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# North West Fisheries Annual Report 2000



ENVIRONMENT  
AGENCY

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# 2000 ANNUAL REPORT ON FISHERIES IN THE NORTH WEST

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# INTRODUCTION

This is the sixth Annual Report on fisheries produced by the North West Region of the Environment Agency. The Agency has many customers and anglers comprise, numerically, the largest single group. The Agency in the North West divides along functional lines to deliver the service 'on-the-ground'. The fisheries function, along with ecology and recreation, (FER), is incorporated into Water Management, which comprises water resources, flood defence and FER. Environmental Protection covers water quality, radioactive substances regulation, process industries regulation (PIR), integrated pollution prevention and control (IPPC), waste and land quality.

Fisheries can benefit by work done by other functions. For example, water quality improvements may lead to self-sustaining healthy fish populations. The Agency aims to assist this process by introducing fish on an ongoing basis to regenerated rivers. There have also been schemes that have been managed by other functions that have directly benefited fisheries.

The fisheries service is funded in the main by a mixture of rod licence income and government grant-in-aid. The latter has declined substantially since the mid 1990's and we are increasingly reliant on licence income to fund fisheries work. The good news is that licence income has gone up as a result of promotional campaigns and targeted enforcement in areas of high evasion. In recent years, we have managed to use some of this money to fund our Urban Fisheries Development Programme, (UFDP). This is aimed at delivering new or improved fisheries in areas where demand for fishing is high, but where available fisheries are few in number or of poor quality. This work is dependent on good co-operation with local angling clubs, councils and other interests.

As well as this improvement work in coarse fisheries, we are also aiming to protect and improve salmon and seatrout fisheries with a mixture of enforcement, regulation and habitat improvement.

This report has four main aims:

- \* To inform the Agency's customers of developments within the Agency
- \* To inform the Agency's customers of the work carried out by the Agency
- \* To publish information on the performance of fisheries and the Fisheries Department
- \* To be a source of future reference

We report on fisheries performance for the calendar year 2000 and on fisheries activities for the year 1st April 2000 to 31st March 2001.

This report could not have been written without the help and co-operation of the Area Fisheries staff who provide a unique service direct to the local fishing community.

We hope that you find this report interesting and informative.

The Agency would welcome any comments and suggestions that could be used to further improve the annual report. Comments should be directed to the Fisheries Department at the address below.

**Environment Agency North West Region, Richard Fairclough House, PO Box 12, Knutsford Road, Warrington WA4 1HG, Tel: 01925 653999**

# NORTH AREA

## TEAM REPORTS

### SOUTH LAKES - John Foster

The year 2000 had generally average weather. During spring and summer there were good spells for all types of rod and line fishing, which was followed by probably the wettest back end in living memory, making tasks like redd counting all but impossible. We were lucky however in the fact that no major flooding problems occurred compared with other parts of the country. The best performing river as regards salmonids was again the River Kent. Around 500 salmon were taken on rod and line and also a good sea trout run was seen. The remaining rivers had relatively poor catches similar to 1999 with the self-imposed ban on the River Leven by the Leven AA resulting in only a few fish kept.

Lave netting on both the River Leven and River Kent produced low catches. About 40 salmon were taken on the River Kent, including the season's biggest fish of 17lb. Only about 8 were taken on the River Leven, but about 15 sea trout were also caught here.

Still water trout fishing again attracted the lion's share of anglers with the hardest fished being Windermere, Esthwaite and Killington. Generally the majority of anglers in South Lakes pursue rainbow trout, especially on smaller venues such as Ghyll Head, Dubbs Reservoir and High Newton but good brown trout fishing was seen on Windermere with one fish of 9lbs recorded plus another at 5lb. The char fishing season was relatively poor with only mid summer producing good catches especially in Windermere North basin. The best coarse fishing has been the continued enthusiasm for piking in the main lakes with specimen fish over 30 lbs not uncommon. However, smaller mixed fisheries such as Ratherheath, Sandall Ponds and Roan Head have all fished well.

Enforcement work was mainly down to rod and line work over the whole area with the most serious offences detected being live baiting on Windermere early in the year and several good prosecutions followed; all due to the excellent work of fisheries officer Graeme McKee. The West Cumbria poachers who were caught on the River Kent a year ago finally appeared for sentence at Penrith Magistrates Court on the last day of July and narrowly avoided a prison sentence. The Magistrates said they only escaped jail due to the late change to a guilty plea. For the use of a gaff they were each given 240 hours community

service, for the bylaw 17 offence they were each fined £250, and they also had to each pay costs of £250. Other notable successes included two anglers who failed to reply to summons for a section 27 offence each fined £200+£75 costs at Kendal and two men fined £200+£50 costs each for netting the River Duddon. Conditions for poaching in the back end were impossible due to high flows so no offences were detected.

In river works included a collaborative approach to gravel removal in the River Kent through Kendal plus a survey to establish more information on the movement of gravel on the whole catchment.

Other items of interest include:-

- Approximately 60 tons of gravel was seeded into Troutbeck below Church Bridge, which was removed from Limefit Park about a mile upstream.
- The sluice at Newby Bridge weir on the River Leven has been automated.
- Staff swaps with Lune area were done for minor habitat improvement work and a day on each area for gathering information and ideas proved very useful.
- A gravel spawning bed was constructed on Trover Beck (River Crake) and a salmon redd was discovered this autumn. Further fencing work was carried out on the River Crake.

### NORTH CUMBRIA TEAM - Keith Bell

The start of the year was very quiet with little angling effort possibly due to a combination of the new bylaws along with the constantly changing river levels. Things changed at the beginning of the trout season when more anglers were seen on the lower Eden.

By July large numbers of sea trout and low river levels attracted poachers on the Border Esk and the Liddle Water, resulting in high profile anti poaching and covert surveillance throughout the summer months. Boat and beach patrols were also stepped up on the estuary. Towards the end of the year heavy rainfall meant that the rivers were high most of the time therefore antipoaching duties were changed on a daily basis: even with these changes one group of poachers proved elusive.

The River Eden Radio Tracking Project tagged its first fish on the 7<sup>th</sup> March caught by a Mr Tiffitt who was

fishing on the Yorkshire Fly Water at the time. The project continued throughout the year with a total of 106 fish tagged. The fish were tracked throughout the year to provide information on spawning sites.

Electric fishing surveys were carried out during the late summer in between floods. Liddle Water was completed in full. Electric fishing was continued in the late part of the summer and into autumn on the Eden System to obtain genetic samples in the catchment. It was noted that there was a lack of fry on the Eden East Fellside feeder streams.

Only limited redd counting was achieved due to the high floods late in the year.

Trapping continued on the River Caldew with the total standing at 560 cock salmon and 675 hen salmon, 105 sea trout and 226 brown trout. Warwick Bridge Hatchery saw 39,000 salmon ova laid down for the mitigation stocking of the River Lowther catchment. The Eden Rivers Trust also laid down ova from the River Gelt and Eden: they are being looked after by Mike Grimes and Charlie Alderson.

Pollution was discovered at Winnrow Beck, a tributary of the River Wampool near Thursby resulting in 43 dead brown trout and several sea trout along with hundreds of minnows and sticklebacks.

A local pond has had a problem with otters and an electric fence has been erected around the pond to protect the stock of fish.

#### **WEST CUMBRIA - Denis McCartan**

Salmon catches on the River Derwent were very encouraging in 2000. The 1999 figures were significantly up on the previous few years and the 2000 figures indicate an upward trend. An experienced angler said, "this is the best fishing since the 1970's".

Catches of 10 fish, 14 fish and 16 fish per day on some beats were reported. On the 21<sup>st</sup> of September Workington Anglers caught approximately 30 salmon including a 24lb and an 18 ½lb fish.

A lot of large multi-sea winter, (MSW), salmon have again been caught with reports of 30lb and 35lb fish.

The Fitz Fishery produced 300 salmon (200 salmon in 1999), and 125 sea trout, (100 sea trout in 1999).

The Isel Fishery reported 102 salmon caught. (80 salmon in 1999).

Catch and release is becoming more popular and many fish are being returned, especially during

September and October. Private Fishery owners are playing an important role in this.

The autumn was the wettest since records began. This made redd counting impossible and interfered with the juvenile salmonid survey. The surveys that were completed indicate that production is very good. Salmon juveniles have been found again in Gatesgarth Dale Beck, Buttermere after an absence of some years.

The high river levels offered fish great protection from illegal fishing. Nets were seized and a number of men reported.

#### **SOUTH WEST CUMBRIA - Dave Smith**

##### Monitoring

As the new season opened little did we realise that we were about to witness one of the best years for salmon and sea trout angling in Southwest Cumbria. Neither did we suspect that we were about to experience some of the very wettest weather ever experienced in this country. Thankfully we were spared the most damaging effects of all this water, unlike our colleagues in other parts of the country where flood levels broke many records.

After a fairly mediocre summer the weather broke in August. From thereon until the beginning of December, river levels fluctuated between high and spate, interspersed with the odd day when levels fell to medium height. The expected "Indian summer" just did not materialise. The high water produced excellent angling conditions and water levels remained high for many weeks. It was somewhat strange, however, that angling pressure remained relatively slight! Nonetheless, those hardy souls who braved the vagaries of the weather were well rewarded! Post season redd counting was severely curtailed by the high river levels and it was only after the first of the heavy frosts in mid December that we gained access to the spawning beds. Many areas where spawning had taken place were either washed out completely, or flattened to such an extent that it was impossible to identify the redds. I think it is fair to say that a reasonably high percentage of this year's redds will have perished: this is a great shame given the numbers of fish that are thought to have spawned.

The first sea trout ran late April very early May. However, it was to be the early weeks of July before salmon were to be seen in the rivers of Southwest, by which time the runs of sea trout were becoming even more evident in the Ehen Esk & Irt. Anglers night fishing for sea trout were reporting good fish moving into the rivers, more so on the Ehen than in the other rivers. Those fish that had run early May in the Esk

dispersed through the system and true to form the Esk had its usual good run of herling. Donald's pool, in particular, had into the hundreds of herling remaining for the main part of the season. Hopefully these fish will return in future years as adult stock.

Catch and release was very evident on the rivers throughout the southwest area. It is pleasing that we have conservation minded anglers who really do practise what they preach - and encourage juvenile anglers to do likewise. I saw two young anglers return fish that any person would have been proud to have taken home to show mum.

### Enforcement

The good runs of fish brought out the usual familiar faces as expected: and some not so familiar. Nevertheless their intentions were the same. However, we were very fortunate that the water levels kept these environmental thieves' activities to a minimum. Nets and other poaching paraphernalia were recovered from the rivers. Beach nets set by known poachers, under the guise of legal sea fishing again posed a threat to the salmon fishery. We are again in the Southwest indebted to Cumbria Constabulary and the officers of the Whitehaven Division for their help and enthusiasm: Egremont and Cleator Moor officers especially.

### Improvements Works

Cinderdale beck benefited from stock fencing and weed removal. This was carried out by local anglers, the National Trust staff and volunteers, assisted and directed by agency staff who also spent a fair amount of time preparing the spawning gravels for the onset of spawning. An excellent job well done!

### River Calder

The Calder Conservancy Committee met regularly throughout the year and approved a number of proposals put forward by the consultants, including gravel cleaning and gravel additions, the latter being added to the upper river. However the high flows experienced post additions washed out this work, and we were unable to evaluate the benefits of the gravel cleansing in the lower reaches.

## PROJECTS

### **Radio-tracking studies of adult Atlantic salmon (*Salmo salar* L.) from the River Eden, Cumbria**

#### **Introduction**

Historically the River Eden, Cumbria, was renowned for early running spring salmon. In the 1950's and '60's up to 90% of the total rod catch occurred in the spring but in recent years less than 10% have been caught during this part of the year.

Radio-tracking studies carried out in 1999 suggested that the Eamont catchment, and the River Lowther in particular, was an important area for spring salmon. Studies carried out in 2000 aimed to verify and build on this information. In addition, we wanted to determine the survival to spawning of rod-caught salmon.

This work has been funded by the Environment Agency, English Nature, MAFF, Atlantic Salmon Trust, Eden Rivers Trust, Eden Owners Association, River Eden and District Fisheries Association, Carlisle Angling Association and the Solway Rural Initiative.



*An Agency Fisheries Officer following a radio-tagged salmon on the River Eden*

#### **Method**

A total of 212 adult salmon have been caught and radio-tagged during 1999 and 2000. These fish were caught by rod-and-line, traps, and estuarine haaf nets (Table 1). Radio-transmitters were implanted into the stomachs of these fish and their movements monitored using handheld receivers and a network of fixed monitoring stations located throughout the catchment. Spring fish were defined as those caught up to 1 June, later fish those caught after 1 June.



**Table 1. Sources of radio-tagged fish, by capture method and classification. "Spring" fish were captured up to 1 June, "Later" fish after 1 June.**

Year	Classification	Angling	Caldew Trap	Corby Coops	Haaf Net	Total
1999	Spring	28	2	31	0	61
	Later	8	0	33	4	45
	Total	36	2	64	4	106
2000	Spring	19	0	0	0	19
	Later	79	8	0	0	87
	Total	98	8	0	0	106
Combined	Spring	47	2	31	0	80
	Later	87	8	33	4	132
	Total	134	10	64	4	212

### Fates of radio-tagged fish

Of the 212 salmon radio-tagged during 1999 and 2000, the fates of 154 fish were determined (Table 2). The fates of the remaining 58 are unknown either because they regurgitated their transmitters, their transmitters failed, or because they had been recaptured but not reported. Of the 154 fish of known fate, 134 were tracked to spawning (87%). The remaining fish either moved back to sea or were found dead prior to the spawning season (Table 2).

**Table 2. Summary of the fates of radio-tagged salmon. Only fish of known fate are included.**

Year	Group	Fate			Total
		Spawning site estimated	Moved back to sea	Found dead	
1999	Spring	26	9	2	37
	Later	26	2	2	30
	Total	52	11	4	67
2000	Spring	15	0	0	15
	Later	67	0	5	72
	Total	82	0	5	87
Combined	Spring	41	9	2	52
	Later	93	2	7	102
	Total	134	11	9	154

### Fates of rod-caught salmon

The fates of 101 of the 134 rod-caught salmon that were radio-tagged were determined. Of these, 95 fish were tracked to spawning (94%), one fish moved back to sea and five fish were found dead. Thirty-one of 32 rod-caught spring salmon of known fate were tracked to spawning (97%) and 64 of 69 later fish were tracked to spawning (92%). None of the fish that were found dead were caught in the spring. No recaptures were reported in 1999 although two were recaptured as kelts the following spring. One fish was recaptured in 2000 but was released back into the river and later tracked to spawning.

### Spawning distributions

Figure 1 shows the spawning distributions of radio-tagged salmon in 1999 and 2000. In both years, the majority of radio-tagged spring salmon were tracked to the Eamont system. Combining both years, 41 spring salmon were tracked to spawning. Of these 41 fish, 28 were located in the Eamont system at spawning time and 19 of these fish were located in the Lowther system. Spring salmon were also tracked to the Rivers Caldew (4 fish), Irthing (1 fish), Lyvennet (1 fish), the mainstem (3 fish) and upper Eden (upstream of the Eden / Eamont confluence) and its tributaries (4 fish).

Later-run fish were widely dispersed throughout the catchment but relatively few were located in the Eamont system at spawning time (7 of 93 fish). The majority of these later-run fish were found in the mainstem Eden (46 fish) or upper Eden and its tributaries (23 fish), with additional fish being located in the Caldew (11 fish), Irthing (5 fish) and Lyvennet (1 fish).

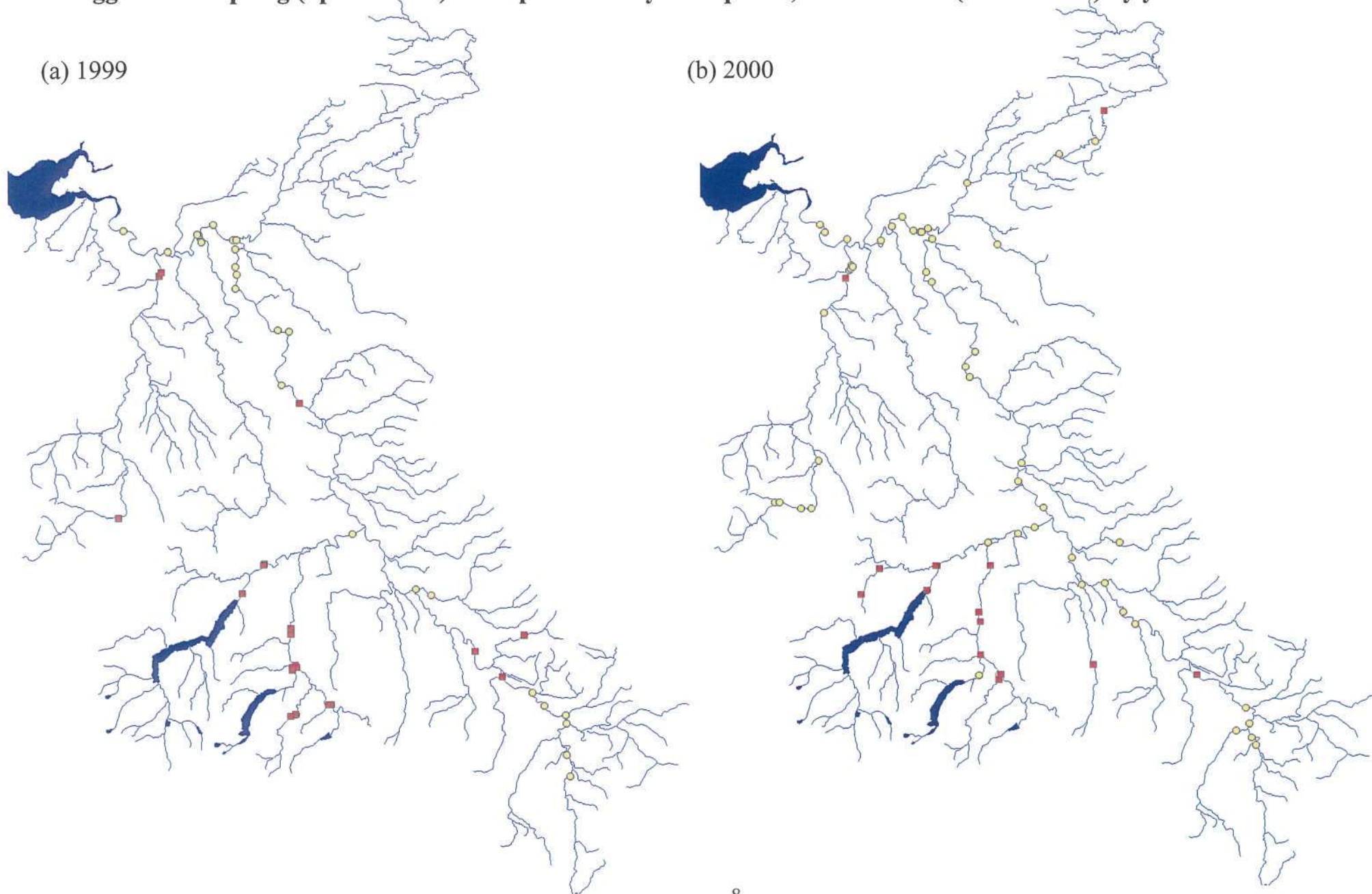
### Discussion

We have now determined the fate of 101 adult salmon caught by rod-and-line from the River Eden and the results obtained are very encouraging for the use of catch-and-release angling as a management tool in the conservation of salmon. Overall, 94% of rod-caught fish were tracked to spawning. Five fish were found dead. Higher water temperatures and exposure to air during capture and handling may have influenced the survival of these fish. However, survival of untagged fish is unknown and death from natural causes cannot be excluded.

In both 1999 and 2000 the majority of spring-run salmon were tracked to the River Eamont and to the River Lowther in particular. This information is vital to the future management of Eden spring salmon, particularly when this part of the catchment is heavily abstracted to provide a public water supply for parts of Northwest England including the city of Manchester.

Although later-run salmon were widely dispersed throughout the catchment at spawning time in both years, few were recorded in the Eamont system. This suggests that there is limited scope for the mixing of spring and later-run salmon at spawning time. However, few early-run grilse have been radio-tagged to-date. There is some evidence to suggest that these fish may be important to the reproduction of spring fish, being largely male unlike the predominantly female spring salmon. Furthermore, the importance of other areas of the catchment to spring salmon is less-well understood. Radio-tracking to be carried out in 2002 will attempt to address these issues and to verify existing results.

**Figure 1** Spawning distributions of radio-tagged salmon in the River Eden, Cumbria, in (a) 1999 and (b) 2000. Salmon caught and tagged in the spring (up to 1 June) are represented by red squares, later-run fish (after 1 June) by yellow circles.



## **Genetic variability in Atlantic salmon of the River Eden, Cumbria**

Recent genetic studies have show that salmon populations can differ both between and within catchments. There is no information available with respect to the genetic variability of Eden salmon but radio-tracking studies have revealed that spring-run salmon tend to spawn in only a few parts of the catchment and that the majority spawn in the Eamont system. However, we do not know if these fish differ genetically from fish spawning in other parts of the catchment or fish returning to the river at different times of the year. This genetic information, or "genetic mapping", is vital in considering any future management options for Eden salmon.

In 2000, a three year study of the genetic variability of Eden salmon was initiated by the Agency, the University of Southampton and the Centre for Ecology and Hydrology. A PhD student at the University of Southampton is carrying out the work. Tissue samples removed from radio-tagged adults, juveniles collected by electrofishing and from current and historical adult scales will be processed using microsatellite DNA techniques and used to determine the degree of genetic variability across the Eden catchment, variability within different parts of the catchment, and variability within each collection point. The cross-generation similarities between (radio-tagged) spawning adults and juvenile fish from the same locality will also be investigated, as will the degree to which fish that return in the spring are genetically distinct from fish that return later in the year.

This work is at an early stage. At present the focus is on obtaining and refining suitable analysis techniques with which to compare samples collected from the various sources and locations.

## **Validation of Corby Counter**

The fish counter at Corby Hill on the Eden was built in 1996 and has operated since May 1997. As with all fish counters it is essential to validate its ability to count fish. This is normally undertaken by filming the counter and comparing each fish seen on the video film with the counter record and vice versa.

Data recorded by the counter can be reported according to three different levels of data processing; ie raw data, verified data and validated data.

Raw data comes directly from the counter and has not been quality checked. It usually includes false counts and missed fish. The data presented in this report for Yearl counter is raw data.

When data is verified it means that each record is compared with the shape of the electrical signal (Fig 1), recorded by the counter. This process is an extremely useful aid for identifying counter problems and periods over which it functions well, or less well. The data presented for Corby Hill counter is verified data. Data for Yearl will be verified soon.

Validated data has been adjusted according to results from video validation work. This is in the form of a percentage adjustment to be applied to the verified count.

Validation cameras were set up for the first time in 1999 and several teething problems were encountered. Lessons learned from 1999 greatly assisted with the smooth running and success in 2000. The cameras were run from the beginning of July in 2000.

The cameras were supported on a gantry, which had been designed to allow quick removal of the cameras without risk to staff (Fig 2). Four cameras were required to cover the full channel width. The central channel was selected as most fish move through this channel.

Video cameras were run overnight and videos were changed daily. Videos were checked to ensure that the quality of the recording was adequate and if necessary adjustments were made to improve the image for the following night such as changing light bulbs etc. Once collected, each video of suitable quality was viewed and details of every fish seen and of every counter record entered into a database. With four cameras the screen was divided into four pictures and consequently two people were required to view each tape. Tapes with many fish on could each take up to two days to process.

Filming was abruptly stopped during a flood on September 20<sup>th</sup> when a tree damaged the gantry.

However enough good quality video had been collected. The video cameras were rescued successfully and the gantry subsequently recovered and repaired.

Results will be produced and reported during 2001.

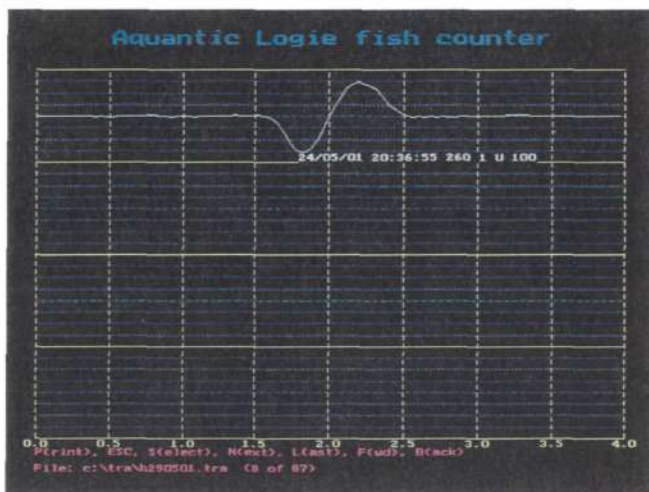


Fig 1 A typical fish trace.

This is of a fairly large fish moving in an upstream direction



Fig 2 Corby Hill counter showing gantry with cameras over central channel

## SURVEY REPORTS

### A Summary of the Strategic Stock Assessment Survey for the River Duddon 2000

An electric fishing survey of the Duddon catchment was undertaken at 33 sites during the summer of 2000. The results are shown in the figures following this text in terms of salmon and trout parr equivalents (i.e. the number of fry caught are converted into parr and then added to the parr catch).

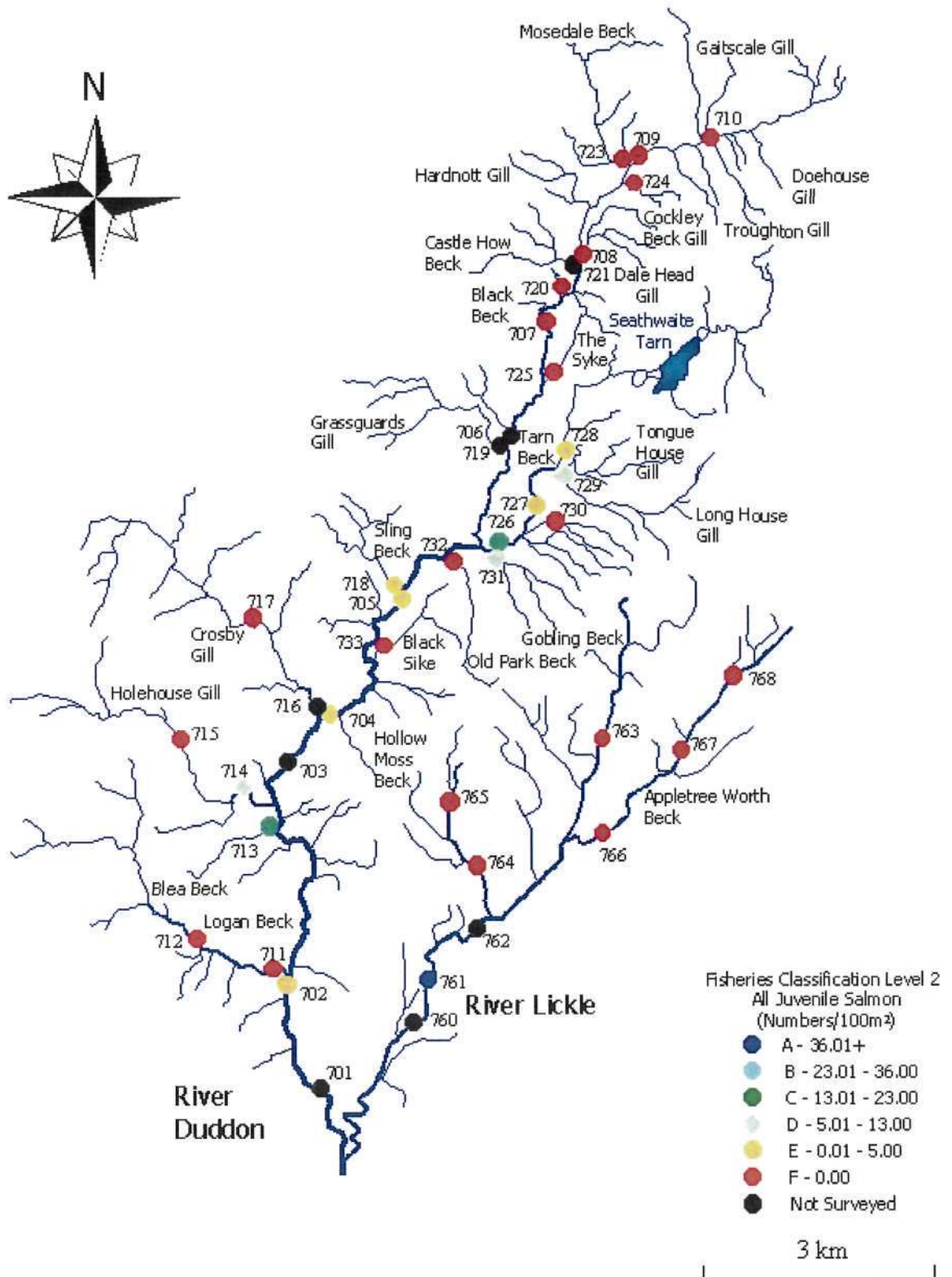
Generally, juvenile salmon production is low with the exception of some good localised areas, such as the lower River Lickle and Tarn Beck in the middle reaches of the Duddon.

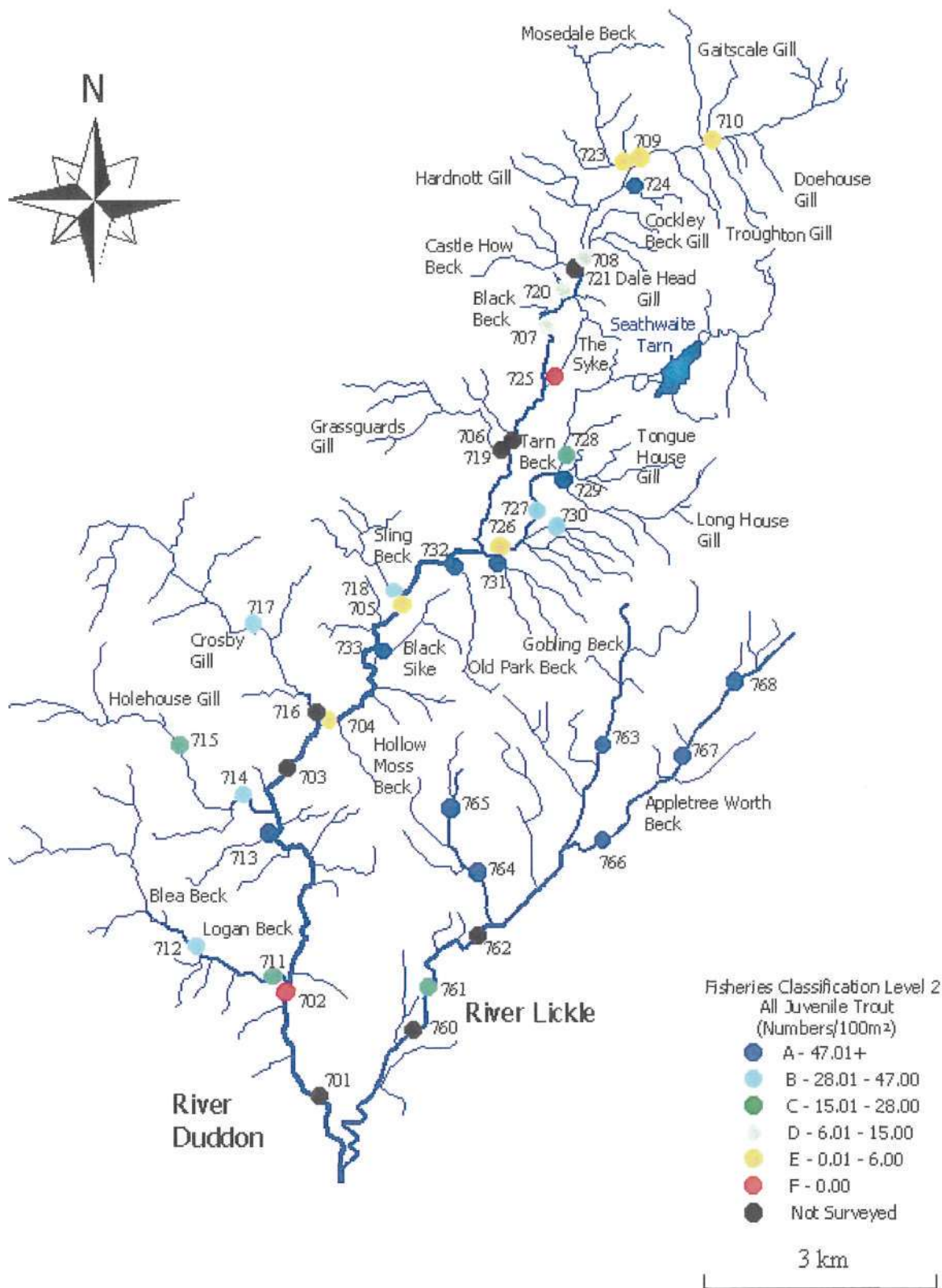
Juvenile trout are still relatively abundant throughout the tributaries, however the main river is only producing low numbers. The key areas of trout production include the higher reaches of the River Lickle and the adjoining Appletreeworth Beck and Holehouse Beck. Although trout fry numbers are generally good, the cascading systems of many of the steep Duddon tributaries may inhibit the production through the lack of appropriate habitat.

