

catchment management plan



DERWENT AND CUMBRIA COAST annual review November 1996



**ENVIRONMENT
AGENCY**

CONTENTS

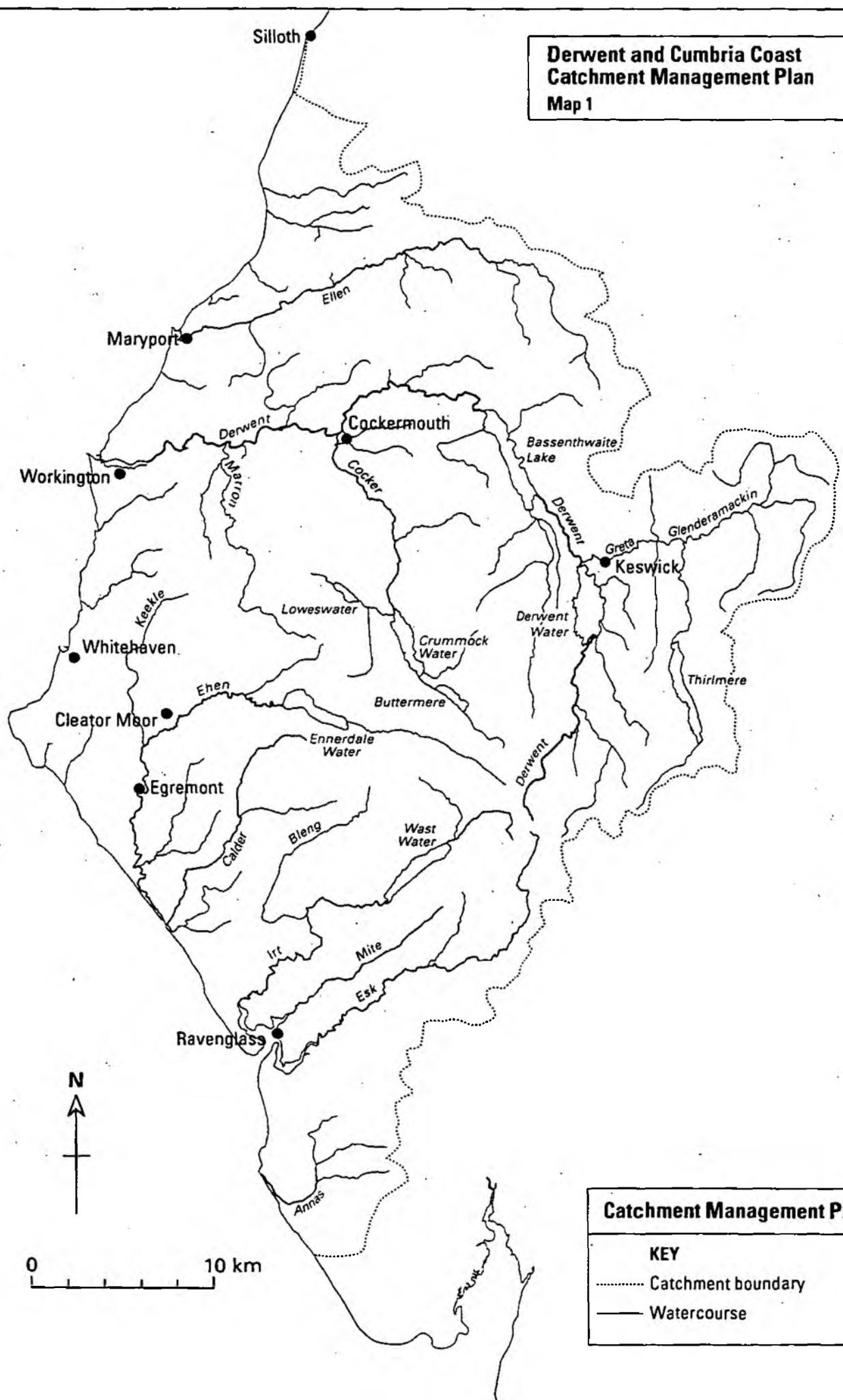
SECTION

Map of the Catchment

1. Vision for the catchment
2. Introduction
3. Summary of Progress
4. Future Review
5. Monitoring Report

Appendix - Agency Guidance Statements and Local Authority Plans

**Derwent and Cumbria Coast
Catchment Management Plan
Map 1**



Catchment Management Plan

KEY

- Catchment boundary
- Watercourse

1.0 The Vision

Much of the catchment lies within the Lake District National Park where water is a vital part of this nationally important landscape. The area has a rich heritage and has historically attracted artists and poets. Today The Lakes draw in large numbers of tourists who together with local communities enjoy its exceptional qualities. The waters of the catchment support an important ecology including significant fisheries for salmon and sea trout. The River Derwent is one of the premier salmon rivers in the country. Consequently the work of maintaining the health of the catchments' waters is critical in maintaining the quality of the environment in this area and in supporting the local community and its economic well-being.

The plentiful supply of water is an important resource for industry and drinking water supplies both on and off the catchment.

We recognise the exceptional significance of the water environment in the catchment, and will seek to work with all appropriate parties to protect that which is already excellent and seek to achieve and maintain improvements where necessary. We will work in partnership with the local community and other interested organisations and to achieve a sustainable system of rivers at their full environmental potential.

