Authority. This Second Annual Review of the plan therefore deals with the management and protection of the water environment.

1.2 THE CATCHMENT PLANNING PROCESS



1.3 This Second Annual Review of the Douglas Catchment Management Plan provides an update of all the actions stated in the River Douglas Catchment Management Plan Final Report (published February 1995), produced under the auspices of the former National Rivers Authority. The objective of the annual review is to keep informed and involved those organisations and individuals who participated during the consultation period of the Douglas Catchment Management Plan.

2.0 UPDATE ON THE LOCAL ENVIRONMENT

2.1 The River Douglas rises high on Rivington Moor in the eastern part of the catchment and flows approximately 37 km, before joining the River Ribble 8 km west of Preston. The catchment drains an area of 456 square kilometres. Three major tributaries join the Douglas:

- The River Tawd which rises in the south west corner of the catchment. The Tawd drains Skelmersdale and the associated new town development.
- The River Lostock which rises in the north east corner. The Lostock receives drainage from Leyland and flows through intensively grazed farmland and subsequently joins the River Yarrow.
- The River Yarrow, principally a rural river, rises east of Chorley and joins the River Douglas in its tidal reaches.

2.2 The major discharger to the Douglas catchment is North West Water Ltd (NWW). There are 10 Wastewater Treatment Works (WwTW's) in the area. There are also, in addition, approximately 160 combined sewer overflows which are concentrated mainly in the urban areas of Chorley and Wigan.

2.3 The surface waters of the catchment are used for both agricultural and spray irrigation and also industrial purposes. The Leeds / Liverpool Canal is fed by the River Douglas at Scholes and Gathurst Weirs. The Agency considers that it is essential that water levels are carefully managed to ensure that the catchment is protected downstream of these points.

2.4 In the low lying areas around Croston, Mawdesley and Rufford, agriculture and market gardening are the main activities within the flood plain. The main feature in these low lying areas consists largely of a pumped drainage system. This maintains the surface water at a low level to enable the high grade agricultural land to be fully utilised.

2.5 Himalayan Balsam and Japanese Knotweed are prevalent along many of the banks of the catchment, resulting in relative limitation of plant species diversity along these stretches. Upstream of the urban areas the diverse nature of the river, coupled with the relative absence of the invasive plant species, has resulted in a stretch of higher nature conservation value.

2.6 Some of the woodland which the River Yarrow flows through upstream of Chorley is Ancient Semi-Natural Woodland. This is designated as a site of biological importance.

2.7 Resulting from improvements in water quality a coarse fishery has been established mainly in the Appley Bridge area. Other recreational pursuits within the catchment include canoeing, boating, rambling, cycling, and bird-watching.

2.8 The Agency is fully aware of large scale developments within the catchment at the following locations:

- Royal Ordnance at Euxton
- Robin Park at Wigan
- Gillibrand site at Chorley.

The issues within each of these locations e.g. potential contaminated land problems, will be addressed when this CMP is superceded by a Local Environment Agency Plan (LEAP). The LEAP Consultation Report is due to be completed in September 1998.

3.0 SUMMARY OF PROGRESS

3.1 The issues where significant progress or completion has been achieved are as follows:

- Improved treatment at Horwich WwTW has resulted in a good quality effluent following improved trade effluent control and consent review.
- Tertiary treatment commissioned at Chorley WwTW in December 1997.

Improvements in water quality have been observed in the River Tawd following provision of the surface water interceptors.

- A litter removal exercise has been completed on Boundary Brook. This initiative was funded by the Agency and Groundwork (Wigan).

SECTION 3.0

PROGRESS TABLE

KEY

The Agency	-	Environment Agency
DETR	-	Department of Environment, Transport and the Regions.
LA	-	Local Authority
RO	-	Riparian Owner
MAFF	-	Ministry of Agriculture Fisheries and Food
NWW	-	North West Water Ltd
GMAU	-	Greater Manchester Archeological Unit
LAU	-	Lancashire Archeological Unit
FA	-	Forestry Authority
FWAG	-	Farm Wildlife Advisory Group
HOT	-	Hawk and Owl Trust
EN	-	English Nature
RSPB	-	Royal Society for the Protection of Birds
ADAS	-	Agricultural Development Advisory Service Consulting Limited
LG	-	Local Groups
LWT	-	Lancashire Wildlife Trust
—		completion of action
.....		ongoing action

Issue Numbering relates to those issues still requiring action from previous CMP reviews. Those issues where action is complete have been removed.