Due to steep gradients and small tributaries only a small percentage of the Duddon catchment is accessible to adult salmon and subsequently utilised by juvenile salmon. In areas where salmon numbers would be expected to be at their highest, (in the lower and middle reaches of the main Duddon), the numbers are relatively lower than those expected. This could be due to a combination of factors:

low nutrient levels, (linked to the acidic nature of the upper catchment), with consequent reduced food supply, and transient, unstable river bed. Areas that are producing reasonable numbers of juvenile salmon include the lower River Lickle, Blea Beck, Tarn Beck, Gobling Beck and the lower reaches of Holehouse Gill.

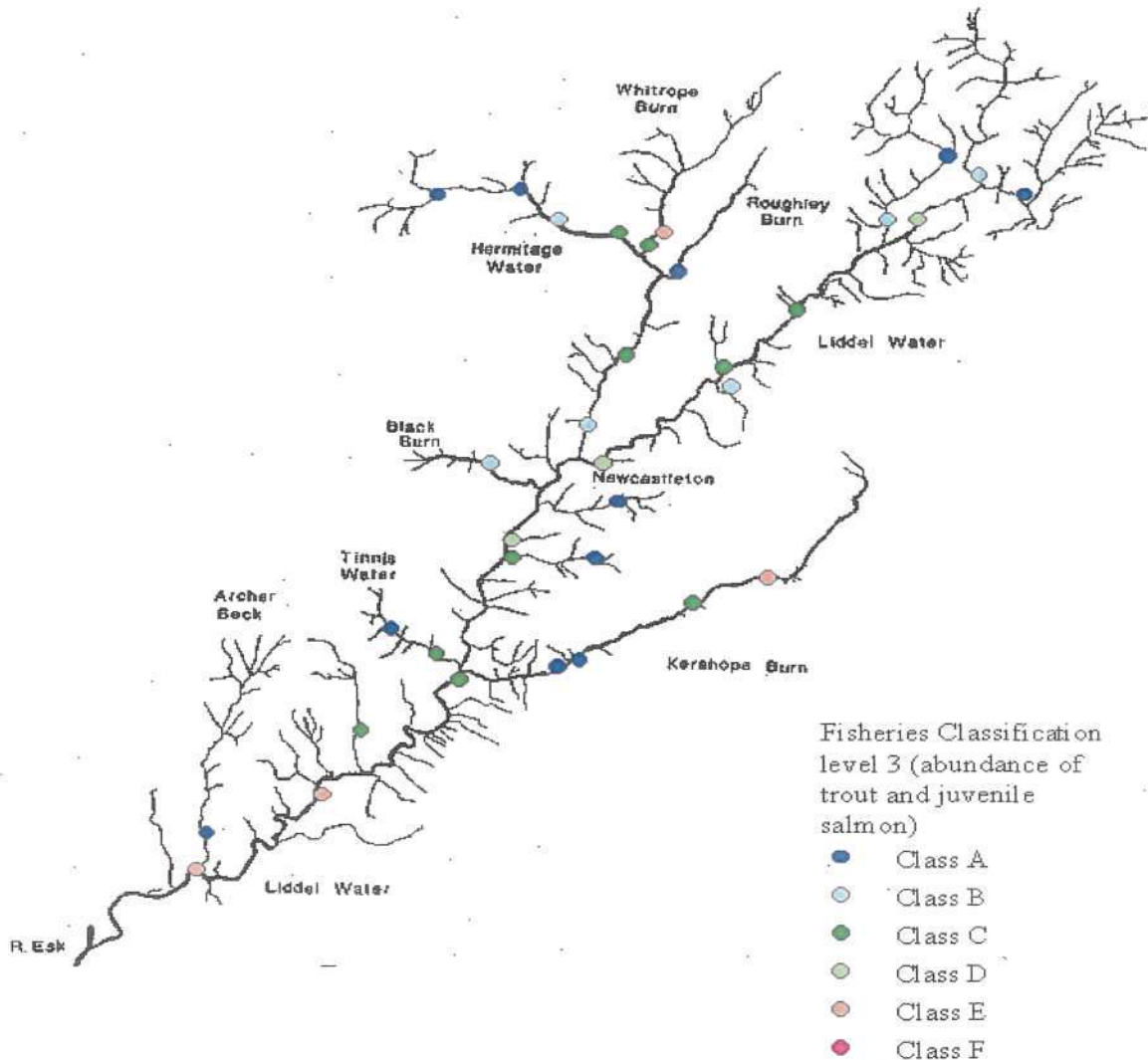
Some interesting general observations can be made when comparing site classifications from the current survey to the previous survey in 1993. Due to the limited access for salmon the vast majority of the sites have not changed in classification for salmon fry and parr. Salmon fry have shown a decline in site classification at six sites and improved at two. Salmon parr classification is also very similar, with five sites declining in classification and three sites improving. Trout fry have seen an overall decline in site classes as seven sites have improved, twelve sites have declined, and fourteen sites remained unchanged. Trout parr have fared better, as eleven sites gained improved classification, nine sites have declined and thirteen remain the same.





# LIDDEL CATCHMENT

Total Salmonid Absolute Classification Survey Sites 2000



The Scottish Border is defined by the central channel of Liddel Water and Kershope Burn

## Electrofishing Survey Liddel Catchment 2000

The Liddel is a significant tributary of the Border Esk Catchment. It flows through Newcastleton and enters the Esk about 4 miles north of Longtown. Thirty-five sites were surveyed in 2000 across the catchment.

The results showed that the fish population of the Liddel is very healthy and high densities of salmon and trout are present across the catchment with almost half the sites scoring Class A or B.

Although it is not possible to separate juvenile sea trout from resident trout it is known to be an important sea trout nursery and many of the fry and parr are likely to be sea trout progeny.

The habitat at the four sites that scored Class E was not ideal for juvenile fish.

# CENTRAL AREA

## GENERAL OVERVIEW

There have been several staff changes in 2000. We welcomed Rebecca Oldfield as the new Assistant Fisheries Scientist and Matthew Dent as Enforcement Officer covering the Wyre and Upper Lune. Grant Talbot took over from Rod Taylor as Leyland Fish Farm Manager after he retired. Senior Fisheries Officer Peter Horner also retired during the year and Paul Glover was promoted into his place. We also welcomed Lee Preston as Leyland Fish Farm Officer.

## Enforcement and Emergencies Team

### **Enforcement**

Early season rod licence checking was targeted at areas of known high evasion rates and low licence sales. The information provided by the Post office counters database is extremely useful and makes identification of offenders much easier. During the year, 3931 anglers were checked across the area with 195 failing to produce a valid licence.

One serious S27 unlicensed netting case was detected on the Lune estuary. The case was as a result of vigilant enforcement by the Estuary Officer who had identified a potential target. Subsequently covert observations produced an offence and nets. Two salmon and two sea trout were seized, resulting in a successful prosecution.

The team is now geared towards intelligence driven enforcement as a result of improved links with other enforcement agencies, particularly Lancs Constabulary. A number of initiatives were instigated this year, starting with a seminar with Clitheroe police to identify target areas. There is now a dedicated intelligence officer liaising directly with police divisional officers forging useful links between our organisations.

The crimestoppers initiative was launched in the early part of the year. A revisit and relaunch targeting different areas is planned for 2001.

Development of the RS2000 electronic rural surveillance system continued and several hundred hours of useful surveillance were undertaken. Several unfounded rumours could be laid to rest! There is substantial interest in the system with RSPB taking a keen interest. Much credit goes to the officers developing the system both in the field and with the

NW firm producing the bespoke product to Agency specifications.

The constant high water meant that activity on the Lune and Ribble was limited to short periods. A substantial number of covert patrols were mounted on both rivers: no serious offences were detected. Activity was detected in the autumn on the upper Lune and resources directed towards prevention in the future.

During the year staff attended 52 reports of illegal fishing and a number of offences were detected as a result.

The dog handler attended the annual assessment in April and received permission to operate for another year. The testing process is rigorous and gives both handler and the Agency a degree of security when using the dog in enforcement situations. The value of the dog to the team cannot be overstated.

### **Rescues and emergencies**

Manpower resources were stretched this year. During the summer and autumn much of the team's time went into rescuing fish in distress.

In excess of 5000 fish were rescued from ponds and rivers over the year. Many were juvenile salmonids but there were also large tench, carp and roach. Several category 1 fish kills (over 100 fish killed) occurred on Stock Beck at Barnoldswick, Eccleston Delph and Kirk Beck to name three. Over 5000 fish perished in these events. The number of incidents requiring Agency attendance was substantial this year and much thought went into the planning process to try and ease the pressure in the future.

## Management, Science and Recreation Team

An overall review of the state of spawning for salmon and sea trout is planned for Central area. This is being accomplished by an overview of each catchment. Previous data for water quality (both biological and chemical), fisheries sampling data, invertebrate sampling data, habitat assessment and redd distribution are being used to assess if there are any limiting factors or if there have been changes to areas where there was good spawning previously. If there have been changes we need to assess the effect on the resulting population. A report for each



catchment will help to influence future management decisions that affect a particular area. Areas that are identified with a limiting factor are to be targeted for habitat improvement, stocking and water quality improvements. The resulting information will be mapped using GIS to act as a visual aid to determine the worst areas affected.

### **Management Projects**

The Urban Fisheries Development Programme (UFDP) in Central Area progressed again this year with the search for external funds to match Agency funding. We have acted as referee for two angling clubs, Barratt & Jays and Withnell Anglers, in their successful Heritage Lottery Fund bids to improve their fisheries. In addition, the Area has devised an Area Lakes Project in association with the Ponds Conservation Trust that will help to finance the UFD programme in 2001. Our work with Liverpool City Council has continued on the Liverpool Park Lakes Project, as has our work with Hyndburn Borough Council on Platts Lodge in Accrington.

The Team has continued its work with three Rivers Trusts (Lune Habitat Group, Wyre Rivers Trust and Ribble Catchment Conservation Trust), to improve the habitat for salmonids on the rivers Lune, Wyre and Ribble. Several large-scale projects were progressed in 2000 including projects funded by Leader II on the Hodder (£70k) Upper Lune (£70k) and Cant Beck (£30k). In addition, the Agency successfully applied for Environet funding to improve the habitat of Longpreston Beck (Ribble) and worked with the Bowland Initiative to protect rivers in the Forest of Bowland AONB. The Team has also progressed habitat projects on the Wyre, including willow raddling and introduction of measures to increase the pH of the water. A large programme of work has been devised to improve the habitat for both coarse fish and trout on the river Douglas.

### **Science and surveys**

The team has continued to monitor migratory fish runs on the rivers Lune and Ribble through use of five resistivity counters. A large scale electric fishing survey of the Douglas catchment was carried out and a smaller survey of the Keer. In addition, several investigative surveys were carried out to assess the benefit of habitat improvement works completed in the previous year. Hydro-acoustic surveys of the fish populations of Wigan Flashes were also performed.

A survey of anglers who fish the Agency owned waters at Halton and Skerton on the Lune and Mitton on the Ribble was carried out to obtain information to assist in the development of management plans to direct future improvements. The survey was

successful with a high return rate, demonstrating a high level of interest in these Agency run waters. The comments made were generally supportive of the fisheries current management policy with constructive comment being given for future improvements.

### **Fish Counters**

The Area's five fish counters performed well in 2000, with the exception of Forge, where electrical supply problems caused the loss of 99 days of data between the beginning of January and the end of July. These problems were successfully resolved in late-July, resulting in no further losses of data from this time. New data storage equipment has been purchased for all of the Area's counters. These have the facility to raise alarms in the event of any type of counter-related fault therefore allowing a much faster diagnosis and resolution of problems. This equipment will be installed in early 2001 in time for the first runs of fish to be recorded.

### **Hydroacoustic Surveys**

Hydroacoustic fisheries surveys were carried out on Wigan Flashes – stillwaters that were created through mining related subsidence, as part of the ongoing Urban Fisheries Development Programme. The depth of these waters and the abundance of underwater snags makes netting an unsuitable fish sampling method but hydroacoustic techniques were considered suitable.

The hydroacoustic technique works by sending out a sonar beam that is reflected by the fish's swim bladder, with bigger fish generating bigger reflected signals. The reflections are recorded by size category to calculate the number of fish per thousand cubic metres of water. The drawback of the technique is that it cannot identify species.

Horrock's Flash held a good density of fish (20.6 fish per 1000m<sup>3</sup>) at a wide range of sizes suggesting that it should support a productive fishery. Rainford's Flash appeared to hold a moderate density of fish (7.7 fish per 1000m<sup>3</sup>) but the abundance of weed in this water made the survey problematic. Similarly, moderate densities (14.4 fish per 1000m<sup>3</sup>) were recorded in Turner's Flash but little confidence could be placed in this estimate because of the profusion of weed in this water.

## **Investigational Surveys**

Three Investigational surveys were conducted in 2000. The second year of monitoring of the benefits of fencing schemes on River Hodder tributaries and also on Cant Beck on the River Lune continued in summer 2000. Both of these schemes were implemented under the LEADER II improvement fund. Initial surveys were carried out in summer 1999, prior to the erection of fences in selected areas during the winter and spring of 2000. The completion of these two fencing schemes in spring 2000 resulted in an impressive growth of bankside vegetation within the fenced areas by the summer. However, the benefits of these schemes in terms of improved river habitats for fish will take longer to be realised. Monitoring of these schemes will continue in 2001.

The continuing addition of limestone gravel to Camm Beck in the Wyre catchment was again monitored in summer 2000. Increases in the juvenile trout population of Camm Beck were reported in 1999, following the addition of limestone gravel in order to increase the pH of this acid stressed stream. Increased juvenile trout populations were again apparent in 2000 following the further addition of limestone gravel at new upstream acid stressed sites.

## **Fish Farming and Stocking**

Agency officers have once again assisted the Middleton Hatchery Group and Hodder Hatchery Group in their salmon rearing programmes for the rivers Lune and Hodder respectively by collection of broodstock and assisting with the planting of parr and smolts.

The Agency coarse fish farm at Leyland also had a successful year again rearing 51500 dace, 38000 roach and 80500 chub for stocking into the recovering rivers of the North West. The fish farm has improved its operations by installing water quality monitors and has gone a long way toward achieving the Environmental Management System standard ISO 14001.

## **CATCHMENT REPORTS**

### **ALT/CROSSENS**

Reports of catches of fish including pike and roach, and requests for information on the River Alt as a fishery continue to increase.

#### **• River Conditions and Angling Catches**

##### Crossens Drainage

Once again the Crossens drainage system has produced some good catches but doesn't reach the consistent levels of years gone by.

##### Leeds Liverpool

The Leeds Liverpool Canal in this area has provided some excellent sport this year with lengthy spells of consistent fishing.

#### **• Urban Fisheries Development Projects**

##### North Moss Pit - Formby

Following a number of previous visits to fish kills at this site the Agency and West Point Angling Club have been working together to improve the delivery of the angling resource. We have approached the problem by investigating the management history of the water and its catch performance by analysing the excellent catch records the club collates. As a result of this work the club has improved the bankside and aquatic habitat with the aim of increasing food availability and cover for the fish. The club has also maintained a "zero stocking" policy. We aim to develop a sustainable population of fish within the water that meets the realistic expectations of the club members. Although the project is in its early days the signs are encouraging as no further fish kills have occurred and overall catches have been at least maintained with signs that the fishery is becoming more popular.

##### Liverpool Park Lakes Project

The aim of this long-term project is to tackle the many problems, which face shallow park lakes situated in an urban environment. These problems include poor drainage to and from the lakes, eutrophication, bankside erosion, loss of bankside and aquatic vegetation, unrestricted access, fish mortalities, siltation, excessive fish population, fish diseases, illegal fish introductions, incompatible species densities, and conflicts of interest between the different user groups.

The main funding partners, Liverpool City Council and the Environment Agency, sit on the Park Lakes

Advisory Forum (PLAF) with local angling representatives and other interested groups to direct the project work initiated by the group. PLAF also comments upon and provides input to other ongoing work that impacts upon the park lakes. It has been recognised that a more diverse network is required to channel the views of the anglers into the PLAF, and so the Liverpool Park Lakes Angling Forum was initiated this year to provide the framework for future consultation. The inaugural meeting of this body was held in Liverpool on 1<sup>st</sup> June.

#### Stanley Park

A major piece of work this year came as a result of the draining of Stanley Park Lake in March and April to enable major refurbishment using money drawn down from European funds by the City Council. An extensive consultation exercise with the angling community was undertaken to agree upon a policy for fish distribution from the lake. As a result high quality fish were retained within Sefton Park, Lark Hill and Millwood with lesser quality fish being stocked locally to the canal and a small number of fish being distributed further afield. Work progressed on Stanley with Sefton, Lark Hill and Millwood providing improved sport for local anglers. When Stanley Park is completed fish stocks will be returned to the lake in line with recommendations made by PLAF.

#### Lark Hill Gardens

Following major reconstruction work in previous years and continuing maintenance and enhancement by the City Council Ranger Service in partnership with St Helens College the lake is now very attractive and well used by the local community. A good number of quality roach were introduced from Stanley Park with further fish due to be stocked in spring 2001 to raise the population to a sustainable level.

#### Calderstones Park

The angling platforms and access footpaths have been completed and the marginal planting programme is well underway. The lake suffered a serious blue-green algae problem this year and this will require investigation and action to reduce the likelihood of its recurrence.

#### Walton Hall

The project on this lake has made slow progress this year but plans are in place to rectify some of the many serious problems that affect the site including improvements in access to the banks, provision of a small number of angling platforms and improvements to the marginal habitat.

#### • **Emergencies and Fish Kills**

Declining water levels within the Model Boating Lake meant that an emergency fish transfer had to be undertaken to save the remaining fish. The council and local anglers moved these over into the main lake. Solving the problem of the leaking lake, water supply and drainage will require a major financial investment.

#### • **Stocking**

On the 2<sup>nd</sup> May 2000 the Agency introduced 5000 roach into the lower main river Alt for the first time.

#### • **Surveys**

The fishery survey planned on the Alt for summer/autumn 2001 should provide interesting information as regards the diversity of fish populations in this area and also within the entire catchment.

It should also provide valuable information as to the level of stocks present and possibly highlight areas of concern that can be tackled through the implementation of a fisheries management plan. This plan would form part of the Agency Recreation Management Plan currently under development for the site.

#### • **Fishing Platforms for Disabled Anglers**

The collaborative project to install fishing platforms near the Crossens pumping station was completed and officially opened for use

#### • **Fisheries Seminar**

The Liverpool City Council generously provided the use of the Town Hall for the Agency to stage a highly successful Area Fisheries Seminar to discuss issues of concern to the coarse angling fraternity including the Agency's Urban Fishery Development Projects in Central and South area, fish disease and stocking issues. Over a hundred people including the Head of Fisheries, Dr. D. Clarke, attended the seminar.

#### **DOUGLAS CATCHMENT**

The popularity of the river is increasing as more and more anglers fish the river once called the "dirty dougie". Excellent sport can be had particularly around Appley Bridge.

The local stillwaters have been regularly fished.

The day ticket fisheries are more popular as they provide consistent sport.

- **River Condition and Angling Catches**

The start of the year was fairly wet. This maintained high water levels throughout the catchment. The summer was relatively settled with long periods of dry spells. This gave anglers the opportunity to explore the Douglas, with some significant catches reported. Major flooding occurred during the winter months with heavy, persistent rain. Coarse fish fry may have suffered as a result. Major bank erosion occurred on the Lostock in Leyland as well as the Yarrow at Eccleston.

- **Habitat Projects**

#### Habitat Improvements

A habitat improvement project was initiated on the lower reaches of the River Tawd at Hoscar. The river in this area is heavily grazed by sheep and has resulted in degraded riverbanks. The project was a collaborative project with a local farmer and incorporated the installation of 140 m of fencing to join adjacent fencing. This allowed 40 Willow, Ash and Hawthorn trees to be planted and gave an overall improvement to approximately 300m of banking. Early indications show the improvements have had immediate effects as the vegetation has started to regenerate.

#### River Yarrow salmonid improvements

A collaborative project was initiated to improve the salmonid populations on the Yarrow, specifically targeting migratory salmonids. The Yarrow has impassable weirs and degraded habitat. The aim of the project is to design and construct fish passes on Croston and Birkacre weirs, with a priority on Birkacre weir. Habitat Improvements and survey work have been proposed which, subject to funding will take place in 2001/2.

- **Urban Fisheries Development Projects**

Two urban fishery development projects were initiated on the Wigan Flashes and Barretts and Jay's pond, Leyland. The Wigan Flashes project will reinstate 'Mystery Pit' as a fishery, a much-needed facility in this urban area. Barretts and Jays pond is a small fishery in desperate need of renovating to safeguard the resident fish population. The project aims to extend the pond providing more and improved angling facilities as well as recreation facilities. Lottery funding has been applied for and it is hoped this money will be secured early in 2001.

- **Emergencies and Fish Kills**

A mortality occurred on the River Lostock in August. Approximately 1000 chub were affected. This was a strange mortality because only chub were affected and it is rare to see single species related incidents. Samples of chub were sent to the Agency's fish laboratory and were found to be in generally good health. No clear conclusions were drawn from the incident. Chub have been restocked in to the river to compensate for the loss.

A disease/mortality occurred on Boylans Lake, Wrightington. This was a single species mortality consisting of carp. Approximately 12 fish were found dead with others observed showing fungal infections. A fish was sent to the Agency's fish lab and it was determined that a high infestation of *Argulus foliaceus* was the cause.

A significant mortality occurred on Orrell Water Park (lower lodge) in May, which saw the loss of approximately 60 – 80 carp. A fish was sent to the Agency's fish lab for examination and was found to be in poor health. Most significant was an infection of *Costia* and severe necrosis of the gills. It was thought low dissolved oxygen was the cause but this is surprising considering the majority of the other species were unharmed. A seine netting survey of the lower lodge has been arranged for February 2001 to further investigate known problems on the lodge.

An outbreak of Carp pox was the cause of a mortality at Lancaster House farm fishery in January. This resulted in a small mortality of carp and carp hybrids.

Another mortality occurred on Longwater in Horwich consisting of mainly carp but also a small number of bream. No fish could be sent to the Agency's fish lab and it was found to be a one off isolated incident.

A mortality consisting of mainly roach and small bream occurred on Landgate lodges, Ince-in-Makerfield. Samples of fish were sent to the Agency's fish lab and it was established White Spot was the cause.

Again a mortality that was attributed to White Spot occurred, this time at Farington Park Lodge.

- **Stocking**

Chub, roach and dace were strategically stocked in to the Douglas catchment to boost areas that have been identified as having poor or absent populations. Only areas that have shown improvements in water quality and have the required habitat have been stocked. 5,500 each of chub and roach and 2500 dace were stocked in to the River Yarrow. 3000 chub and 1000

roach were stocked into the River Tawd. 5000 chub were stocked in to the River Lostock to compensate for a fish kill.

- **Surveys (See survey section later)**

#### Other

- Fishery Management Advice was given to approximately 40 fishery owners/angling clubs.
- Agency officers helped West Lancs District Police Force to organise three training days for young anglers on the Leeds-Liverpool Canal near Ormskirk. 60 youngsters attended the days.

#### Holding tanks at Chorley

On completion of the Holding Tanks a number of health and safety issues were highlighted. These were necessary to improve the working surface around the tanks and generally improve access at a cost of £ 4925. These works are ongoing with a completion date before the end of the financial year.

#### **RIBBLE CATCHMENT**

- **River Conditions and Angling Catches**

Generally, the constant high flows affected rod fishing. Whilst there were some good catches particularly on the Lower House, Samlesbury and Tickled Trout beats, there were few catches of small fish. Small roach and dace used to be the mainstay of the Ribble's sport but they now feature only occasionally, with large barbel and chub being the regular catch.

The Ribble is also slowly becoming known for its pike fishing with fish of 21lb caught and released this year. Also 3 were caught in 45 minutes by 2 salmon anglers at Alston - all were released.

Reduced flows in the lower river have resulted in quite good catches of coarse fish, with good bags of barbel and chub.

Grayling are becoming more prevalent in catches from the mid and upper Ribble; this could be a result of generally improving water quality. Fish of up to 2½ lb have been reported from the lower river.

A large shoal of carp was seen in the summer between Shawes Arms and The Tickled Trout. These fish are caught occasionally and some large specimens exist up to 20lb.

The year 2000 was generally a good one for the River Ribble. The vast amount of water throughout the year allowed ample opportunity for both salmon and seatrout to run the system. Rod catches for salmonids were up on last year with some of the middle beats having the best year for 10 years. Waddow fish counter registered over 1000 fish passages in each month for June, July, August and September with a year total of over 7000. This is considerably better than in previous years and is encouraging for future years. Winckley counter figures are less impressive with 1000 in June, 500 in July, 100 in August and 200 in September. These figures are well down but fish may have avoided the counter in higher flow conditions which were prevalent this year.

Good numbers of seatrout were present in the Ribble and the pools on the Hodder held a reasonable stock. Some good catches were made but the Hodder generally was disappointing for both salmon and seatrout. The constant high flows gave good running conditions but it was the Ribble that once again showed an improvement with over 800 fish for the system with about 50% returned alive. Mostly the fish were in the 6 to 10lb class but some larger fish were taken.

There were at least 2 Hodder "backenders" caught of 20 and 23lb but sadly these fish seem rare nowadays and it is suspected that the average size of the late run fish on the Hodder has fallen in recent years.

Salmon arrived around Sawley from August onwards in good numbers; the spawning season was a good one for salmon especially in the upper Ribble with over 200 redds being identified by the fisheries officers. The Hodder fared less well but had a late run of salmon that saved the situation somewhat. Over 130 redds were identified on the Hodder system. There were good catches of salmon reported at Calder foot with a number falling to the shrimp. Seatrout have featured well but high flows hampered the traditional night fishing.

The first salmon were reported at Stainforth in June although an angler later reported catching 2 fish in April that were returned. Trout fishing was fairly good as river levels never fell too low and 1487 seatrout were reported caught, even though conditions were not suited to night fishing.

Salmon angling improved again over the year with 819 fish caught continuing the upward trend on the system.

Rainbow trout were again in evidence on the Hodder but seemed to be in smaller numbers than in previous years. Local children and the Agency removed fish to 6lb when they were seen.

Assistance was given to the Hodder catchment conservation trust by obtaining land access and

providing fish transport to plant salmon parr and pre-smolts into the river in April. There was no noticeable natural smolt drop again this year, although one smolt was captured during a fish rescue in October on the Ribble at Dunsop.

- **Habitat Projects**

#### Skirden and Swanside Beck

A number of spawning becks on both the Ribble and Hodder were badly affected by the amount of rain and subsequent high flows. Skirden suffered extensive erosion and gravel washout and the habitat improvement schemes by the Ribble Catchment Conservation Trust, (RCCT), on Skirden were very badly affected. Swanside Beck on the Ribble was also affected and works are planned for 2001 to try and improve the situation.

#### Longpreston Beck

The start of 2000 saw a continuation of works progressed in 1999 on Longpreston Beck. Sufficient interest was gained initially, but was difficult to maintain due to a 10-year maintenance agreement that had to be taken on by either landowner or applicant as part of the funding bid. Interested landowners backed off as a result of this and the project was very nearly lost. Close liaison with RCCT resulted in them agreeing to take over the responsibility for maintenance and allowed the project to progress with landowners being more willing. Work on site should finish in early March. There is a lot of potential for future work on Longpreston beck and this is therefore seen as very much of a pilot scheme in the area. Further works have already been planned in for 2001 along with closer liaison with the contacts gained in the National Park.

#### Croasdale and Easington

Discussion with landowners on both Croasdale and Easington has ensured that works can progress on the ground. Works on Croasdale are nearing completion and will be viewed as a centrepiece for the leader II project on the Hodder (1.5km double bank). The work has been more involved than on other becks with more emphasis on physical regeneration by natural revetments and some in river works as well as overall fencing. A lot of effort has been spent on this beck as it represents some of the best salmonid production on the river and therefore needs protecting. Fencing schemes have also been secured on Easington (1km double bank) with extensive Agency involvement.

Projects have been completed on Phoelscales, Birkett and the Loud.

#### Rivers Brun and Calder Habitat Improvements

A feasibility study has been undertaken to assess the possibilities of improving habitat and access for migrating fish on the rivers Brun and Calder in Burnley. Should funds become available, it is hoped that design and construction will continue next year.

#### Padiham Weir

Work is progressing on the Padiham Weir Combined Use Channel, near Burnley. A working scale model has been constructed to determine the effects of a range of river flows on the channel. This helps finalise the design with respect to the efficiency of the fish pass element, the factor of difficulty for canoeists, movement of flood flows and general aesthetics. It is anticipated that construction will commence next year, with completion in autumn 2002.

- **Urban Fisheries Development Projects (UFDP's)**

Since the last annual report a further £4000 has been added to the Agencies contribution to the Accrington UFDP Project. Initial progress was made with design specific to both the project as a whole and the spending of the Agencies contribution aimed at the development of a fishery. The British Trust for Conservation Volunteers, (BTCV), were brought on board to actually carry out the work on the ground. Plans were handed over and costings were gained. The go-ahead was given for works to begin in March of this year. Both BTCV volunteers and local anglers will be carrying out most of the work on site with the Agency acting in a consulting capacity.

- **Emergencies and Fish Kills**

During the year it became apparent that the crayfish plague that had been avoided for so long arrived on the Ribble. An awful lot of effort went into rescuing unaffected populations and setting up holding facilities offline. The results have been better than anticipated and two separate plague free populations are now thriving with the females at one site carrying berries. We hope that breeding will be successful and that the progeny from the captured adults will be used to restock the Ribble in the future. We are working closely with English nature on the crayfish project and both organisations now know much more about these creatures.



*Crayfish*



*Holding tanks*

Fish rescues again dominated the work in the summer and autumn with the in river work for North West Water, (NWW), taking the most time.

Advice was given to NWW about the proposed fish pass on the river Langden and as a result a far more environmentally suitable and vastly cheaper option was chosen.

The planning and co-ordination of the rescues takes up huge amounts of staff time especially when working against time constraints and the weather. The floods in October and November caused serious damage to the spawning areas of the Hodder with the river bed on the Langden falling 0.5m in some places whilst the salmon spawning in mid to late December fared well. The Ribble tributaries fared better although the lower reaches of Skirden beck once again suffered.

On a sad note during October two young girls on school trip lost their lives when they were swept away during spate conditions on Stainforth beck. Fisheries staff assisted North Yorkshire police and the cave rescue organisation in searching the River Ribble from Stainforth down to Sawley. The beat officer for the upper river spent nearly two weeks assisting diving teams, drawing on his knowledge of the river to assist in the search.

- **Broodstock Collection**

Broodstock was again successfully collected from Boyces Brook with very little effort. Populations of both dace and chub within the beck seem to be sustaining good numbers with a little help from substantial Agency stockings.

#### Hodder

Broodstock collection for Witcherwell Hatchery was made very difficult this year for two main reasons, the first being the massive amount of water towards December and second a general lack of salmon in the Hodder system until late December. Fish were obtained eventually but not in the numbers required. As a result production will be down by 2/3 on last year.

The number of eggs obtained was 20,000+, which is just sufficient for the programme to continue.

#### Stocking

A substantial excess of dace fry (0+) from Leyland fish farm early in the year provided the opportunity to stock numerous sites in the mid and lower Ribble and sites on the river Calder

Stocking site:	Grid Ref.:	No of Dace Fry
Tickled Trout	SD577302	30,000
Bonsai Nurseries	SD596317	30,000
Ribchester	SD663356	30,000
Boyces Brook	SD652356	20,000
Dinckley	SD697368	10,000
Henthorn Tip	SD726399	25,000
Edisford Camp site	SD272411	20,000
Martholm Ln (Calder)	SD752339	20,000
Mill Ln (Hyndburn)	SD752328	10,000
	TOTAL	195,000

Hopefully the results of this will be seen in the catches over the next few years.

Also the Hodder Salmon Propagation Programme produced 55,000 salmon parr from Witcherwell Hatchery. They were stocked into the River Hodder system at various sites. Assistance was given by the Agency with both stocking out and broodstock collection. Of these fish produced, 6,250 were reared on further (to pre smolt stage) to be stocked out this spring.

- **Surveys**

The seatrout redd counting was made very difficult this year again due to the very heavy flows and so it is hard to gauge the spawning success. It is considered that the seatrout redds would have suffered a certain amount of wash out as a result. A reasonable amount of salmon redds were counted.

- **Enforcement**

Rod licence checks were a high priority through April and May, including targeting the British National Coarse Angling Championship during July. Several anglers were reported for failing to produce a valid licence.

- **Other**

#### Waddow Log Guard

We have recently been working with the Agency's flood defence section to devise a system for an automated self cleaning log guard at Waddow. This would free up a lot of time and also improve relations between the Agency and local angling clubs. We have seen three contractors on site and await the subsequent quotes. The works are to be completed by the end of the financial year. The system on completion will hopefully be fully automated and the

intention is that it will self clean every day to prevent blockages occurring on a regular basis.

## WYRE CATCHMENT

- **River Conditions and Angling Catches**

There was a noted reduction in anglers this year following the general trend away from rivers to overstocked day ticket waters. This year was a very poor salmon rod catch for the Wyre again. This is partly due to low angling pressure but also due to a lack of fish. Coarse fishing in the lower reaches was reasonable with chub and pike featuring.

During January and February shrimp catches were fair to good but the Southport fixed engine fishery was taking only small flatfish. It was not until May that catches improved significantly with shrimps, bass and flatfish being caught in several areas.

