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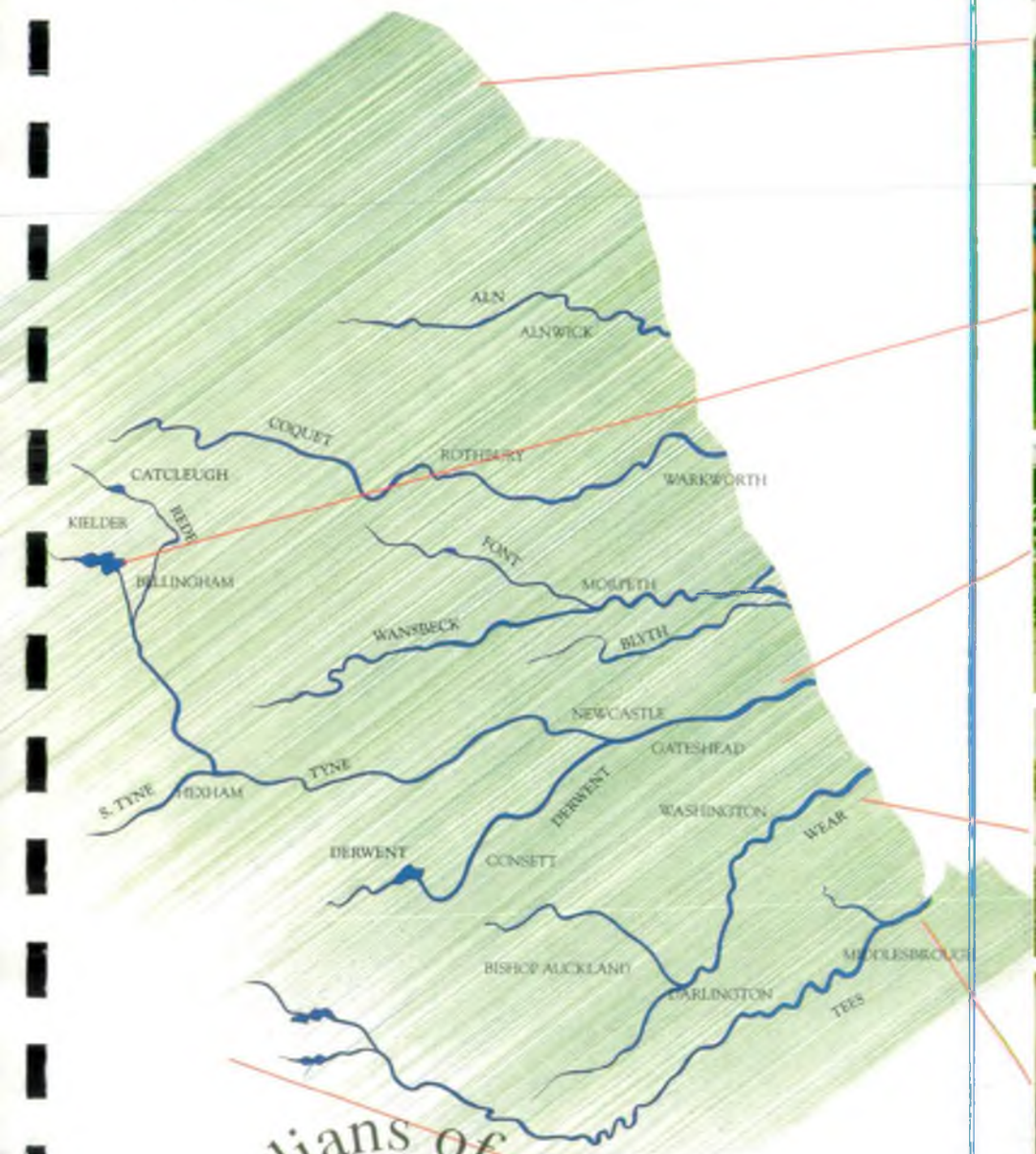
NRA

National Rivers Authority
Northumbria Region



Guardians of the Water Environment

THE QUALITY OF RIVERS AND ESTUARIES IN NORTHUMBRIA REGION 1990

NATIONAL RIVERS AUTHORITY

THE QUALITY OF RIVERS AND ESTUARIES IN NORTHUMBRIA REGION

A REPORT OF THE 1990 SURVEY

NATIONAL RIVERS AUTHORITY, NORTHUMBRIA REGION
ELDON HOUSE, REGENT CENTRE, GOSFORTH, NEWCASTLE UPON TYNE NE3 3UD

NRA – NORTHUMBRIA REGION

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INTRODUCTION

The National Rivers Authority has published recently a report: "The Quality of Rivers, Canals and Estuaries in England and Wales", which gives the results of a major survey carried out during 1990 by the NRA to assess the quality of rivers, canals, and estuaries in England and Wales. The previous survey of this type published in 1985, was organised by the Department of the Environment and undertaken by the Regional Water Authorities.

These notes summarise the quality of rivers and estuaries in Northumbria Region and include schedules indicating the class of each stretch of river in 1985 and 1990.

Using the classification systems introduced by the National Water Council (NWC), the 1990 Survey found that the majority of waters in the region were of Good or Fair quality. About 97% of inland rivers and 73% of estuaries were classified as either Good or Fair and 0.7% of inland rivers and 10% of estuaries were of bad quality.

The 1990 Survey revealed that a number of changes in quality class of individual stretches had occurred since 1985. About 5.2% of the total inland river length surveyed was downgraded whereas 2.2% improved. Comparable changes for estuaries were 2.6% downgraded and 4.1% improved.

Details of the classification schemes used in the survey are shown in the appendices 2 and 3.