NO.	ISSUE	ACTION	RESPONSIBILITY LEAD OTHER		ESTIMATED COST	DURATION						PROGRESS	
						94 95	95 96	96 97	97 98	98 99	FUTURE		
CW3	Inadequate access to river corridors for improvement and maintenance works.	<p>Enforce current legislation and ensure local authorities, developers and riparian owners are aware of the need to keep river corridors free from development.</p> <p>Urban access ramps to be installed in the River Douglas at Wigan.</p>	The Agency	LA RO	£50,000 for 3 ramps						—		Sites for ramps being identified and surveys to be programmed for 1998/99. All Local Authorities within River Douglas Catchment visited to explain need for keeping river corridors free from development.
CW7	Development and improvement of coarse fisheries by means of establishing new restocking techniques.	Experimental stocking of chub from the Agency's Leyland Coarse Fish Farm have already taken place in 1992. Further experimental stockings to be carried out from 1995.	The Agency		£17,500		—		—				<p>An experimental stocking of chub, reared at Leyland Fish Farm was carried out in 1995. The results are included in the Agency's Fish Survey Report.</p> <p>A national R&D project, "Survival and Dispersal of Stocked Coarse Fish" is to be carried out, in part, on the River Lostock. This will involve restocking from the Leyland Fish Farm. The study will commence November 1996.</p>
CW8	Invasive plant species.	<p>Draw up detailed plans of location of Japanese Knotweed and Himalayan Balsam.</p> <p>Produce a detailed strategy for combating spread and eventual elimination of the species.</p> <p>Secure co-funding partnerships with local authorities.</p>	The Agency		£1200						—	—	<p>Data available on location of Japanese Knotweed and Himalayan Balsam but the detailed plan has not yet been compiled due to re-allocation of resources.</p> <p>R & D Project 294, "Control of Invasive Riparian & Aquatic Weeds" produced August 1994 as part of a national initiative.</p> <p>Survey and location of invasive species recorded on strategic corridor survey. Allocation of resources have not been available therefore rescheduled for 1998.</p>

No.	ISSUE	ACTION	RESPONSIBILITY LEAD OTHER		ESTIMATED COST	DURATION						PROGRESS
						94 95	95 96	96 97	97 98	98 99	FUTURE	
CW9	Litter and aesthetic quality of watercourses. Rivers and streams throughout the catchment accumulate large quantities of rubbish. This is particularly prevalent in the urban areas and may result in blockages and a risk of flooding in culverts and places a high demand on manpower resources	<p>Liaise with local authority to agree watercourses requiring action.</p> <p>Liaise with local pressure groups/local authorities or NWW (depending on source of litter) to organise teams capable of removing litter.</p> <p>Produce leaflets documenting the nuisance litter causes and distribute to local groups, businesses, public, encouraging voluntary groups to move rubbish</p>	The Agency/ LA		£37,000			—	—	—		A litter removal exercise has been completed on Boundary Brook funded by the Agency and Groundwork.
CW11	The lack of natural channel features, meanders and marginal wet ledges in the more intensively managed length of the Douglas.	<p>All maintenance and capital work to contain features to protect and promote nature conservation as appropriate.</p> <p>Carry out an investigation into alternative bank stabilisation techniques which achieve engineering aims and promote conservation.</p>	The Agency	RO LA	Unknown	.....	.....	.....	.....	.....		<p>All capital works now contain features to enhance wildlife interest, where possible.</p> <p>As part of a national initiative, two national projects have been developed: River Bank Erosion Problems (R&D Note 204) - recommendations for their management; and Bank Erosion on Navigable Waterways (Project 204).</p> <p>Promotion of conservation ongoing.</p>
CW14	Maintenance and improvement of trees and tree cover.	Support riverside tree planting schemes, where appropriate. Promote tree planting and maintenance with landowners.	FA	The Agency LA RO	Set up costs £2000 Running costs unknown.	.....	.....	.....	.....	.....		No schemes currently active.