In late May the first migratory fish began to show and some were caught as a by-catch and returned alive. High winds and low pressure meant that several days were lost to netting but once conditions settled then bass featured heavily in the net catches. In September the net fishery at Lytham made some good catches of sole.

2000 was very wet with damaging floods in the autumn. Camm beck and Abbeystead fish passes were badly damaged in a large October flood. Upper reaches of Camm beck are now not available to migratory salmonids for spawning.

There was a small run of seatrout with a few fish being caught. Coarse fishing was also poor; the large floods will have washed many small coarse fish out of the R. Wyre.

- **Habitat Projects**

Willows were planted on the river Wyre during spring 2000. They were planted on an erosion scar above the M6 motorway using an experimental technique of pinning willow branches to the wetted edge at the summer low flow level. The willows rooted rapidly and started growing. They survived many large floods but were washed out in January 2001 by a flood that scoured the riverbed to a depth of 60cm.

On the 14<sup>th</sup> June 2000 sycamore trees were pollarded on Foxhouses beck to allow more light to the water. This will improve production in the beck. Fencing agreements have been obtained with a number of landowners in the Fylde catchment.



## • **Emergencies and Fish Kills**

Officers attended a number of carp mortalities. All involved recent stockings. The crucian carp population on the Fylde is still declining. There was a poor response from readers to the Fylde crucian carp survey published in Catch magazine.

## • **Surveys**

The high flows over the year meant that there was significant damage done to spawning areas with bed levels down 0.5m in some areas and large amounts of bank erosion contributed to the overall picture. Redd counts were poor due to high flows and no fish. Salmonid redds will have been washed out in the large floods and spawning gravel has been lost from spawning riffles.

On 9<sup>th</sup> May, 20 tons of limestone was put onto an erosion scar on Camm beck. The limestone was added 1km above the first limestone addition site. Camm beck was surveyed by Electric fishing on 21<sup>st</sup> August. The results of the survey showed the second limestone addition had allowed fry survival in sites where only adult trout had been found in previous surveys. Downstream there is still a large increase in salmonid production from the first and second limestone additions.

## • **Enforcement**

Boat and beach patrols were carried out over the year with the boat being instrumental in gaining the information that led to the unlicensed netting case on the Lune estuary. No other offences were detected but the value of the vessel should not be underestimated as an enforcement tool.

## **LUNE CATCHMENT**

### • **River conditions and angling catches**

The River Lune had a very good salmon run. Large numbers of salmon were caught and returned on Halton top beat. The seatrout run is still slowly improving; the main run is through late May and June. Good numbers of herling ran in June and early July but the expected large early autumn run never came. The seatrout run is not back to the level of the 1980's. Coarse fishing on Lansil has rapidly improved. Bags of 100+ dace have been caught and small bream and roach are showing. Large numbers of coarse fish were using the Off River Spawning Unit (ORSU), at Lansil, during the year. Since the ORSU was built the coarse fish population in Lansil has risen rapidly.

The River Keer had an improved seatrout run, with an increase in numbers of fish being caught and seen

spawning. A few seatrout also spawned on the river Condor.

2000 was generally a wet year with ample opportunity for fish to run. Tebay Anglers had their first seatrout in May along with many of the beats in the middle reaches. They reported good overall seatrout catches. Salmon were taken throughout the whole of the Lune Catchment in fair numbers except for Sedbergh. The most notable being a fish of 30lb caught and returned at Arkholme.

High waters again prevailed with only July having appreciably less rainfall. Salmon and seatrout spread through the catchment from May onwards and rod catches were steady without being exceptional. Even so, the trend is up on the last 2 years and 50% were again returned alive with a total of about 1500 taken by the rods. The catch and release rate is having a significant effect on the number of spawning fish.

The byelaw restricting anglers to 4 fish per season was in the main well received. There has also been a reduction in the number of licensed nets. Both measures should show benefits in the years to come.

The Agency fisheries were again well patronised with over 500 salmon rod days fished. It was disappointing again to see so few seatrout permits sold. With an annual rod catch of 1420 for salmon and 2814 for seatrout it is a mystery why so few anglers now fish for seatrout at night: 10 years ago the beats were full.

Rod catches were fairly good again in the Upper Lune and this can be attributed to good running conditions throughout the season. If there is water the fish arrive at Tebay much earlier and in far better condition.

## • **Habitat Projects**

### Lune Habitat Group

The Environment Agency and Lune Habitat has been involved several major fencing and planting schemes during the year:

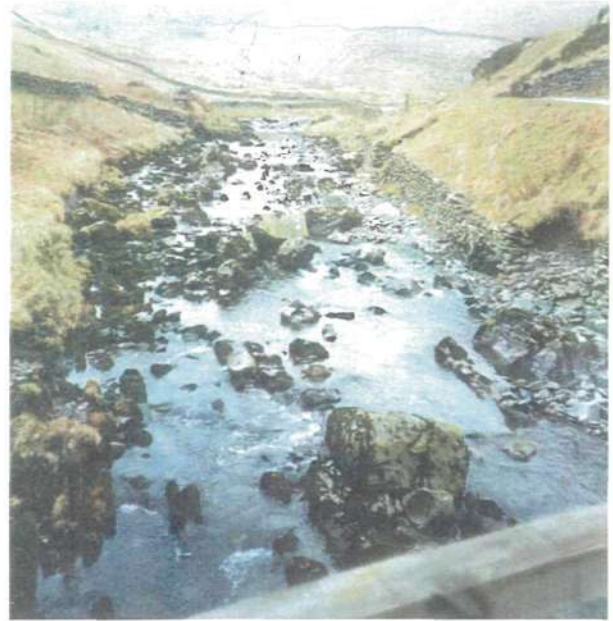
- 15,000 trees planted on Borrowdale Beck by Governments New Deal Task Force.
- 550 trees Cautley Beck Group and New Deal.
- 150 trees Keld Beck Habitat Group.
- 6 kilometres of Cant Beck fenced as part of a Leader II Grant.
- 6 kilometres of Main Lune and Bowderdale Beck started in October as part of Leader II Grant Fish Rescue prior to works beginning produced over 1,500 juvenile fish.
- On Ribble at Horton 1,300 metres of fencing erected in a joint venture between Ribble

Conservation Trust, farmer, Environment Agency and Manchester Anglers.

Monthly meetings were held with Lune Habitat Group to identify priority areas for targeting future Habitat, plus fundraising input.



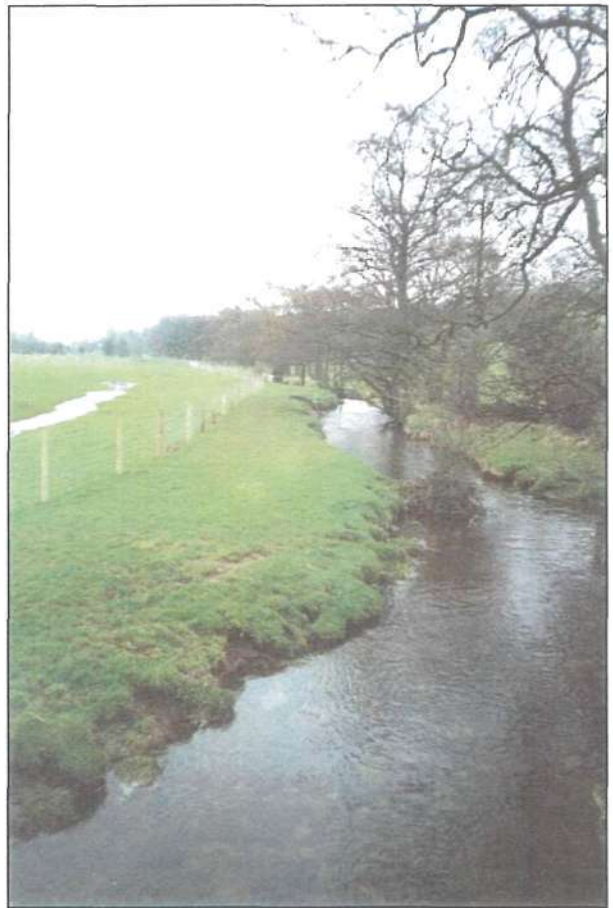
*Cautley Beck*



*Borrow Beck*

#### Leader II River Lune Project

- Works have been completed on Cautley Beck, where 510 trees and 780m of fencing have been provided.
- On Keld Beck 310m of fencing was provided, along with 300 trees and shrubs.
- Birk Beck had 400m of stock fencing erected, with 500 trees and shrubs.
- Rayne Bridge had 460m of fencing provided, with 300 trees.
- At Dubb's Farm a number of stiles were included in the 771m of stock fencing.
- Some 1639 trees were planted at Bowderdale, with 4725m of stock fencing.
- At Cant Beck 4270m of fencing was used, with stiles, water rails and some beck clearance works



*R Lune*

- **Stocking**

The Broadrairie Trap was set on the 1<sup>st</sup> of November by the Middleton Hatchery Group and Agency staff in order to obtain salmon broodstock. 20 Cocks and 20 Hens were caught, and approximately 72,000 ova obtained and put down in Middleton Hatchery. The remarkable thing about this years trapping was that 4 of the 40 fish had previously been Adipose fin clipped fish from the March 1999 stocking, 10% of the total trap. Remaining fish were released to spawn naturally.

Re-stocking

Pre-smolts introduced into the Lune System during spring

Total of 11,000 into:

- Rawthey @ New Bridge
- Rawthey @ Stakes Pool
- Greta @ Park Foot
- Wenning @ Punch Bowl
- Hindburn @ Wray
- Lune @ Lincoln's Inn
- Lune @ Crook of Lune Lowgill
- Lune @ Treasonfield
- Lune @ Arkholme
- Lune @ Sandbeds

Total of 11,000 into Lune @ Broadrairie and were fed until they migrated

0+ Salmon Fry:

- 6,000- Black Horse Beck
- 6,000- Springs Gill
- 6,000- Chapel Beck Lowgill
- 2,000- Rais Beck

Autumn Parr:

- 5,500- Barbon Beck
- 5,500- Birk Beck
- 5,500- Lune Yorkshire Bridge
- 5,500- Lune New Course

Numbers of ova laid down

Species	No. of Ova	Source
Salmon	48000	River Lune

Ova laid down by Middleton Hatchery.

- **Surveys**

River

Constant floods made redd counting on the Lune virtually impossible. The large floods caused a great

deal of gravel movement and many redds may have been swept away.

Forge Counter

Despite the electrical problems in the early part of the year, Forge counter worked well indicating high runs of sea trout from April through to July. Sea trout runs declined after July with runs of salmon increasing from August through to November.

Enforcement

Rod licence checks in the upper Lune during week ending 22<sup>nd</sup> October showed no licence evasion.

In response to the challenge of reduced resources the new team member who joined us in May 2000 spent several days in the Tebay area. Whilst this year was something of a trial the principle of 2-3 day stays in the area has once again been established. Many useful contacts have been made. We intend to continue this practice and if circumstances dictate increase the presence in the area at the appropriate time of year. There were a lot of migratory fish in the upper river and large concentrations of vulnerable fish were visible at several locations.

The new beat officer spent much of the year gaining the competencies required to be issued with a warrant.

- **Other**

- Input into Lune LEAP Review.
- Presentation given to members of Sedbergh Anglers at Broadrairie Weir and Trap, explaining the Agency's role and use of the facility
- Trout Angling Day for beginners on the 17<sup>th</sup> September was held at Tebay in conjunction with Tebay Anglers.

## **LEYLAND FISH FARM**

- **Broodstock collection and spawning.**

Broodstock collection started in early March, when fishery officers brought dace from the Ribble catchment. This continued on through to the end of May for the collection of chub and roach. Chub were used from the farms own broodstock facilities and roach were provided by the Liverpool Park Ranger service, as part of the Liverpool Park Lakes Urban Fisheries Development Program.

Dace and roach spawning went well, with good stripping and survival rates.

A good number of chub were spawned and stocked out, with the surplus fry being loaned to Brooksby College in Leicestershire for ongrowing by the students on the fisheries management course. The fry will be returned in the spring of 2001.

Survival rates from all species were good, and a high number of quality fry were stocked out into the rearing ponds.

- **Ongrowing**

The main ongrowing season went well, with good growth rates being recorded throughout the summer.

At the beginning of the summer, an electronic dissolved oxygen (DO) monitoring system was installed into every pond. This allowed us to manage the DO fluctuations within the ponds more efficiently, and resolve any problems arising at an earlier stage.

Following on with work carried out in the previous summer on sample weighing, a new stock control and management system was implemented.

- **Stocking Out**

The restocking season started in early November and carried on through to Christmas, with chub, dace and roach being stocked into rivers all around the region.

Fish were taken to the Welsh region to start the restoration of the coarse fisheries on the River Dee at Chester, following a major fish kill earlier in the year.

The total number of fish stocked out was -170000

- Roach - 38000
- Chub - 80500
- Dace - 51500

- **Staff**

Andy Myers came from Brooksby College for a three-week work placement, and Chris Whiteside started a day release placement from Myerscough College.

## SURVEY REPORTS

### Stock Assessments

Central Areas five-year rolling program of electrofishing surveys focussed on the Rivers Douglas and Keer in 2000. In addition, hydroacoustic surveys were carried out on three of the Wigan Flashes, namely Horrocks, Rainfords and Turners.

#### • Summary of the River Douglas Survey 2000

The River Douglas in southern Lancashire rises on Rivington Moor at Winter Hill and drains an area of 456 square kilometres, joining the Ribble estuary some 8 km west of Preston. The river passes through the town of Wigan and areas of intensively grazed farmland. Its major tributaries are the Rivers Lostock and Yarrow that drain the towns of Leyland and Chorley in the northern and central parts of the catchment respectively. The Douglas is primarily a coarse fish catchment, with salmon being absent and brown trout being restricted to the cleaner, upper reaches of each of the Douglas, Lostock and Yarrow. Water quality has historically been poor in this catchment due to the area's industrial heritage and extensive urban influences.

A total of 69 sites were electrofished throughout the Douglas catchment in summer 2000. Chub, dace and roach were the most abundant species caught in the survey, being found throughout the Douglas, Lostock and Yarrow system. Coarse fish were generally more abundant and more widely distributed in the upper and middle River Douglas than they had been during the previous survey of the catchment in 1995. This increase in distribution and abundance has been attributed to improvements in water quality and also to the stocking of chub, dace and roach from the Agency's fish farm at Leyland.

On the River Lostock, the distribution and abundance of coarse fish appeared to be influenced by Farrington weir – an impassable obstruction located on the north side of Leyland. At sites downstream of the weir, coarse fish densities were consistently high, whereas upstream of the weir densities tended to be markedly lower with densities varying widely between adjacent sites. Brown trout fry were re-introduced to the upper reaches of the River Lostock in the spring of 2000 by the Agency. One survey site within the stocked area yielded a density of 28 fry per 100m<sup>2</sup>, indicating a relatively high survival rate over the first few months – a promising result for the re-establishment of a sustainable trout population in the upper Lostock.

Coarse fish densities on the River Yarrow were relatively low in 2000 despite regular stocking of

coarse fish since the last survey in 1995. Two significant features of the Yarrow system that are likely to influence the distribution and abundance of coarse fish are :

- the presence of two impassable weirs – Croston Mill on the lower Yarrow and Birkacre weir on the middle Yarrow;
- the heavily engineered nature of the middle and lower Yarrow which means that there are very few refuges for fish in times of high flows.

Trout were found to be abundant and widely distributed in the upper Yarrow.

Clearly the easement of fish passage over the two large weirs on this system would have significant benefits for both coarse fish species and also for the native trout population.

#### • Summary of the River Keer Survey 2000

The River Keer is a small river in north Lancashire that rises on Docker Moor and flows in a south westerly direction, entering Morecambe Bay at Carnforth. The Keer is predominantly a sea trout river although salmon were more abundant prior to channel engineering works on the lower river in the early 1960's. In addition, the catchment has suffered from agricultural-related water quality problems in the past.

A total of 11 sites were electrofished by the semi-quantitative method throughout the Keer catchment in the summer of 2000. Salmon fry were not found at any of the survey sites, indicating a lack of successful salmon spawning in the catchment in the previous winter. Salmon parr were found at only two of the main river survey sites, indicating a restricted degree of spawning in the lower main river in the winter of 1998. Juvenile trout were found throughout the catchment in 2000, being most abundant in the tributary and upper river sites, as is typically the case.

River Keer Survey 2000

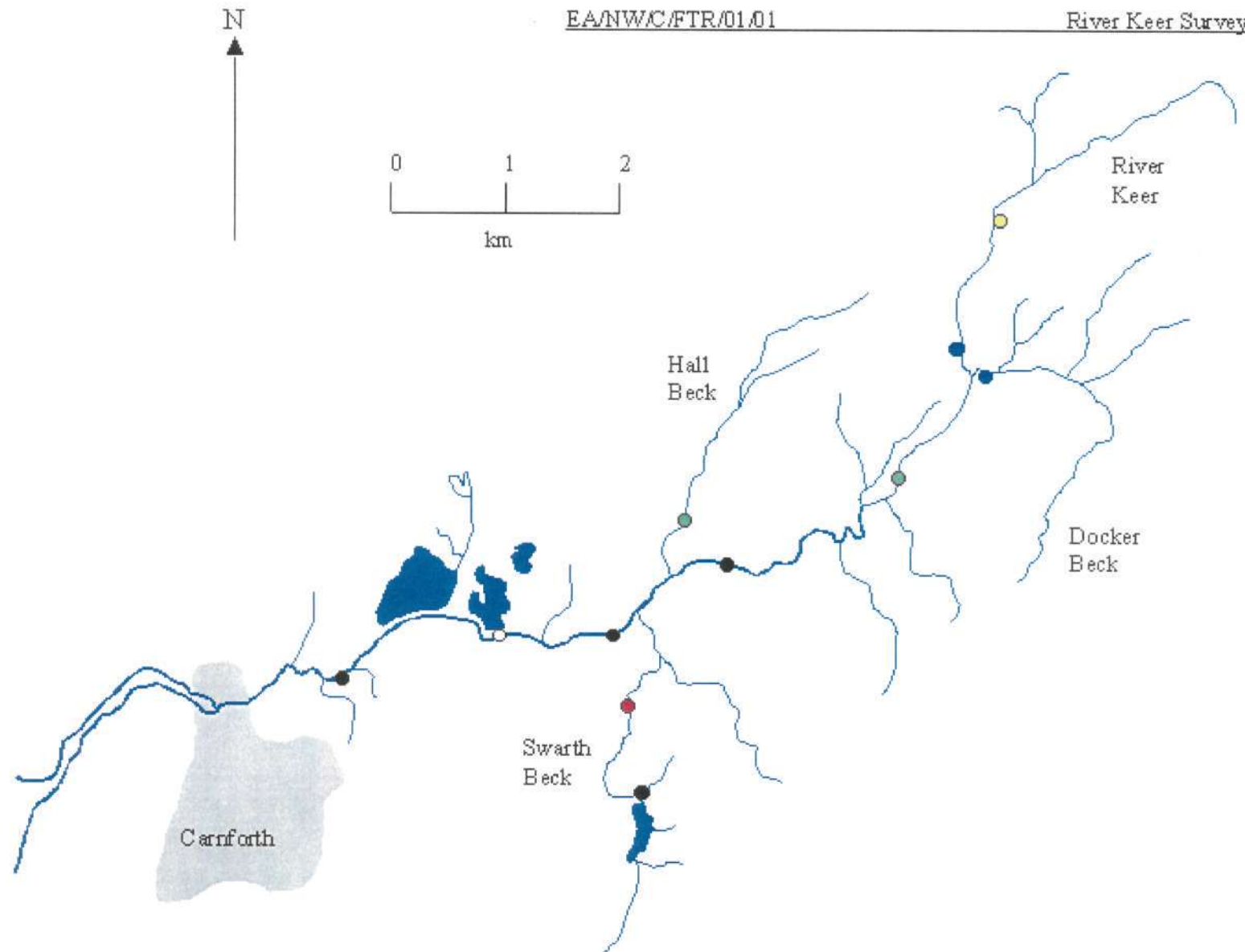
Distribution and Abundance of  
Trout Fry (0+)

(minimum density estimates)

National Fisheries Classification

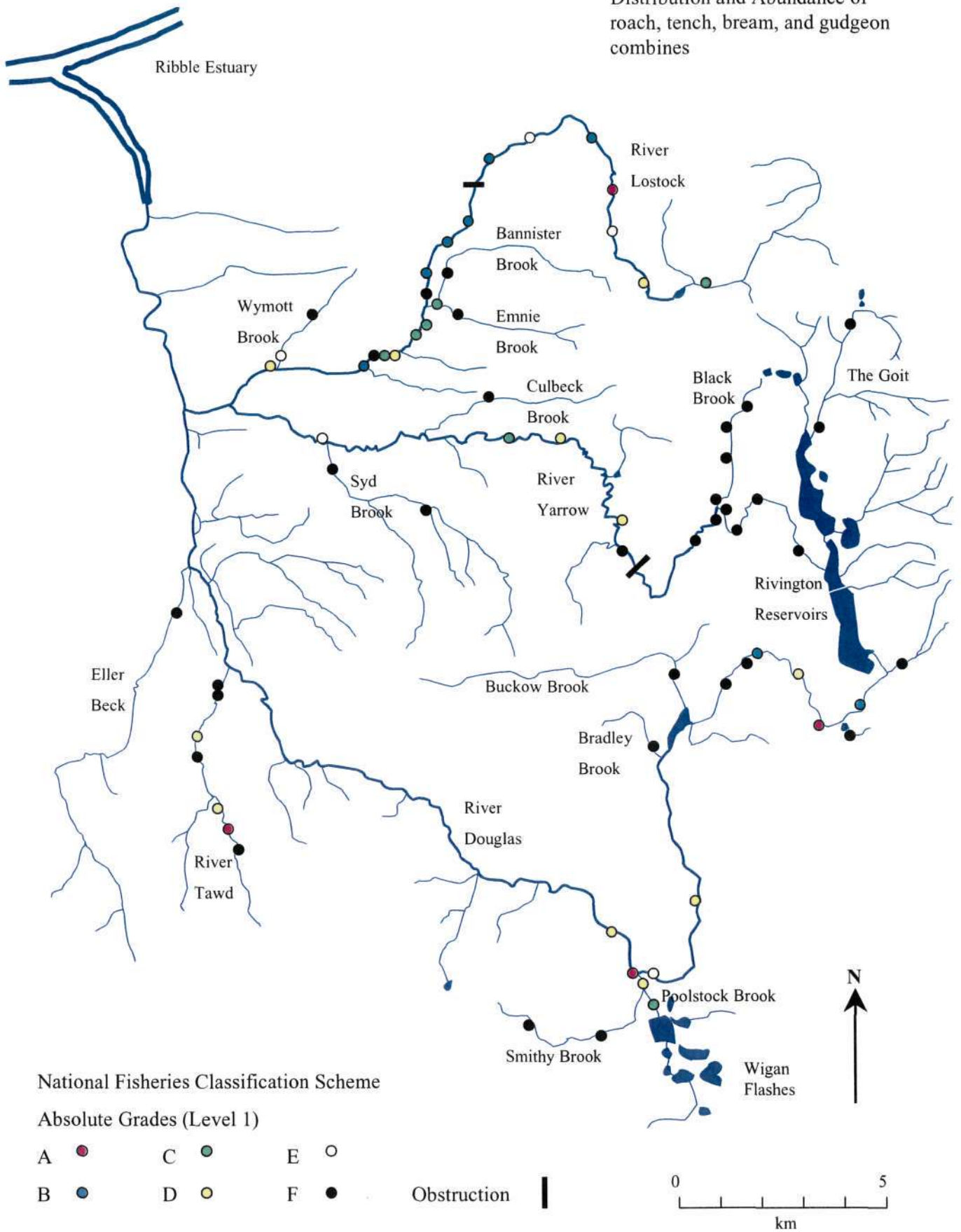
Absolute Grades (Level 1)

- A
- B
- C
- D
- E
- F



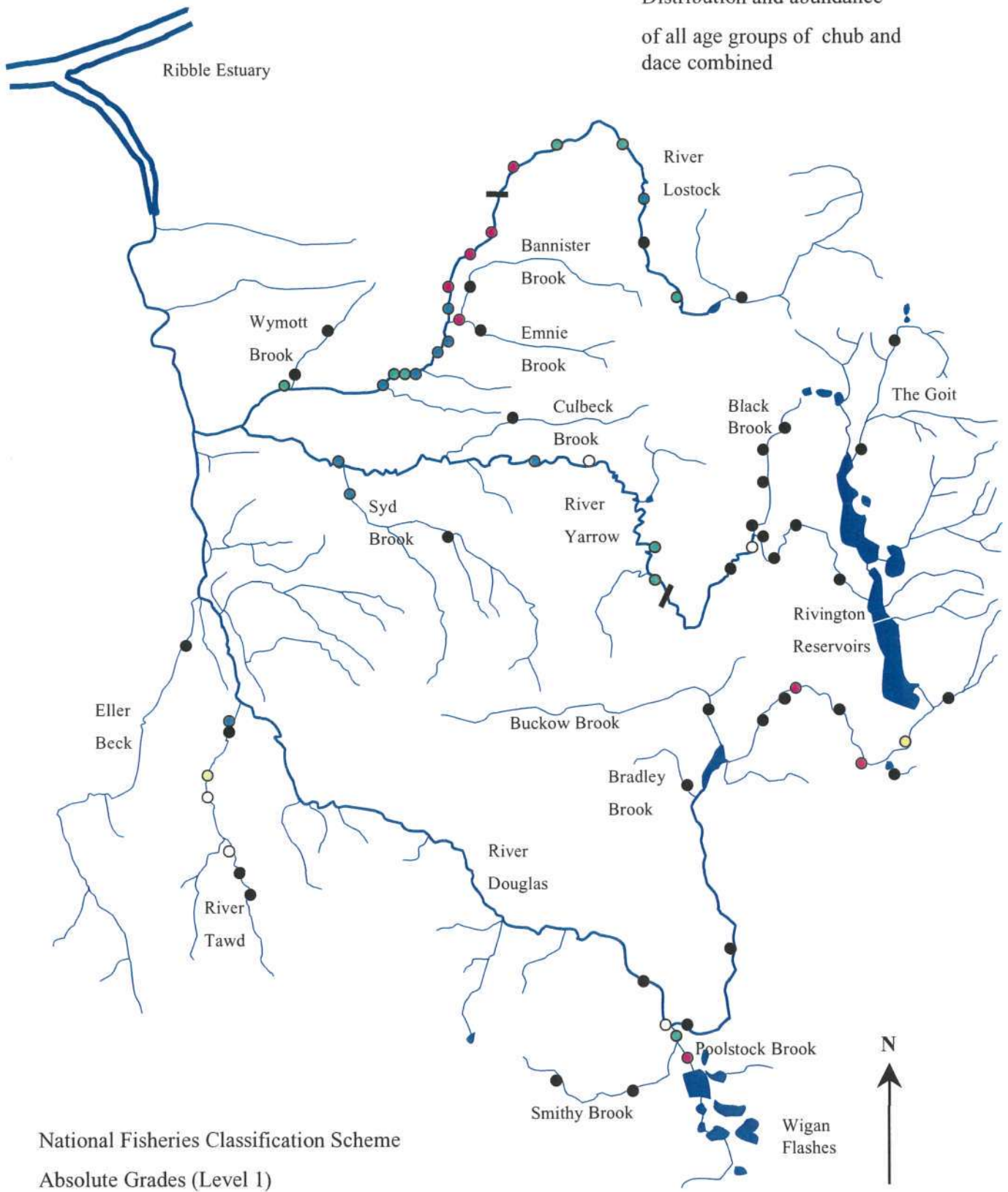
## River Douglas Survey 2000

Distribution and Abundance of roach, tench, bream, and gudgeon combines



# River Douglas Survey 2000

Distribution and abundance  
of all age groups of chub and  
dace combined

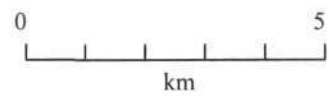


### National Fisheries Classification Scheme

#### Absolute Grades (Level 1)

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| A | ● | C | ● | E | ○ |
| B | ● | D | ● | F | ● |

Obstruction |





# SOUTH AREA

## TEAM REPORTS

### • WEST TEAM - Paul Blake

2000 was a year of extreme weather conditions, seeing rivers at normal flow one day and flood conditions the next. On several occasions during the latter part of the year all rivers and many stillwaters burst their banks. Davenham Fisheries Depot was flooded by the River Dane and the town of Northwich flooded by the River Weaver.

Pollution incidents and fish mortalities were at a lower level than 1999, although unfortunately several of these incidents resulted in large fish losses. 48 fish kills were attended resulting in 10,358 deaths. The worst incidents involved 5000 mixed coarse fish from Egerton Fruit Farm, 2000 fish, mainly gudgeon on the Trent and Mersey Canal at Middlewich, and 1525 mixed coarse fish on the Peak Forest Canal at Hyde, all caused by man made pollution.

13 fish rescues were carried out following on from some of the pollution problems and restoration works on Liverpool Park Lakes. This resulted in some 41,205 mixed coarse fish being saved. A further 29 fish transfers took place with 192,530 fish being moved. By far the largest transfer was the removal of 100,000 mainly small roach from the overstocked Sefton Park Lake in Liverpool to the Leeds Liverpool Canal. Another 20,000 roach were donated to the Agency from a Cheshire stillwater. After spending a period of time becoming acclimatised to flowing water they were stocked into Aldford Brook, (a tributary of the River Dee, Wales), following a massive pollution and subsequent fish kill. 10,000 roach and 3,500 chub were also stocked into South Area (West) rivers from the Leyland Hatchery.

17 stillwater surveys were carried out along with 64 strategic river survey sites. Drought surveys were also completed on the Rivers Bollin and Goyt, along with an in depth survey on the River Mersey between Woolston Weir and Bollin Point to assist the Agency in its knowledge of the river, and also as part of an Institute of Fisheries Management Diploma Course being carried out by Andy Eaves, a fishery officer.

Fishery Officers attended several angling 'teach-ins' to promote angling to juniors including days at Sefton Park, Ackers Pit and the River Weaver.

Once more enforcement played a large part of the year with 4116 rod licences checked that resulted in 319 offences being reported. Fyke net patrols were

carried out on several waters again resulting in the seizure of illegal nets with prosecutions now pending. Stake nets and set lines were also targeted along the Wirral foreshore with no infringements reported, perhaps a sign of successful enforcement activity over previous years.

Reports were received on a few occasions of illegal nettings and the use of illegal fish traps although nothing was found when further investigations took place.

Finally, salmon and sea trout were once more seen trying to negotiate the weirs on the River Bollin but attempts to catch the fish were unsuccessful due to high flows on the river.

### • EAST TEAM - Nigel Taylor

The weather during 2000 started off fairly normal and finished with one of the wettest years on record for over one hundred years.

During the early part of the year we had some very large fish kills on our local rivers and stillwaters due to pollution. The largest fish kill was on the River Irwell when over 1000 brown trout were killed. The River Goyt also had a major fish kill in the New Mills area: approximately 600 fish were killed. The largest stillwater fish kill was at St. Helens on Sutton Mill Dam and Monastery Dam downstream. Tens of thousands of coarse fish were killed following a chemical fire and the resultant run off at a nearby factory.

The overall number of fish kills was down on previous years. Aeration deployment was also down. This could be attributed to the lower temperatures and the higher than average rainfall resulting in less low dissolved oxygen problems due to algae blooms.

## PROJECTS

Many water quality investigations were carried out this year. There was also a significant number of algal bloom incidents causing problems to fish populations, mainly due to past mismanagement of stillwater fisheries in the area.

A management plan was drawn up to assist with the setting up of a commercial fishery on a farm in Manley, near Frodsham.

Works were completed on the River Dane - Winkle Feeder at Winkle. However, on a post completion visit to view the "Denil" fishpass it was discovered that the contractors had not built the pass to the agreed design specifications. Subsequent meetings with the contractor & British Waterways have resolved the situation and a series of small pools are to be incorporated into the fish pass outflow area to ensure access for salmonids to the base of the fish pass.

The Manchester Airport Project was completed with a fish rescue from a temporary arm of the river Bollin.

The Liverpool Park Lakes Project continues apace with works nearing completion on Stanley Park Lakes. Calderstones Park Lake restoration and refurbishment was completed and funding raised to carry out a hydrological survey on Walton Park Lake. A long term strategy document was submitted to the Liverpool City Council hierarchy and politicians for endorsement.

This year saw a partnership develop between the Agency's Fisheries & Recreation team and the Wirral Council Ranger Service along the lines of the Liverpool Park Lakes Project. They have 9 large lakes, all of which have suffered from various levels of neglect over the years. Work so far has included a de-silting operation on Wallasey Park Lake and the start of works to de-silt and refurbish Birkenhead Park Lakes.

Drought surveys were completed for the year apart from Autumn sampling on the River Sett: this was due to adverse conditions.

River Strategic surveys again fell short of target due to adverse river levels and other emergencies.

Sonar surveys included Tatton Park Lake and Combermere main lake

### • Black Brook Flood Alleviation Scheme

Black Brook is located in the Goyt catchment and flows close to Chapel-en-le-Frith, Chinley and Buxworth. A history of flooding to properties along the brook prompted the Agency to investigate the inadequacies of the channel to convey water in high flows and identify where possible improvements could be made. Improvement works have now been on-going for a number of years at different locations.