FIG. 1

NWC 1990 SURVEY

Northumbria Region

Percentage Inland River Quality By Class

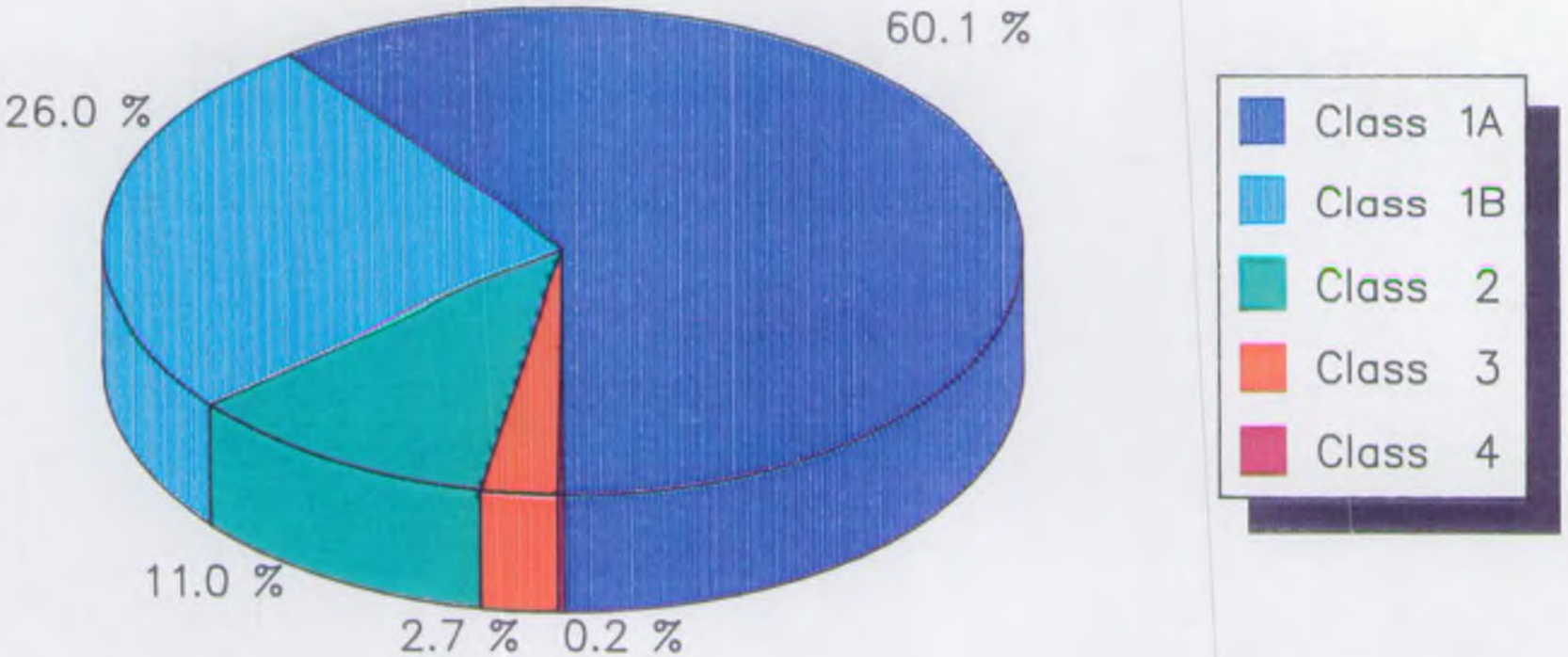
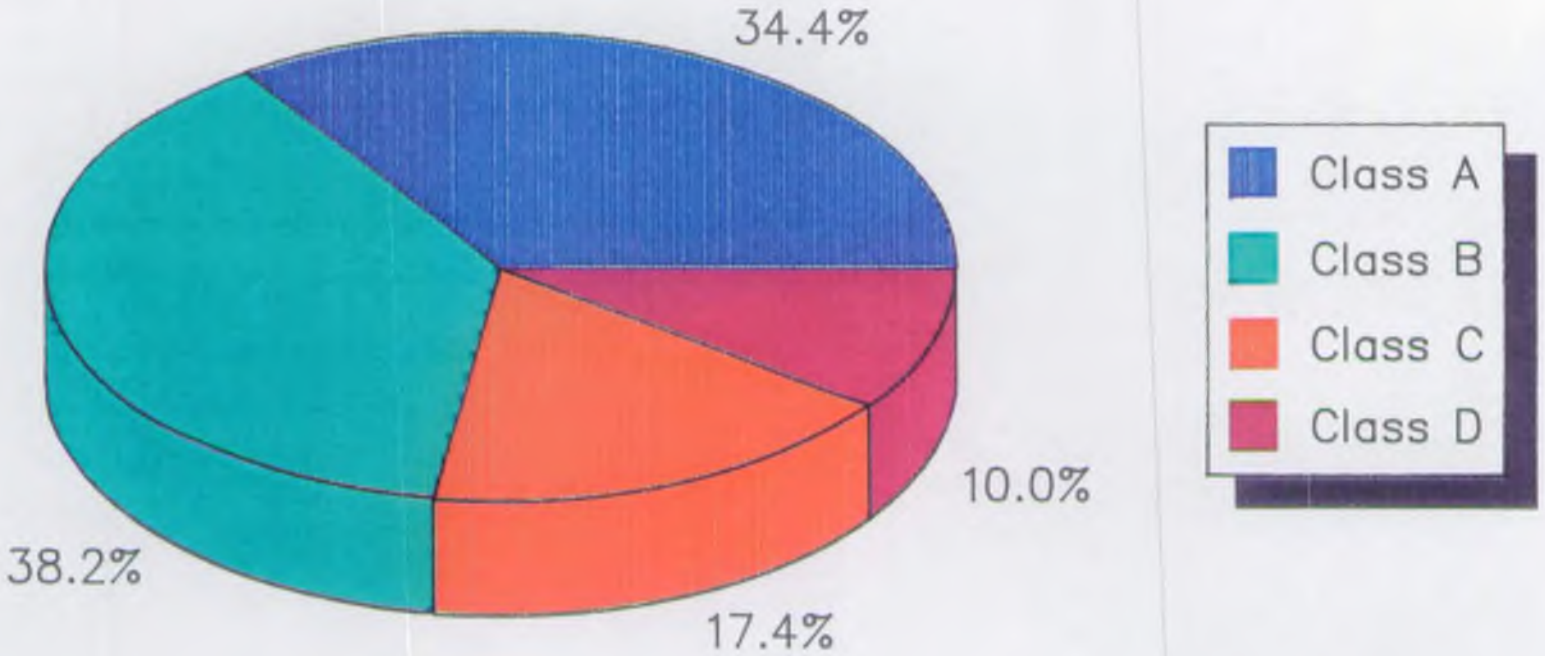