No.	ISSUE	ACTION	RESPONSIBILITY		ESTIMATED COST	DURATION						PROGRESS
			LEAD	OTHER		94	95	96	97	98	FUTURE	
						95	96	97	98	99		
CW15	The impact of mowing regimes and their effect on wildlife.	Review and standardise the Agency's mowing regimes to be implemented by end of 1998. Further promote good mowing practice amongst landowners.	The Agency The Agency	 RO	£7000	—	—	—	—	—		A mowing regime plan has been produced for the Crossens catchment and this is now under discussion. Subsequent to agreements reached, the plan will be extended to include the Douglas catchment. See issue CW16.
CW16	The protection and improvement of the native barn owls population.	Promote the barn owl population of West Lancs area. Promote mowing regimes that will encourage small rodent populations and hence barn owl populations. Link in with existing barn owl promotion schemes. Promote new projects as appropriate.	LWT The Agency The Agency	The Agency RO RO FWAG LWT HOT	Unknown (Likely to be about £5,000)	—	—	—	—	—		The Agency's recommendations for the creation of 6m field margins, adjacent to watercourses, has been incorporated into the Countryside Stewardship targets. As part of this, the Douglas catchment has been identified as a priority area. The creation of unmanaged strips alongside watercourses will encourage the development of the barn owls natural prey population and thence of the barn owls themselves. Promotion is ongoing.

NO.	ISSUE	ACTION	RESPONSIBILITY LEAD OTHER		ESTIMATED COST	DURATION						PROGRESS
						94 95	95 96	96 97	97 98	98 99	FUTURE	
CW17	Regeneration of urban watercourses.	Develop a five year strategy for the regeneration of urban watercourses within the Lostock and Yarrow sub-catchments.	The Agency	LA	Unknown			—	—			Promotion is ongoing
		Develop a five year strategy for the regeneration of urban watercourses within the upper Douglas area (i.e. that area covered upstream of confluence with the River Yarrow).	The Agency	LA						—	—	No progress
CW18	Identification of recreational needs and opportunities and determination of the Agency's recreational role.	Consult further with other organisations to identify the recreational needs and opportunities of the catchment by end of 1995. Identify the role to be played by the Agency in promoting recreation. Ensure appropriate liaison with interested parties.	The Agency		Unknown		—					On-going promotion as opportunities arise in line with the Agency's strategy for recreation.
CW19	Effectiveness of existing set-aside scheme for agricultural land.	Produce a report detailing the locations for potential set-aside schemes to provide corridors along watercourses for conservation and access for general maintenance.	The Agency	MAFF Agricultural Consultants	£2000		—	—				Awaiting results of Swanside set-aside scheme. These will be assessed and the success, or otherwise, of this scheme will determine whether a similar scheme will be implemented in the Douglas catchment.

Site specific details

NO.	ISSUE	ACTION	RESPONSIBILITY		ESTIMATED COST	DURATION						PROGRESS
			LEAD	OTHER		94	95	96	97	98	FUTURE	
						95	96	97	98	99		
SS4	Reduced capacity and effectiveness of pumping stations at Croston and Mawdesley due to peat shrinkage.	<p>Carry out a survey of the drainage system and pumping stations, to provide physical information and to examine condition, operational efficiency and life expectancy.</p> <p>Investigate the levels of flood protection afforded within the pumped catchments with a view to prioritising and phasing improvements.</p> <p>Carry out a survey of ecological and conservation impacts to address environmental issues.</p> <p>Capital Project programmed for implementation in 1999/2000.</p>	The Agency		£1,000,000 budgeted for overall costs	—	—	—	—			<p>Initial phase has slipped back due to reduced capital spending for flood defence. The timetable has been altered accordingly.</p> <p>Scheme objectives being re-appraised due to financial changes and environmental considerations.</p>
SS5	Potential low flows downstream of Scholes Weir (Wigan) due to abstraction by British Waterways to feed the Leeds/Liverpool Canal.	<p>Increase compensation water from Rivington Reservoir or other sources onto the River Douglas.</p> <p>Fit a residual flow device to Scholes Weir.</p> <p>Implement the agreement details with British Waterways that no abstraction from the River Douglas will take place when the flow over Scholes Weir falls below 27MI/day.</p>	The Agency	NWW	Cost Unknown	—	—	—	—	—		<p>Negotiations ongoing.</p> <p>A spacer was installed in June 1995 on the sluice gate of Scholes Weir in 1995. This allows 27 MI/D to be discharged into the river below the weir at all times.</p> <p>Agreement between the Agency and BW reached in March 1994 to allow a residual flow to be discharged into the River Douglas below the abstraction point at Scholes Weir.</p>
			BW		No cost to the Agency	—	—					
			The Agency	BW	No cost to the Agency	—	—					