In support of the vision, key objectives will be to:-

- Seek reductions where necessary in nutrient inputs to the lakes and rivers of the catchment.
- Ensure coastal sewage discharges are improved to minimise aesthetic problems and reduce pollution. To identify areas for improvements beyond statutory requirements and pursue these wherever possible.
- Protect the important conservation aspects of this catchment giving particular consideration to rare and endangered species.
- Produce and implement a fisheries management plan which seeks to protect the important fishery in the catchment in consultation with other parties who have an interest in the catchments fisheries.
- Ensure abstractions of water do not damage rivers and lakes.
- Implement an emergency plan to enhance protection of Bassenthwaite Lake from any polluting spillages on the A66.
- Minimise the ecological and visual impact of necessary in river works.
- Encourage migration of otters onto the catchment.

2.0 Introduction

The purpose of this annual review is to report on progress achieved on issues identified within the catchment. This follows the Catchment Management Planning process initiated by the National Rivers Authority (NRA).

The NRA published a consultation report in October 1994 outlining its thoughts on issues within the catchment.

Following consultation and reconsideration of the issues on action plan was published in September 1995 and this document reviews the issues identified in the action plan.

Since the publication of the action plan the NRA has become part of the Environment Agency. This new organisation formed on 1st April 1996 combines the expertise of the NRA with that of Her Majesty's Inspectorate of Pollution and Waste Regulation Authorities.

The new body has all the powers and responsibilities of the pre-decessor bodies including production of Catchment Management Plans (CMP's).

The programme of CMP's will be continued by the Agency although the scope of future plans will be increased to include all the responsibilities of the new organisation. These new plans will be called Local Environment Agency Plans (LEAPS).

However this annual review only considers management of the water environment inherited from the NRA.

3.0 Summary of Progress

Significant progress has been achieved with regard to improved sewerage and sewage treatment along the Cumbria Coast (issues 4 and 5) with several large new schemes having been commissioned.

The River Keekle Channel has been successfully reinstated through the former opencast mine and monitoring of the river will continue to ensure improvements are maintained. The Agency will continue to be vigilant in assessing planning applications for new sites, but will drop this as an issue from the plan for the time being. If new site specific issues should arise the Agency will report on these in future annual reviews.

Also on the River Keekle, significant progress has been made in removing water quality problems caused by old deep mine spoil heaps (issue 15). The large Walkmill spoil heap has been removed by burial in the void created by the Keekle opencast site. This has led to significant improvements in river water quality.

In addition finances have been secured for treating the contaminated water leaching from the Oatlands spoil heap in the Upper Keekle. Once implemented, this will further improve water quality in the River Keekle.

The Agency has produced a fisheries management plan for the area which has been widely circulated to involve local interests (issue 9). Further progress has been made in assessing fish populations and looking at ways of improving fish habitat (issues 9 and 10).

There has also been progress in improving the level of flood protection in the catchment although some schemes have been deferred. Plans for improved sea defences at Ravenglass have been abandoned because of local concerns (issue 13).

Significant progress has been made in furthering our plans to manage eutrophication in the catchment (issues 17 and 18).

Collaborative work in protecting rare species has also led to progress particularly in relation to vendace and pearl mussels (issues 22, 28 and 29).

Three further issues will be dropped from the plan at the next review. Issue 12 regarding enforcement action against illegal fishing will be dropped because it describes ongoing Agency work across all catchments and is not specific to this plan area. Issues 25 regarding the dumping of supermarket trolleys in the River Derwent has been resolved. Issue 32 has also been dropped because the Agency now has a new system to deal with planning consultations and this has now become part of our routine work.

Two new issues have been added. A problem has been identified with regard to accurately measuring flows on the River Ehen. Consequently the Agency intends to install a structure to remedy the situation. In addition, the Agency has now taken on responsibility for issuing flood warnings to the public and a project is in place to tackle the issue.

4.0 Future Reviews

We will report on progress again in about a years time when we will publish our second annual review of the plan.

The Environment Agency is currently considering how it will incorporate all its responsibilities into the planning process and will report on this aspect at the next annual review.

5.0 Monitoring Report

The following tables of issues have been taken from the action plan document, and updated to show progress and any changes that have been made since the action plan was published. Progress for each issue is summarised in the column on the right hand side.

There are also two new issues that have arisen since publication of the action plan, and these appear at the end of this section of the plan.

Issue No 1								Input of "point source" agricultural effluents					
Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader		
	Lead	Other		95	96	97	98	99	Future				
Continue liaison with farming community, NFU, MAFF/ ADAS and others	Agency	Farmers MAFF ADAS NFU Others	Agency staff costs	✓	✓	✓	✓	✓	✓	This is routine ongoing work responding to complaints of pollution. MAFF grants have now disappeared and hence daily contact with the family industry has been lost. The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations continue to be enforced, and specific catchment campaigns will be established following reports on the lakes which will highlight nutrient rich streams.	P Wiggins		
Continue current pollution control initiatives	Agency		Agency staff costs	✓	✓	✓	✓	✓	✓		P Wiggins		
Continue to implement the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations and take enforcement action where necessary	Agency		Agency staff costs Capital costs for farmers	✓	✓	✓	✓	✓	✓	Ten farms have been inspected to determine the cause of sheep dip pollution. Several improvements made to remove the threat to the watercourse.		K Denyer/ P Wiggins	
Establish Pattern of incidents on major catchments and target action	Agency		Agency staff costs	✓	✓	✓	✓	✓	✓				
Seek reduction in incidents of farm pollution	Agency	Farmers MAFF ADAS Others	Agency staff costs	✓	✓	✓	✓	✓	✓				