FIG. 2

NWC 1990 SURVEY

Northumbria Region

Percentage Estuary Quality By Class



CHANGE IN RIVER AND ESTURIAL QUALITY BY LENGTH 1985-1990

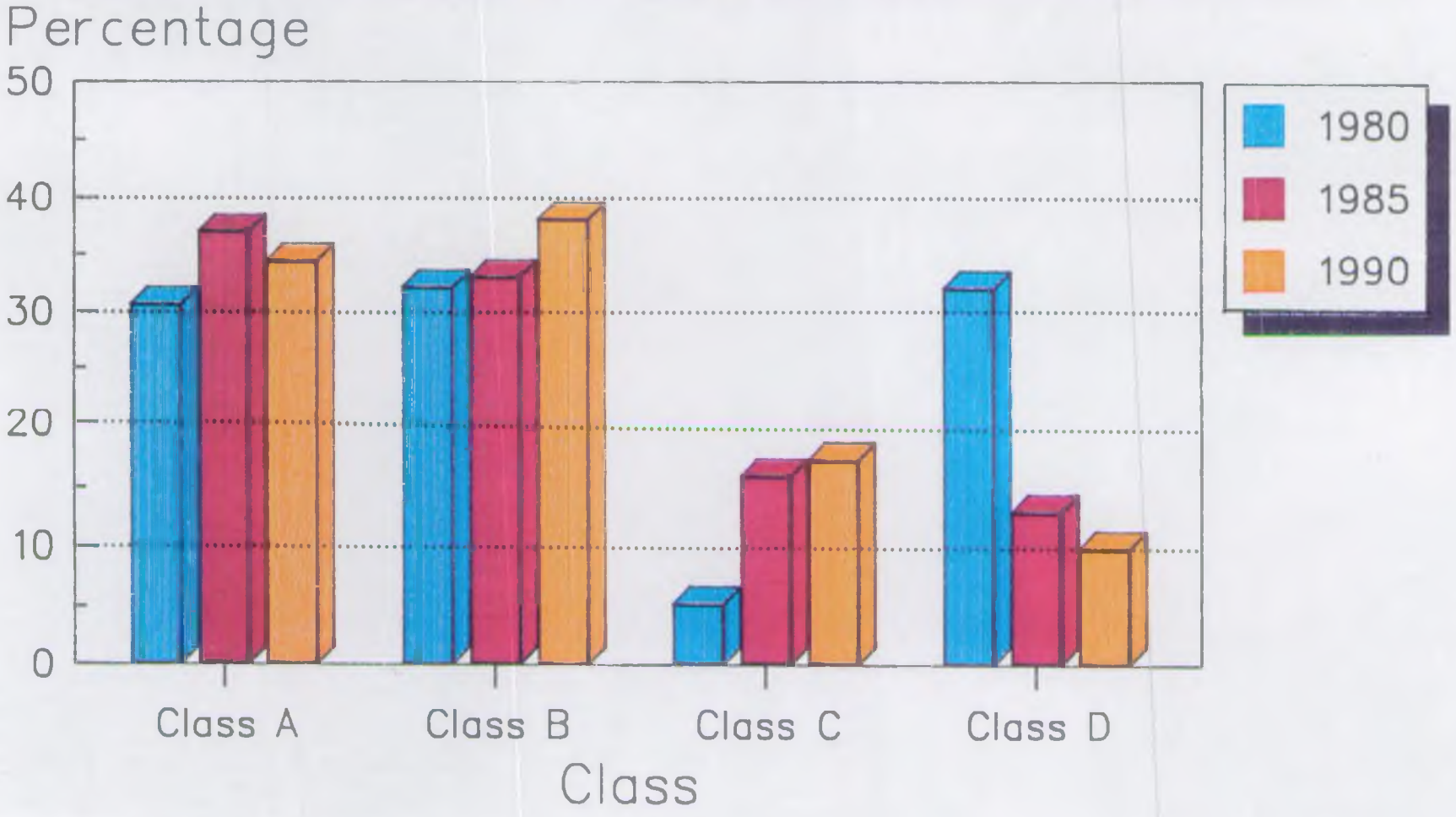
	CLASS	1985 Length (Km)	1990 Length (Km)
RIVER	1A	1729.0	1669.1
	1B	708.0	726.6
	2	264.0	307.0
	3	62.0	75.6
	4	22.0	7.0
ESTUARY	A	50.0	46.5
	B	45.3	51.8
	C	22.0	23.5
	D	18.0	13.5

FIG. 3

NWC River Quality Survey
1980/1985/1990
Percentage Inland Quality By Class

FIG. 4

NWC River Quality Survey
1980/1985/1990
Percentage Estuarine River Quality By Class



RIVER QUALITY IN THE NORTHUMBRIA REGION OF THE NRA

Summary of the changes since 1985

Most of the improvements which were forecast to take place between 1985 and 1990 have been observed, but these were offset by downgrading elsewhere.

Freshwater

Since 1985, 5% of the classified river length has deteriorated, while 2% has improved. The net downgraded river length is therefore about 3% (79 km). Most of the change was in losses of Class 1a to Class 1b and from Class 1b to Class 2.

The River Leven has been downgraded from Class 1a to Class 1b over 18 km in its lower reaches, probably as a result of the influence of farming on water quality. About 12 km of the Baydale Beck, a small tributary of the River Tees, has been downgraded from Class 1a to Class 2. The stream flows through an area which is intensively farmed and has been subject to the effects of run-off and intermittent discharges of farm effluents. About 8 km of the Ouse Burn, which is affected by urban run-off, has been downgraded from Class 2 to Class 3. An 8 km stretch of the River Wear in the area of Bishop Auckland has been downgraded from Class 1a to 1b. The classifications assigned in 1985 to these stretches were based on limited data and may not have provided an accurate reflection of the real quality of the water.

Five stretches below sewage treatment works (totalling 4 km), have deteriorated from Class 3 to Class 4.

Several improvements occurred because industries have closed. Others have been caused by the abandonment of sewage treatment works following the provision of pumping stations to transfer the flows to alternative facilities.

The closure of Lambton Coke Works resulted in 3 km of the Lumley Park Burn, a tributary of the River Wear, improving from Class 4 to Class 3.

Since the closure of Fishburn Coke Works, the quality of 16 km of the Skerne in its upper and middle reaches has improved from Class 4, partly to Class 3 and partly to Class 2. This resulted in an improvement from Class 2 to Class 1b of 9 km of the River Tees below the confluence with the River Skerne.

The effluent from Cramlington Sewage Treatment Works used to discharge into the non-tidal River Blyth but has now been diverted in to the estuary. This has resulted in the improvement of 3 km of the inland river from Class 3 to Class 1b.

Estuaries

A net improvement in the classification of estuaries had been expected between 1985 and 1990. Despite considerable reductions in polluting loads, the improvement has not materialised.

The River Derwent estuary has improved from Class D to Class B following the closure of Derwenthaugh Coke Works (2 km). A 3 km length of the River Team estuary has improved from Class D to Class C as a result of the closure of Norwood Coke Works and the commissioning of a section of the South Bank Interceptor Sewer (part of the Tyneside Interceptor Scheme) which eliminated discharges of untreated sewage to the river.

Prospects

Improvements to most remaining Class 3 and 4 stretches will be achieved by the abandonment of certain sewage treatment works or the provision of better sewage treatment. Those stretches which are affected by intermittent or diffuse discharges will be improved by better measures to prevent pollution. Schemes of land reclamation should improve a few stretches affected by contaminated run-off or leachate.

Significant improvements are expected in the estuaries of the Tyne and Tees following the completion of sewerage schemes. On Tyneside, the North Bank Interceptor Sewer is due to be completed by the end of 1991. The remaining significant discharges of untreated sewage from the north bank to the upper estuary will then be connected into the Interceptor System. Extensions to the South Bank Interceptor Sewer, from Blaydon to Clara Vale, are due for completion in 1992/3. The only remaining discharges of untreated sewage into the estuary will then be from the low-lying riverside strip areas. These will be dealt with progressively as redevelopment proceeds.

Reductions of the polluting discharges from industry into the Tees estuary will result from the commissioning of treatment plants and other measures to control pollution including the provision of secondary treatment at Portrack and Cargo Fleet sewage treatment.

It is expected that the runs of small numbers of migratory fish, which have returned to the Tees in recent years, will increase substantially as pollution levels fall.