No.	ISSUE	ACTION	RESPONSIBILITY		ESTIMATED COST	DURATION						PROGRESS
			LEAD	OTHER		94	95	96	97	98	FUTURE	
						95	96	97	98	99		
SS6	Potential low flows downstream of Gathurst Weir leading to the reduced dilution of Hoscar WWTW discharge, as a result of abstraction to feed the Leeds/Liverpool Canal.	<p>Increase compensation water from Rivington Reservoir or other sources into the River Douglas.</p> <p>Implement the agreement details with British Waterways that no abstraction from the River Douglas will take place when the flow over Gathurst Weir falls below 30M/d.</p> <p>Additional flow measurement instrumentation in feeder from Douglas to BWB for licence enforcement.</p>	The Agency	NWW	Maximum of £10,000	—	—	—	—	—		<p>Negotiations ongoing.</p> <p>Agreement between the Agency and BW reached in March 1994 to allow a residual flow to be discharged into the River Douglas below the abstraction point at Gathurst Weir. A notch in the crest of the weir which, when full, is the equivalent of 30M/d. BW have agreed that the feeder sluice will be restricted to ensure that the notch is full at all times.</p> <p>Additional instrumentation to measure level over weir to ensure 30M/d.</p>
SS7	Development of Flash complex as a recreational and wildlife resource.	To undertake a study of the Flashes, Ince Brook and Hawkey Brook.	The Agency	Wigan MBC RSPB EN GMAU	Staff costs	****	****	****	****	****		<p>Survey completed. Ongoing development with active consultation and partnerships. Identifies problem areas such as blue green algae, and water quality problems which may limit the use of the Flashes as a recreational/wildlife resource.</p> <p>Identifies current status of the fish stocks.</p>

**PROGRESS TABLE - DOUGLAS SECOND ANNUAL REVIEW
(CONFIRMED WATER QUALITY ISSUES)**

The following issues were originally presented in the Douglas Catchment Management Plan First Annual Review, published in October 1996. These issues are mainly associated with failures to meet the River Quality Objectives expressed as River Ecosystem target classes and tabulated as below.

No.	ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION OF ACTION						PROGRESS		
			LEAD	OTHER		94 95	95 96	96 97	97 98	98 99	FUTURE			
WQ6.1	Impact of effluent from NWW WwTW	Install additional treatment at Horwich WwTW Install phosphate removal plant at Horwich WwTW Install additional treatment at Westhead WwTW Install additional treatment at Wigan WwTW and Skelmersdale WwTW. Consent Wigan WwTW for ammonia to reflect current load discharged	NWW Ltd		Estimated expenditure required for all discharges believed to be affecting compliance is £1.50 million								The treatment works is currently producing a good effluent following improved trade effluent control and consent review. Further improvements being considered for AMP3. Phosphate stripping due to begin by December 1998. No progress. Possible AMP3 scheme. Improved treatment is required to reduce bacteriological load discharged to the Ribble Estuary and hence reduce impact on bathing waters at Lytham. Revised consent issued in September 1996 incorporating an ammonia standard (10mg/l).	
			NWW Ltd											
			NWW Ltd											
			NWW Ltd											
			The Agency NWW Ltd											

No.	ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION						PROGRESS
			LEAD	OTHER		94 95	95 96	96 97	97 98	98 99	FUTURE	
WQ6.1 (cont)	Impact of effluent from NWW Ltd WwTW	Continue monitoring nutrient load from Leyland WwTW and potential eutrophic effects downstream.	The Agency		£5,000 per annum.				—	—	—————	Proposals have been submitted to the DETR for the designation of the River Lostock as a sensitive (eutrophic) area.
		Possible inclusion of phosphate removal plant at Leyland WwTW	NWW Ltd						—	—	—————	Phosphorus removal will be required by 2004 following any designation of the River Lostock as a sensitive (eutrophic) area.
		Install additional treatment at Chorley WwTW.	NWW Ltd						—			Tertiary treatment installed and commissioned December 1997.
		Possible inclusion of phosphate removal plant at Chorley WwTW	NWW Ltd						—	—	—————	Phosphorus removal will be required by 2004 following any designation of the River Yarrow as a sensitive (eutrophic) area.
		Install additional treatment at Longton WwTW.	NWW Ltd								—————	No progress. Possible AMP3 scheme.