NFU - National Farmers Union
 MAFF - Ministry of Agriculture Fisheries and Food
 ADAS - Agricultural Development Advisory Service
 Agency - Environment Agency

Issue No 2 Acid stress in some upper tributaries											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Continue liaison with Forestry Authority and LDNP to establish a future strategic plan for Forestry Land use	Agency FA	Forestry Owners LDNP	Agency Staff time	✓	✓	✓	✓	✓	✓	Liaison between the Agency, LDNP the Forestry Authority and Forest Enterprise with regard to planting and harvesting strategies is ongoing. The Forest and Water guidelines continue to be promoted by the Agency.	J Pinder
Promote and audit the degree of compliance with the Forest and Water Guidelines	Agency	FA FE	Agency Staff time	✓	✓	✓	✓	✓	✓	A biological survey has been completed to determine the impact and extent of acidity in vulnerable catchments. Detailed studies of invertebrate and fishery populations in the River Liza is ongoing; preliminary indications show improvements in terms of natural recruitment of species. Acidity data from the monitoring stations in the Rivers Duddon and Esk will soon be transferred to the North Area from the Regional Office to allow long term trends to be assessed.	P Wiggins
Develop Agency holistic approach to issue including air emissions	Agency		Unknown	✓	✓	✓				The impact of air emissions on acid stressed water from major new authorised sites is now taken into consideration (eg Drax)	J Pinder

FA - Forestry Authority
LDNP - Lake District National Park Authority
FE - Forest Enterprise

Issue No 3 Localised pollution from small sewage treatment plants and septic tanks

Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader
	Lead	Other		95	96	97	98	99	Future		
Target areas to Planning Authority's where problems exist	Agency	LPA's		✓	✓	✓				The Agency now has the legislation through the Environment Act 1995 to drive forward rural sewerage schemes. Impacts in areas without sewerage facilities are currently being identified and prioritised by the Agency in conjunction with NWW and Local Authorities. Areas where impacts exist will be pnt forward for rural sewerage under North West Waters capital investment plan.	P Wiggins
Promote NRA policy to local Authority's and establish number of new installation	Agency	LA's		✓	✓						P Wiggins
Influence NWW on future investment plans beyond current agreed programme (Beyond year 2005)	Agency	NWW							✓		L Beattie

- LPA's - Local Planning Authorities
- LA's - Local Authorities
- NWW - North West Water

Issue No 4 Lack of sewage treatment along the Cumbria Coast											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Ensure provisions of the E.C. Bathing Water Directive are complied with at identified bathing waters ie Silloth, Allonby South, Allonby, St. Bees and Seascale	Agency NWW DoE		Costs to be met by NWW	✓	✓					Treatment schemes designed to achieve compliance with the provisions of the E.C. Bathing Water Directive for the 1996 bathing water season were completed and commissioned for the identified bathing waters. All beaches complied in 1996 except Silloth. An investigation is in place to identify and assess other possible sources of contamination.	L Beattie
Ensure provision of the E.C. Urban Wastewater Treatment Directive (UWWTD) are complied with.	Agency NWW DoE		Costs to be met by NWW	✓	✓	✓	✓	✓	by 2005	To date schemes to ensure compliance with the provisions of the UWWTD have been agreed. These include commissioning of a new treatment works at Workington. The completion of a new primary treatment works at Whitehaven to include flows from West Strand, Parton and discharges to the Lillyhall outfall is targeted for completion in December 2000. A new long outfall at Braystones has been completed although NWW have decided not to commission it yet. A new primary treatment works will be completed by 2005 to comply with the UWWTD.	J Pinder

NWW - North West Water
DoE - Department of the Environment

Issue No 5 Impact of combined sewer overflows (CSO's) and storm sewage discharges

Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99	Future			
Divert Keswick STW storm discharge from Wath Beck to the River Derwent to reduce stock watering problems	NWW		Costs to be met by NWW	✓							The diversion of Keswick STW storm discharges from Wath Beck to the River Derwent has been completed removing the impact of the storm discharges through greater dilution.	I Law/ J Thompson
Abandon 10 unsatisfactory sewer overflows in Maryport and transfer flows to new Workington (Siddick) STW	NWW		Costs to be met by NWW	✓	✓	✓	✓	✓	by 2000		The abandonment of the unsatisfactory CSOs in Maryport and flows transferred to Workington STW has been completed. The abandonment of the remaining	J Thompson/ D Keddy
Abandon 4 unsatisfactory sewer overflows in Workington area and transfer flows to the new Workington (Siddick) STW	NWW		Costs to be met by NWW	✓	✓	✓	✓	✓	by 2001		unsatisfactory CSO in Maryport and four unsatisfactory CSOs in the Workington area and flows diverted to Workington STW is scheduled for 2000.	I Law/ J Thompson

NWW - North West Water
 STW - Sewage Treatment Works

Issue No 6 Pollution caused by contaminated surface water outfalls (CSW's)

Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader
	Lead	Other		95	96	97	98	99	Future		
NWW to complete present programme of CSW improvements (see note 1)	NWW		Costs to be met by NWW	✓	✓	✓	✓			<p>NWW have agreed to further improvements at Moresby Park Industrial Estate. High risk areas have been diverted to foul drain on the estate. Campaign by NWW removed wrong connections at Thornhill. Following a campaign undertaken on Risehow Industrial Estate, discussions are ongoing with industrials to effect remedial measures.</p> <p>Additional NWW campaigns have removed wrong connections at the Meadowfield Estate, Gosforth and St Pauls Avenue, Frizington.</p>	I Warner
Establish remedial programmes on private outfalls with established chronic problems. ie Cleator Moor and Lillyhall Industrial Estate outfalls and Seaburn Sewer	Agency		Agency staff costs	✓	✓					<p>The drainage system at Lillyhall Industrial Estate has been explored and all companies served by Drain 2 have been visited and audited. This has resulted in an improvement of discharge quality. The exercise is to be extended to other outfalls.</p> <p>Progress is currently being made to address problems associated with the BNFL owned Seaburn Sewer.</p>	

NWW

North West Water

Note 1:

Name of outfall	Estimated Date of Completion
Moresby Parks	1994
Thornhill	
* Salterbeck	
*Risehow	

* Not yet confirmed to be in NWW ownership

Issue No 7 Development in areas where sewers/sewage treatment works are at or near design capacity											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Identify works which are deteriorating and close to consent limit	Agency		Agency Staff time	✓	✓					Remedial work has been addressed by NWW on occasions when failures arise. Additional treatment has been introduced at Lorton STW and Rosthwaite STW.	PCO's and J Thompson
Prioritise impacts to influence NWW's future capital programme	Agency		Unknown			✓	✓	✓	✓	Impacts from problem sewers/sewage treatment works are currently being identified and prioritised for, NWW's capital investment programme.	

- NWW - North West Water
- PCO's - Pollution Control Officers
- STW - Sewage Treatment Works

Issue No 8 Impact of proposed past, and current opencast coal sites

The Keekle opencast coal site has been successfully re-instated. The Agency will remain vigilant in monitoring the environment in connection with closed and any operational sites. In addition the Agency will ensure its comments are heard at the planning stage of any new sites. However, there are no current issues on the catchment and this issue will be dropped at the next review.

Issue No 9 Fish stocks status and management

Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Produce a fisheries management plan to create a structured overall approach to fisheries management and consult and publicise widely	Agency		20k	✓						Plan produced following consultation and distributed to interested parties. The plan will be reviewed periodically.	C Durie
Continue strategic survey of juvenile fish stocks	Agency		300k	✓	✓	✓	✓	✓	✓	Surveys undertaken on Cocker, St Johns Beck; Glendermackin and Blumer Beck.	E Black/ S Douglas
Continue anti-poaching/enforcement activity and take prosecution as necessary	Agency	Cumbria Sea Fisheries Committee	1.5m	✓	✓	✓	✓	✓	✓	Ongoing.	E Black/ S Douglas
Continue operation of anglers log book scheme	Agency	Anglers and Associations	5k	✓	✓	✓	✓	✓	✓	Ongoing.	C Durie
Continue to operate automatic fish counters and conduct calibration and validation exercises to maximise data quality	Agency		40k	✓	✓	✓	✓	✓	✓	Calibration work carried out on Yearl counter (Derwent) and Calder Hall counter (Calder). Dedicated phone links installed for data handling.	E Black/ S Douglas
Monitor current stocking practice to optimise stocking effort	Agency		Unknown	✓	✓	✓	✓	✓		Post stocking monitoring undertaken on Keekle; Bleng; Countess Beck, Hare Beck; Worm Gill and River Liza.	E Black/ S Douglas

Issue No 9 Fish stocks status and management (cont)											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Continue investigation to obtain baseline data on char populations in Ennerdale, Buttermere, Wastwater, Crummock, Loweswater and Thirlmere	Agency		50k	✓	✓	✓	✓	✓		Combination of video, radio tracking and echosounding carried out on Ennerdale. Population estimates are low, giving cause for concern.	E Black/ S Douglas
Investigate the reasons for relatively poor fish populations downstream of major lakes	Agency		Unknown	✓	✓	✓	✓	✓		Information obtained indicates that gravel and food are unlikely to be limiting. Monitoring of physical and chemical parameters of outflow is being undertaken.	E Black/ S Douglas

Issue No 10 Problems with degraded fish habitat and need for comprehensive information on habitat quality											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
<p>Areas currently being considered for action include:- River Derwent at Ouse bridge, River Derwent at Gultersfoot Broughton Cross, River Derwent at Broughton bridge</p> <p>Undertake a comprehensive survey to identify areas where habitat rehabilitation may be appropriate</p> <p>Programme of weed clearance and manual raking in spawning areas suffering from siltation and compaction</p>										<p>E Black/ S Douglas</p>	
	Agency		Unknown	✓	✓					<p>Discussions on habitat enhancements are being undertaken with interested parties throughout the area. Habitat survey methodology developed. Survey work carried out on the Esk and following initial appraisal more detailed work is being considered on the Marron, Blumer Beck and the River Derwent.</p>	
	Agency	Riparian Owner	Unknown	✓	✓	✓	✓	✓		<p>3km of Stony Beck (R. Irt) cleared of blockage and removal of dense weed growth is planned for the River Esk</p>	E Black

Issue No 11 Impact of gravel extraction from rivers on Fisheries and Conservation interests

Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader
	Lead	Other		95	96	97	98	99	Future		
Agency gravel removal for flood defence purposes for example at Lorton and in Borrowdale	Agency		Dependent on individual sites and circumstance							Completed. All done in full consultation with Environment Agency functions and external bodies.	M Fell
Gravel removal by riparian owners to improve angling interest	Agency									Review within conservation constraints. No change.	A Fraser
Continue gravel removal as and when required	Agency			✓	✓	✓	✓	✓	✓	No change.	M Fell
Remove gravel little and often.	Agency			✓	✓	✓	✓	✓	✓	No change.	M Fell
Create gravel traps at convenient locations	Agency			✓	✓	✓	✓	✓	✓	Reviewing within planning restrictions	
Continue consenting gravel removal provided there is no detriment to the water environment	Agency			✓	✓	✓	✓	✓	✓	Review within conservation constraints. No change.	A Fraser

Issue No 12 Illegal exploitation of migratory salmonids in inland and coastal waters											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Maximise effectiveness of anti-poaching enforcement operations through best deployment of staff, use of part time assistance and liaison with private fisheries interests and the police	Agency		See Issue 9	✓	✓	✓	✓	✓	✓	Ongoing.	E Black/ S Douglas
Monitor effectiveness of new Sea Fisheries Byelaws in protecting migratory fish and liaise with Cumbria Sea Fisheries Committee	Agency Cumbria Sea Fisheries Committee		Unknown	✓	✓	✓	✓	✓		Enforcement action has been taken by the Agency in relation to nets set in contravention of Sea Fisheries Committee Byelaws and the Salmon and Freshwater Fisheries Act Section 6.	C Durie

Enforcement of the law in relation to illegal fishing will continue to be an important and significant area of work for the Agency. However, this issue describes the ongoing work of the Agency and is not an issue specific to this catchment. This issue will therefore be dropped from the plan at the next review.

Issue No 13 Properties at risk from flooding											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Assess flood risk to properties and the compliance with standards of service for flood defence	Agency		Minimum £2.5k per site	✓	✓	✓	✓	✓	✓	Ongoing. To meet Flood Defence capital budget requirements.	A Fraser/ M Fell
Consider improvements or inclusion in Capital Works Programme if cost beneficial	Agency		Project dependent	✓	✓	✓	✓	✓	✓	Ongoing.	A Fraser/ M Fell
Carry out the necessary further investigations to ensure the feasibility of schemes. Design and implement any approved project. Consult with all statutory bodies and residents.	Agency	MAFF	Project Dependent	✓	✓	✓	✓	✓		Ongoing.	A Fraser/ M Fell
Whitehaven Harbour Scheme	WDC	Agency MAFF	Agency contribution £1.8m		✓	✓				Design and construction contract let by Whitehaven Development Co. Started on site in August 1996. Due for completion in April 1998.	A Fraser
Cockermouth Scheme	Agency	MAFF	£542k					✓	✓	Delayed until 2000. Consultants progressed to detail design stage.	A Fraser
Maryport Scheme	ABC	Agency MAFF	£1.0m						✓	Delayed until 2005. Initial feasibility stage.	A Fraser
River Ehen at Braystones	Agency			✓						Site works completed. This action can now be deleted from the plan.	A Fraser
Parton Sea Defences	CBC	Agency	£46k		✓	✓				Contract let site work start Nov 1996.	A Fraser

Issue No 13 Properties at risk from flooding									
Actions	Responsibility		Est Cost	Duration of action			Progress	Agency Issue Leader	
	Lead	Other		95	96	97			98
Ravenglass Sea Defences	Agency	MAFF	2.38k	✓	✓			To be removed from plan - scheme abandoned due to lack of public support.	A Fraser

- WDC - Whitehaven Development Corporation
 MAFF - Ministry of Agriculture Fisheries and Food
 ABC - Allerdale Borough Council
 CBC - Copeland Borough Council

Issue No 14 Maintenance and improvement of the conservation status of the catchment particularly in connection with potential SSSI designation on the Derwent/Cocker											
Actions	Responsibility		Est Cost	Duration of action			Progress	Agency Issue Leader			
	Lead	Other		95	96	97			98	99	Future
Implement new habitat survey methodology to assess conservation status and identify areas not meeting their ecological potential	Agency		15k	✓	✓	✓	✓	✓	✓	Extend duration to 98.99 and future. Reference sites surveyed. River Habitat Survey development completed for implementation in 1997.	S Garner
Pursue enhancements to river corridor and wetland habitats as opportunities arise through Agency flood defence and other operations, and facilitate partnership projects with other organisations and individuals	Agency	EN FA CWT Others	Unknown	✓	✓	✓	✓	✓		Ongoing.	S Garner

- EN - English Nature
 CWT - Cumbria Wildlife Trust
 FA - Forestry Authority

Issue No 15 Long term problems from ochreous discharges to the River Keekle caused by previous deep mining activity											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Monitor water quality in the River Keekle to determine the extent of improvements brought about by the burial of the Walkmill spoil heap in the Keekle opencast void	Agency		Agency staff costs unknown	✓	✓	✓	✓	✓	✓	Monitoring of Walkmill spoil heap is ongoing (no deterioration detected).	I Warner
Site investigation at Oatlands to determine the best method for reducing pollution from the deep mine spoil heap there.	Agency	Cumbria County Council	£50k	✓	✓					Site investigation at Oatlands has been completed, resulting in the detailed design of a treatment plant for site effluent. Finances have been secured and timescales for remedial action is under negotiation. Only land negotiations between Cumbria County Council and a local farm are delaying commencement.	I Warner
Programme of action to resolve the problems at Oatlands based on the site investigation carried out in 1995/96	Agency	Cumbria County Council	£250k	✓	✓	✓	✓	✓	✓		
Review water quality improvements and publicise widely	Agency		Agency staff costs 10k	✓	✓	✓	✓	✓	✓	Success of water quality improvements to the River Keekle resulting from the burial of Walkmill spoil heap has been reported to interested parties.	