CLASS 1A RIVERS IN 1985 AND 1990

River	Stretch	Length(km)
TWEED CATCHMENT		
Tweed	Tidal Limit - Area Boundary	26.8
Whiteadder	Tidal Limit - Area Boundary	1.0
Till	Tweed - Source	76.5
Glen	Till - College Burn	9.5
Bowmont Water	College Burn - Source	10.9
College Burn	Glen - Source	7.4
Wooler Water	Till - Source	15.6
Harthope Burn	Wooler Water - Source	8.0
Hetton Burn	Till - Source	13.5
Lilburn Burn	Till - Source	12.2
Roddam Burn	Till - Source	12.2
NORTHUMBERLAND COASTAL STREAMS		
North Low	South Low - Dean Burn	7.1
South Low	Haggerston Caravan Park - Dry Burn	3.6
Dry Burn	The Low - Source	4.1
The Low	Lowick STW - Source	1.6
Berrington Burn	North Low - Source	3.7
Dean Burn	North Low - Source	3.4
Ross Low	Sea - Source	8.8
Belford Burn	Ross Low - Railway Line	2.3
Belford Burn	South Lodge - Source	4.4
Elwick Burn	Ross Low - Source	11.3
Long Nanny	Sea - Source	9.7
Embelton Burn	Sea - Source	11.0
Rennington Burn	Sea - Source	5.8
ALN CATCHMENT		
Aln	Alnwick STW - Source	23.8
Shipley Burn	Aln - Source	11.7
Eglingham Burn	Shipley Burn - Source	7.2
Edlingham Burn	Aln - Source	10.1
Glanton Burn	Glanton STW - Source	1.9

COQUET CATCHMENT

Coquet	Tidal Limit - Source	79.1
Longdike Burn	Coquet - Paxton Dene Burn	11.6
Bywell Letch	Paxton Dene Burn - Source	2.6
Gate Burn	Millstone Burn - Source	2.6
Millstone Burn	Gate Burn - Source	2.6
Forest Burn	Coquet - Source	9.8
Wreigh Burn	Coquet - Source	13.2
Grasslees Burn	Coquet - Source	7.2
Holystone Burn	Coquet - Source	6.6
Alwin	Coquet - Allerhope Burn	4.3
Ridlees Burn	Coquet - Source	7.7
Usway Burn	Coquet - Clay Burn	9.2

WANSBECK CATCHMENT

Wansbeck	Morpeth STW - Source	38.0
Font	Wansbeck - Source	27.8
Fallowlees Burn	Fontburn Reservoir - Source	8.0
Newbiggin Burn	Font - Source	2.6
Hart Burn	Wansbeck - Source	20.6
Middleton Burn	Wansbeck - Trib. NZ0525 8561	4.1
Middleton Burn	Scots Gap Burn - Source	2.0

BLYTH CATCHMENT

Blyth	How Burn - Source	13.7
Pont	Med Burn - Source	17.4
Coldcoats Burn	Pont - Source	10.2
Black Heddon Burn	Coldcoats Burn - Source	5.8
Small Burn	Police HQ STW - Source	6.0
Med Burn	Pont - Source	3.7
How Burn	Blyth - Source	8.4

NORTH TYNE CATCHMENT

North Tyne	South Tyne - Source	62.5
Erring Burn	North Tyne - Source	8.0
Barrasford Burn	North Tyne - Source	6.9

Gunnerton Burn	North Tyne - Source	8.1
Simon Burn	North Tyne - Source	11.6
Crook Burn	Simon Burn - Source	2.0
Warks Burn	North Tyne - Source	13.2
Houxtey Burn	North Tyne - Source	16.4
Rede	North Tyne - Source	39.4
Chesterhope	Rede - Source	2.7
Elsdon Burn	Elsdon Minewater - Source	7.4
Otter Burn	Otterburn Camp STW - Source	4.1
Durtrees	Rede - Source	8.0
Sills Burn	Redesdale Camp STW - Source	2.4
Hareshaw Burn	North Tyne - Source	7.4
Chirdon Burn	North Tyne - Source	17.1
Tarset Burn	North Tyne - Source	12.2
Lewis Burn	Kielder Reservoir - Akenshaw Burn	2.8
Akenshaw Burn	Lewis Burn - Source	1.8
SOUTH TYNE CATCHMENT		
South Tyne	North Tyne - Crow Hall	15.4
South Tyne	Bardon Mill Minewater - Source	43.7
Newbrough Burn	Settlingstones Minewater - Source	2.5
Allen	South Tyne - West Allen	7.1
East Allen	Allen - Sinderhope	10.1
West Allen	Allen - Turney Cleugh	9.8
Haltwhistle Burn	South Tyne - Source	13.8
Tipalt Burn	Thirlwell Castle - Source	3.0
Park Burn	South Tyne - Source	7.6
Hartley Burn	South Tyne - Source	9.3
Black Burn(Halton)	South Tyne - Source	4.0
Black Burn(Alton)	South Tyne - Source	6.8
TYNE CATCHMENT		
Tyne	Prudhoe Works - North Tyne	21.7
Whittle Burn	Whittle Dene WTW - Source	5.7
Welton Burn	Whittle Burn - Source	2.9
Stocksfield Burn	Tyne - Source	8.4
Devils Water	Tyne - Source	21.7

DERWENT CATCHMENT

Derwent	Horseleyhope Burn - Source	23.4
Horseleyhope Burn	Comb Bridges - Source	4.6
Burnhope Burn	Burnhope Bridge - Source	2.8
Bolts Burn	NY 9555 4809 - Source	1.0

WEAR CATCHMENT

Wear	Beechburn Beck - Rookhope Burn	26.8
Wear	Blue Circle Cement - Source	9.5
Linburn Beck	Wear - Source	7.4
Bedburn Beck	Wear - Source	14.5
Waskerly Beck	Wear - Source	12.4
Bollihope Beck	Wear - Source	11.4
Stanhope Beck	Crawly Side Quarries - Source	3.2
Rookhope Burn	Grove Rake Mine - Source	3.0
Westernhope	Wear - Source	5.3
Swinhope Burn	Wear - Source	5.5
Middlehope Burn	Wear - Source	6.0
Ireshope Burn	Wear - Source	4.0
Kilhope Burn	Burnhope Burn - Source	7.7
Burnhope Burn	Milhope Burn - Source	4.3
Gaunless	Copley - Source	4.8
Bell Burn	Vinovium Minewater - Source	2.4

TEES CATCHMENT

Tees	Barnard Castle - Source	53.5
Deepdale Beck	Tees - Source	16.9
Balder	Tees - Source	16.7
Hunder Beck	Balder - Source	6.4
Black Beck	Balder - Source	3.0
Eggleston Burn	Tees - Source	12.4
Lune	Tees - Source	21.7
Long Grain	Lune - Source	7.6
Arngill Beck	Arngill Mine - Source	1.0
Hudeshope Beck	Tees - Source	6.5
Bow Lea Beck	Tees - Source	6.6