No	ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION						PROGRESS
			LEAD	OTHER		94 95	95 96	96 97	97 98	98 99	FUTURE	
WQ6.2	Impact of private sewage treatment works.	<p>Liaise with works owners to ensure appropriate methods of treatment and regular maintenance are employed.</p> <p>Liaise with NWW Ltd and Local Authorities/Private householders in identifying unsewered areas requiring provision of a public foul sewer.</p> <p>Provide public foul sewer in identified areas.</p>	<p>The Agency</p> <p>The Agency NWW Ltd Local Authority Householders</p> <p>NWW Ltd</p>									<p>On-going, e.g. at Briars Hall Hotel and Rigbye Arms Hotel.</p> <p>Liaison taking place regarding the Water Industry Act 1991, "First time rural sewerage" requirements recently enacted by the Environment Act 1995.</p> <p>Timescales as yet unknown.</p>
WQ6.3	Impact of over-performing NWW Ltd WwTW's	Liaise with NWW Ltd to discuss reviewing consents for WwTW's identified in Consultation Plan.	The Agency NWW Ltd									A review of the consent for Horwich WwTW is to be undertaken in 1998. A National R&D project is underway.
WQ6.4	Impact of overflows from combined sewerage systems.	<p>Ensure completion of DAP's and implementation of solutions.</p> <p>Pursue further improvements to sewerage network to resolve problem of remaining unsatisfactory CSOs.</p>	<p>NWW Ltd</p> <p>The Agency NWW Ltd</p>									<p>Proposals for addressing unsatisfactory overflows discharging to Ince Brook, the River Chor and Mill (Bannister) Brook are presently under consideration.</p> <p>Under consideration for NWW's AMP3 programme.</p>

No.	ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION						PROGRESS	
			LEAD	OTHER		94 95	95 96	96 97	97 98	98 99	FUTURE		
WQ6.5	Impact of contaminated surface waters.	<p>Outstanding CSW problems from the original CSW three year project to be resolved.</p> <p>Ensure newly identified CSW problems are resolved.</p>	<p>NWW Ltd Agents Environmental Health Industry Householders</p> <p>NWW Ltd Agents Environmental Health Industry Housholders</p>	<p>Approx. £1.5 million to be spent in the North West Region</p>				—					<p>None outstanding on Douglas Catchment.</p> <p>A Regional priority listing of new CSW's has been produced and submitted to NWW. Investigations into the top 60 or so problems are to be undertaken (funded through NWW's efficiency savings").</p>

No.	ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION					FUTURE	PROGRESS
			LEAD	OTHER		94 95	95 96	96 97	97 98	98 99		
WQ6.6	Impact of Industrial Estates.	<p>Assess impact of discharge from Industrial Estates.</p> <p>Survey industrial estate premises using the "Site Right" campaign procedures.</p> <p>Carry out necessary remedial work.</p>	<p>The Agency NWW Ltd Owners/ Occupiers.</p> <p>The Agency NWW Ltd Owners/ Occupiers.</p> <p>Owners/ Occupiers.</p>									<p>On-going. Improvements in water quality of the River Tawd have been observed following provision of the surface water interceptor.</p> <p>No progress</p> <p>No progress.</p>

No.	ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION						PROGRESS	
			LEAD	OTHER		94 95	95 96	96 97	97 98	98 99	FUTURE		
WQ6.7	Impact of minewater discharges	<p>Liaise with mining consultants on production of reports identifying solutions for the Summersales site.</p> <p>Implementation of agreed solution.</p> <p>Continued monitoring of other known minewater problems and initiation of monitoring at any future areas impacted by new minewater discharges.</p>	<p>The Agency Mining Consultant</p> <p>Coal Authority DTI</p> <p>The Agency</p>				—						<p>Liaison with mining consultants was undertaken. Options for treatment now under consideration.</p> <p>No progress. Still under discussion.</p> <p>On-going.</p>
WQ6.8	Impact of farming.	<p>Continue present pollution control initiatives.</p> <p>Provide information/advice to agricultural community</p> <p>Provision of "on farm" pollution prevention facilities</p>	<p>The Agency</p> <p>The Agency MAFF</p> <p>Farmers</p>						—	—	—	—	<p>On-going</p> <p>On-going. "Yard Guard" action pack due to be launched.</p> <p>On-going.</p>