Issue No 16 NIREX Project											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Establish Agency strategic position	Agency		Agency staff time	✓	✓	✓	✓	✓	✓	The Agency's strategic position is being developed.	I Porter
Ensure protection of groundwater from accidental pollution from site operations and from deep groundwater contamination	Agency		Agency staff time	✓	✓	✓	✓	✓	✓	Ongoing liaison with UK NIREX to ensure groundwater protection.	
Ensure re-instatement of bore-holes is to a standard consistent with protection timescales	Agency		Unknown	✓	✓	✓	✓	✓	✓	Ongoing programme to ensure re-instatement of boreholes is to a standard consistent with protection timescales.	

NIREX - Nuclear Industries Radioactive Waste Executive

Issue No 17 Impact of Cleator Sewage Treatment Works in the River Keekle and Ehen											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Monitor the River Ehen to assess designation status under the E.C. Urban Wastewater Treatment Directive (UWWTD)	Agency		Agency staff time Unknown	✓	✓	✓				Data supporting designation of the River Ehen as a sensitive water from Cleator STW to Braystones under the E.C. Urban Wastewater Treatment Directive has been collected. This will be put forward by the Agency to the DoE in 1997 for a final decision to be made on the status of the stretch by the DoE.	J Thompson
If River Ehen is designated sensitive under UWWTD ensure appropriate treatment is afforded, including nutrient removal from Cleator STW effluent	Agency	NWW	Possible capital cost to NWW			✓	✓				

NWW - North West Water
 DoE - Department of Environment
 STW - Sewage Treatment Works

Issue No 18 Eutrophication in Bassenthwaite Lake

Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99	Future			
Phosphate removal from Keswick STW effluent	NWW		Capital cost to NWW	✓							Phosphate removal was installed at Keswick STW early in 1995 and is currently achieving the required removal efficiency of more than 80%.	L Beattie
On-going monitoring of all significant inputs to the lake, the lake itself and the outflow from the lake.	Agency		Agency staff time Unknown	✓	✓	✓	✓	✓	✓		A full scale survey of the lake for the last 2 years has been undertaken. Contracted fortnightly monitoring and routine monitoring is ongoing. A full nutrient budget following phosphate removal from Keswick STW has been completed and is currently being modelled to assess benefits from further nutrient input reduction. Lake characteristics suggest that the rate of phosphorus reduction may be slower than in other deep water lakes. However, improvement processes can be slow and unpredictable and it is too early to realise the benefits of nutrient removal from Keswick STW.	

NWW - North West Water
 STW - Sewage Treatment Works

Issue No 19 Vulnerability of Bassenthwaite Lake to spillages on the A66 Trunk Road												
Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99	Future			
Installation of valves on interceptors along part of the A66 to hold chemical spills	Cumbria County Council	Agency Dept of Transport	£9k to Agency	✓							The installation of valved interceptors has now been completed on two stretches of the A66. Requests have been made to incorporate additional interceptors as and when schemes are scheduled for upgrading of the A66.	
Implement co-ordinated emergency plan to deal with accidents, with full involvement of the emergency services	Agency	Emergency Services	10k	✓	✓	✓	✓	✓	✓		Liaison with the Fire Service is ongoing. One major presentation has been made with another to follow targeted at further improvement of our joint response to incidents.	I Law

Issue No 20 Pollution of Furnace Gill from Broughton Moor STW												
Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99	Future			
Continue to press for early date for conveyance of sewage to new treatment facilities on the Cumbria Coast	Agency		Unknown							✓	Under the UWWTD, Broughton Moor STW has been defined as not receiving appropriate treatment. The diversion of flows to Workington STW, where the waste water will be treated appropriately for a coastal discharge, must be undertaken under the directive by the end of 2005. However, political pressure will assist in making a case for early abandonment.	I Law

NWW - North West Water
STW - Sewage Treatment Works
UWWTD - EC Urban Wastewater Treatment Directive

Issue No 21 Poor appearance and limited habitat diversity of canalised rivers. For example Newlands Beck, Lower River Calder and minor watercourses discharging to Allonby Bay											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Determine extent of sites damaged by canalisation and assess the significance to amenity and other interests	Agency LDNP Friends of the lakes EN Local Authorities Owners		Unknown	✓	✓	✓				The 10 year management plan on the rivers Waver and Wampool will assess damage due to canalisation and what mitigation can be achieved. When this is firmed up the Agency can then look at other sites.	M Fell
Explore the possibility of improving damaged sites in partnership with other bodies and where opportunities arise, make improvements to damaged sites	Agency LDNP Friends of the Lakes EN Owners		Unknown	✓	✓	✓	✓	✓		Progress ongoing. Changes to maintenance regime brought about by budget cuts and the implementation of the Flood Defence Management System (which will give full justification for flood defence schemes) may result in a decrease in the maintenance regime. The FDMS is due for implementation in April 1997.	S Garner

LDNP - Lake District National Park Authority
EN - English Nature

Issue No 22 The potential impact of recently observed coarse fish on the ecology of Bassenthwaite Lake											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Undertake investigations of the roach and ruffe populations in Bassenthwaite Lake with a view to assessing their ultimate status and their possible impact on vendace	Agency	IFE	90k	✓	✓	✓				Collaborative study with IFE is now in its third year. Final report with management recommendations to be produced in 1997.	C Durie