Tees	Skerne - NZ 0664 1500	33.2
Clow Beck	Tees - Waterfall Beck	7.5
Aldbrough Beck	Eppleby STW - Source	12.1
Killerby Beck	Tees - Source	8.7
Langley Beck	Tees - Source	13.0
Sudburn Beck	Langley Beck - Source	11.6
Westholme Beck	Langley Beck - Source	7.0
Whorlton Beck	Tees - Source	3.7
Greta Beck	Tees - Source	30.0
Gill Beck	Greta - Source	6.7
Eller Beck	Greta - Source	8.5
Sleightholme Beck	Greta - Source	14.5
Lance Beck	Tees - Source	3.9
Bishopton Beck	Little Stainton Beck - Source	1.8
Little Stainton B.	Bishopton Beck - Source	4.0
Leven	Great Ayton STW - Source	8.5
Potto Beck	Potto - Scugdale Beck	6.0
Grange Beck	Leven - Source	5.1
Tame	Leven - Source	10.8
Broughton Bridge B.	Broughton Beck - Source	11.5
Broughton Beck	GT Broughton STW - Source	2.5
Ings Beck	Broughton Bridge Beck - Source	6.1
Spa Beck	Tees - Source	7.4
CLEVELAND COASTAL STREAMS		
Dunsdale Beck	Dunsdale STW - Source	3.7
Kilton Beck	Lockwood Beck - source	2.0
Middle Gill	Kilton Beck - Source	5.0
Mill Beck	Kilton Beck - Source	5.7
	TOTAL	**1668.8**

CLASS 1B RIVERS IN 1985 AND 1990

River	Stretch	Length (km)
NORTHUMBERLAND STREAMS		
Low The	Dry Burn - Hunting Hall	0.9
Belford Burn	Railway Line - Sourth Lodge	1.5
Glanton Burn	Aln - Glanton STW	1.0
Hazon Burn	A1 - Source	3.9
Paxton Dene Burn	Bywater Letch - Source	3.2
Swarland Burn	Coquet - Millstone Burn	6.4
Swarland Fence Burn	Swarland Burn - NU 1428 0161	1.5
Lyne	Tidal Limit - Haydon Burn	1.9
Lyne	Ulgham - Source	11.1
Wansbeck	Tidal Limit - Morpeth STW	7.1
Bothal Burn	Pegswood STW- Source	2.3
Cotting Burn	Northgate Hospital - Source	1.3
Middleton Burn	Trib NZ 0525 8561 - Scots Gap Burn	1.0
Blyth	East Hartford STW - How Burn	20.4
Sleek Burn	Hepscott Burn - Source	5.8
Hepscott Burn	Sleek Burn - Source	5.5
Pegwhistle Burn Trib	Pegwhistle Burn - Source	1.9
Catraw Burn	Blyth - Source	5.0
Pont	Blyth - NZ 1659 7300	6.5
Pont	Fox Covert Lane - Med Burn	3.6
Fenwick Burn	Pont - Source	2.9
Seaton Burn	Railway Line - Source	12.1
TYNE STREAMS		
Elsdon Burn	Rede - NY 9110 9212	1.0
Otter Burn	Rede - Otterburn Camp STW	6.4
Sills Burn	Rede - Redesdale Camp STW	1.0
Newbrough Burn	South Tyne - Newbrough STW	0.8
Tyne	Tidal limit - Prudhoe Works	3.1
Whittle Burn	Tyne - Whittle Dene WTW	5.1
March Burn	Tyne - Source	10.5
Derwent	Tidal Limit - Howden Burn	20.4

Spen Burn	Derwent - Source	6.2
Pont Burn	Derwent - South Burn	3.7
Tongue Burn	Derwent - Source	1.3
Wallishwalls Burn	Derwent - Source	2.3
Wharnley Burn	Castleside STW - Source	1.6
Horsleyhope Burn	Derwent - Comb Bridges	1.0
Burnhope Burn	Derwent - Burnhope Bridge	2.0
Ouse Burn	NZ 2100 6995 - Source	4.8

WEAR STREAMS

Wadley Beck	Wear - Source	1.8
Houselop Beck	Wear - Source	3.5
Gaunless	South Church - Evenwood	12.4
Gaunless	Low Lands Mine - Copley	2.0
Coundon Burn	Guanless - Source	2.6
Hummer Beck	Gaunless - Source	4.2
Wear	Browney - Bell Burn	10.8
Croxdale Beck	Kelloe STW - Source	2.9
Tursdale Beck	Corxdale Beck - Source	1.9
Brancepeth Beck	Wear Source	6.9
Helmington Burn	Wear Source	1.9
Browney	Browney STW - Abbey Burn	27.9
Browney	Sawmill Bridge - Source	3.9
Deerness	Hedleyhope Burn - Source	17.9
Hedleyhope Burn	Deerness - Source	9.0
Kays Burn	Browney - Source	2.7
Blackburn Beck	Browney - Source	3.7
Smallhope Burn	Browney - Newhouse Burn	3.0
Wear	Lumley Park Burn - Browney	28.4
Cong Burn	Twizell Burn - Source	8.7
Humble Burn	Cong Burn - Source	3.5
Redhouse Gill	Wear - Source	1.1
Sherburnhouse Beck	Sherburn STW - Source	6.5
Chapman Beck	Old Durham Beck - Source	5.8
Whitwell Beck	Chapman Beck - Source	0.5
Pittington Beck	Coalford Beck - Source	5.6
Coalford Beck	Trib NZ 3281 4330 - Source	5.5
Saltwell Gill	Wear - Source	1.1

TEES STREAMS

Arngill Beck	Long Grain - Arngil Mine	3.0
Tees	NZ 0664 - 1500 - Barnard Castle STW	0.5
Waterfall Beck	Clow Beck - Source	7.1
Aldbrough Beck	Clow Beck - Eppleby STW	5.3
West Beck	A68 - Source	2.5
Woodham Burn	Red House Beck - Source	3.0
Rushyford Beck	Chilton STW - Source	3.3
Red House Beck	Corner Beck - Source	2.5
Red House Beck	Woodham Burn - Corner Beck	3.1
Corner Beck	Red House Beck - Source	2.5
Tees	Tidal Limit - NZ 3440 0712	7.0
Greatham Beck	Tidal Limit - Dalton Piercy	6.0
Greatham Beck	Elwick STW - Source	2.0
North Burn	Tidal Limit - Source	8.9
Claxton Beck	North Burn - Source	4.8
Tinklers Gill	North Burn - Source	7.7
Amerston Gill	Tinklers Gill - Source	4.3
Bedlam Gill	Tinklers Gill - Source	2.9
Marton West Beck	Ormesby Beck - Source	6.3
Spencer Beck	Marton West Beck - Source	5.3
Marton West Beck Trib	Marton West Beck - Source	5.0
Ormesby Beck	Marton West Beck - Source	5.9
Marton West Beck Trib	Marton West Beck - Source	4.0
Billingham Beck	Tidal Limit - Bishopton Beck	15.3
Shotton Beck	Bishopton Beck -Trib NZ 3696 2664	4.4
Brierley Beck	Billingham Beck - Source	6.9
Carlton Beck	Billingham Beck - Source	3.5
Bishopton Beck	Billingham Beck - Little Stainton Beck	2.0
Elstob Beck	Shotton Beck - Source	4.8
Shotton Beck Trib	Shotton Beck - Source	1.5
Lustrum Beck	Hartburn Beck - Source	2.0
Hartburn Beck	Lustrum Beck - Letch Beck	2.5
Coatham Beck	Letch Beck - Source	7.8
Letch Beck	Coatham Beck - Source	5.9