No.	ISSUE	ACTIONS	RESPONSIBILITY		ESTIMATED COST	DURATION						PROGRESS
			LEAD	OTHER		94 95	95 96	96 97	97 98	98 99	FUTURE	
WQ6.9	Impact of drainage.	<p>Liaise with Highways Authorities to identify pollution discharges.</p> <p>Improve drainage arrangements (reed bed maintenance, oil interception, silt traps) to limit pollution.</p> <p>Liaise with Motorway Contractors to ensure pollution measures are taken on construction sites.</p>	<p>The Agency Highways Authority</p> <p>Highways Authority</p> <p>The Agency Motorway Contractors</p>									<p>Provision of oil interceptors on several outfalls from the A6 dual carriageway to the River Lostock.</p> <p>As above</p> <p>Completed October 1997</p>
WQ6.10	Litter and aesthetic quality of watercourses.	<p>Liaise with local authority to agree watercourses requiring action.</p> <p>Liaise with local pressure groups / local authorities or NWW Ltd (depending on source of litter) to organise teams capable of removing litter.</p> <p>Ensure compliance with NWW Ltd schemes to improve unsatisfactory CSOs.</p> <p>Distribute leaflets documenting the nuisance litter causes to local groups, businesses, the public and encourage voluntary groups to remove rubbish e.g removal of litter from the River Tawd.</p>	<p>The Agency LA</p> <p>The Agency NWW Ltd LA Local campaign groups.</p> <p>The Agency</p> <p>The Agency</p>									<p>See issue CW9.</p> <p>See issue CW9</p> <p>See Issue WQ6.4</p> <p>See Issue CW9</p>

4.0 FUTURE REVIEWS

4.1 In accordance with the Agency's timetable this Catchment Management Plan will be superseded by a Douglas Local Environment Agency Plan (LEAP) Consultation Report, due for completion in September 1998.

4.2 The Local Environment Agency Plan (LEAP) will then address, in addition to water based issues, those aspects concerning waste management and industrial processes within the catchment.

4.3 Following the publication of the Consultation Report, there will be a period of public consultation (October-December 1998) on the issues and options raised in the document. The Agency will then consider the comments raised and amend / adjust the content of the document where appropriate. The five year action plan will be available in April 1999. This document will be reviewed and updated annually.

APPENDICES

APPENDIX 1 - CONFIRMED RIVER QUALITY OBJECTIVES (RQOs)

RIVER	STRETCH (FROM /TO) NGR (FROM /TO)	LENGTH (KM)	SHORT TERM OBJECTIVE	COMPLIANCE (95-97)	LONG TERM OBJECTIVE	COMPLIANCE (95-97)	ISSUE (6.1 - 6.9)
Douglas	Wigan/Skelmersdale WwTW to Douglas SD 482 119 - SD 468 157	4.6	No class	Complies	RE4	Significant failure	1.
Douglas	Crooke to Wigan / Skelmersdale WwTW SD 543 073 - SD 482 119	10.5	RE3	Complies	RE3	Complies	
Douglas	Poolstock Brook to Crooke SD 574 050 - SD 543 073	4.5	RE5	Complies	RE4	Complies	1.
Douglas	Pearl Brook to Poolstock Brook SD 622 110 - SD 574 050	15.5	RE5	Complies	RE4	Significant failure	1,3
Douglas	Squirrel Bridge to Pearl Brook SD 631 121 - SD 622 110	1.6	RE3	Complies	RE3	Complies	
Douglas	Old Lords Heath to Squirrel Bridge SD 642 128 - SD 631 121	1.5	RE2	Significant failure	RE1	Significant failure	8
Longton Brook	Longton / Hutton to FWL SD 488 262 - SD 462 262	2.9	RE4	Complies	RE3	Marginal failure	2,8
Tarra Carr Gutter	Longton WwTW to FWL SD 469 253 - SD 459 250	1.1	No class	Complies	RE4	Marginal failure	1,2,3
Carr Brook	Doles Lane to FWL SD 482 221 - SD 460 215	2.8	No class	Complies	RE4	Significant failure	2,8
Lostock	Leyland WwTW to Yarrow SD 521 208 - SD 477 188	10.2	RE5	Complies	RE3	Marginal failure	1,3
Lostock	M6 to Leyland WwTW SD 566 248 - SD 521 208	7.6	RE3 (2000)	Complies	RE3	Complies	4,5,6,9