IFE - Institute of Freshwater Ecology

Issue No 23 Impact of water abstraction on river flows for example the Rivers Irt, Calder, Derwent and St. John's Beck											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Review historical data and assess current flow regimes downstream of significant abstractors and produce options report	Agency		20k	✓	✓	✓	✓			Review planned for 1996. Meetings with major abstractors to be arranged. Ongoing.	P Kerr
When opportunities arise address any identified problems by negotiations with abstractors				✓	✓	✓	✓	✓		Ongoing.	P Kerr

Issue No 24 Perceived waterlogging of agricultural land between Bassenthwaite Lake and Derwentwater											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Carry out investigation and establish relationship between lake levels, maintenance regimes and land use.	Agency	NFU LDNP CLA EN	£5k	✓	✓	✓				Study on Bassenthwaite Lake now completed. Historic cessation of maintenance on lower reaches of Newlands Beck has resulted in deterioration of land drainage standards. Report now completed and concludes that there is no justification in increasing the maintenance to help alleviate the problem. No further action will be taken and this issue will be dropped from the plan at the next review.	G Vaughan

- NFU - National Farmers Union.
- LDNP - Lake District National Park Authority
- CLA - Country Landowners Association
- EN - English Nature

Issue No 25 Visual intrusion and potential for flooding caused by dumping of supermarket trolleys in the River Derwent at Workington											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Continue to pressurise supermarkets to manage trolleys better	Agency	Trolley Owners	Agency staff time Unknown	✓	✓	✓	✓	✓		Pay trolley system has resulted in this issue becoming redundant. Pressure from the Agency has been instrumental in this.	M Fell
Continue removing trolleys	LA	Agency	£1000 each operation	✓	✓	✓	✓	✓		The issue will be dropped at the next review.	
Consider other options including legal action if problem persists	Agency		Unknown								

LA - Local Authority

Issue No 26 Pressure on the Agency to dredge the River Annas outfall to prevent flooding of farmland. Dredging is likely to impact on the adjacent SSSI and natterjack toad population and cause erosion of a cliff face downstream											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Review maintenance annually, and take appropriate action after agreement with interested parties	Agency	EN LDNP Copeland Borough Council	Dependent on action	✓	✓	✓	✓	✓	✓	Agency considering further work involving removal of small amounts of gravel. Work carried out to remove channel gravel and place at base of cliff to help stabilise.	M Fell

EN - English Nature
LDNP - Lake District National Park Authority

① Survey

②

Issue No 27 Long term future of the Cumbria Coastal rail line acting as sea defence embankment

Actions	Responsibility		Est Cost	Duration of action						Progress	Agency Issue Leader
	Lead	Other		95	96	97	98	99	Future		
Determine the future proposals of Railtrack to keep the line operational	Agency Railtrack	CCC) ABC) CBC)))	2k	✓	✓	✓				Awaiting railtrack policy.	A Fraser
Investigate Parliamentary responsibilities laid down during the construction of the line	Agency Railtrack	CCC) ABC) CBC)		✓	✓	✓				No clear directive or policy from Railtrack at the present time.	
Produce a strategy to maintain the existing embankment at Flimby and Parton if the line closes	Agency Railtrack	CCC) ABC) CBC)	Unknown						✓		

- CCC - Cumbria County Council
- ABC - Allerdale Borough Council
- CBC - Copeland Borough Council

Issue No 28 Rare species conservation and recovery								
Actions	Responsibility		Est Cost	Duration of action			Progress	Agency Issue Leader
	Lead	Other		95	96	97		
Undertake investigations into freshwater pearl mussels and vendace in order to assist in their conservation	Agency		15k (pearl Mussel) 90k (vendace)	✓	✓	✓	<p>Collaborative project to survey the pearl mussel population of the River Ehen undertaken in conjunction with English Nature.</p> <p>Work on vendace has progressed on a number of fronts. The study detailed in Issue 22 is nearing completion; collaborative work associated with the re-introduction of vendace to Scotland is underway; and a study of the spawning grounds in Bassenthwaite is likely to progress next winter.</p>	C Durie & S Garner

EN - English Nature
 IFE - Institute of Freshwater Ecology

Issue No 29 The return of the otter to the catchment											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Undertake habitat improvement on River Waver and Wampool immediately to North of catchment to encourage otters to migrate to good otter habitat in the catchment area.	Agency	CWT	15k	✓	✓					Collaborative project undertaken with Cumbria Wildlife Trust to construct otter holts at 7 locations in the catchment.	S Garner
Monitor for otter signs during other routine activities	Agency		Minimal	✓	✓	✓	✓	✓	✓	Reports of otter signs are being routinely sent to Cumbria Wildlife Trust.	S Garner
Train other Agency river bank staff to recognise otters and otter signs			Minimal	✓	✓	✓	✓	✓	✓	Ongoing.	S Garner

CWT - Cumbria Wildlife Trust

Issue No 30 Improvement to the management of water resources in Ennerdale/River Ehen as a result of the agreement with NWW										
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader
	Lead	Other		95	96	97	98	99		
Implementation of the new operational agreement on abstraction from Ennerdale agreed jointly between Agency and NWW	NWW		Unknown	✓	✓	✓	✓	✓	Review in light of current conservation knowledge. Ongoing.	P Kerr/ S Garner
Monitor and review implementation of the new abstraction agreement and assess benefits and any residual impacts to the water environment of Ennerdale and the River Ehen.	Agency		£8k	✓	✓	✓			Review. Ongoing.	P Kerr S Garner