Goosepool Beck	Coatham Beck - Source	3.4
Stainsby Beck	Tees - Source	11.6
Blue Bell Beck	Stainsby Beck - Source	3.4
Bassleton Beck	Tees - Source	4.2
Leven	Broughton Bridge Beck - Great Ayton STW	4.0
Carr Stell	Leven - Source	4.5
Faceby Beck	Leven - Source	2.6
Broughton Beck	Broughton Bridge Beck - St Broughton STW	2.3
Nelly Burdons Beck	Tees - Source	4.3
Saltergill Beck	Tees - Source	12.8
Saltergill Beck Trib	Saltergill Beck - Source	1.6
Staindale Beck	Tees - Source	6.9
Neasham Stell	Tees - Source	3.5
Cree Beck	Neasham Stell - Source	5.1
Dalton Beck	Murton Beck - Source	1.4
Hawthorn Burn	Sea - Source	6.0
North Dene	Hawthorn Burn - Source	1.9
Castle Eden Burn	NZ 4352 3961 - Source	6.0
Gore Burn	Castle Eden Burn - Source	3.1
Gore Burn Trib	Gore Burn - Source	1.6
Crimdon Beck	Sea - Source	11.5
Hart Beck	Sea - Source	5.5
Skelton Beck	Saltburn Gill - Tocketts Mill	6.5
Dunsdale Beck	Skelton Beck - Dunsdale STW	2.4
Saltburn Gill	Skelton Beck - Source	5.8
Kilton Beck	Middle Gill Beck - Lockwood Beck	5.1
	Total	**660.2**

CLASS 2 RIVERS IN 1985 AND 1990

River	Stretch	Length (km)
NORTHUMBERLAND STREAMS		
Allerdeanmill Burn	Dean Burn - Source	2.9
South Low	Tidal Limit - Haggerston Caravan Park	2.3
Low The	Hunting Hall - Lowick STW	2.0
Chevington Burn	Tidal Limit - Source	5.4
Steads Burn	Chevington Burn - Source	3.4
Haydon Letch	Lyne - Source	2.7
Bothal Burn	Wansbeck - Pegswood STW	1.6
How Burn	Wansbeck - Source	4.8
Cotting Burn	Wansbeck - Northgate Hospital	2.3
Pegwhistle Burn	Blyth - Source	2.3
Duddo Burn	Blyth - Source	3.7
Brierdene Burn	Sea - Source	5.8
TYNE STREAMS		
North Tyne Trib	NY 9012 7374 - Source	2.1
South Tyne	Crow Hall - Bardon Mill Minewater	1.5
Newbrough Burn	Newbrough STW - Settlingstones Minewater	3.6
East Allen	Sinderhope - Source	6.8
West Allen	Turney Clough - Source	5.6
Tipalt Burn	South Tyne - Thirlwell Castle	5.2
Nent	South Tyne - Source	10.3
Barlow Burn	Tyne - Source	5.4
Thornley Burn	Tyne - Source	1.6
Pont Burn	South Burn - Source	3.0
Dipton Burn	Pont Burn - Source	2.1
Wharnley Burn	Derwent - Castleside STW	1.0
Bolts Burn	Derwent - NY 9555 4809	3.4
Team	Rowletch Burn - Greenburn Howl	3.5
Team	Tanfield STW - Source	3.8
WEAR STREAMS		
Stanhope Burn	Wear - Crawley Side Quarries	1.5
Rookhope Burn	Wear - Rookhope STW	3.8

Gaunless	Coundon Burn - South Church	1.0
Gaunless	Evenwood - Low Lands Mine	1.5
Croxdale Beck	Wear - A1(M)	9.5
Bowburn Beck	Croxdale Beck - Source	2.5
East Howle Beck	Croxdale Beck - Source	2.9
Valley Burn	Tudhoe STW - Source	5.2
Bell Burn	Wear - Vinovium Minewater	0.3
Browney	Wear - Browney STW	2.2
Smallhope Burn	Newhouse Burn - Knitsley STW	3.1
Newhouse Burn	Smallhope Burn - Source	2.5
Stockerley Burn	Smallhope Burn - Low Castle Dene	1.7
Wear	Tidal Limit - Lumley Park Burn	4.1
Cong Burn	Wear - Twizell Burn	2.5
Moors Burn	Herrington Burn - Source	6.4
Herrington Burn	Sedgeletch STW - Source	3.2
South Burn	Sacriston STW - Source	0.2
Blackdene Burn	Wear - Source	2.8
Wear Trib	Belmont STW - Source	1.6
Old Durham Beck	Wear - Pittington Beck	2.9
Sherburnhouse Beck	Pittington Beck - Sherburn STW	0.9
Pittington Beck	Old Durham Beck - Coalford Beck	2.1

TEES STREAMS

Coalford Beck	Skerne - West Beck	1.6
Cocker Beck	Skerne - West Beck	2.4
Demons Beck	Unknown Trib - Source	2.5
Demons Beck Trib	Demons Beck - Source	1.0
Woodham Burn	Skerne - Rushyford Beck	2.4
Rushyford Beck	Woodham Burn - Chilton STW	3.5
Tees	LowHail Bridge - Skerne	6.4
Greatham Beck	Dalton Peircy - Elwich STW	1.0
Cowbridge Beck	NZ 4840 2570 - Source	5.6
Cowbridge Beck S	Cowbridge Beck N - Source	2.3
Shotton Beck	Trib NZ 3696 2664 - Source	2.0
Lustrum Beck	Tees - Hartburn Beck	6.1
Lustrum Beck Trib	Lustrum Beck - Source	2.0

Lustrum Beck Trib	Lustrum Beck - Source	3.8
Broughton Bridge Beck	Leven - Broughton Beck	1.7
Dalton Beck	Sea - Murton Beck	6.3
Murton Beck	Dalton Beck - Source	5.0
Kilton Beck	NZ7130 1946 - Middle Gill Beck	0.8
	Total	**213.4**