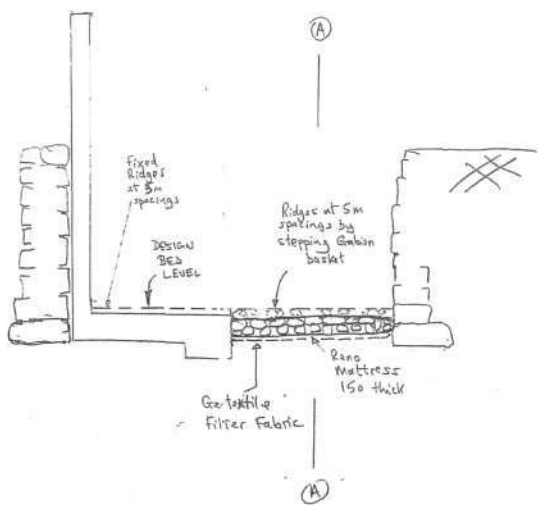


In June 2000, the Agency's Fisheries staff were involved in a fish rescue when the brook had to be drained to allow construction of reinforced concrete flood walls.

The concrete walls have now been constructed and are currently being stone clad (see photo below).



During the works, it was discovered that the foundations of the original walls were unstable. To overcome this problem, and to prevent future scouring, the bed of the channel (up to midway) had to be laid with concrete. Reno mattresses made up the remainder of the bed (see diagram below).



To ensure free passage of fish and variability of flow, stone baffles are to be laid down. These will be held securely in place using dowel bars. The stone will be obtained locally and spaced randomly to help create a more natural appearance.

Fish resting/loafing holes will also be created by removing some of the stone setts from the retaining walls.

This technique has been shown to be very successful in Glossop Brook where heavily engineered channels still maintain healthy populations of brown trout.

#### • Shelf Brook – Fish Rescue

Shelf Brook is located in Glossop, within the Etherow catchment. It joins Hurst Brook (just south of the A57) to become Glossop Brook.

A concrete retaining wall along Shelf Brook (NGR SK040 942, near to the A57) was in a poor state of repair and had started to collapse affecting Corn Street, which is one of the access routes into Manor Park, Glossop. Contractors for High Peak Borough Council commenced work in June 2000 to reconstruct the retaining wall, which involved excavating the bed of the channel, to reach the foundations of the wall.



*Collapsing retaining wall adjacent to Shelf Brook 29 June 2000*

In order to be able to work in relatively dry conditions and reduce the risk of contaminating the brook, the contractors diverted the flow through a feeder culvert to a nearby mill (with the owners permission) and back into the channel downstream of the works. This resulted in a length of approximately 100 metres of Shelf Brook being temporarily bypassed.



*Excavation to the culvert on Shelf Brook 29<sup>th</sup> June to create bypass channel.*



*Channel after removal of wall - 7<sup>th</sup> July 2000*

The Agency's fisheries department were requested to carry out a fish rescue to ensure fish were not left stranded as the water was diverted out of Shelf Brook and the channel began to dry up.

The rescue took place on 7<sup>th</sup> July 2000. Approximately 150 brown trout were moved from the area of works to upstream of the site. As mitigation for the works, the design for the reconstructed retaining wall will incorporate fish ledges.

# SURVEY REPORTS

## • Routine Fisheries Survey Of The Sankey Catchment, 2000

The Sankey catchment is generally of low altitude and flat, covering an area of approximately 179km<sup>2</sup>. Land use is mainly urban development or agriculture, with areas of woodland, wetland and mossland. The brook flows in a southeasterly direction, through St Helens, before entering the River Mersey near Penketh. Many smaller tributaries feed the Sankey and are included in this survey.

A fisheries survey was carried out during June/July 2000 as part of the five-year rolling programme of fisheries monitoring. A similar survey was carried out in 1994. This report summarises the results of the 2000 survey and compares the findings to the results of the 1994 survey. (28 sites were fished in 2000 and 29 sites were fished in 1994, due to access restrictions).

Each of the sites was surveyed by pulsed direct current electrofishing using a semi-quantitative methodology (one run only). The results of the survey are therefore restricted to absolute *minimum estimates* of fish.

In the 2000 survey, a total of 148 fish were captured, representing 10 species. Gudgeon, roach, eel and flounder dominated the catch in terms of numbers. Out of the 28 sites fished, 7 sites had no fish, 9 sites had stickleback only present and 12 sites had coarse fish present.

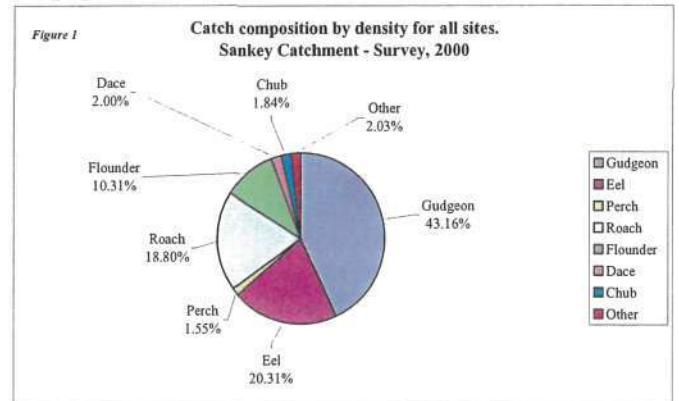
In the 1994 survey, a total of 269 fish were captured, representing 11 species. Eel, gudgeon and roach dominated the catch in terms of numbers. Out of the 29 sites fished, 12 sites had no fish, 8 sites had stickleback only present and 9 sites had coarse fish present.

The frequency (%), of occurrence of each species at each site is shown below

Species	2000 (28 sites)	1994 (29 sites)
Eel	28.6	13.8
Perch	7.1	3.4
Roach	21.4	10.3
Dace	7.1	0
Chub	7.1	0
Tench	3.6	0
Ruffe	3.6	0
Rudd	3.6	3.4
Brown trout	0	3.4
Pike	0	3.4

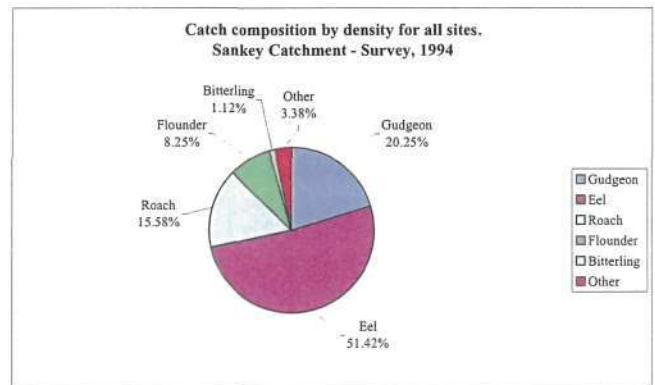
In 2000, the mean density of fish was 0.04 fish per metre squared (fish.m<sup>-2</sup>).

In terms of species gudgeon, eel and roach dominated the population. (figure 1).



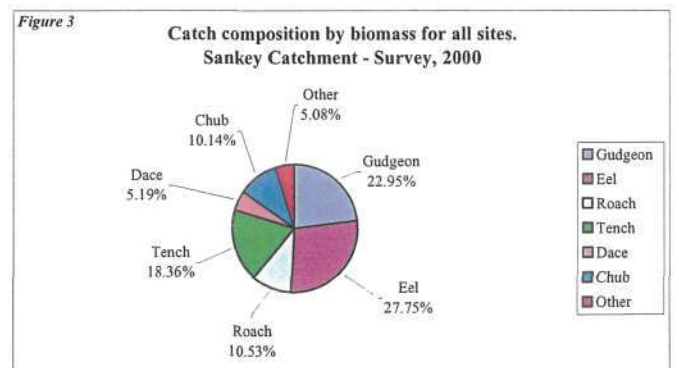
In 1994, the mean density of fish was 0.06 fish per metre squared (fish.m<sup>-2</sup>).

In terms of species eel, gudgeon and roach dominated the population. (figure 2).



In 2000, the mean biomass was 1.28g.m<sup>-2</sup>.

In terms of species, eel, gudgeon and tench dominated the population. (figure 3).

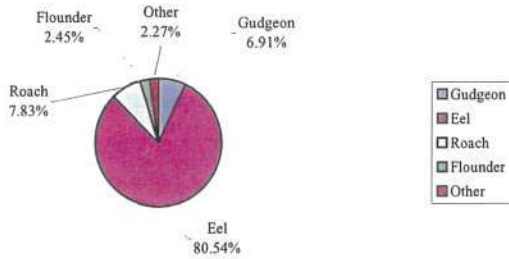


In 1994, the mean biomass was 1.87g.m<sup>-2</sup>.

In terms of species, eel, roach and gudgeon dominated the population (figure 4).

Figure 4

Catch composition by biomass for all sites.  
Sankey Catchment - Survey, 1994.



The results from each site were entered onto the Fisheries Classification Scheme.

In 1994 at Level 3, 20 sites (69%) were classified Absolute F and relative e indicating that no fish (or only marginal species) were present.

In 2000, 16 sites (57%) were classified Absolute F and relative e.

There were 6 sites with notable improvements, indicated, compared to the 1994 survey to the 2000 survey and 4 sites which had deteriorated. These can be seen in the table below.

SIGNIFICANTLY IMPROVED SINCE 1994				SIGNIFICANTLY DETERIORATED SINCE 1994			
Site	Species	2000 Number	1994 Number	Site	Species	2000 Number	1994 Number
SU03	Roach	15	0	SU02	Gudgeon	0	13
	Eel	1	0				
	Gudgeon	0	1				
SU05	Roach	4	0	SU04	Roach	2	39
	Eel	2	0		Eel	1	9
	Perch	2	0		Perch	0	1
	Ruffe	2	0		Rudd	0	2
			Gudgeon		0	19	
			Bitterling		0	3	
			Ro/Br hybrid	0	2		
SA01	Dace	4	0	RA03	Roach	0	2
	Chub	4	0		B.Trout	0	1
	Eel	3	0		Eel	1	0
	Gudgeon	1	0		Bullhead	1	0
RA02	Tench	1	0	WH02	Eel	17	54
			Flounder		1	12	
			Goby		0	1	
BB01	Roach	5	0				
BB02	Roach	1	0				
	Gudgeon	41	1				

Chub were stocked into Sankey Brook in February 1997 from the Environment Agency's hatchery in Leyland. Prior to this, chub had not been recorded in the catchment. Chub were captured in the 2000 survey.

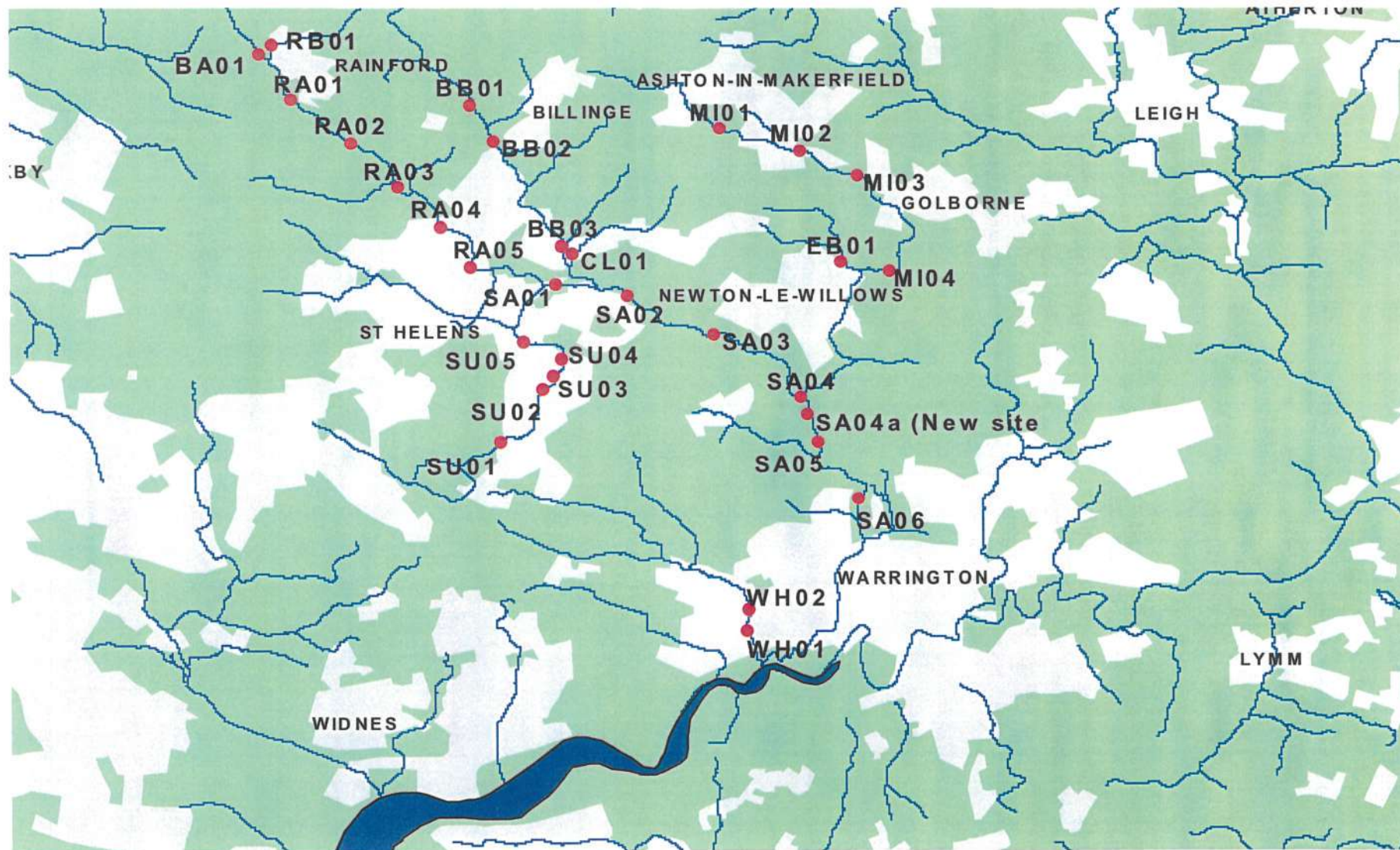
Following a habitat enhancement scheme in July 1998, on a channelised (fishless) stretch of Black Brook, 1000 dace were stocked as a "pump priming" exercise in November 1998. Prior to this, dace had not been recorded in the catchment. Dace were captured in the 2000 survey.

As the fish were not marked prior to release, the assumption that those fish caught were those stocked cannot be made. However, the ages of the chub and the dace does correspond to those that were stocked. No younger chub (<4+) or younger dace (<3+) were recorded.

## TO SUMMARISE

- 10 species of fish (ex. marginal species) were recorded in the 2000 survey and 11 species in the 1994 survey.
- The mean density fell from 0.06 fish.m<sup>-2</sup> in 1994 to 0.04 fish.m<sup>-2</sup> in 2000.
- The mean biomass also fell from 1.87g.m<sup>-2</sup> to 1.28g.m<sup>-2</sup>. However more sites contained coarse fish in 2000 than in 1994. It therefore seems coarse fish are more widespread, but present at each site in fewer numbers.
- Dace were not recorded in 1994. Dace were stocked from Agency's hatchery in November 1998. Dace were recorded at 2 sites on Sankey Brook in 2000.
- Chub were not recorded in 1994. Chub were stocked from the Agency's hatchery in February 1997. Chub were recorded at 2 sites on Sankey Brook in 2000.
- No young dace (<3+), chub (<4+) or roach (1+) were recorded which might suggest a lack of suitable spawning habitat. This should be investigated.
- In terms of numbers, eel, gudgeon and roach dominated the population in both surveys.
- In terms of weight, eel, gudgeon and tench (one large fish) dominated the population in 2000. In 1994, eel dominated the population (81%).

MAP TO SHOW LOCATIONS OF ROUTINE ELECTROFISHING SITES – SANKEY CATCHMENT



River Mersey

- **Routine Fishery Survey of the Upper Weaver Catchment 2000**

The River Weaver rises to the east of the Peckforton Hills, Cheshire and flows 88 kilometres from its source to its confluence with the Manchester Ship Canal and Mersey Estuary, just north of Frodsham, Cheshire. Its main tributary is the River Dane, which joins the Weaver in the centre of Northwich.

The area of the Upper Weaver consists mainly of agricultural land but includes the town of Nantwich. The fishery habitat available within the upper catchment varies but is ostensibly more suitable for non-migrating salmonids i.e. brown trout, but with sections capable of sustaining a reasonable mixed fishery.

The River Weaver and its tributaries are routinely broken down into upper and lower sections to produce a manageable number of sites in one survey season, with the dividing line at Nantwich. This report summarises the results of the fisheries survey of the upper reaches of the catchment during the summer months of 2000. Previous surveys were conducted in 1992 and 1995 for the purposes of routine monitoring of fish populations and data acquisition for the Agency's Fisheries Classification Scheme (FCS).

Fish were sampled from only 37 of the 59 planned sites on the Upper Weaver catchment. Six sites were not surveyed due to access difficulties and 16 due to the fuel crisis (when all Agency non-emergency work was prohibited) followed by a protracted period of heavy rainfall.

Pulsed-DC electric fishing using a semi-quantitative methodology was employed and fish were removed from the watercourse during a single run without stop-nets, typically over a 50m stretch. Fish were counted and measured, with weights being calculated from standard length-weight relationships.

The results of the fisheries survey for 2000 showed species diversity of the River Weaver (Upper) to be

poor. With the exception of one pike, only marginal species (bullhead, 3-spined stickleback, and stone loach) were caught. However we must bear in mind that the lower reaches of the Upper Weaver were not sampled due to severe weather conditions and therefore the picture is somewhat incomplete.

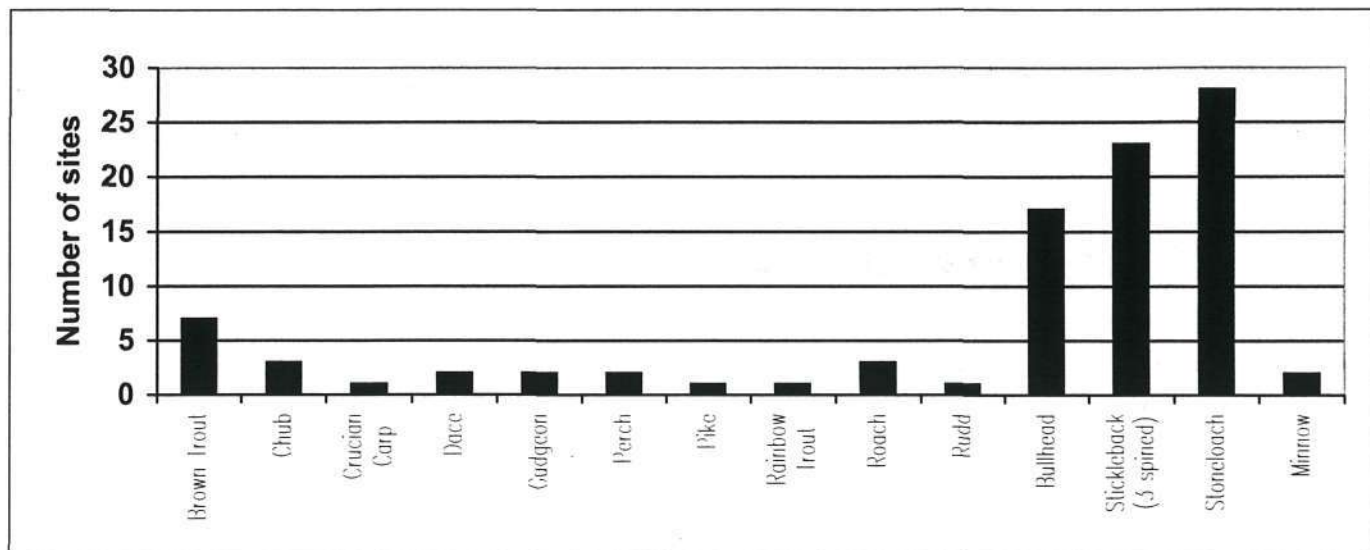
Species diversity of the River Weaver's tributaries was considerably better with 13 species of fish being recorded (2 salmonid species, 7 coarse fish species and 4 marginal species). Three previously unrecorded species were caught during the 2000 survey: minnow, dace and (surprisingly) crucian carp. However bream and tench, caught during previous routine surveys, were not recorded.

Marginal species were ubiquitous throughout the whole catchment. Bullhead in particular are listed under Annex II of the Habitats Directive as they are '*species of community interest whose conservation requires the designation of special areas of conservation*', and have been identified as '*species of conservation concern*' under the UK Biodiversity Action Plan (Environment Agency, 1998).

Species abundance was found to be poor. A total of only 82 fish (excluding marginal species) were caught from all of the sites surveyed during 2000. This was, however, a slight improvement on the findings of the 1995 survey when only 73 fish were recorded at corresponding sites but a significant decline from the 1992 survey when 397 fish were captured. The dominant species with regard to numbers of fish was brown trout (35%), followed by roach (28%) and chub (20%). This is to be expected given the general habitat of the upper part of the Weaver catchment. Considering the number of chub that had been stocked in recent years (35,000) few were caught during the 2000 survey (16). The absence of chub smaller than 14.5cm also puts doubt on the likelihood of recruitment to the population.

The frequency of occurrence of each species at the 37 sites surveyed was as follows: -





The distribution of fish remained similar to that found in the 1995 and 1992 surveys, with the exception of rainbow trout, where both their distribution and abundance appear to have declined markedly. The 1992 fishery survey reported large numbers of rainbow trout being caught on Checkley Brook, particularly at Lea Forge (101 fish). These may have been escapees from the nearby Lea Forge Trout Farm or survivors from pre-Agency stocking events. Subsequent surveys have detected fewer and fewer fish suggesting perhaps a reduced capacity to survive in the wild. However they may have simply dispersed over the wider environment and evaded capture or have been caught and removed by anglers (or predators). The Agency no longer consent the stocking of rainbow trout into rivers, therefore there would be no fish to replace those lost from the population.

Despite stocking, the number of brown trout caught during routine surveys in Checkley Brook had also declined since 1992 when 30 fish were recorded. Subsequent surveys in 1995 and 2000 detected only 12 and 18 fish respectively. Angling for brown/rainbow trout does occur on Checkley Brook although the level of exploitation was undetermined.

Brown trout was the dominant species with regard to weight of fish, accounting for just over half the weight of the catch with chub contributing to nearly 30% of the total average weight and roach only 7%.

The density and weight figures demonstrated patchy distribution of fish within the catchment, the most productive sites being on Checkley Brook, the River Lea and Sales Brook. Interestingly, both Checkley Brook and the River Lea benefit from generally good water quality and have, in the past, been stocked with fish. However, the water quality of Sales Brook is somewhat inferior. Poor catches on Bickley Brook, Barnett Brook and Audlem Brook may have been due

to poor habitat quality and although Barnett Brook had been stocked with approximately 1,500 chub in 1997 no evidence of this was found during the 2000 survey. Various sites on these watercourses had excessive weed growth choking the channel possibly caused by a lack of channel management and an increase in the levels of nutrients in the water (land adjacent is predominantly agricultural).

Because of this, access to some sites on the River Duckow, Baddington Brook and Bickley Brook was impossible and fisheries surveys could not be carried out. Catches on the main river were disappointingly low, particularly since large numbers of chub and (to a lesser degree) dace had been stocked in the upper reaches in the mid-1990's. However we cannot rule out the possibility of downstream distribution to areas that were not surveyed.

When reviewing information from the Fisheries Classification Scheme (FCS), it is important to note that the classifications listed are *minimum estimates* only, as a result of the semi-quantitative survey method. Had the fully quantitative methodology been used more reliable estimates of fish populations may have been achieved. However, time constraints prohibited this methodology from being employed. Final classifications (Level 4) from FCS are presented in Figure 1.

An improvement at Level 4, from F to E, was recorded at 1 site on the main river, however deterioration at 2 other sites (D to F and E to F) occurred.

Of the 27 sites surveyed on the tributaries 6 sites showed single grade improvements and 3 sites single grade deterioration. One site on Sales Brook moved up from grade F to grade D. Overall there was a slight improvement in the fishery classification according to FCS.

There would appear to have been improvements in water quality since 1992 with most sites being classified as good to fair.

However, fluctuations caused by natural or man made events may not have been detected by routine sampling of the water chemistry. Pollution events, especially from agricultural run-off or spillage such as slurry, can cause massive fish mortality. Few such occurrences have been recorded in the Upper Weaver catchment since 1995 but we cannot rule out the possibility of incidents going undetected in the more remote rural areas.

Also, if fish are scarce or absent from a watercourse, there may be little evidence to signify a pollution event occurring. Such incidents may make the re-colonisation of watercourses by fish more difficult and therefore limit populations. The results of biological monitoring based on invertebrate sampling did suggest that pollution has affected water quality in parts of the catchment.

Another limiting factor to fish populations may be inadequate food supplies: the routine sampling of invertebrates gave no indication of actual abundance and therefore it is difficult to determine how significant this factor may be.

One final element that has not been taken into consideration is that of flow conditions. During 1995 and 1996 Britain experienced a serious drought. The impact of extreme environmental events on fish populations is poorly documented but it may be another factor that has influenced fish populations in the Upper Weaver catchment.

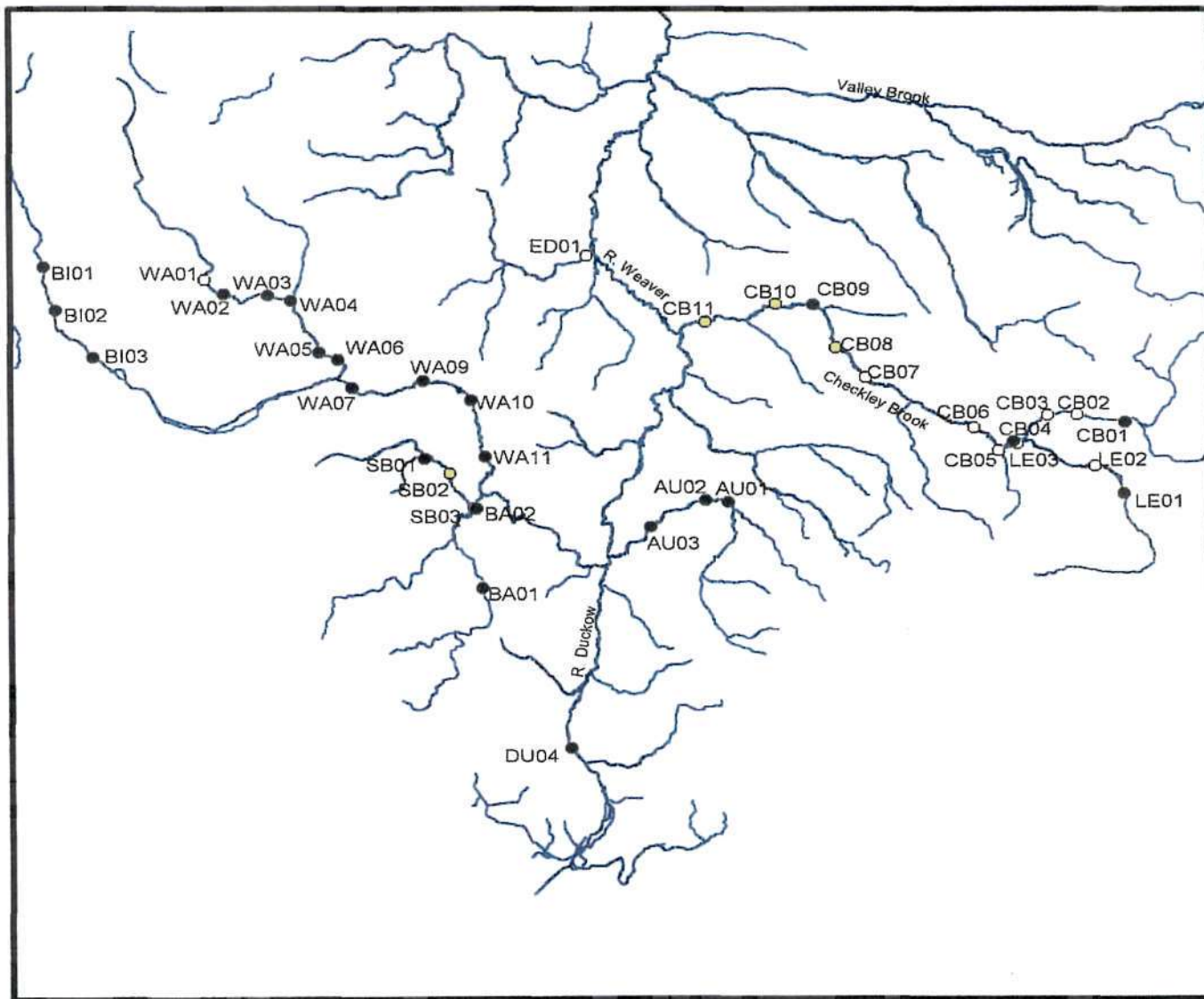
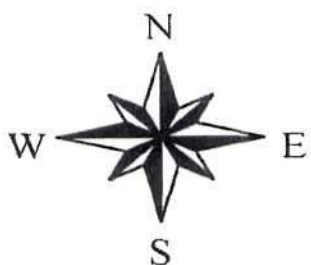
#### **To summarise:**

- Comparisons with previous surveys indicated only minor changes to the fish community with regard to species abundance and distribution despite considerable stocking activity in recent years.
- The dominant species within the catchment was brown trout with patchy distribution and low abundance of coarse fish species such as roach and chub.
- The fishery on the whole was found to be under-performing in relation to the FCS. The reason for this remains unclear.
- Biological appraisal would seem to indicate generally lower grade water quality, whereas classification based on water chemistry showed water quality to be good to fair. However even short stretches (or periods) of poor water quality may affect the survivability of fish either directly via polluting effects or indirectly by affecting dispersion within the catchment, limiting movement to suitable spawning habitat, feeding areas or refuge sites.
- The absence of smaller chub and dace (and fry in general) does suggest perhaps poor recruitment to the population and we should consider a lack of appropriate habitat as possibly being another limiting factor. However we must bear in mind that the picture of the Upper Weaver Fishery is incomplete due to curtailment of the 2000 survey.

**Figure 1 : map showing site classification (level 4) - Upper Weaver catchment 2000**

**Abundance of all coarse species age groups of salmonids and eel combined**

- **Class A**
  - **Class B**
  - **Class C**
  - **Class D**
  - **Class E**
  - **Class F**
- **Main Rivers**
- **Ordinary Watercourse**
- **Catchment Area**



- **Routine Fishery Survey of the Valley Brook Catchment, 2000.**

Valley Brook rises south of Alsager in Staffordshire and flows west where it joins the River Weaver near Worleston, Cheshire.

The area of the Valley Brook catchment is a mixture of urban, urban fringe and agricultural land and includes the town of Crewe. The fishery habitat available within the upper catchment varies considerably with some sections highly modified by riverine engineering.

This report summarises the results of the fisheries survey of the Valley Brook catchment during the summer months of 2000. Previous surveys were conducted in 1993 and 1996 for the purposes of routine monitoring of fish populations and data acquisition for the Agency's Fisheries Classification Scheme (FCS).

Fish were sampled from only 17 of the 30 planned sites on the Valley Brook catchment. Two sites were not surveyed due to access difficulties and 11 due to the fuel crisis (when all Agency non-emergency work was prohibited) followed by a protracted period of heavy rainfall.

Pulsed-DC electricfishing using a semi-quantitative methodology was employed and fish were removed from the watercourse during a single run without stop-nets, typically over a 50m stretch. Fish were speciated, counted and measured, with weights being calculated from standard length-weight relationships.

The results of the fisheries survey for 2000 showed species diversity of Valley Brook to be extremely poor. With the exception of one roach, only 2 marginal fish species (bullhead and stickleback) were caught. However we must bear in mind that the lower reaches of Valley Brook were not sampled due to severe weather conditions and therefore the picture is somewhat incomplete.

Species diversity of the tributaries was little better with 4 species of fish being caught (chub, perch stoneloach and stickleback)).

Two previously unrecorded species were caught at the sites surveyed in 2000: perch and bullhead. However tench, caught during the 1996 routine surveys, was not recorded in 2000.

Sticklebacks were ubiquitous throughout the catchment however stoneloach and (in particular) bullhead were sparsely distributed. Bullhead are listed under Annex II of the Habitats Directive as they are '*species of community interest whose conservation*

*requires the designation of special areas of conservation'*, and have been identified as '*species of conservation concern*' under the UK Biodiversity Action Plan (Environment Agency, 1998).

The abundance of fish was also very poor with a total of only 4 coarse fish being caught. This was a significant deterioration on the findings of the 1996 survey when 62 fish (60 roach, 1 tench and 1 chub) were recorded at corresponding sites. We must, however, consider that just prior to the 1996 survey roach, chub and dace had been stocked at sites on Valley Brook and Gresty Brook. The 2000 survey detected little evidence of previous stocking with only one roach being caught and considering the number of chub that had been stocked (1000+) only one was caught during the 1996 survey and one during the 2000 survey.

The frequency of occurrence of each species at the 17 sites surveyed was as follows: -

Species	Number of sites
Chub	1
Perch	1
Roach	1
Bullhead	1
Stickleback (3 spined)	10
Stoneloach	5
No' sites where no fish were caught	6

The total mean biomass of fish (excluding marginal species) for the Valley Brook catchment was 0.085 g.m<sup>-2</sup>, with total fish biomass for sites ranging between 0 – 0.557 g.m<sup>-2</sup>. The routine survey of the Upper Weaver tributaries in 2000 generated site values of 0 – 12.8 g.m<sup>-2</sup> with a total mean biomass of 3.84 g.m<sup>-2</sup>.