RIVER	STRETCH (FROM /TO) NGR (FROM /TO)	LENGTH (KM)	SHORT TERM OBJECTIVE	COMPLIANCE (95-97)	LONG TERM OBJECTIVE	COMPLIANCE (95-97)	ISSUE (6.1 - 6.9)
Lostock	Withnell Fold to M6 SD 612 234 - SD 566 248	6.4	RE4	Complies	RE3	Complies	5
Wymott Brook	Ormskirk/Preston railway track to Lostock SD 497 210 - SD 488 197	1.8	RE3	Marginal failure	RE3	Marginal failure	
Mill (Bannister) Brook	Bow Brook to Lostock SD 550 225 - SD 524 214	3.5	RE4 (2000)	Complies	RE4	Complies	4.5
Bow Brook	A49 to Mill Brook SD 556 225 - SD 550 225	0.6	RE4	Complies	RE4	Complies	
Wade Brook	Buckshaw Brook to Mill Brook SD 554 205 - SD 525 213	3.3	RE3 (2000)	Complies	RE3	Complies	4
Carr Brook	B5256 to Lostock SD 580 233 - SD 577 217	1.9	RE4 (1998)	Complies	RE4	Complies	
Eller Brook (Douglas)	Westhead/Lathom Road to Douglas SD 446 078 - SD 467 149	9.9	RE5	Complies	RE4	Complies	1.2
Tawd	A5209 to Douglas SD 469 104 - SD 477 125	2.5	RE4 (1999)	Complies	RE4	Complies	5.6
Tawd	Pimbo Industrial Estate to A5209 SD 487 088 - SD 469 104	2.8	RE4 (1999)	Complies	RE4	Complies	5.6
Slate Brook	Lathom Research Lab. to Douglas SD 467 088 - SD 472 095	1.4	RE4	Marginal failure	RE4	Marginal failure	
Calico Brook	Skull House Lane to Douglas SD 528 098 - SD 525 091	0.8	RE4 (1999)	Marginal failure	RE4	Marginal failure	8

RIVER	STRETCH (FROM /TO) NGR (FROM /TO)	LENGTH (KM)	SHORT TERM OBJECTIVE	COMPLIANCE (95-97)	LONG TERM OBJECTIVE	COMPLIANCE (95-97)	ISSUE (6.1 - 6.9)
Dean Brook	A577 to Douglas SD 526 051 - SD 535 075	2.8	RE3	Complies	RE3	Complies	
Poolstock Brook	Smithy Brook to Douglas SD 575 048 - SD 574 050	0.4	RE4	Marginal failure	RE4	Marginal failure	
Poolstock Brook	Pearson's Flash to Smithy Brook SD 582 038 - SD 575 048	1.3	RE4	Complies	RE4	Complies	4
Ince Brook	Wigan Road to Pearson's Flash SD 604 051 - SD 582 038	2.7	RE4 (1999)	Significant failure	RE4	Significant failure	4
Smithy Brook	Summersales to Poolstock Brook SD 551 035 - SD 574 047	3.4	RE5	Complies	RE4	Significant failure	5,6,7
Yellow Brook	Aspull Sough to Douglas SD 590 071 - SD 587 070	0.4	RE4	Complies	RE4	Complies	7*1
Buckhow Brook	Rigby's Bridge to Douglas SD 538 122 - SD 585 111	6.8	RE4	Complies	RE3	Marginal failure	2,8
Pearl Brook	B5238 to Horwich WwTW SD 6270 1085 - SD 623 110	0.5	RE4	Marginal failure	RE4	Marginal failure	
Pearl Brook	Horwich WwTW to Douglas SD 623 110 - SD 6214 1102	0.2	No class	Complies	RE4	Significant failure	1,3
Leeds - Liverpool Canal	Burscough Bridge to Douglas SD 451 115 - SD 456 215	11.4	RE4	Marginal failure	RE4	Marginal failure	*2
Leeds - Liverpool Canal	Halsall to Leigh Branch, Wigan SD 375 099 - SD 583 049	24.9	RE4	Marginal failure	RE3	Marginal failure	*2

*1 Although the stretch currently complies with its long-term objective, this stretch is also significantly affected by minewater discharges - see issue 7 for further information.