CLASS 3 RIVERS IN 1985 AND 1990

River	Stretch	Length(km)
Elsdon Burn	NY 9110 9212 - Elsdon Minewater	3.0
Howden Burn	Derwent - Source	1.0
Team	Tidal Limit - Rowletch Burn	4.0
Team	Greenburn Howl - Tanfield STW	8.0
Rookhope Burn	Rookhope STW - Grove Rake Mine	6.0
Croxdale Beck	A1(M) - Kelloe STW	2.0
Valley Burn	Wear - Tudhoe STW	1.5
Twizell Burn	The Bottoms - Stanley STW	3.0
Lumley Park Burn	Wear - A1(M)	1.5
South Burn	Wear - Chester Moor Minewater	0.6
Wear Trib	Wear - Belmont STW	0.5
Coalford Beck Trib	Coalford Beck - Source	1.3
Skerne	Tees - Stressholme STW	0.5
Skerne	Ketton Bridge - Demons Beck	4.0
West Beck	Cocker Beck - A68	1.0
Carrs	Chilton Lane Works - Railway	0.5
Kilton Beck	Sea - NZ 7130 1946	0.4
	TOTAL	**38.8**

CLASS 4 RIVERS IN 1985 AND 1990

River	Stretch	Length(km)
Don	NZ 3008 5973 - Source	1.5
Demons Beck	Skerne - Unknown Trib	1.0
	TOTAL	**2.5**

DOWNGRADED STRETCHES 1985 - 1990

River	Stretch	Class 85	Class 90	Length (km)
Aln	Tidal Limit - Alnwick STW	1A	1B	6.6
Derwent	Howden Burn - Horsleyhope Burn	1A	1B	4.6
Wear	Bell Burn - Beechburn Beck	1A	1B	9.4
Leven	Mount Leven - Grange Beck	1A	1B	20.8
Potto Beck	Leven - Potto	1A	1B	3.0
Castle Eden Burn	Sea - NZ 4352 3961	1A	1B	2.4
Howl Beck	Guisborough STW - Source	1A	1B	1.3
	TOTAL			48.1
Cocker Beck	West Beck - Source	1A	2	12.1
Tyelaw Burn	Coquet - Source	1B	2	4.0
Lyne	Haydon Letch - Ulgham	1B	2	8.0
Sleek Burn	Tidal Limit - Hepscott Burn	1B	2	9.7
Pont	NZ 1659 7300 - Fox Covert Lane	1B	2	1.1
Small Burn	Pont - Police HQ STW	1B	2	0.9
Seaton Burn	Tidal Limit - Railway Line	1B	2	2.0
Smallhope Burn	Knitsley STW - Source	1B	2	3.1
Skerne	Fishburn - Source	1B	2	12.5
Woodham Burn	Rushyford Beck - Red House Beck	1B	2	4.0
Leven	Grange Beck - Broughton Bridge B.	1B	2	1.0
Skelton Beck	Tocketts Mill - Howl Beck	1B	2	1.0
	TOTAL			47.3

Swarland Fence B.	Swarland Burn - Source	1B	4	0.8
Saltwell Gill Trib	Saltwell Gill - Source	1B	4	1.1
	TOTAL			1.9
Don	Tidal Limit - Strother House	2	3	8.1
Ouse Burn	Tidal Limit - NZ 2100 6995	2	3	8.4
Twizell Burn	Cong Burn - The Bottoms	2	3	2.8
Twizell Burn	Stanley STW - Source	2	3	2.7
South Burn	Chester Moor Mine - Sacriston STW	2	3	3.0
Carrs	Skerne - Chilton Lane Works	2	3	3.6
Carrs	Railway - Source	2	3	1.2
Howl Beck	Skelton Beck - Church Lane Farm	2	3	0.6
	TOTAL			30.4
Thornley Burn	NZ 1700 6066 - Source	2	4	0.5
Howl Beck	Church Lane Farm - Guisborough STW	2	4	0.7
	TOTAL			1.2
Stockely Burn	Low Castle Dene - Source	3	4	0.9
Cowbridge Beck	North Burn - NZ 4840 2570	3	4	0.5
	TOTAL			1.4

UPGRADED STRETCHES 1985 - 1990

River	Stretch	Class 85	Class 90	Length (km)
Wear	Rookhope Burn - Blue Circle	2	1A	0.3
Hazon Burn	Coquet - NU 1854 0468	2	1B	2.5
Hazon Burn	Whittle Colliery - A1	2	1B	2.0
Gaunless	Wear - Coundon Burn	2	1B	0.1
Browney	Abbey Burn - Sawmill Bridge	2	1B	1.2
Tees	NZ 3440 0712 - Low Hail Bridge	2	1B	9.0
	TOTAL			14.8
Blyth	Tidal Limit - East Hartford STW	3	1B	3.5
Hazon Burn	NU 1854 0468 - Whittle Colliery	3	2	1.0
Don	Strother House - NZ 3008 5973	3	2	2.3
Skerne	Stressholme STW - Ketton Bridge	3	2	15.8
	TOTAL			19.1
Herrington Burn	Lumley Park B. - Sedgeletch STW	4	2	0.2
Skerne	Demons Beck - Carrs	4	2	12.6
	TOTAL			12.8
Lumley Park Burn	A1(M) - Herrington Burn	4	3	3.0
Skerne	Carrs - Fishburn	4	3	3.4
	TOTAL			7.3
Ouse Burn	Tyne - Tidal Limit	C	B	1.0
Derwent	Tyne - Tidal limit	D	B	2.0

CLASS A ESTUARIES IN 1985 AND 1990

River	Stretch	Length (km)
Tweed	Sea - Whiteadder	5.0
Tweed	Whiteadder - Tidal Limit	7.0
Whiteadder	Tweed - Tidal Limit	1.2
South Low	Sea - Tidal Limit	0.7
Aln	Sea - Tidal Limit	4.0
Coquet	Sea - Tidal Limit	5.0
Lyne	Sea - Tidal Limit	0.5
Wansbeck	Sea - Tidal Limit	5.0
Seaton Burn	Sea - Tidal Limit	1.0
Tyne	Ryton Willows - Tidal Limit	2.5
Tyne	Sea - Albert Edward Dock	3.5
Wear	Sea - Wearmouth	1.5
Wear	Hylton - Tidal Limit	7.5
Leven	Tees - Mount Leven	2.0
Skelton Beck	Sea - Saltburn Gill	0.1
Total		46.5

CLASS B ESTUARIES IN 1985 AND 1990

River	Stretch	Length (km)
Chevington Burn	Sea - Tidal Limit	0.1
Blyth	Factory Point - Tidal Limit	3.0
Sleek Burn	Blyth - Tidal Limit	1.5
Tyne	Albert Edward Dock - Don	2.0
Tyne	Don - Friars Goose	9.0
Don	Tyne - Tidal Limit	0.8
Wear	Wearmouth Bridge	7.0
Tees	Sea - Greatham Creek	2.0
Tees	Greatham Creek - Tees Dock	3.0
Tees	Bassleton Beck - Leven	5.0
Tees	Leven - Nelly Burdons Beck	2.5
Tees	Nelly Burdons Beck - Saltergill	4.0
Tees	Saltergill - Tidal Limit	0.5
Greatham Creek	Tees - North Burn	3.6
Greatham Creek	North Burn - Tidal Limit	0.8
North Burn	Sea - Tidal Limit	0.5
Total		45.3