The density and biomass figures demonstrated poor distribution of fish within the catchment, the most productive sites being on Gresty Brook and one on Valley Brook. Interestingly Gresty Brook benefits from generally good water quality, however the water quality of Valley Brook is somewhat inferior. Nevertheless catches were extremely poor despite previous stocking activity.

When reviewing information from the Fisheries Classification Scheme, it is important to note that the classifications (Fig 1) are derived from *minimum population estimates* as a result of the semi-quantitative survey method.

An improvement at Level 4, from F to E, was recorded at only 1 site with deterioration at 2 other sites (E to F). A total of 14 sites were classified F i.e. fish absent (excludes marginal species).

With reference to water chemistry, there would appear to have been only a slight improvement in water quality in comparison to 1996 results with most sites being classified as good to fair.

However the results of biological monitoring based on invertebrate sampling did suggest water quality in parts of the catchment to be grossly polluted. This may prohibit the development of a self-sustaining fishery. In addition stretches of the channel have been highly modified limiting the extent to which the habitat can develop in order to support the fishery.

The general absence of fish puts doubt on the ability of the Valley Brook catchment to sustain viable populations. However we must take into account that not all of the routine monitoring sites were sampled in 2000 and fish may have simply been dispersed over the wider environment and thereby evaded capture.

### **To summarise**

Comparisons with the 1996 fishery survey indicated only minor changes to the fish community with regard to species diversity, abundance and distribution with no particular coarse fish species dominating despite considerable stocking activity in recent years.

The fishery on the whole was found to be grossly under-performing in relation the FCS. The reason for this remains unclear. Biological appraisal would seem to indicate generally lower grade water quality, whereas classification based on water chemistry showed water quality to be generally good to fair. However even short stretches (or periods) of poor water quality may affect the survivability of fish either directly via polluting effects or indirectly by affecting dispersion within the catchment, limiting movement to suitable spawning habitat, feeding areas or refuge sites.

The absence of coarse fish in general does suggest poor recruitment to the population and we should consider a lack of appropriate habitat as possibly being another limiting factor. However we must bear in mind that the picture of the Valley Brook Fishery is incomplete due to curtailment of the 2000 survey.

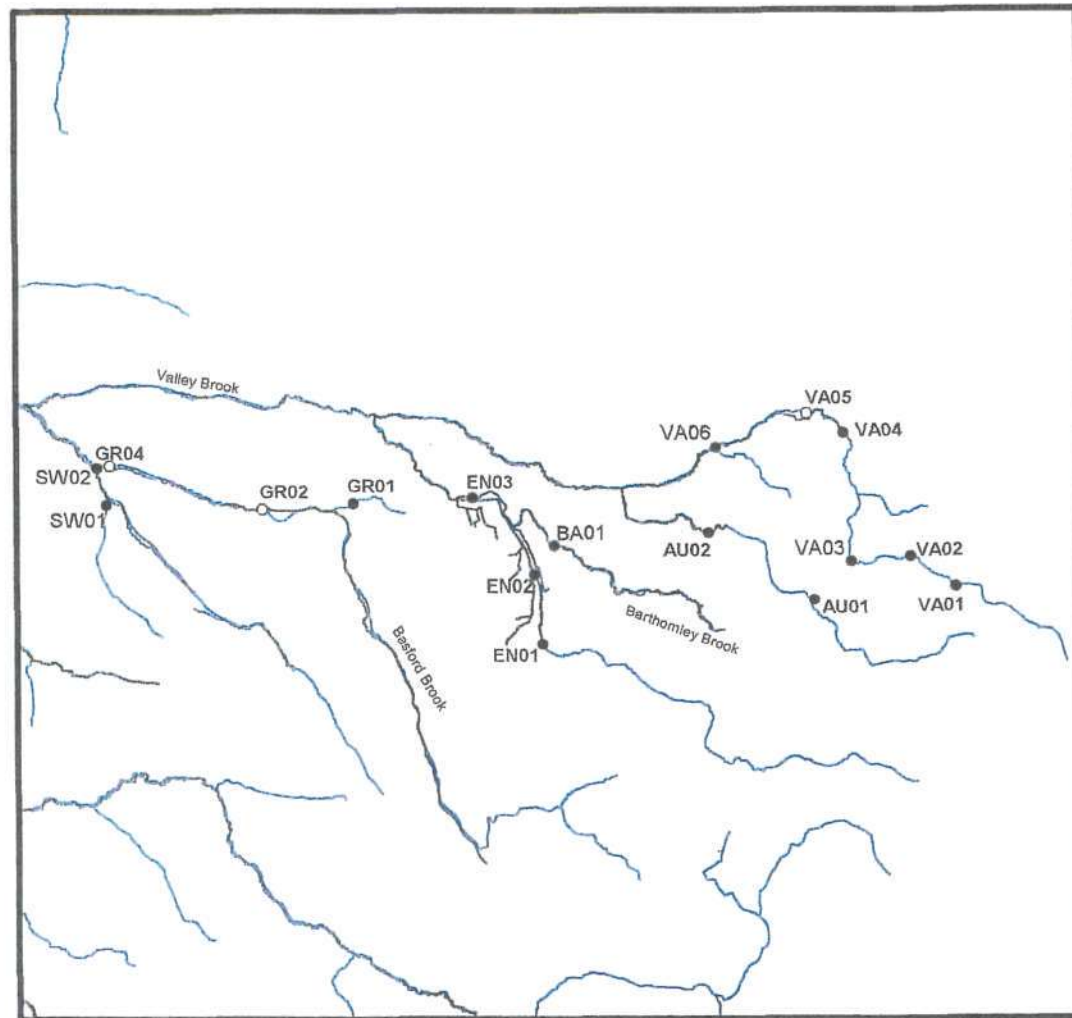
**Figure 3: map showing  
site classification (level 4)  
- Valley Brook catchment  
2000**

**Abundance of coarse fish species  
age groups of salmonids and eel  
combined**

**Fisheries Classification System**

- Class A
- Class B
- Class C
- Class D
- Class E
- Class F

- Main Rivers
- Ordinary Watercourses
- Catchment Area



# APPENDIX

## ENVIRONMENT AGENCY - NORTH WEST REGION REGIONAL FISHERIES ECOLOGY, RECREATION ADVISORY COMMITTEE (As at May 2001)

MEMBER	MAIN INTEREST	APPOINTMENT UNTIL
JR Carr	Chairman	30.09.2002
<b>FISHERIES</b>		
A. Bielderman	Coarse	31.03.2002
C Heap	Game	31.03.2004
F Lythgoe	Coarse	31.03.2003
CJ Bowman	Coarse	31.03.2003
FA French	Coarse & Trout	31.03.2003
C Goodlad	Coarse	31.03.2004
J M Castle	Game	31.03.2003
Dr K Hendry	Game	31.03.2004
M Helliwell	Game	31.03.2003
R Adams	Game	31.03.2003
S Dowson	Netsmen	31.03.2003
<b>ACADEMIC/PROFESSIONAL</b>		
Dr I Winfield	Institute of Freshwater Ecology	31.03.2002
<b>CONSERVATION</b>		
Dr A Powell	The Wildlife Trust	31.03.2004
<b>RECREATION</b>		
J C Selby	Mersey Basin Trust / Royal Yachting Association	31.03.2002
CH Cleaver	British Canoe Union	31.03.2003
<b>NAVIGATION</b>		
MP Payne	Inland Waterways Association	31.03.2003
<b>RIPARIAN INTEREST</b>		
HC Tonge	Carlisle	31.03.2002
A Rothwell	Lancashire	31.03.2003
<b>CROSS REPRESENTATION</b>		
B Alexander CBE	REPAC Chairman	31.12.2001
SJ McLeod	RFDC Chairman	30.06.2003

## CONSULTATIVE ASSOCIATION CONTACTS

The Environment Agency, North West Region work closely with the many angling clubs in its area. As mentioned previously, there is a statutory requirement on the Agency to set up and maintain a Regional Fisheries Advisory Committee.

The fisheries Associations aim to protect the interests of all anglers, angling clubs and riparian owners on their river systems and work closely advising the Agency on matters of concern to them. They are asked to nominate members to serve on RFERAC and attend liaison meetings with the Agency.

Local societies and clubs do excellent work on behalf of their members but a united approach can sometimes have greater effect.

Further information on the Consultative Associations can be obtained from the secretaries below:

Mr C Goodlad  
Mersey & Weaver Anglers' Consultative Association  
77, Turton Road  
Tottington  
Bury  
Lancs BL8 4AQ  
Tel: 01204 885862

Mr F A French, FIFM  
Furness & South Cumbria Fisheries Consultative Association  
Sweden How  
Sweden Bridge Lane  
Ambleside  
Cumbria LA22 9EX  
Tel/Fax: 015394 32463

Mr J Weedon  
Lancashire Fisheries Consultative Association  
15 Elm Road  
Abram  
Wigan  
WN2 5XG  
Tel: 01942 726917

Mr W Arnold  
South & West Cumberland Fisheries Association  
Knott End Estate  
Ravenglass  
Cumbria CA18 1RT  
Tel: 01229 717255  
Fax: 01229 717698

Mr CJ Heap  
Ribble Fisheries Association  
81 Moorland Road  
Langho  
Ribble Valley  
Lancs BB6 8HA  
Tel: 01254 249157

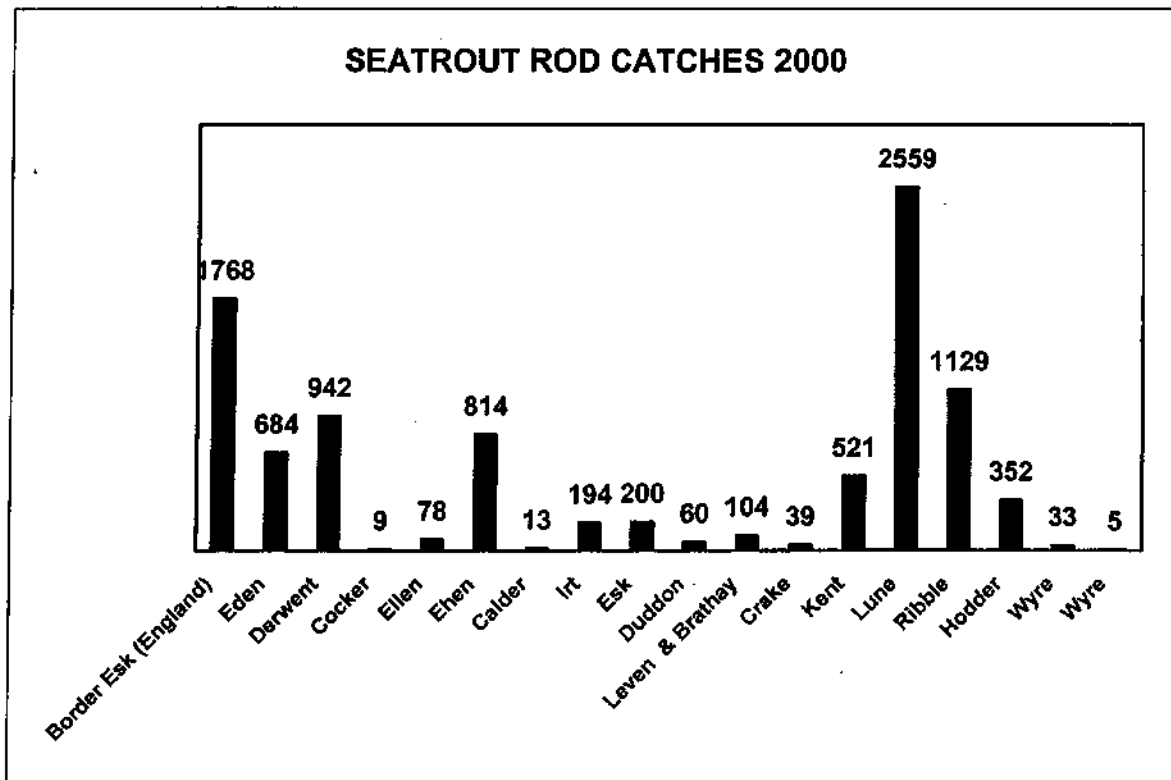
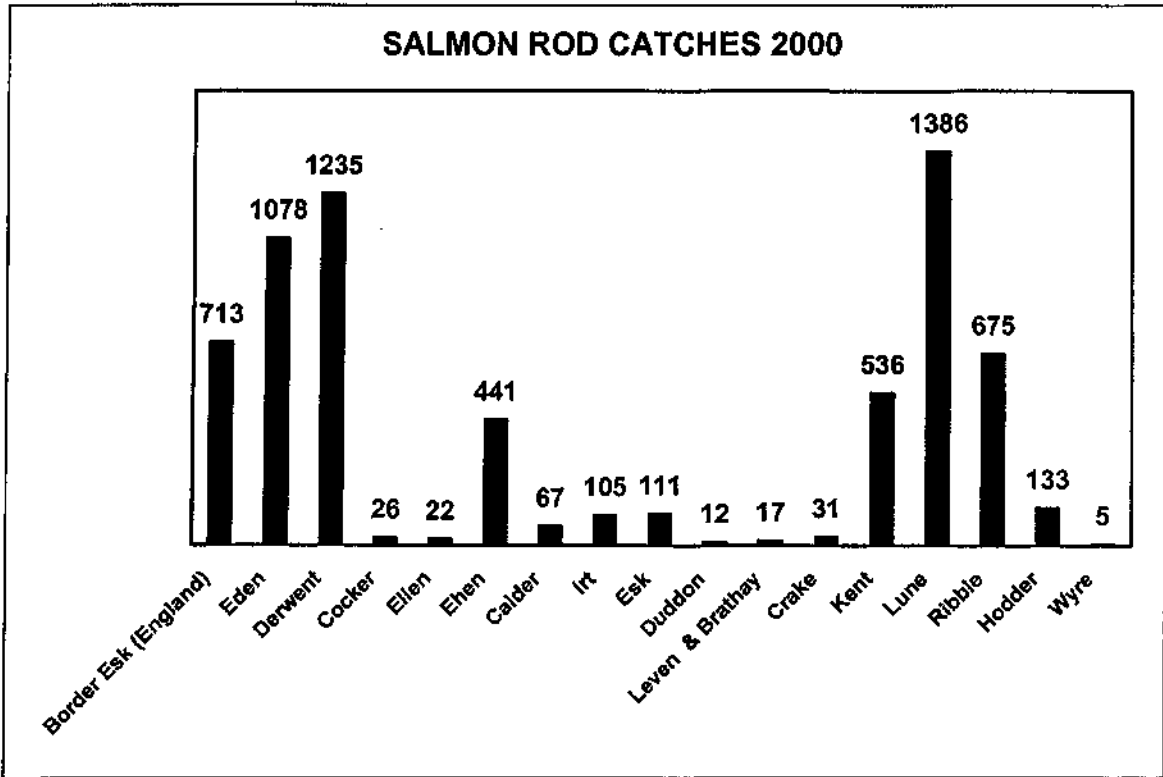
Mr A G Britton  
River Eden & District Fisheries Association  
24 Cammock Avenue  
Upperby  
Carlisle  
Cumbria CA2 4PD  
Tel: 01228 539752

Mr R A Challenor  
Lune & Wyre Fisheries Association  
clo Davis & Bowring  
6 Main Street  
Kirkby Lonsdale  
Carnforth  
Lancs LA6 2AF  
Tel: 01524271711

Mr SG Vickers  
Esk & Liddel Improvement Association  
Factor of the Buccleuch Estates  
Ewesbank  
Langholme  
Dumfriesshire  
DG13 0ND

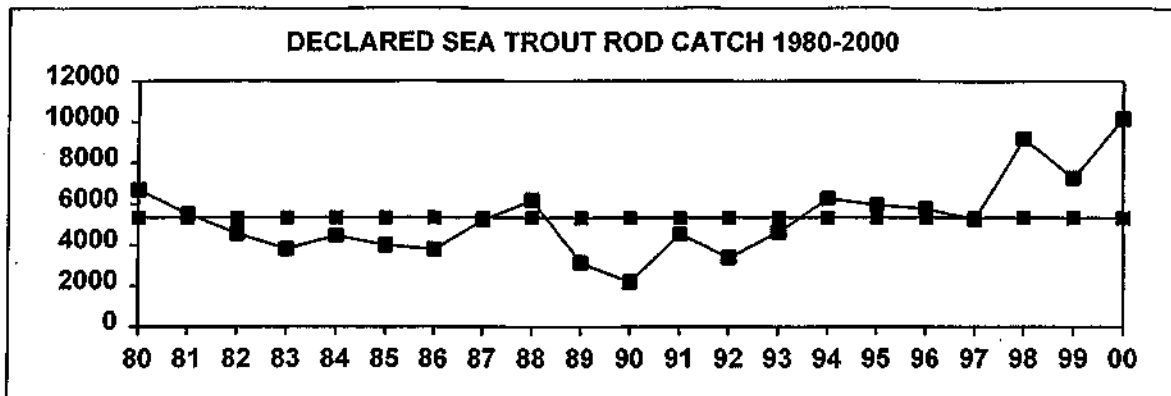
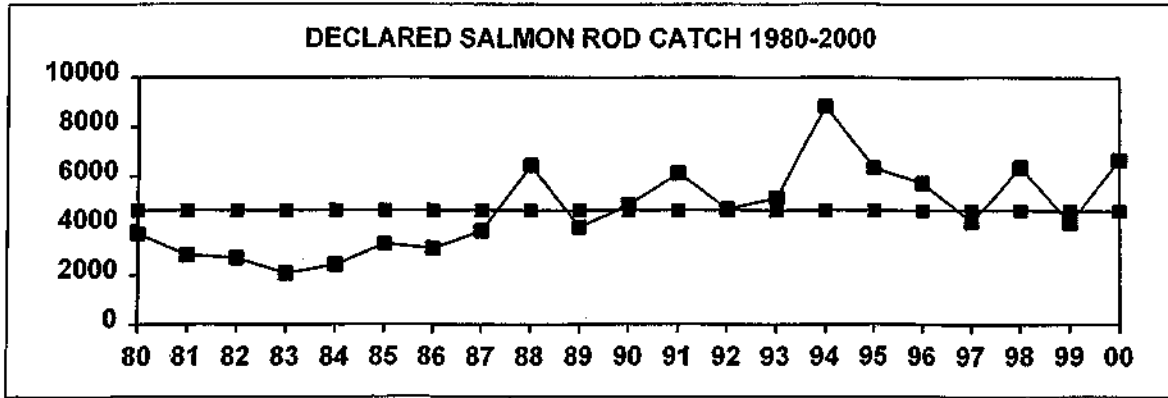


# DECLARED SALMON AND SEA TROUT CATCHES

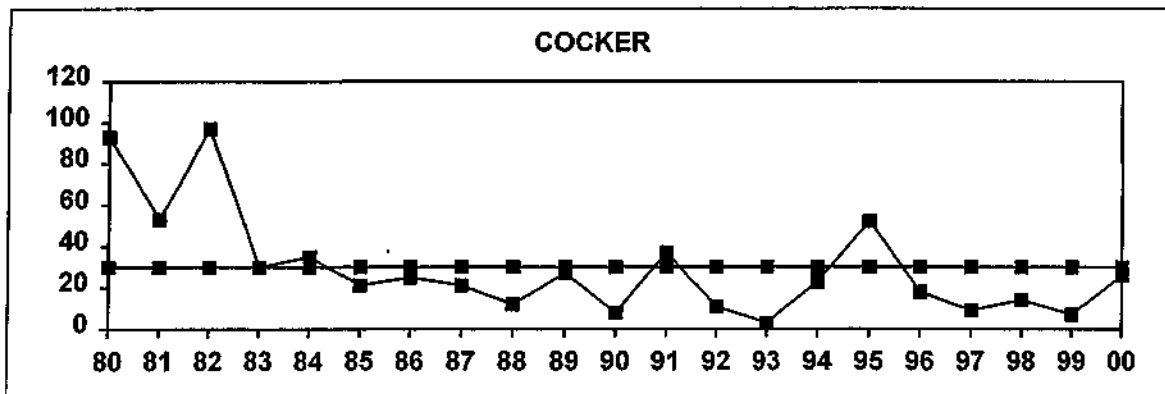
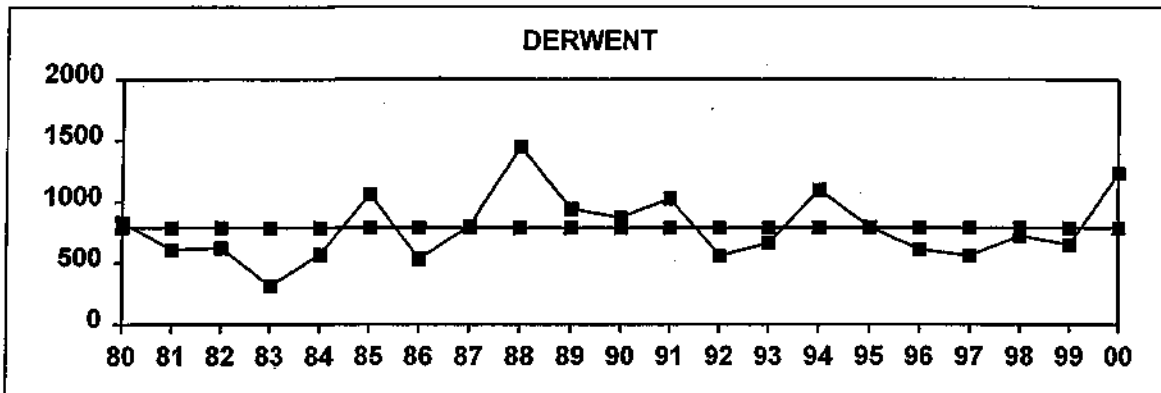
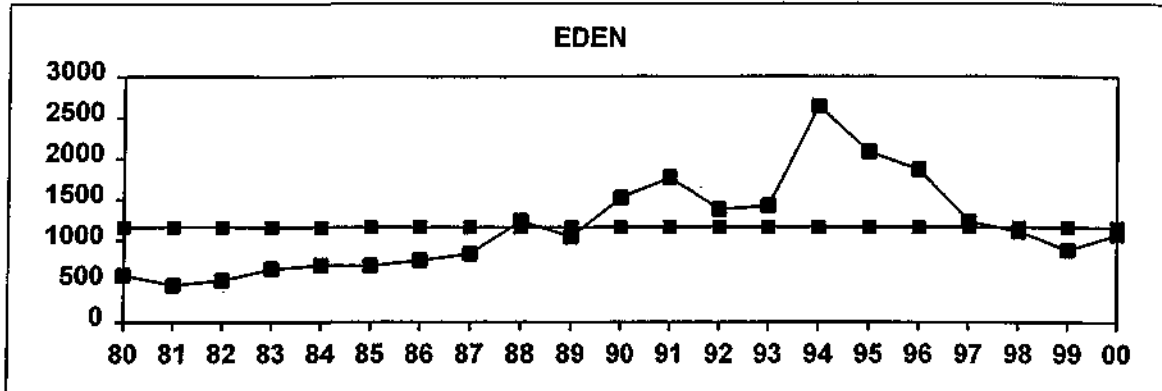
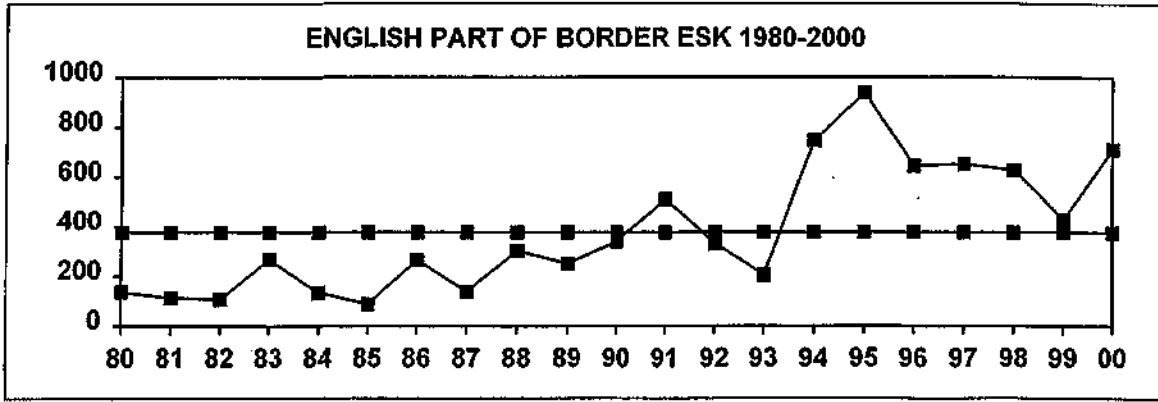


# DECLARED ROD AND LINE CATCHES (FROM LICENCE RETURNS) 1980-2000

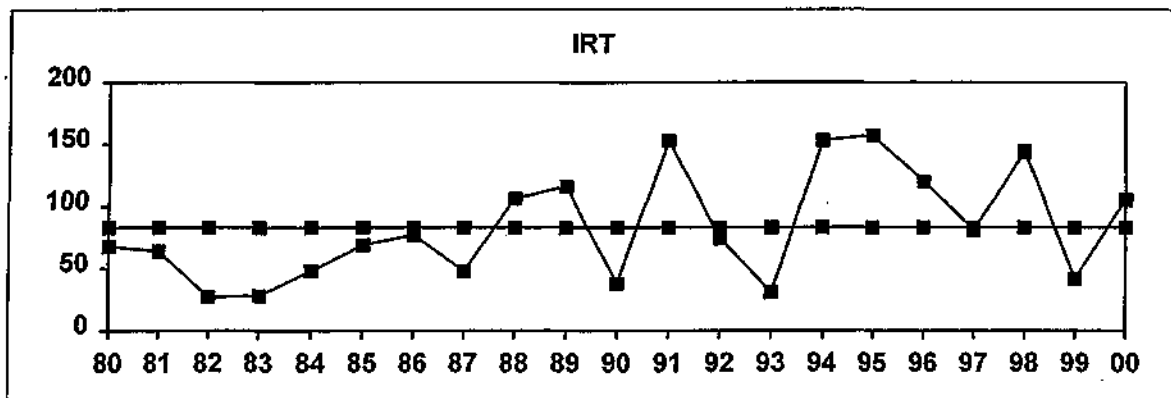
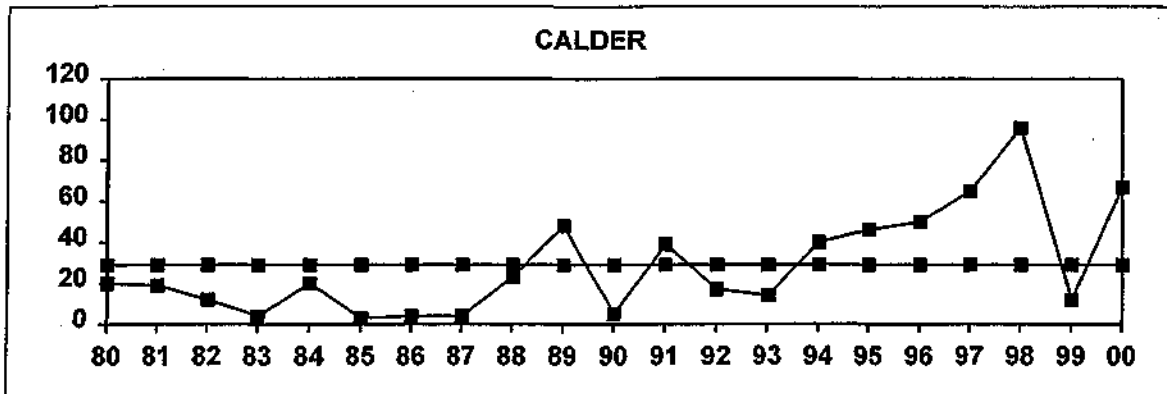
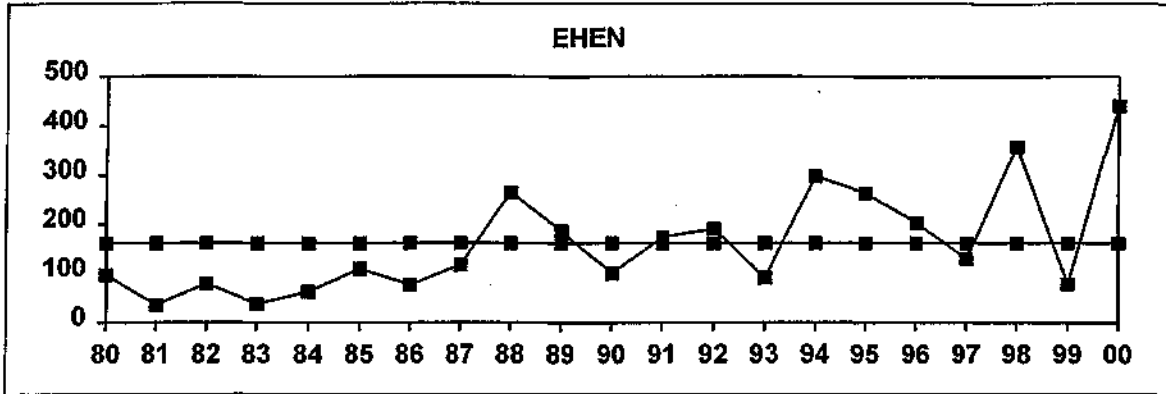
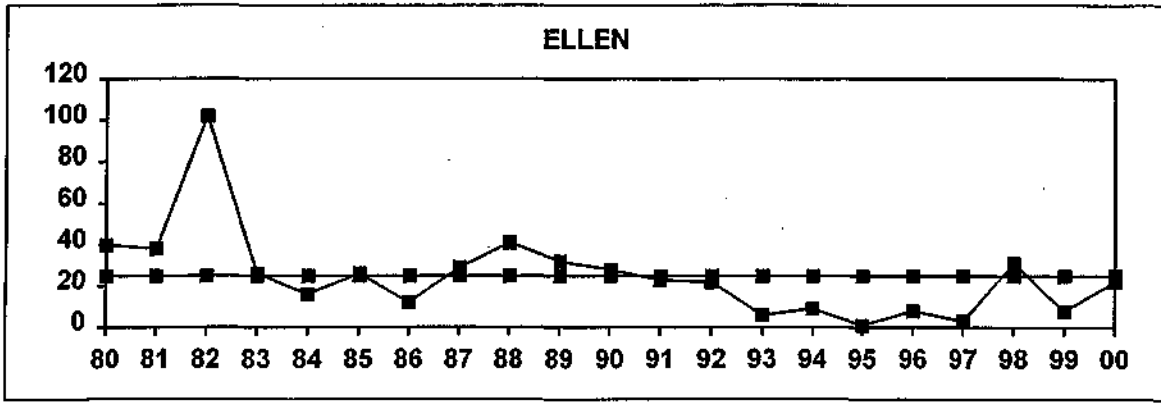
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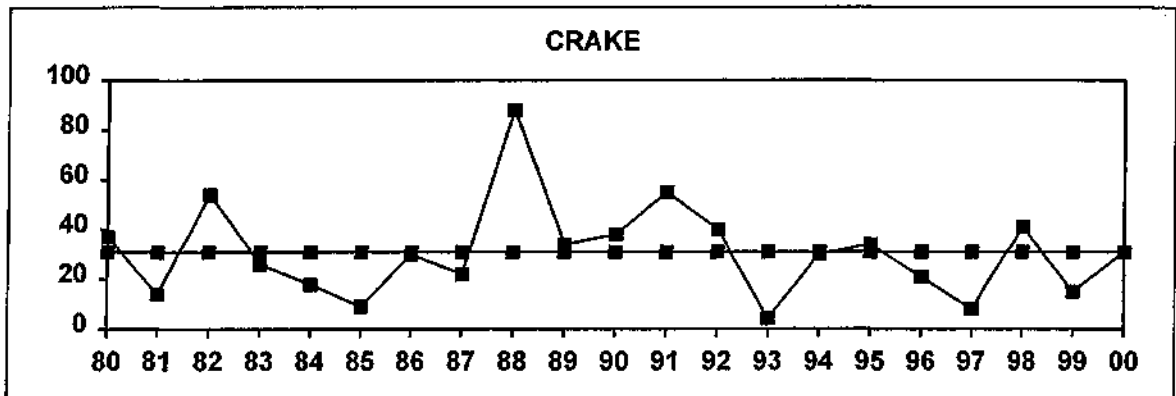
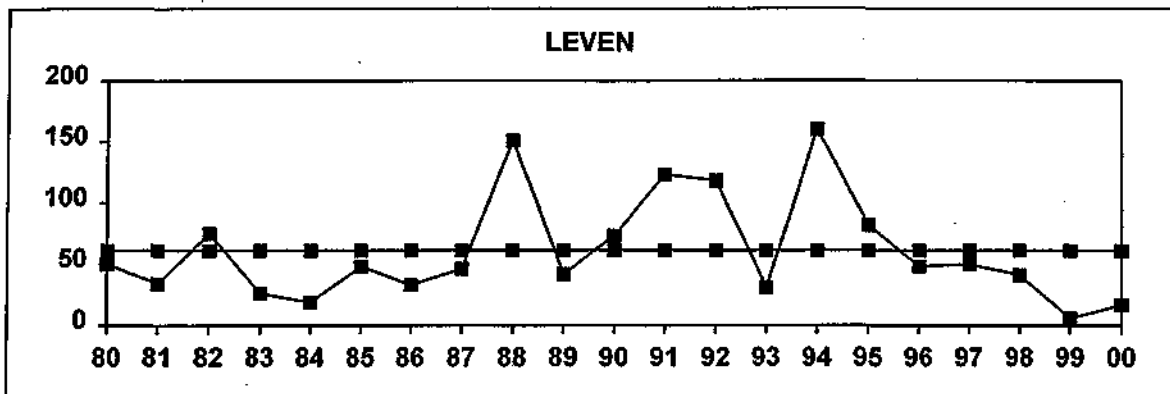
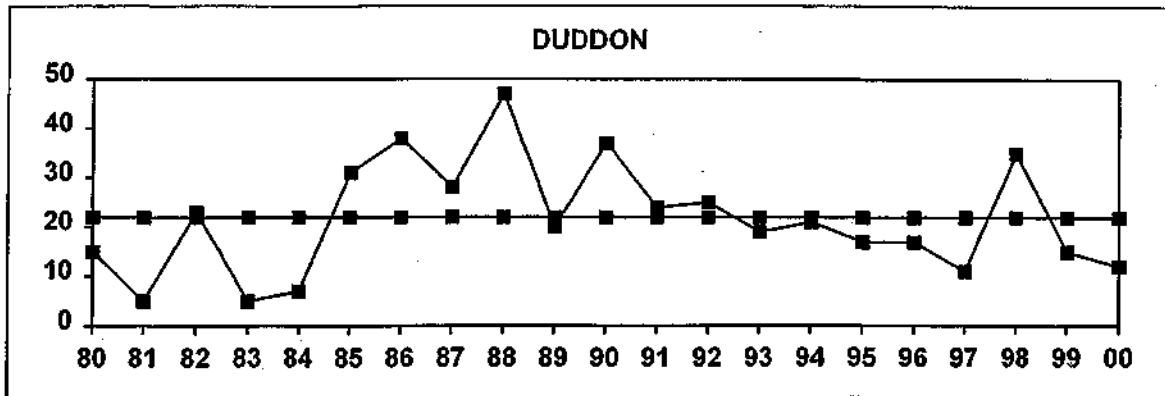
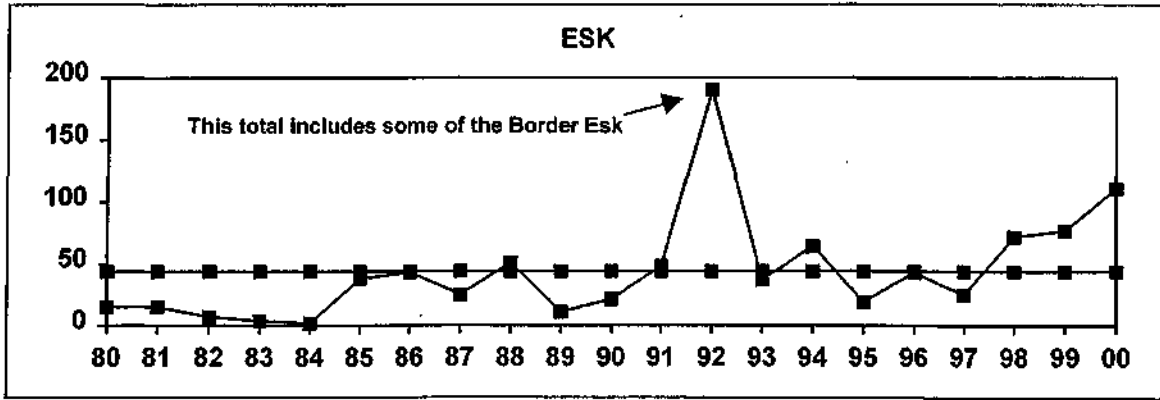
**DECLARED SALMON ROD CATCHES 1980-2000 AND LONG TERM AVERAGE**