*2 Failures on BOD attributed to algal activity.

RIVER	STRETCH (FROM /TO) NGR (FROM /TO)	LENGTH (KM)	SHORT TERM OBJECTIVE	COMPLIANCE (95-97)	LONG TERM OBJECTIVE	COMPLIANCE (95-97)	ISSUE (6.1 - 6.9)
Leeds - Liverpool Canal	Leigh Branch to Johnsons Hillock SD 583 049 - SD 592 210	17.9	RE4	Complies	RE4	Complies	
Leeds - Liverpool Canal	Dover Bridge to Main Canal, Wigan SD 608 008 - SD 583 049	5.8	RE4	Complies	RE4	Complies	
Yarrow	Culbeck Brook to Douglas SD 522 181 - SD 466 187	7.0	RE4 (1998)	Complies	RE4	Complies	1
Yarrow	Chorley WwTW to Culbeck Brook SD 564 173 - SD 522 181	5.9	RE4 (1998)	Complies	RE4	Complies	1
Yarrow	Black Brook to Chorley WwTW SD 592 162 - SD 564 173	9.1	RE5	Complies	RE4	Complies	4,8
Yarrow	Rivington Reservoir to Black Brook SD 621 145 - SD 592 162	5.2	RE4	Complies	RE2	Complies	4,8,9
Syd Brook	Wrightington Bar to Yarrow SD 537 133 - SD 501 179	8.5	RE4	Complies	RE3	Complies	4,7,8,9
Culbeck Brook	Woodcock Fold to Yarrow SD 570 192 - SD 523 181	5.7	RE3	Marginal failure	RE3	Marginal failure	
River Chor	A6 Road Bridge to Yarrow SD 583 179 - SD 597 170	2.7	RE3 (2000)	Marginal failure	RE3	Marginal failure	4

RIVER	STRETCH (FROM /TO) NGR (FROM /TO)	LENGTH (KM)	SHORT TERM OBJECTIVE	COMPLIANCE (95-97)	LONG TERM OBJECTIVE	COMPLIANCE (95-97)	ISSUE (6.1 - 6.9)
Clancutt Brook	B5251 to Yarrow SD 559 140 - SD 569 153	2.6	RE3	Complies	RE2	Marginal failure	4,6,8
Eller Brook (Yarrow)	Leeds - Liverpool Canal to Yarrow SD 596 139 - SD 581 141	2.3	RE5	Complies	RE4	Complies	8
Black Brook	The Goit to Yarrow - SD 614 191 - SD 592 163	5.1	RE3	Complies	RE3	Complies	
Brinscall Brook	MoD Site to Black Brook SD 615 203 - SD 614 191	1.5	RE3	Marginal failure	RE3	Marginal failure	

APPENDIX 2

GENERAL QUALITY ASSESSMENT (GQA) RIVERS AND CANALS CLASSIFICATION (1996)

DOUGLAS CATCHMENT - CHEMICAL CLASSIFICATION		
GQA CLASS	km	%
A - VERY GOOD	-----	-----
B- GOOD	1.6	0.6
C- FAIRLY GOOD	75.1	27.3
D- FAIR	51.6	18.8
E - POOR	139.0	50.6
F - BAD	7.4	2.7
TOTAL	274.7	100

APPENDIX 3 - GLOSSARY

Abstraction Licence

Licence to abstract water from a surface or underground source. The maximum annual, daily and hourly abstraction rates are set by the licence.

AMP3 - Asset Management Plan

The third set of Asset Management Plans produced by Water Companies.

Coarse Fish

See FRESHWATER FISH, CYPRINIDS, SALMONIDS.

Consumptive Use

Water which is abstracted but not returned to the catchment, either because it evaporates (as in spray irrigation) or is exported for use in another catchment.

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).

Flow Measurement Units

m³/s Cubic metres per second

l/s Litres per second

MI/d Megalitres per day. A megalitre is equivalent to a ten metre cube (approximates to a 4-bedroom detached house).

mg/d Millions of gallons per day.

Flow Conversion Table

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

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.

Impoundment Reservoir

Surface water storage area formed by construction of a dam and supplied only by natural inflow from the upstream catchment.

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.)

Spate Flows

Episodic fresh water flood flows.

WwTW

Wastewater Treatment Works.



ENVIRONMENT
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