CLASS C ESTUARIES IN 1985 AND 1990

RIVER	STRETCH	LENGTH (km)
Tyne	NZ 2194 6321 - Derwent	1.2
Tyne	Derwent - Barlow Burn	2.9
Tyne	Barlow Burn - Ryton Willows	4.6
Tyne	Friars Goose - Ouse Burn	1.2
Tyne	Ouse Burn - Team	3.3
Tyne	Team - NZ 2194 - 6321	1.3
Tees	Stainsby Beck - Bassleton Beck	6.5
	Total	21.0

CLASS D ESTUARIES IN 1985 AND 1990

RIVER	STRETCH	LENGTH (km)
Tees	Tees Dock - Marton Beck	3.1
Tees	Marton Beck - Billingham Beck	5.6
Tees	Billingham Beck - Lustrum Beck	0.5
Tees	Lustrum Beck - Stainsby Beck	1.0
Marton West Beck	Tees - Spencer Beck	0.5
Marton West Beck	Spencer Beck - Trib NZ 5156 2056	0.5
Marton West Beck	Trib NZ 5156 2056 - Tidal Limit	0.3
Billingham Beck	Tees - Tidal Limit	2.0
	Total	13.5

CHANGES IN ESTUARIAL QUALITY 1985 - 1990

IMPROVEMENTS

RIVER	STRETCH	LENGTH (km)	NWC 85	NWC 90
Ouse Burn	Tyne - Tidal Limit	1.0	C	B
Derwent	Tyne - Tidal Limit	2.0	D	B
Team	Tyne - Tidal Limit	2.5	D	C
	Total	5.5		

DETERIORATIONS

Blyth	Sea - Factory Point	3.5	A	B

APPENDIX 1

Classification Scheme for Water Quality in Rivers

Description	Class	Current Potential Use
Good Quality	1a	Water of high quality suitable for potable supply abstractions; game or other high class fisheries; high amenity value.
	1b	Water of less high quality than Class 1a but usable for substantially the same purposes.
Fair Quality	2	Waters suitable for potable supply after advanced treatment; supporting reasonably good coarse fisheries; moderate amenity value.
Poor Quality	3	Waters which are polluted to an extent that fish are absent or only sporadically present; may be used as a low grade industrial abstraction; considerable potential for further use if cleaned up.
Bad Quality	4	Waters which are grossly polluted and are likely to cause nuisance.

APPENDIX 2

River Quality Classification

RIVER CLASS	QUALITY CRITERIA	REMARKS	CURRENT POTENTIAL USES
1a Good Quality	1) 5 percentile Dissolved Oxygen Saturation greater than 80% 2) 95 percentile Biochemical Oxygen Demand not greater than 3 mg/l 3) 95 percentile Ammonia not greater than 0.4mg/l 4) Where the water is abstracted for drinking water, it complies with requirements for A2* 5) Non-toxic to fish in EIFAC terms (or best estimates if EIFAC figures are unavailable)	1) Mean Biochemical Oxygen Demand probably not greater than 1.5 mg/l 2) No visible evidence of pollution	1) Water of high quality suitable for potable supply abstractions 2) Game or other high class fisheries 3) High amenity value
1b Good Quality	1) 5 percentile Dissolved Oxygen Saturation greater than 60% 2) 95 percentile Biochemical Oxygen Demand not greater than 5 mg/l 3) 95 percentile Ammonia not greater than 0.9 mg/l 4) Where water is abstracted for drinking water it complies with the requirements for A2* 5) Non-toxic to fish in EIFAC terms (or best estimates if EIFAC figures are unavailable)	1) Mean Biochemical Oxygen Demand probably not greater than 2 mg/l 2) Mean Ammonia probably not greater than 0.5 mg/l 3) No visible evidence of pollution 4) Water of high quality which cannot be placed in Class 1a because of the effect of physical factors such as canalisation, low gradient or eutrophication	Water of less high quality than Class 1a but usable for substantially the same purposes.
2 Fair Quality	1) 5 percentile Dissolved Oxygen Saturation greater than 40% 2) 95 percentile Biochemical Oxygen Demand not greater than 9 mg/l 3) Where water is abstracted for drinking water it complies with the requirements for A3* 4) Non-toxic to fish in EIFAC terms (or best estimates if EIFAC figures are unavailable)	1) Mean Biochemical Oxygen Demand probably not greater than 5 mg/l 2) Water showing no physical signs of pollution other than humic colouration and a little foaming below weirs	1) Waters suitable for potable supply after advanced treatment 2) Supporting reasonably good coarse fisheries 3) Moderate amenity value
3 Poor Quality	1) 5 percentile Dissolved Oxygen Saturation greater than 10% 2) Not likely to be anaerobic 3) 95 percentile Biochemical Oxygen Demand not greater than 17 mg/l. This may not apply if there is a high degree of re-aeration.		Waters which are polluted to an extent that fish are absent or only sporadically present. May be used for a low grade abstraction for industry. Considerable potential for further use if cleaned up.
4 Bad Quality	Waters which are inferior to Class 3 in terms of dissolved oxygen and likely to be anaerobic at times.		Water which are grossly polluted and are likely to cause nuisance.
X	DO greater than 10% saturation		Insignificant watercourses and ditches which are not usable, where the objective is simply to prevent nuisance.

APPENDIX 3

Scheme for Classifying Estuaries

DESCRIPTION		Points awarded if the estuary meets this description
Biological Quality (scores under a, b, c & d to be summed)		
a)	Allows the passage to and from freshwater of all relevant species of migratory fish, when this is not prevented by physical barriers.	2
b)	Supports a residential fish population which is broadly consistent with the physical and hydrographical conditions.	2
c)	Supports a benthic community which is broadly consistent with the physical and hydrographical conditions.	2
d)	Absence of substantially elevated levels in the biota of persistent toxic or tainting substances from whatever source.	4
	Maximum number of points	10
a)	Estuaries or zones of estuaries that either do not receive a significant polluting input or which receive inputs that do not cause significant aesthetic pollution.	10
b)	Estuaries or zones of estuaries which receive inputs which cause a certain amount of pollution but do not seriously interfere with estuary usage.	6
c)	Estuaries or zones of estuaries which receive inputs which result in aesthetic pollution sufficiently serious to affect estuary usage.	3
d)	Estuaries or zones of estuaries which receive inputs which cause widespread public nuisance.	0
Water Quality (Score according to quality)		
Dissolved Oxygen exceeds the following saturation values:		
	60%	10
	40%	6
	30%	5
	20%	4
	10%	3
	below 10%	0
The points awarded under each of the headings of biological, aesthetic and water quality are summed. Waters are classified on the following scale.		
Class A Good Quality 24 to 30 points	**Class B Fair Quality 16 to 23 points**	
Class C Poor Quality 9 to 15 points	**Class D Bad Quality 0 - 8 points**	

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