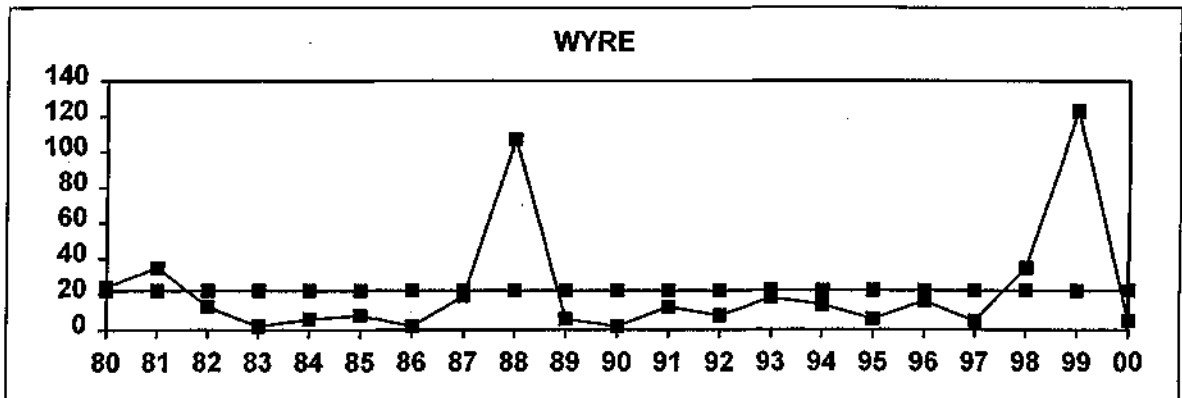
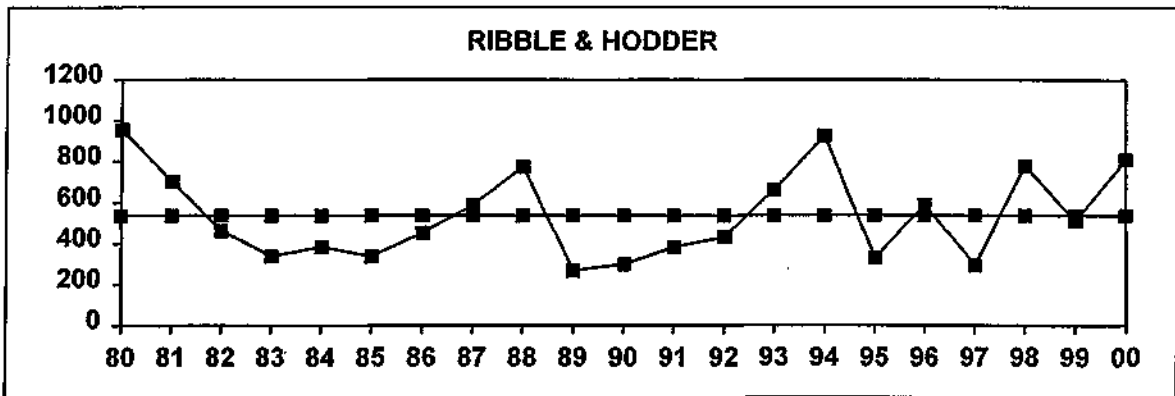
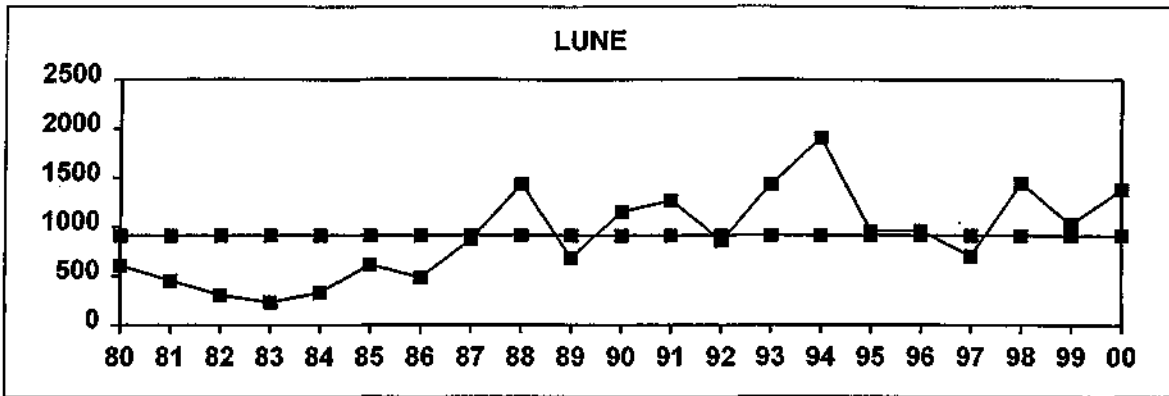
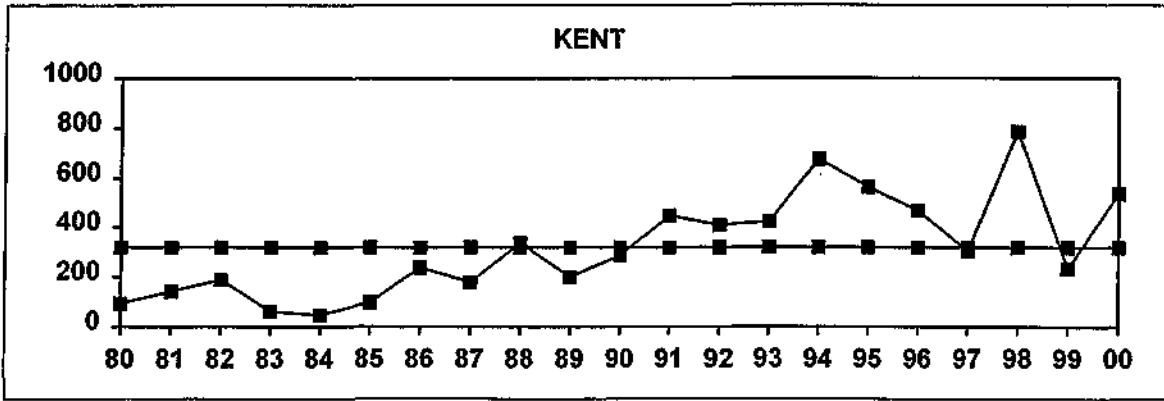
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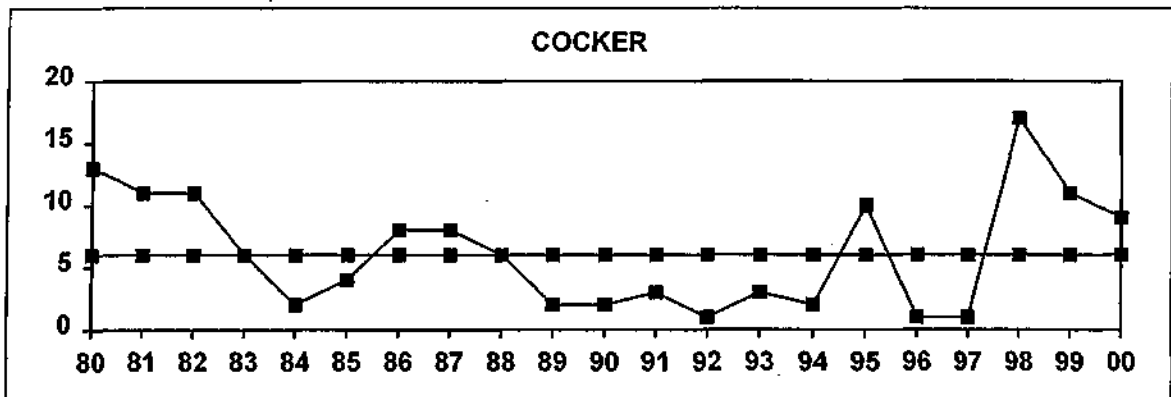
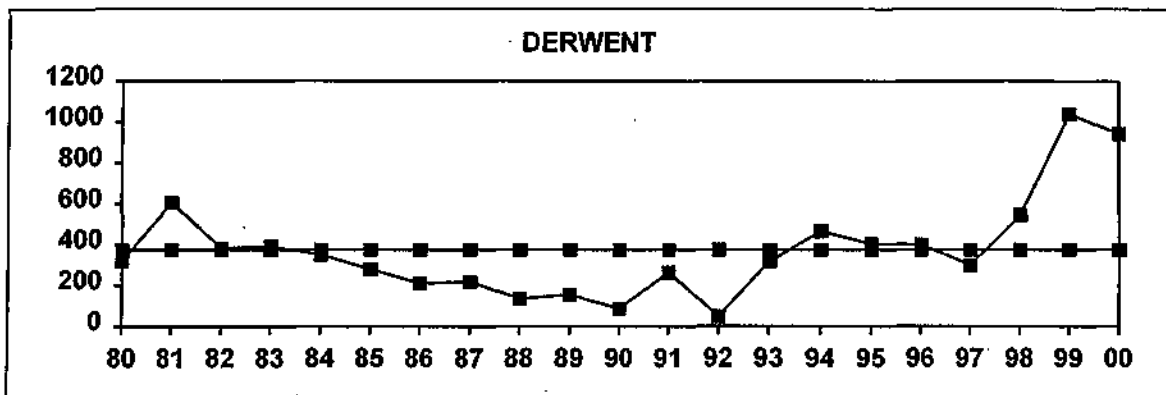
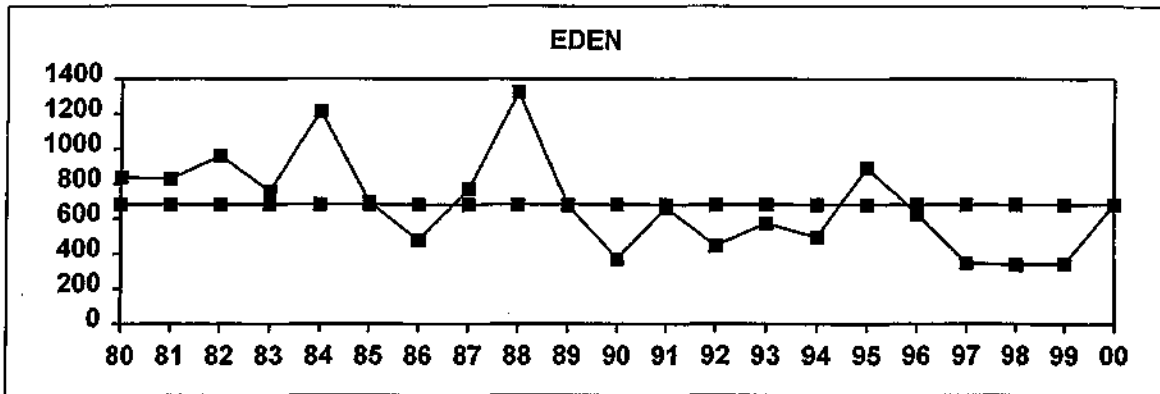
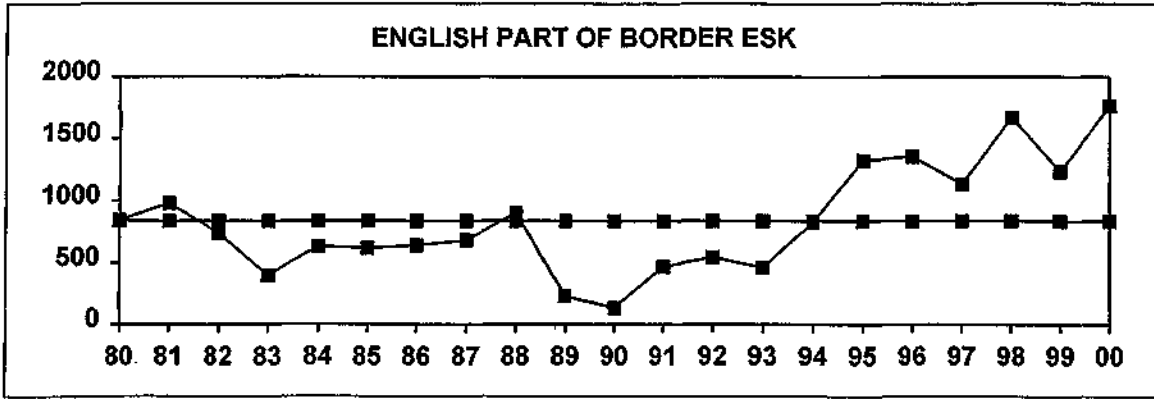
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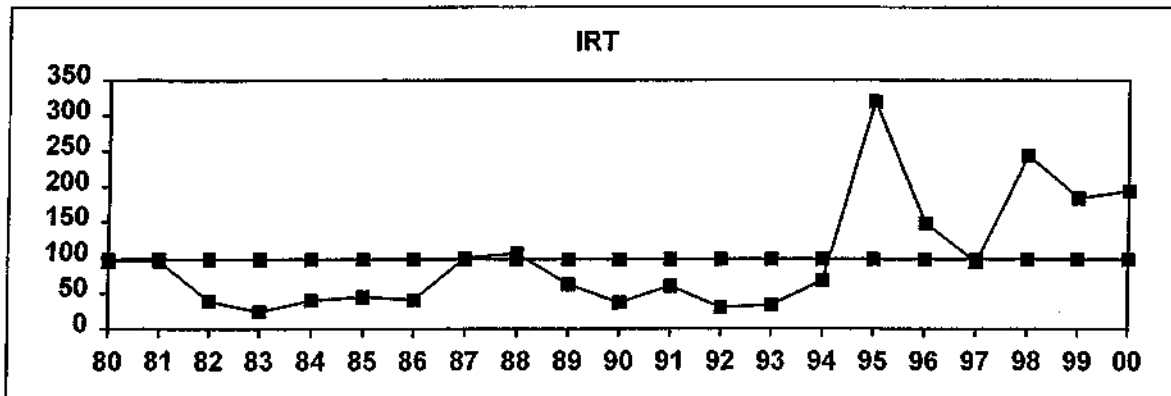
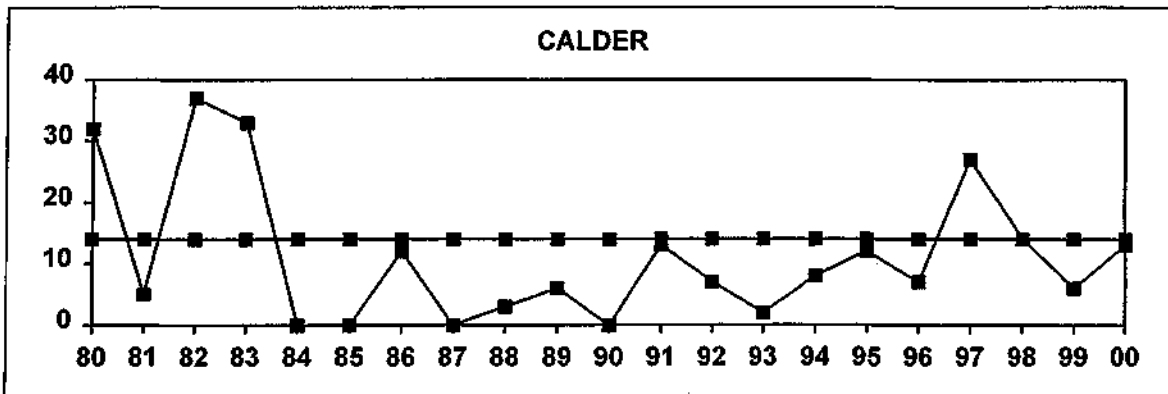
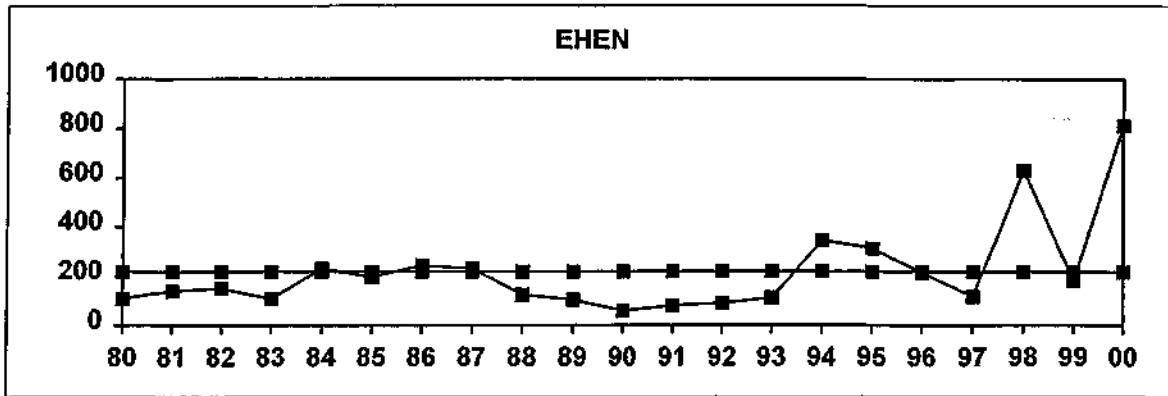
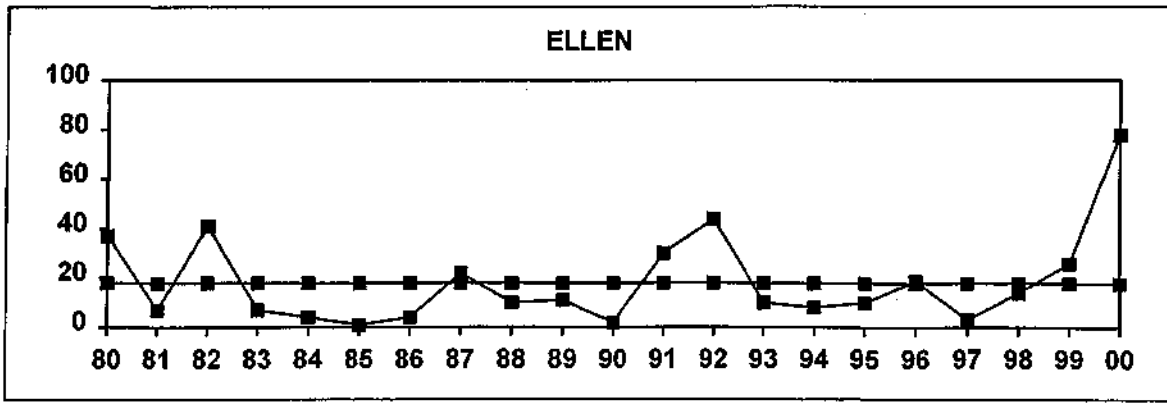
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**DECLARED SEA TROUT ROD CATCHES 1980-2000 AND LONG TERM AVERAGE**

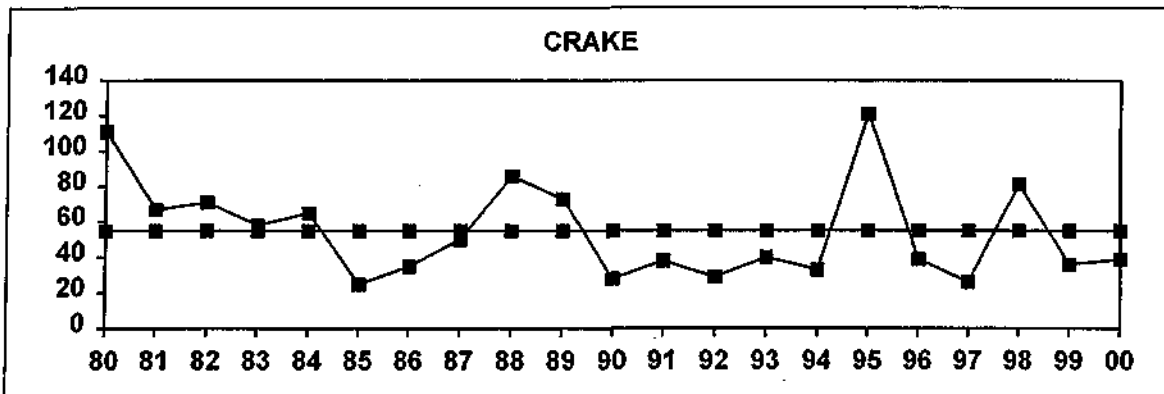
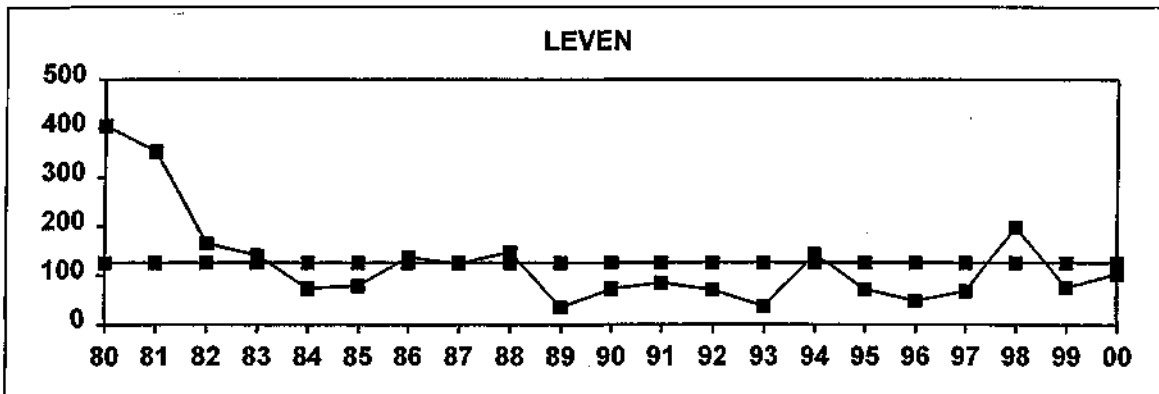
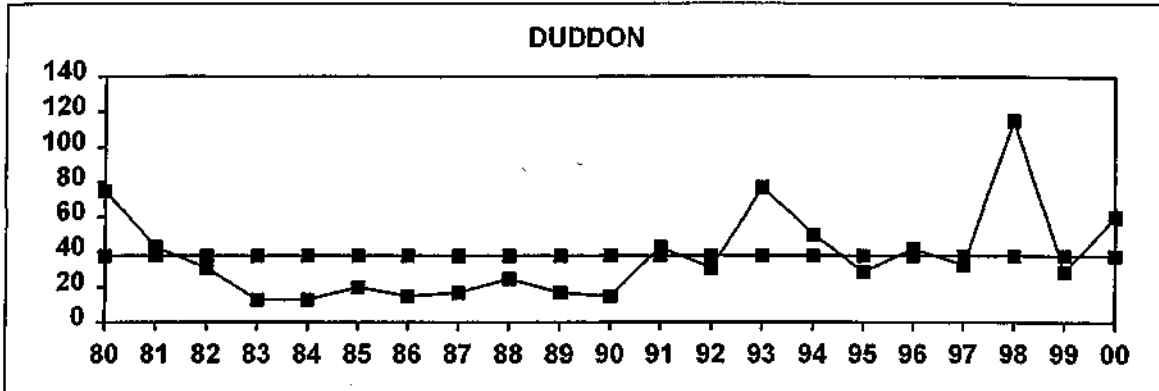
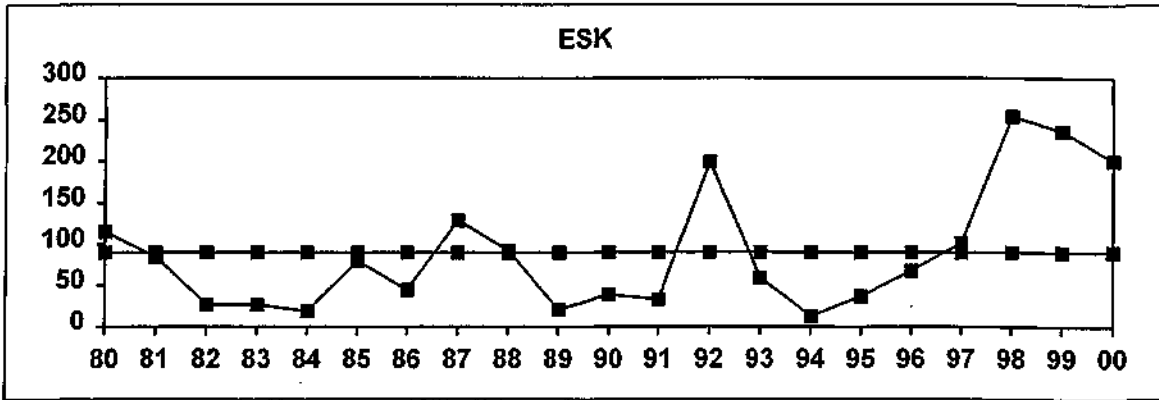


DECLARED SEA TROUT ROD CATCHES 1980-2000 AND LONG TERM AVERAGE

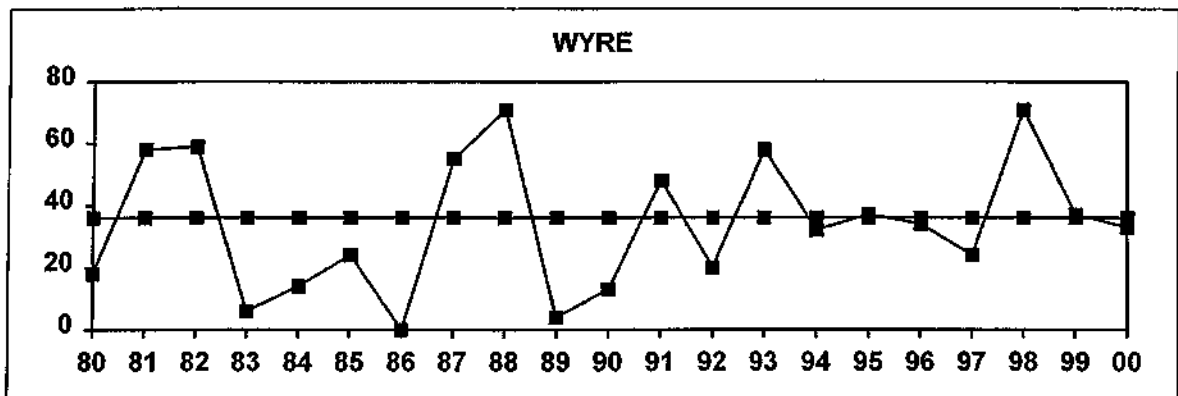
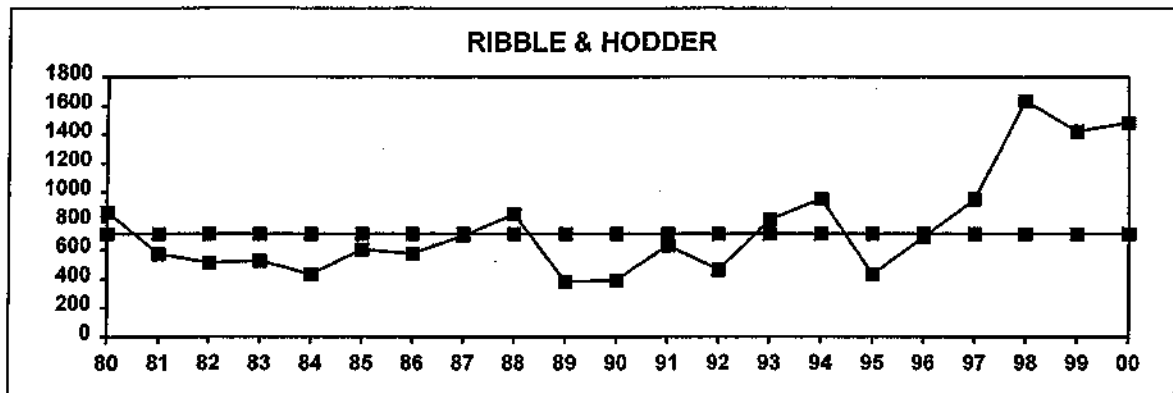
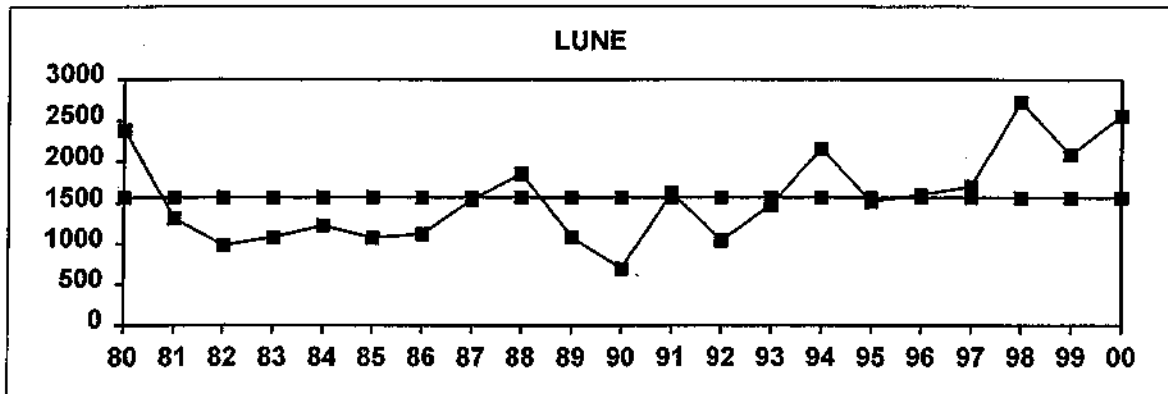
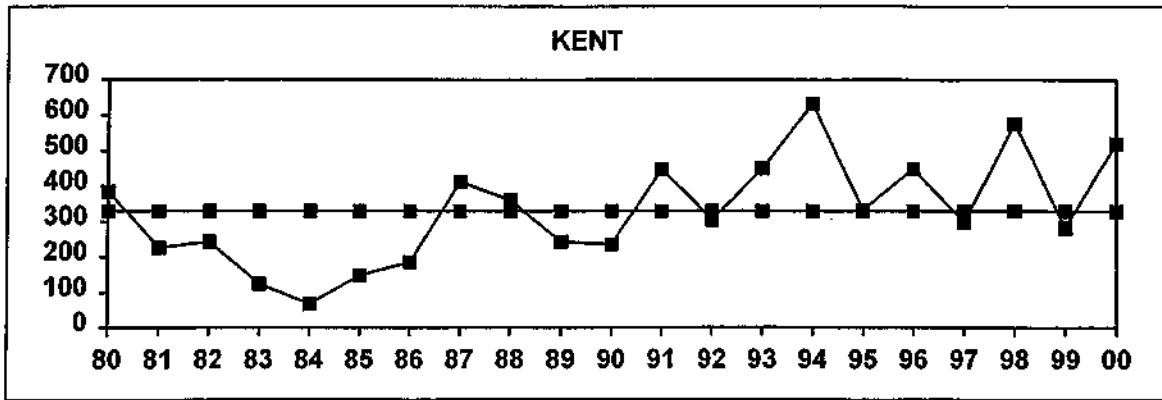