NWW

North West Water

Issue No 31 Potential for improvements to the water environment from judicious tree planting/forestry											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Ensure new and existing woodlands are managed in compliance with the Forest and Water Guidelines	FA	Agency	Unknown	✓	✓	✓	✓	✓		Close operational liaison has taken place at a number of locations notably re Emerdale Forest and the River Liza.	C Durie
Meet with the Forestry Authority to discuss policy on riverside and flood plain tree planting and forestry	Agency	FA		✓						Meetings undertaken between Forestry Authority, Forest Enterprise and Agency staff. The Agency is also one of a number of signatories to the National Park Native Woodlands Accord.	C Durie

FA - Forestry Authority

Issue No 32 Impact of development on the water environment

The Agency has now an established system for influencing Local Authority planning policy and decisions on individual planning applications. Through working with Local Authorities the Agency seeks to ensure that all development respects the environment. This aim is supported by Regional Planning Guidance for the North West (RPG 13) which states that planning authorities should have regard to Environment Agency plans when formulating development plan policy.

We will continue to seek to improve the quality of our responses to planning consultations and monitor our role in the planning process. However, there are no particular development issues in the catchment which are appropriate for inclusion in the plan at this stage and the issue will therefore be dropped from the plan.

The Appendix at the back of this document indicates the extent to which Local Authority Planning documents address the Environment Agency's concerns.

Issue No 33 Effective allocation of Agency resources in the maintenance of watercourses for flood defence purposes											
Actions	Responsibility		Est Cost	Duration of action					Progress	Agency Issue Leader	
	Lead	Other		95	96	97	98	99			Future
Review main river designations. Liaise over any proposals to change main river with appropriate authorities and organisations and MAFF for approval by 1996	Agency	MAFF	Agency staff costs £6k	✓	✓					All non main river urban watercourses surveyed and assessment report is available. No progress due to regional policy delays, and budget restraint.	A Fraser/ M Fell

MAFF - Ministry of Agriculture Fisheries and Food

Issue No 34 Access to water for recreation											
Actions	Responsibility		Est Cost	Duration of action			Progress	Agency Issue Leader			
	Lead	Other		95	96	97			98	99	Future
Take appropriate opportunities to bring interested parties together to further recreational opportunities	Agency Sports Council Local Authorities Sporting interests Site owners LDNP		Unknown	✓	✓	✓	✓	✓	✓	Limited opportunities have arisen this year although there have been some discussions held with fisheries owners and canoeists.	C Durie

LDNP - Lake District National Park Authority

Issue No 35 Facilities for recreation											
Actions	Responsibility		Est Cost	Duration of action			Progress	Agency Issue Leader			
	Lead	Other		95	96	97			98	99	Future
Provide specific facilities for individual sports	Agency Local Authorities Sports Council Sporting interests LDNP		Project dependent	✓	✓	✓	✓	✓	✓	No ongoing progress due to the absence of available funding.	C Durie
Provide facilities for general informal recreation	Agency Local Authorities Landowners LDNP		Project dependent	✓	✓	✓	✓	✓	✓		C Durie

LDNP - Lake District National Park Authority

New Issue Flood Warning Dissemination Project											
Actions	Responsibility		Est Cost	Duration of action				Progress	Agency Issue Leader		
	Lead	Other		95	96	97	98			99	Future
Investigate and identify Operation Neptune (tidal warning) zones	Agency			✓	✓	✓	✓	✓	✓	Assess feasibility of providing flood warnings to meet flood warning dissemination targets. Ongoing.	A Fraser
Investigate and identify new Operation Albion (fluvial warning) zones	Agency			✓	✓	✓	✓	✓	✓	Assess feasibility of providing flood warnings to meet flood warning dissemination targets. Ongoing.	A Fraser

New Issue Construction of bed check weir at Braystones to improve river flow measurements											
Actions	Responsibility		Est Cost	Duration of action				Progress	Agency Issue Leader		
	Lead	Other		95	96	97	98			99	Future
To design and construct a bed check weir	Agency				✓	✓				Initial design in place.	P Kerr/ A Fraser

APPENDIX

ENVIRONMENT AGENCY INTERESTS AND LOCAL PLANNING AUTHORITY (LPA) DEVELOPMENT PLAN POLICIES WITHIN THE DERWENT AND CUMBRIAN COAST CATCHMENT - (TABLE PRODUCED NOVEMBER 1996)

Development Plan Name & Status	LPA Plan Policies which aim to Protect the Environment (Their Plan Policy references shown)			
	Air, Water Quality & Water Resources	Flood Defence	Fisheries, Recreation & Conservation	Minerals, Waste Disposal & Contaminated Land
Cumbria CC & Lake District Joint Structure Plan 1991-2006, Adopted July 1995	9, 22, 23, 56	18, 24	17	21, 58, 59, 60, 61, 62
Cumbria Minerals & Waste Local Plan. Draft Consultation ended September 1995	Policy 5 & 7		Policy 6	Policy 5, 6 & 7
Lake District Local Plan inc' Minerals & Waste. Public Inquiry ended February 1996	UT1, NE9	UT 3-5	New Policy	M1, M2, & N5
Copeland Borough Council Modified Local Plan, following Inspectors Report	ENV 24-28, 30-31 SVC 1-4	ENV15	ENV 4 SVC 1	N/A

N.B. Allerdale District Council Borough Wide Draft Local Plan not yet available for Public Consultation

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