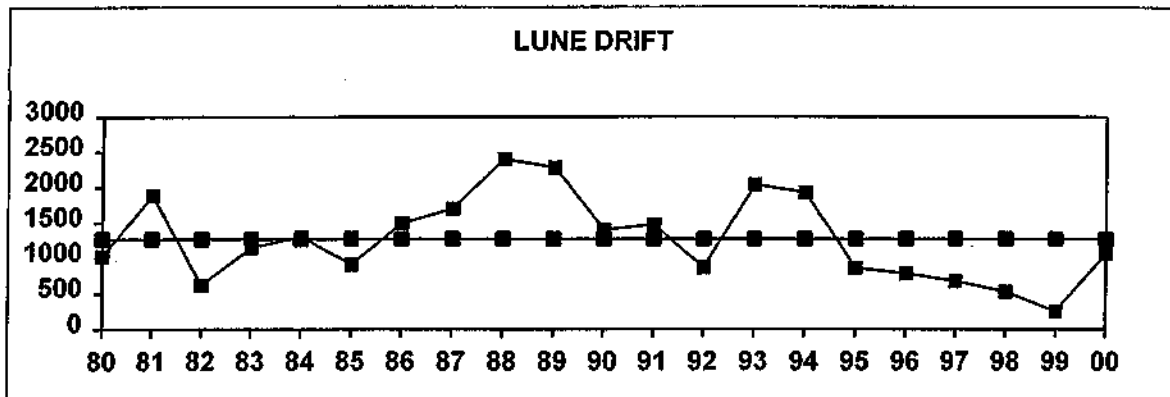
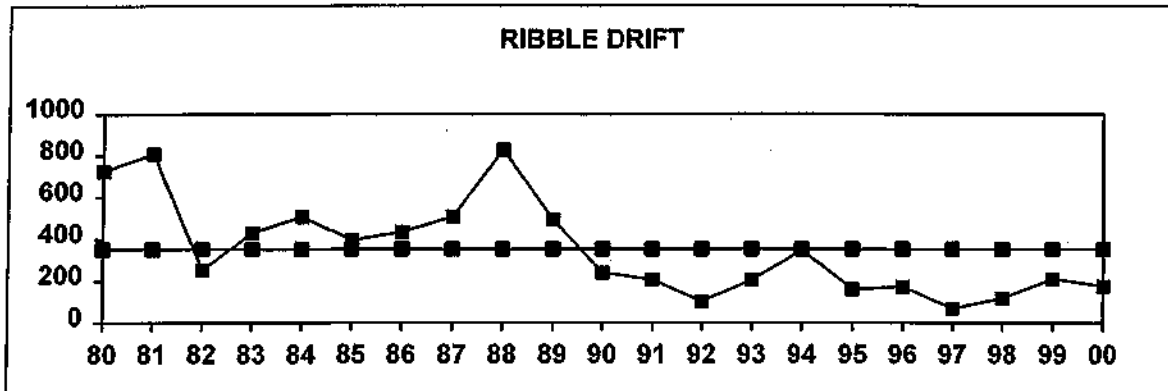
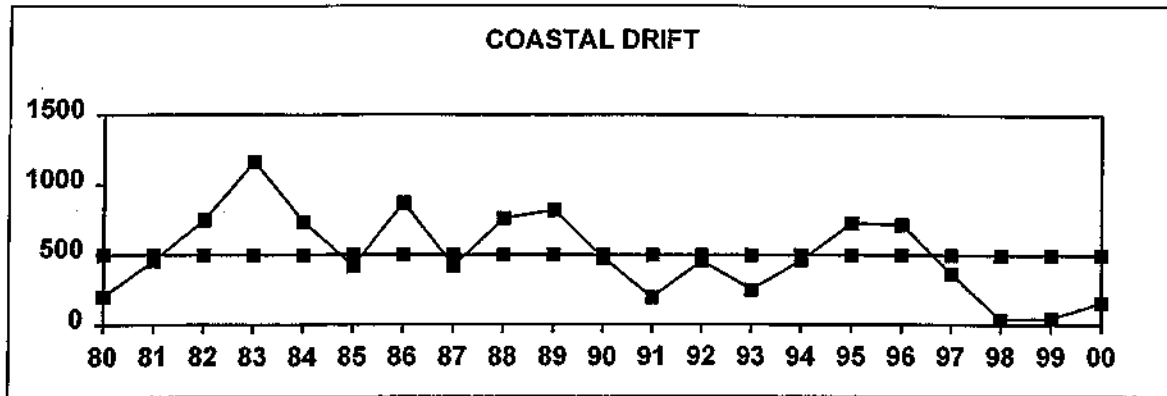
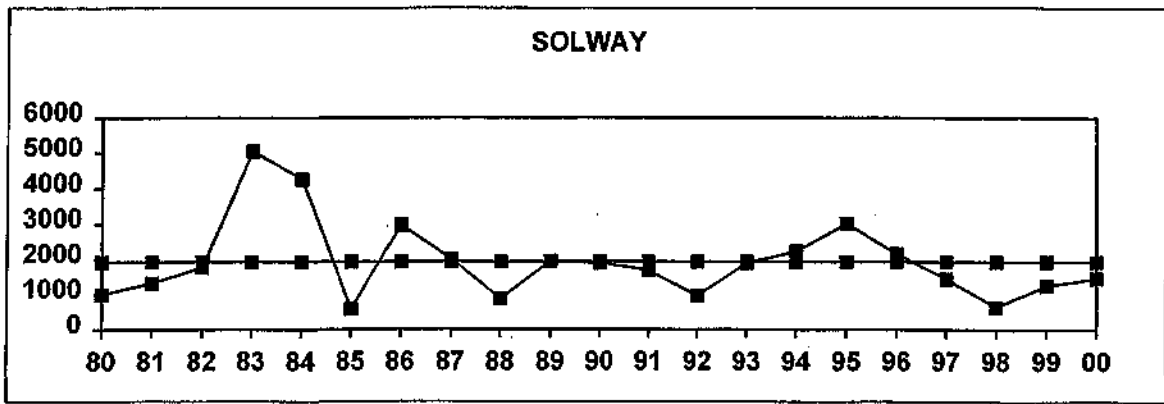
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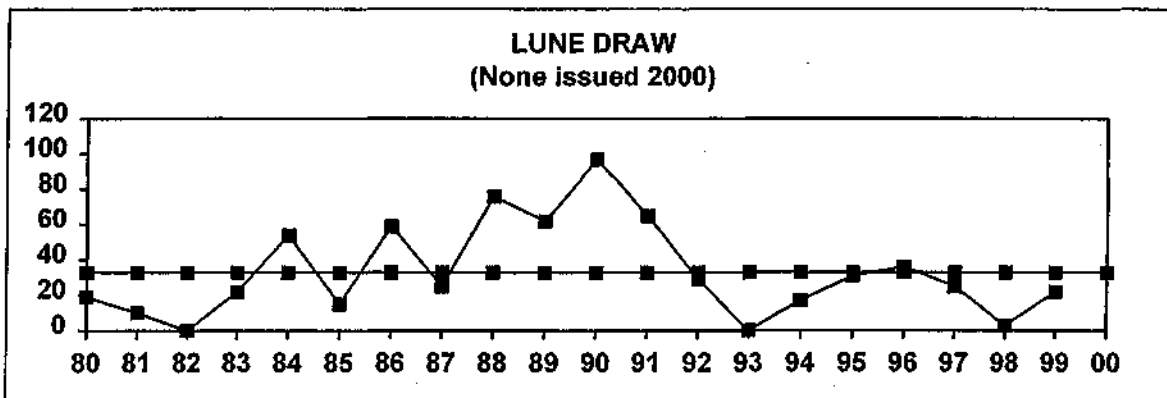
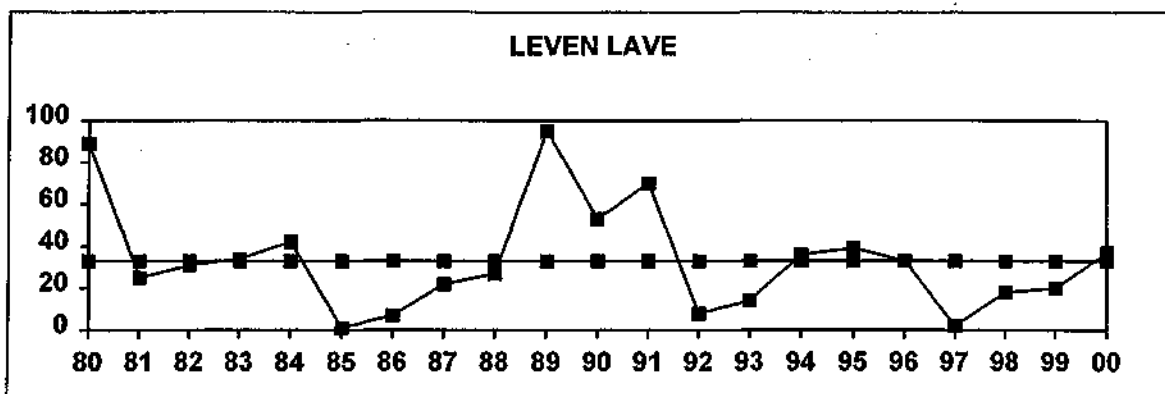
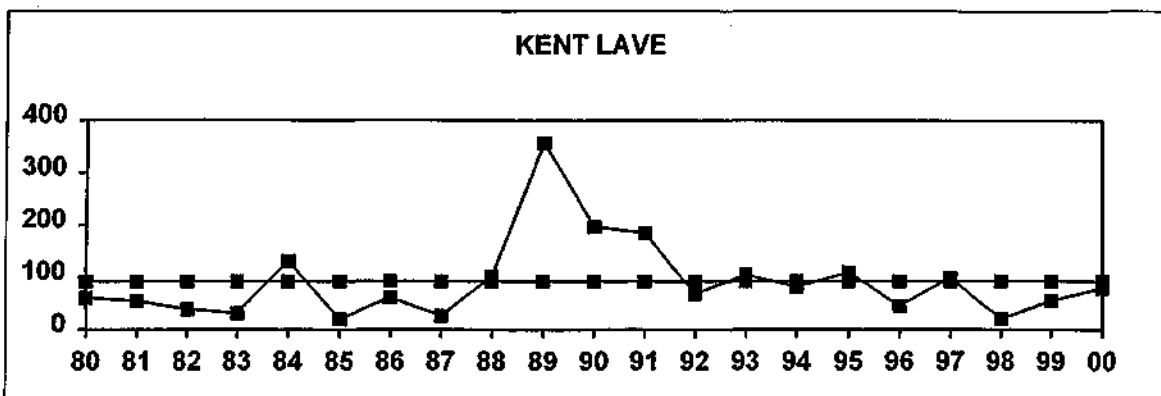
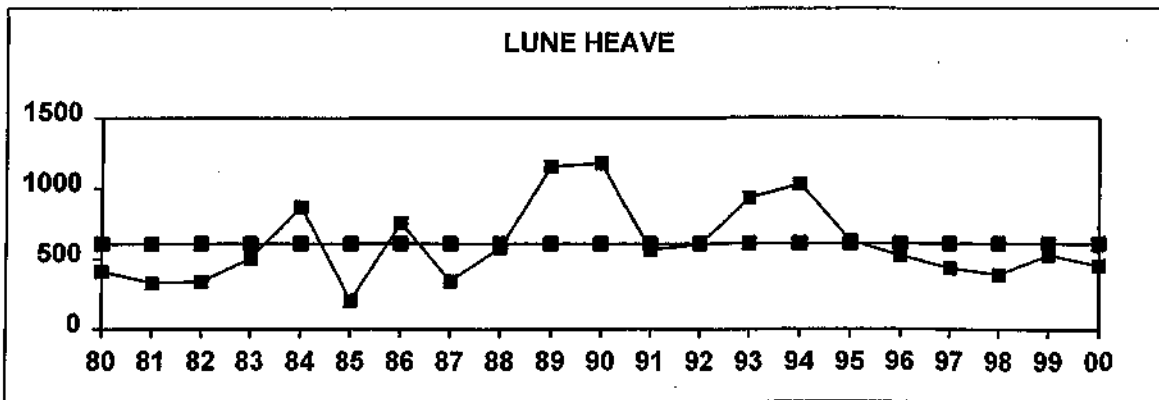
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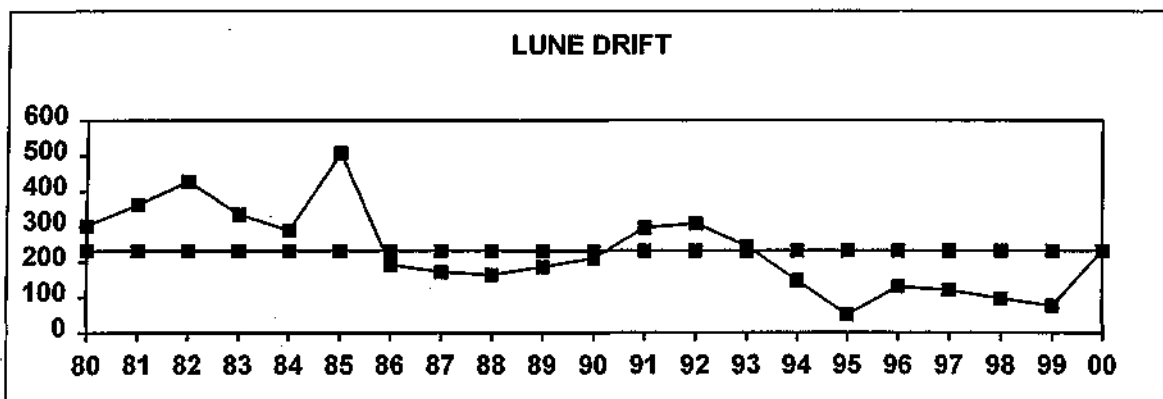
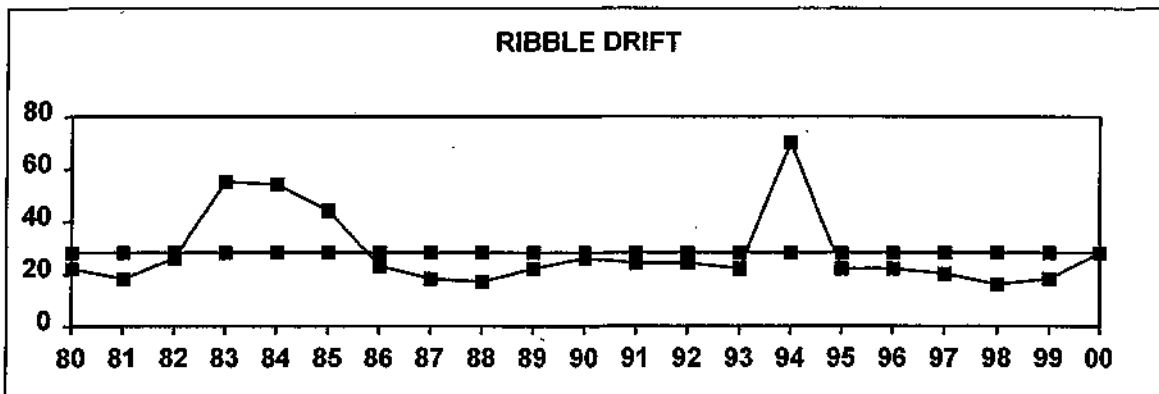
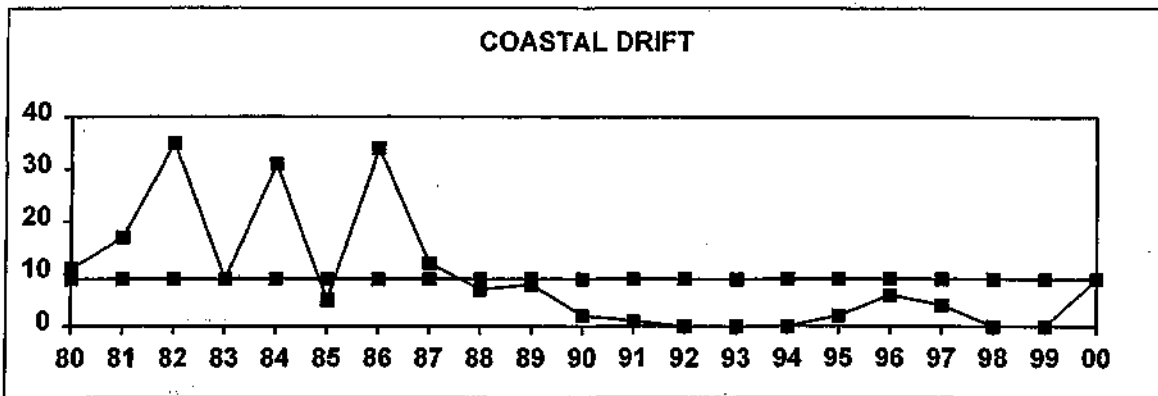
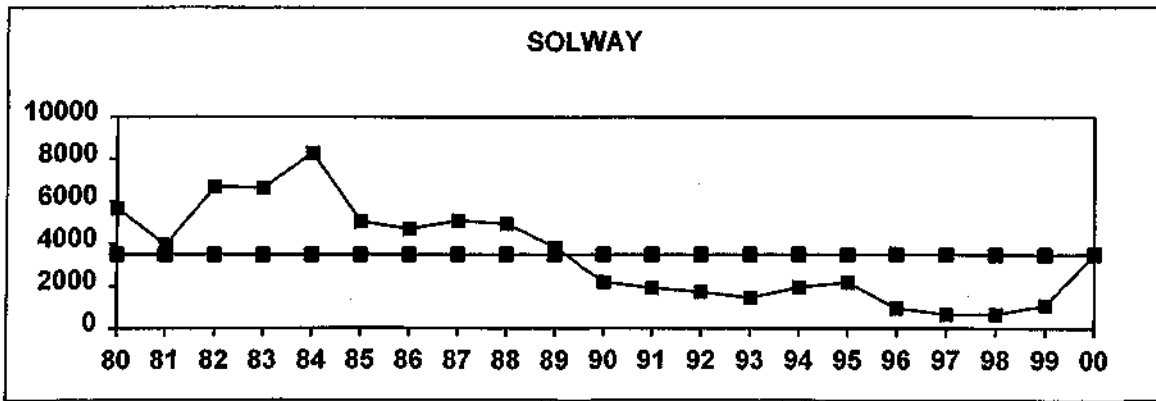
SALMON NET CATCHES 1980-2000 INCLUDING LONG TERM AVERAGE



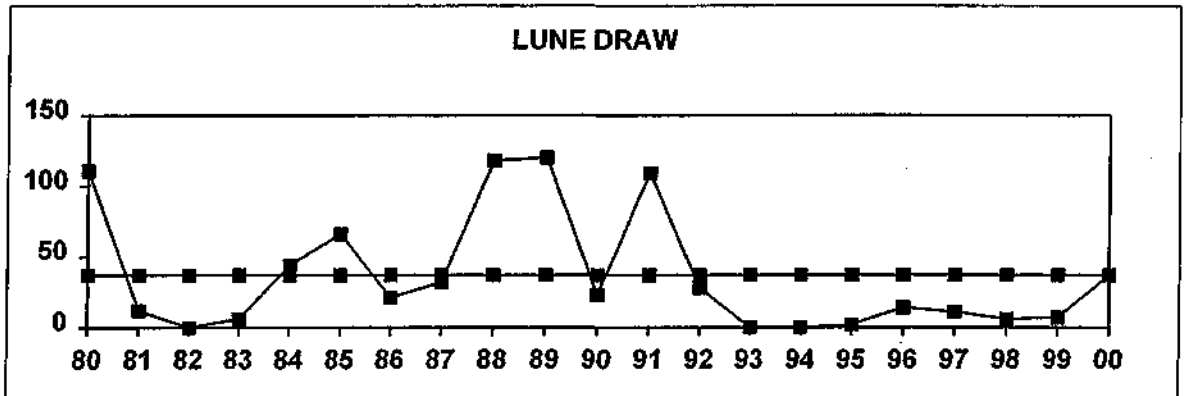
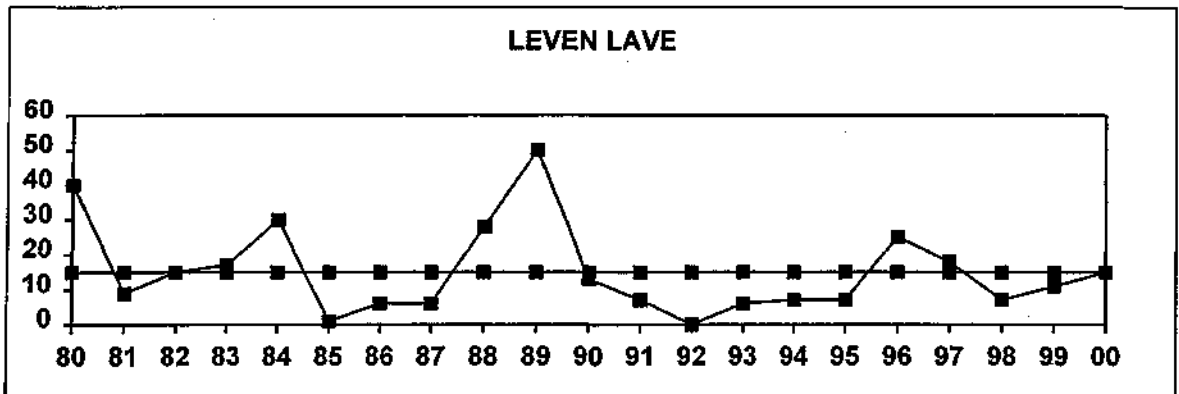
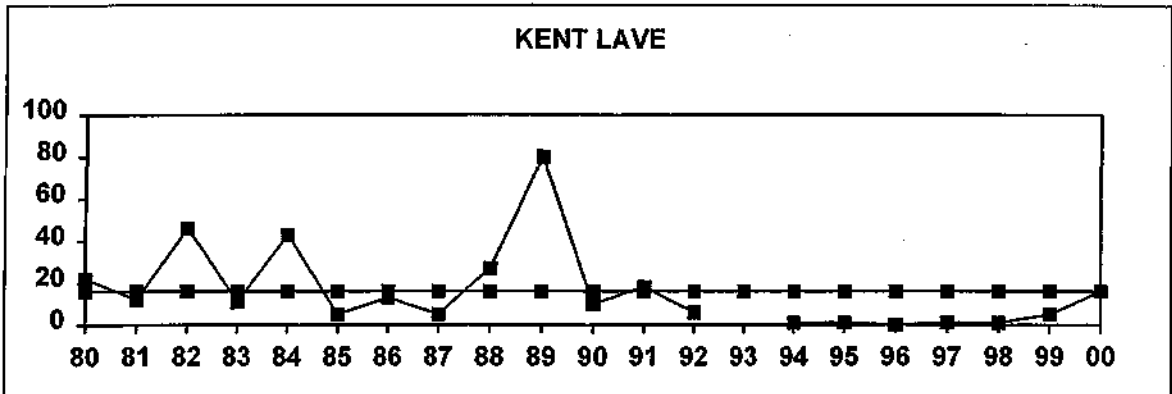
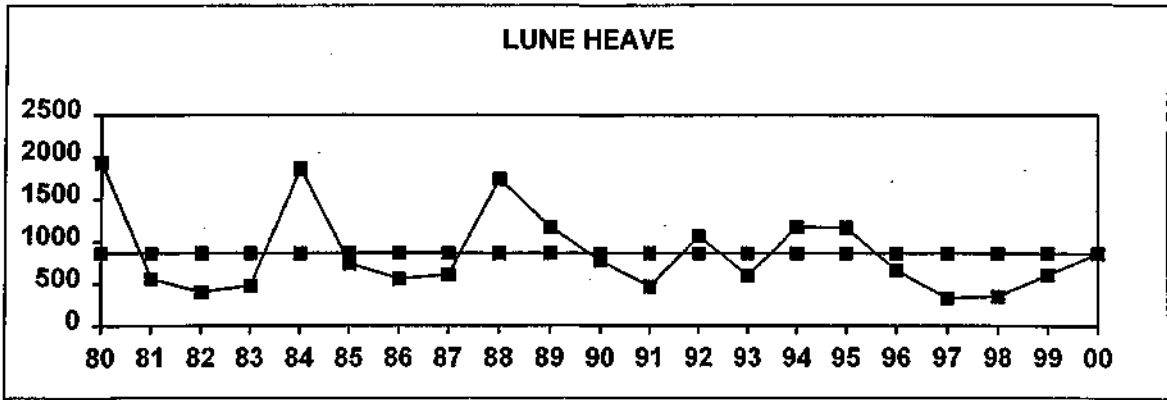
SALMON NET CATCHES 1980-2000 INCLUDING LONG TERM AVERAGE



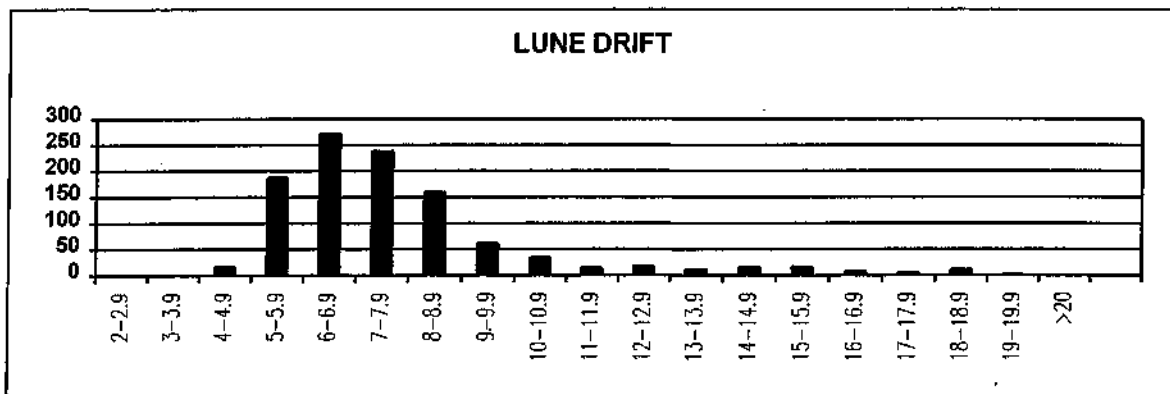
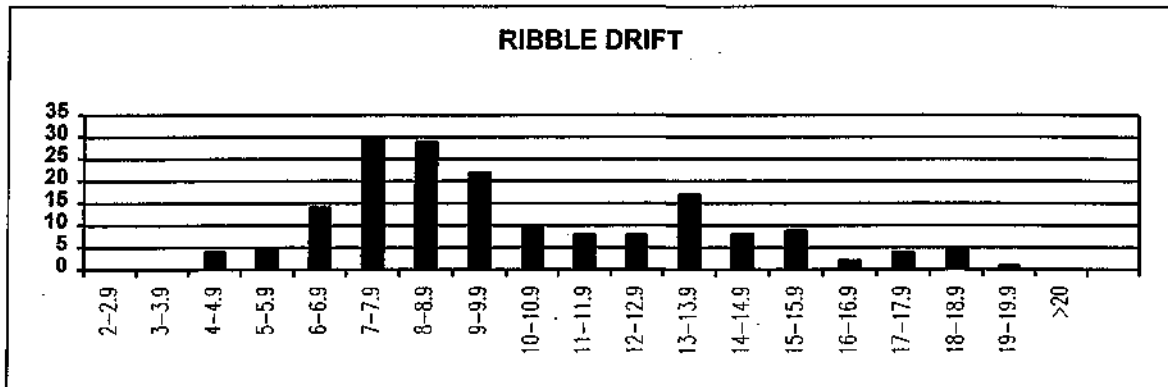
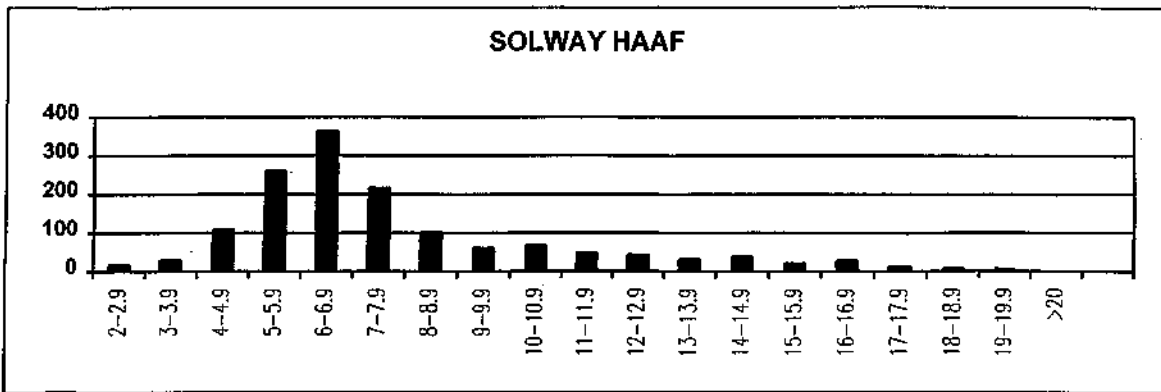
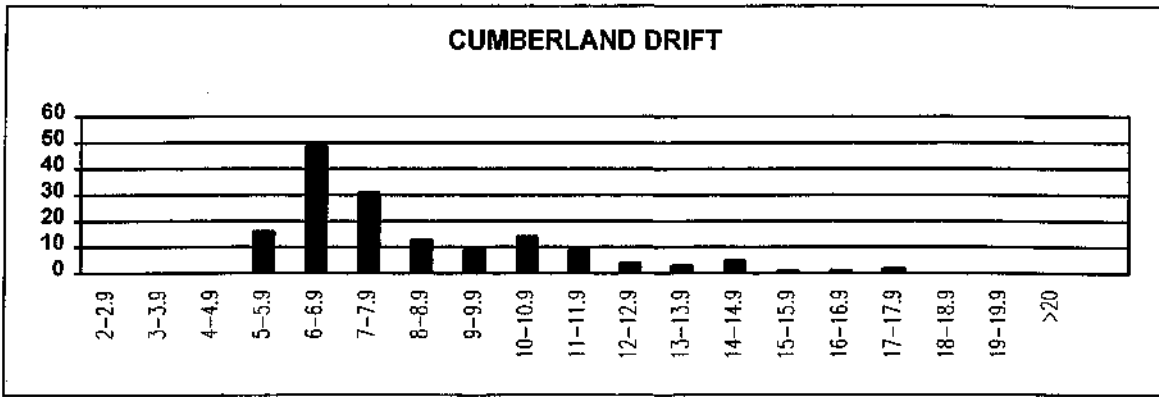
SEA TROUT NET CATCHES 1980-2000 INCLUDING LONG TERM AVERAGE



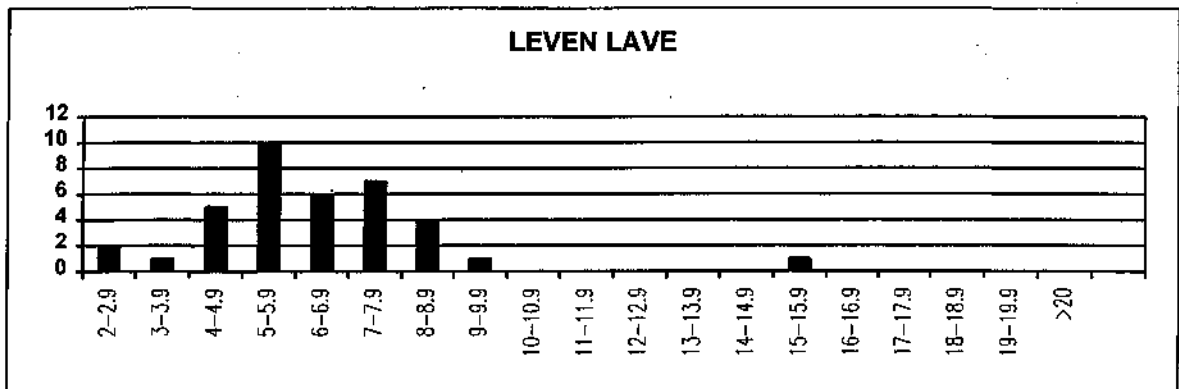
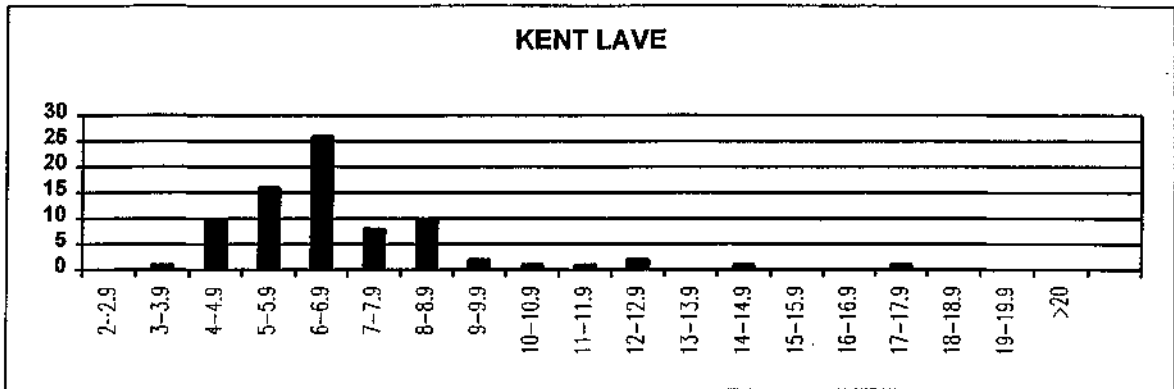
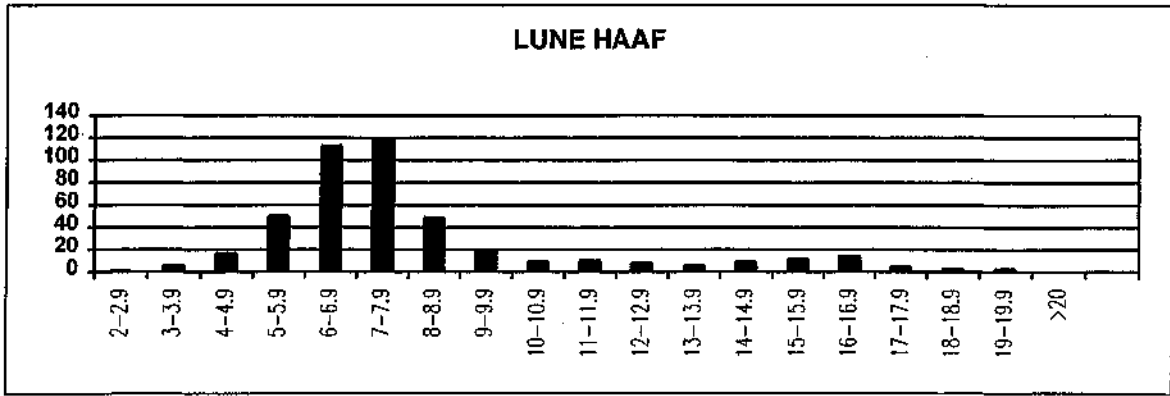
SEA TROUT NET CATCHES 1980-2000 INCLUDING LONG TERM AVERAGE



**SALMON WEIGHT DISTRIBUTION 2000**



SALMON WEIGHT DISTRIBUTION 2000





# SUMMARY OF FISHERIES STATISTICS 2000

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# 1 CATCH STATISTICS

## Rod and Line - Information from Anglers' returns

### Salmon Rod Catches by River and Month 2000

River	Undated	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Total	Av.Weight (lb)
Border Esk (England)	14						8	21	176	226	268	713	7.5
Eden	10			5	13	9	20	104	200	408	309	1078	8.5
Derwent	5						15	38	149	572	456	1235	8.5
Cocker										14	12	26	8.5
Ellen								1		3	18	22	5.1
Ehen	7						4	32	56	173	169	441	7.2
Calder								3	8	14	42	67	6.8
Irt								7	10	38	50	105	6.1
Esk	1							5	22	47	36	111	7.3
Duddon									1	2	9	12	10.1
Leven & Brathay									1	5	11	17	7.7
Crake										4	27	31	6.1
Kent	2				1	2	4	27	58	229	213	536	6.0
Lune	27		1	2		3	6	11	99	562	675	1386	8.3
Ribble	17		1	3	3	5	5	49	104	228	260	675	8.1
Hodder							1	1	6	38	87	133	8.0
Wyre									1		4	5	5.7
Others*	2				1		1		3	28	54	89	6.0
<b>TOTALS</b>	<b>85</b>		<b>2</b>	<b>10</b>	<b>18</b>	<b>19</b>	<b>64</b>	<b>299</b>	<b>894</b>	<b>2591</b>	<b>2700</b>	<b>6682</b>	<b>7.3</b>

\*Includes : Annas, Bela

**Salmon Rod Catches, Historical Data**

River	1995		1996		1997		1998		1999	
	No.	Av. Wt (lb)	No.	Av. Wt (lb)	No.	Av. Wt (lb)	No.	Av. Wt (lb)	No.	Av. Wt (lb)
Border Esk (England)	938	8.8	645	9.34	651	8.15	628	8.13	431	8.47
Eden	2082	8.2	1864	8.77	1229	8.45	1110	7.89	885	9.04
Derwent	792	8	611	8.37	563	7.99	723	7.73	649	8.82
Cocker	52	7.8	18	7.33	9	6.36	14	6.2	7	6.2
Ellen	1	6	8	5.78	3	5.13	31	5.72	8	5.64
Ehen	264	6.7	203	6.45	130	7.01	358	6.47	78	6.22
Calder	46	6.2	50	6.47	65	5.96	96	6.12	12	7.61
Irt	157	6.4	120	6.64	81	6.30	144	6.28	42	6.97
Esk	19	6.1	43	6.96	25	6.25	72	7.21	77	8.42
Duddon	17	6.1	17	6.47	11	6.80	35	6.65	15	5.89
Leven and Brathay	82	7.6	48	7.65	50	6.34	41	6.06	6	5.38
Crake	34	5.3	21	6.39	8	5.23	41	5.63	15	5.05
Kent	562	6.2	469	6.66	306	6.33	786	6.2	234	7.39
Lune	958	8	963	8.85	702	7.63	1448	7.5	1032	8.71
Ribble	319	8.4	517	9.75	232	8.53	594	7.12	510	8.8
Hodder	10	7.5	71	9.14	61	7.83	184	7.32	123	3.93
Wyre	6	4.6	16	5.5	5	6.60	35	5.94	5	7.25
Others*	9	5.5	36	6	13	5.58	19	5.78	4	2.71
<b>TOTALS &amp; AV.WTS</b>	<b>6348</b>	<b>7.9</b>	<b>5720</b>	<b>8.5</b>	<b>4144</b>	<b>7.84</b>	<b>6359</b>	<b>7.3</b>	<b>4133</b>	<b>6.8</b>

\* Includes : Annas, Bela, Keer

**Salmon Rod Catches 1980-00 Numbers**

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Ave
BORDER ESK	138	114	108	269	135	88	267	139	304	252	342	511	332	207	747	938	645	651	628	431	713	379
EDEN	578	453	512	653	697	691	756	839	1237	1046	1522	1766	1378	1425	2636	2082	1864	1229	1110	885	1078	1164
DERWENT	831	608	623	315	569	1062	532	803	1449	941	871	1028	559	664	1094	792	611	563	723	649	1235	787
COCKER	93	53	97	30	35	21	25	21	12	27	8	37	11	3	23	52	18	9	14	7	26	30
ELLEN	40	38	102	26	16	26	12	29	41	32	28	23	22	6	9	1	8	3	31	8	22	25
EHEN	97	36	79	38	63	110	77	117	265	187	100	174	191	92	298	264	203	130	358	78	441	162
CALDER	20	19	12	4	20	3	4	4	23	48	5	39	17	14	40	46	50	65	96	12	67	29
IRT	68	64	27	28	48	69	77	48	106	116	38	153	74	31	153	157	120	81	144	42	105	83
ESK	15	15	7	4	2	38	43	25	51	11	21	48	190	37	64	19	43	25	72	77	111	44
DUDDON	15	5	23	5	7	31	38	28	47	20	37	24	25	19	21	17	17	11	35	15	12	22
LEVEN	50	34	75	26	19	48	33	46	151	42	73	123	118	31	160	82	48	50	41	6	17	61
CRAKE	37	14	54	26	18	9	30	22	88	34	38	55	40	4	30	34	21	8	41	15	31	31
KENT	93	143	189	63	47	97	239	179	338	200	289	448	408	422	673	562	469	306	786	234	536	320
LUNE	607	456	310	235	330	617	485	874	1434	683	1154	1274	860	1434	1909	958	963	702	1448	1032	1386	912
RIBBLE*	956	704	462	338	384	339	452	586	774	268	298	383	433	660	925	329	588	293	778	633	808	542
WYRE	24	35	13	2	6	8	2	19	107	6	2	13	8	18	14	6	16	5	35	5	5	17
OTHERS **	22	5	2		4	3	8	3	1	14	11	7	3	47	16	9	36	13	19	4	89	16
<b>TOTAL REGION</b>	<b>3684</b>	<b>2796</b>	<b>2695</b>	<b>2062</b>	<b>2400</b>	<b>3260</b>	<b>3080</b>	<b>3782</b>	<b>6428</b>	<b>3927</b>	<b>4837</b>	<b>6106</b>	<b>4669</b>	<b>5114</b>	<b>8812</b>	<b>6348</b>	<b>5720</b>	<b>4144</b>	<b>6359</b>	<b>4133</b>	<b>6682</b>	<b>4621</b>

\* Includes Hodder

\*\* Includes : Annas, Bela, Keer

Salmon Rod Catches 1980-00 Average weights in lb

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Ave
BORDER ESK	9.01	11.1	8.65	9.21	9.18	9.32	9.42	8.21	8.32	8.33	9.54	8.3	9.5	8	8.8	8.8	9.34	8.15	8.13	8.47	7.5	8.8
EDEN	10.4	11.3	8.96	8.61	9.14	9.97	10.1	9.49	9.16	8.49	9.41	8.92	8.75	8.9	9.4	8.2	8.77	8.45	7.89	9.04	8.5	9.1
DERWENT	8.38	9.33	7.93	8.12	7.75	8.42	8.89	8.88	8.33	8.41	8.37	8.35	8.5	8.5	8.4	8	8.37	7.99	7.73	8.82	8.5	8.4
COCKER	7.6	8.13	7.03	7.99	6.71	7.38	7.88	7.67	8.2	6.94	9.59	7.01	8.2	8.3	7.1	7.8	7.33	6.36	6.2	6.2	8.5	7.5
ELLEN	7.44	6.67	5.95	5.78	5.14	6.8	6.17	5.83	7.03	6.92	6.16	6.83	6	7	5.1	6	5.78	5.13	5.72	5.64	5.1	6.1
EHEN	6.34	7.5	5.98	5.95	6.37	7.36	7.41	6.95	7.22	6.41	6.9	6.52	6.9	6.9	6.9	6.7	6.45	7.01	6.47	6.22	7.2	6.7
CALDER	6.66	6.67	5.02	7.13	5.86	7.66	9.38	5.12	6.64	6.78	7.55	6.49	6.3	7.7	6.2	6.2	6.47	5.96	6.12	7.61	6.8	6.7
IRT	6.45	7.02	6.23	7.67	6.37	6.4	7.47	7.38	7.32	6.94	6.66	6.83	6.3	6.4	6.4	6.4	6.64	6.30	6.28	6.97	6.1	6.7
ESK	7.37	9.3	5.57	6.25	8	7.66	10.7	11.7	7.64	4.91	5.93	9.7	8.1	8.7	9.1	6.1	6.96	6.25	7.21	8.42	7.3	7.8
DUDDON	8.3	8.25	7.96	6.4	6.96	7.17	6.73	7.34	7.44	7.22	6.64	6.95	6.8	5.3	6.3	6.1	6.47	6.80	6.65	5.89	10.1	7.0
LEVEN	6.12	8.1	5.17	6.38	6.68	6.63	6.83	6.67	6.66	6.54	7.66	7.21	6.7	6.3	7.2	7.6	7.65	6.34	6.06	5.38	7.7	6.7
CRAKE	6.11	6.1	5.29	4.48	6.25	7.36	5.93	5.99	6.26	6.28	6.58	6.51	6.6	6.75	6.7	5.3	6.39	5.23	5.63	5.05	6.1	6.0
KENT	6.21	7.44	5.85	7.12	5.4	6.75	6.31	7.98	6.79	5.59	6.97	6.62	6.5	6.5	6.6	6.2	6.66	6.33	6.2	7.39	6.0	6.5
LUNE	8.48	10.9	7.52	8.13	7.49	9.33	8.77	8.11	8.26	8.15	8.95	8.5	8.7	7.8	8.8	8	8.85	7.63	7.5	8.71	8.3	8.4
RIBBLE*	9	10.8	8.24	8.69	7.68	10.2	9.82	9.14	8.99	8.67	8.52	8.77	9.2	8.22	8.6	8.4	9.68	8.39	8.8	7.85	8.1	8.8
WYRE	4.96	6.42	6.38	5.13	5.13	5	12	6.55	7.74	5.33	4.75	5.63	5.2	6.35	5.5	4.6	5.5	6.6	5.94	7.25	5.7	6.1
OTHERS **	4.52	2.5	1	6.5	6.9	6.92	5.44	6.38	5.25	5.36	5.69	6.39	4	8.3	7	5.5	6	5.58	5.78	2.71	6.0	5.4

\* Includes Hodder

\*\* Includes : Annas, Bela, Keer

**Migratory Trout Rod Catches by River and Month - 2000**

River	Undated	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Total	Av.Weight (lb)
Border Esk (England)	33					53	478	593	476	107	28	1768	1.7
Eden	6				8	55	168	223	119	75	30	684	2.0
Derwent	3				3	19	158	421	211	95	32	942	1.6
Cocker							5	2	1	1		9	1.3
Ellen								11	12	26	29	78	1.0
Ehen							59	243	190	258	64	814	1.4
Calder							1	5		3	4	13	2.6
Irt						3	16	46	43	55	31	194	1.4
Esk						14	50	70	40	12	14	200	1.7
Duddon							1	11	14	23	11	60	1.0
Leven & Brathay						2	5	12	36	36	13	104	1.8
Crake							2	3	4	8	22	39	1.1
Kent	51				1	21	64	90	153	108	33	521	1.8
Lune	41				5	108	373	971	577	364	120	2559	2.1
Ribble	15				3	27	296	368	226	140	54	1129	1.9
Hodder						6	49	128	96	52	21	352	2.0
Wyre						2	3	2	5	13	8	33	1.6
Others*	35		1	2	3	19	98	204	177	111	20	670	1.5
<b>TOTALS</b>	<b>184</b>		<b>1</b>	<b>2</b>	<b>23</b>	<b>329</b>	<b>1826</b>	<b>3403</b>	<b>2380</b>	<b>1487</b>	<b>534</b>	<b>10169</b>	<b>1.6</b>

### Migratory Trout Rod Catches - Historical Data

River	1995		1996		1997		1998		1999	
	No.	Av.Wt(lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)
Border Esk (England)	1327	1.4	1357	1.3	1135	1.50	1671	1.54	1239	1.81
Eden	894	1.6	629	1.71	348	1.89	338	1.83	345	2.05
Derwent	403	1.5	399	1.55	299	1.67	544	1.35	1038	1.48
Cocker	10	2.4	1	0.81	1	4.60	17	3.27	11	0.79
Ellen	10	1.4	19	1.05	3	0.77	14	1.54	26	1.87
Ehen	313	1.3	215	1.27	117	1.69	631	1.14	184	1.57
Calder	12	2.1	7	2.83	27	1.53	14	1.99	6	5.31
Irt	320	1.4	149	1.28	94	1.59	244	1.35	184	1.5
Esk	37	2.2	68	1.72	102	1.35	254	1.56	236	1.79
Duddon	29	1.2	42	1.16	33	1.25	115	0.93	29	1.08
Leven	72	1.7	49	1.63	68	1.08	198	1.43	76	1.96
Crake	121	1.2	39	1.41	26	1.33	81	1.04	36	1.76
Kent	333	1.4	450	1.59	299	1.74	576	1.93	284	2.32
Lune	1513	1.9	1601	1.92	1701	1.84	2730	1.71	2091	1.96
Ribble	276	1.4	455	1.91	534	2.24	909	1.71	885	1.85
Hodder	155	1.5	231	1.91	418	2.13	726	1.9	538	0.9
Wyre	37	1.3	34	1.95	24	1.25	71	1.6	37	1.65
Others *	106	1.1	24	1.64	22	1.57	51	1.77	20	2.71
<b>TOTALS &amp; AV.WTS</b>	<b>5968</b>	<b>1.6</b>	<b>5769</b>	<b>1.64</b>	<b>5251</b>	<b>1.78</b>	<b>9184</b>	<b>1.62</b>	<b>7265</b>	<b>1.9</b>

\* Includes : Annas, Bela, Keer



Migratory trout rod catches 1980 - 00 Numbers

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Ave
BORDER ESK	845	980	735	398	632	619	639	682	903	230	133	467	544	461	826	1327	1357	1135	1671	1239	1768	553
EDEN	838	831	961	757	1216	698	478	770	1327	677	370	666	447	575	497	894	629	348	338	345	684	452
DERWENT	320	606	383	391	350	279	210	218	136	155	87	264	49	318	465	403	399	299	544	1038	942	248
COCKER	13	11	11	6	2	4	8	8	6	2	2	3	1	3	2	10	1	1	17	11	9	7
ELLEN	37	7	41	7	4	1	4	22	10	11	2	30	44	10	8	10	19	3	14	26	78	14
EHEN	109	140	151	108	231	196	244	230	125	104	58	81	90	112	345	313	215	117	631	184	814	146
CALDER	32	5	37	33			12		3	6		13	7	2	8	12	7	27	14	6	13	11
IRT	95	95	39	24	40	45	41	100	106	63	37	60	30	33	68	320	149	94	244	184	194	67
ESK	115	85	27	27	19	80	45	129	93	21	39	33	199	59	13	37	68	102	254	236	200	61
DUDDON	75	43	31	13	13	20	15	17	25	17	15	43	31	77	50	29	42	33	115	29	60	27
LEVEN	406	353	166	141	74	79	137	124	148	36	73	85	71	37	144	72	49	68	198	76	104	85
CRAKE	111	67	71	58	65	25	35	50	86	73	28	38	29	40	33	121	39	26	81	36	39	38
KENT	386	228	244	124	67	148	186	413	361	244	236	449	305	451	633	333	450	299	576	284	521	219
LUNE	2388	1310	981	1080	1220	1069	1115	1538	1855	1083	696	1618	1039	1474	2161	1513	1601	1701	2730	2091	2559	1029
RIBBLE*	862	571	513	526	433	602	574	699	848	380	391	631	461	810	952	431	686	952	1635	1423	1481	499
WYRE	18	58	59	6	14	24		55	71	4	13	48	20	58	32	37	34	24	71	37	33	25
OTHERS / UNKNOWN **	50	114	107	113	66	104	31	157	71	33	10	6	14	104	22	106	24	22	51	20	670	61
<b>TOTAL REGION</b>	<b>6700</b>	<b>5504</b>	<b>4557</b>	<b>3812</b>	<b>4446</b>	<b>3993</b>	<b>3774</b>	<b>5212</b>	<b>6174</b>	<b>3139</b>	<b>2190</b>	<b>4535</b>	<b>3381</b>	<b>4624</b>	<b>6259</b>	<b>5968</b>	<b>5769</b>	<b>5251</b>	<b>9184</b>	<b>7265</b>	<b>10169</b>	<b>5329</b>

\* Includes Hodder

\*\* Includes : Annas, Bela, Keer

Migratory trout rod catches 1980 - 00 Average weights in lb

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Ave
BORDER ESK	1.77	1.54	1.61	1.73	1.87	1.69	1.74	1.59	1.7	1.82	1.91	2	1.8	1.5	1.5	1.4	1.3	1.5	1.54	1.81	1.7	1.7
EDEN	1.9	2.02	2.01	1.98	1.74	2.2	1.93	1.88	2.07	2.13	2.13	2.15	2.4	1.5	2	1.6	1.71	1.89	1.83	2.05	2	2.0
DERWEN T	1.91	2.09	1.73	1.4	1.78	2.18	2.82	2.43	2.44	2.2	2.19	2.08	2.1	1.3	1.6	1.5	1.55	1.67	1.35	1.48	1.6	1.9
COCKER	2.17	2.66	1.98	1.71	2.25	2.56	9.75	1.69	2.45	0.99	1.75	1.25	1.3	2	1	2.4	0.81	4.6	3.27	.79	1.3	2.3
ELLEN	1.8	2.25	1.15	1.79	1.25	2	0.94	2.32	2.8	2.16	3.25	1.66	1.9	0.9	1.1	1.4	1.05	0.77	1.54	1.87	1	1.7
EHEN	1.49	1.44	1.8	1.65	1.94	1.67	2.05	1.59	2.8	2.11	2.12	2.13	2.3	1.3	1.4	1.3	1.27	1.69	1.14	1.57	1.4	1.7
CALDER	1.85	3.2	1.98	2.72			1		1.75	2.29		1.52	2.2	4.4	2.5	2.1	2.83	1.53	1.99	5.31	2.6	2.5
IRT	2.34	2.3	2.06	2.57	1.78	2.98	2.99	2.08	2.08	2.44	1.81	2.47	1.5	1.6	2.3	1.4	1.28	1.59	1.35	1.5	1.4	2.0
ESK	1.72	1.8	1.58	2.5	2.09	1.76	1.51	1.93	2.31	3.17	2.44	4.31	2.2	1.3	1.7	2.2	1.72	1.35	1.56	1.79	1.7	2.0
DUDDON	1.81	1.45	1.47	2.38	2.83	2.2	1.57	1.37	2.23	1.47	2.25	1.38	1.4	1.8	1.4	1.2	1.16	1.25	0.93	1.08	1	1.6
LEVEN	1.62	2.07	2.26	1.79	1.87	2.38	1.72	1.63	1.87	1.67	2.09	1.76	1.9	1.8	2	1.7	1.63	1.08	1.43	1.96	1.8	1.8
CRAKE	1.46	1.43	1.45	1.32	1.64	2.79	1.23	1.42	1.81	1.89	1.67	1.74	1.3	1.4	1.7	1.2	1.41	1.33	1.04	1.76	1.1	1.5
KENT	2.01	2.05	1.79	1.99	1.98	2.22	1.65	2.09	2.16	1.92	1.74	1.88	2.1	1.6	1.6	1.4	1.59	1.74	1.93	2.32	1.8	1.9
LUNE	1.97	2.14	2.17	1.84	1.94	6.3	1.88	2.25	2.14	2.11	2.29	2.23	2.2	1.6	1.8	1.9	1.92	1.84	1.71	1.96	2.1	2.2
RIBBLE*	2.15	2.36	2.02	2.06	2.02	2.13	2	1.93	2.23	2.19	2.21	2.01	2.55	2	1.8	1.4	1.91	2.19	1.85	1.49	1.9	2.0
WYRE	1.86	1.52	2.06	1.38	1.48	1.58		1.29	2.59	2.87	1.32	1.47	2.1	4.4	1.8	1.3	1.95	1.25	1.6	1.65	1.6	1.9
OTHERS	1.85	1.12	1.6	1.24	2	2.19	2.02	1.38	1.56	2.43	2.25	1.54	1.2	1.4	1.8	1.1	1.64	1.57	1.77	2.71	1.5	1.7

\* Includes Hodder

\* Includes : Annas,

**Catches by Nets and Fixed Engines**

**Salmon catches by river/district and month - 2000**

River/District (Type of Net)	Feb	Mar	April	May	June	July	Aug	Sept	Total	Average Weight (lb)	Effort No. of Tides
Eden & Border Esk (Haaf nets)					76	528	718	144	1466	7.89	3698
Eden Fixed Engine					5	5	3		13	9.96	79
Coastal Drift					14	46	97		157	8.38	56
South&WestCumbria Nets&Fixed Engines*											
Duddon (Draw Nets)*											
Leven (Lave Nets)					3	14	20		37	6.39	295
Kent (Lave Nets)					5	27	47		79	6.94	150
Lune (Draw Nets)*											
Lune (Drift Nets)					25	295	752		1072	7.89	290
Lune (Heave Nets)					13	152	290		455	8.25	625
Ribble (Drift Nets)					9	58	109		176	10.31	206
<b>Total Catch - Nets and fixed engines</b>									<b>3455</b>	<b>8.05</b>	<b>5399</b>

\* None issued 2000

**Net Salmon Catches - Historical Data**

	1995		1996		1997		1998		1999	
	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)	No.	Av.Wt (lb)
Eden and Border Esk	3008	7.26	2158	8.27	1449	7.73	650	7.83	1254	9.01
Coastal Drift	728	7.2	715	8.3	366	7.64	39	7.94	45	9.21
South & West Cumbria nets and fixed engines	*		*		*		*		*	
Duddon	*		*		*		*		*	
Leven	39	8.19	33	7.05	42	5.62	18	6.5	20	6.3
Kent	109	6.15	45	7.32	99	6.06	20	6.1	55	6.35
Lune Draw Nets	31	7.63	36	6.5	25	7.64	3	7.83	22	7.43
Lune Drift Nets	859	7.38	783	8.1	676	6.76	525	6.95	252	7.5
Lune Heave Nets	632	8.05	522	8.19	435	6.62	389	7.15	529	7.41
Ribble	160	9.7	172	10.73	69	8.88	118	8.03	210	10.16
<b>TOTALS &amp; AV.WTS</b>	<b>5566</b>	<b>7.42</b>	<b>4464</b>	<b>8.3</b>	<b>3161</b>	<b>7.3</b>	<b>1778</b>	<b>7.45</b>	<b>2387</b>	<b>7.92</b>

\* no licences issued 1995 / 1996 / 7/8

**Weight Frequency Distribution Major Salmon Net Fisheries 2000**

Weight (lb)	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	10-10.9	11-11.9	12-12.9	13-13.9	14-14.9	15-15.9	16-16.9	17-17.9	18-18.9	19-19.9	>20
KENT LAVE	0	1	10	16	26	8	10	2	1	1	2	0	1	0	0	1	0	0	0
CUMBERLAND DRIFT	0	0	0	16	49	31	13	9	14	9	4	3	5	1	1	2	0	0	0
LEVEN LAVE	2	1	5	10	6	7	4	1	0	0	0	0	0	1	0	0	0	0	0
LUNE DRIFT	0	0	16	188	272	238	159	62	35	15	18	11	16	16	8	5	11	2	0
LUNE HAAF	1	6	17	50	113	120	49	20	9	10	8	6	9	12	14	5	3	3	0
RIBBLE DRIFT	0	0	4	5	14	30	29	22	10	8	8	17	8	9	2	4	5	1	0
SOLWAY HAAF	17	30	110	262	364	216	102	61	68	48	43	32	39	21	28	12	7	6	0

**Net Salmon Catches 1980-00**

YEAR	EDEN & BORDER ESK		LUNE DRIFT		LUNE HEAVE		RIBBLE DRIFT		COASTAL DRIFT		KENT LAVE	
	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)
80	1010	8.95	1029	8.61	414	8.85	725	12.1	198	8.95	61	7.89
81	1337	9.11	1889	10.68	331	9.83	810	12.22	457	9.11	55	8.2
82	1773	7.39	624	6.94	341	7.2	252	10.29	748	7.16	39	6.1
83	5058	7.3	1152	7.75	503	7.53	432	9.31	1167	7.2	31	6.3
84	4261	7.02	1306	6.79	870	6.25	507	11.25	735	8.24	131	6.65
85	585	8.6	912	7.48	204	8.59	395	12.19	417	7.29	20	10.25
86	2971	9.54	1497	7.59	758	8.7	434	11.09	868	7.6	61	7.16
87	1999	8.81	1703	7.05	344	7.73	508	10.36	416	7.95	26	8.04
88	880	8.19	2402	7.17	580	8.87	829	10.62	760	6.85	102	7.3
89	1950	7.52	2284	7.43	1158	7.42	493	10.89	816	6.81	357	7.1
90	1880	9.03	1405	7.72	1180	8.59	239	11.18	479	8.72	197	9.51
91	1681	8.26	1472	7.92	567	8.12	206	10.24	195	8.13	185	8.26
92	959	8.38	868	7.67	604	8.41	102	10.5	454	7.81	68	7.38
93	1893	8	2038	7.34	931	7.24	205	9.63	250	8.01	104	6.84
94	2221	8.19	1924	8.02	1028	8.53	347	9.92	461	8.2	82	6.4
95	3008	7.26	859	7.38	632	8.05	160	9.7	728	7.2	109	6.15
96	2158	8.27	783	8.10	522	8.19	172	10.73	715	8.30	45	7.32
97	1449	7.73	676	6.76	435	6.62	69	8.88	366	7.64	99	6.06
98	650	7.83	525	6.95	389	7.15	118	8.03	39	7.94	20	6.1
99	1254	9.01	252	7.5	529	7.41	210	10.16	45	9.21	55	6.35
00	1466	7.89	1072	7.89	455	8.25	176	10.31	157	8.38	79	6.94
<b>AVER AGE</b>	<b>1926</b>	<b>8.20</b>	<b>1270</b>	<b>7.65</b>	<b>608</b>	<b>7.98</b>	<b>352</b>	<b>10.46</b>	<b>499</b>	<b>7.94</b>	<b>92</b>	<b>7.25</b>

**Catches of Migratory Trout by Nets and Fixed Engines 2000**

River/District (Type of Net)	Feb	Mar	April	May	June	July	Aug	Sept	Total	Average Weight (lb)	Effort No. of Tides
Eden & Border Esk					698	177	28	7	910	2.91	3698
Eden Fixed Engine					1	0	0		1	5.5	79
Coastal Drift					21	0	0		21	5.26	56
South&WestCumbria Nets&Fixed Engines*											
Duddon (Draw Nets)*											
Leven (Lave Nets)					13	1	1		15	5.63	295
Kent (Lave Nets)					0	0	0		0	0	150
Lune (Draw Nets)*											
Lune (Drift Nets)					85	6	2		93	5.56	290
Lune (Heave Nets)					203	25	5		233	4.03	625
Ribble (Drift Nets)					17	4	0		21	5.98	206
<b>Total catch, nets and fixed engines</b>									<b>1294</b>	<b>3.42</b>	<b>5399</b>

\* None issued 2000

### Net Catches of Migratory Trout - Historical Data

	1995		1996		1997		1998		1999	
	No.	Av. Wt (lb)	No.	Av. Wt (lb)	No.	Av. Wt (lb)	No.	Av. Wt (lb)	No.	Av. Wt (lb)
Eden and Border Esk	2176	2.9	966	2.81	651	2.84	677	2.77	1095	2.75
Coastal Drift	2	5	6	7.33	4	5.5	0	12	0	0
South & West Cumbria nets and fixed engines	*		*		*		*		*	
Duddon	*		*		*		*		*	
Leven	7	4.21	25	4.7	18	4.44	7	3.79	11	4.14
Kent	1	2.5	0	0	1	4.5	1	7.5	5	2.7
Lune Draw Nets	2	5	14	2.79	11	3.5	6	4.33	7	4.36
Lune Drift Nets	50	4.84	130	5.61	120	5.79	97	6.06	76	4.92
Lune Heave Nets	1170	3.45	665	4.01	327	3.69	350	3.51	609	3.14
Ribble	22	6.5	22	5.14	20	6.35	16	10.28	18	6.64
<b>TOTALS &amp; AV.WTS</b>	<b>3430</b>	<b>3.15</b>	<b>1828</b>	<b>3.52</b>	<b>1152</b>	<b>3.49</b>	<b>1154</b>	<b>3.39</b>	<b>1821</b>	<b>3.58</b>

\* no licences issued 1995 / 1996 / 1997

Net Catches of Migratory Trout 1980-00

YEAR	EDEN & BORDER ESK		LUNE DRIFT		LUNE HEAVE		RIBBLE DRIFT		COASTAL DRIFT		KENT LAVE	
	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)	TOTAL NO.	AV WT(LB)
80	5674	2.16	303	4.37	1935	2.93	22	5.29	11	5	22	3.18
81	3955	2.22	362	5	561	3.41	18	5.72	17	4.68	12	4.75
82	6688	2.42	428	4.77	400	3.59	26	4.52	35	4.91	46	4.09
83	6646	2.37	335	5.24	475	3.3	55	5.85	9	4.89	11	3.55
84	8291	2.34	289	4.5	1865	2.89	54	7.47	31	5	43	3.07
85	5062	2.42	508	4.1	738	3.4	44	7.98	5	5	5	4.4
86	4707	2.4	192	5.17	557	3.18	23	7.51	34	5.62	13	4.77
87	5109	2.42	172	4.74	605	3.14	18	8.64	12	4.88	5	5.2
88	4949	2.16	164	4.77	1742	2.86	17	8.2	7	4.35	27	4.4
89	3847	3.08	187	4.78	1172	3.23	22	4.84	8	4.43	80	4.33
90	2193	2.73	210	5.52	778	3.7	26	7.32	2	4.13	10	5.3
91	1923	2.74	296	5.24	464	3.39	24	5.94	1	5.5	18	5.68
92	1732	2.72	308	5.37	1064	3.55	24	7.4	0	0	6	3.67
93	1445	2.62	244	5.71	594	3.27	22	6.89	0	0		
94	1946	2.63	147	4.96	1172	3.12	70	5.87	0	0	1	7.5
95	2176	2.9	50	4.84	1170	3.45	22	6.5	2	5	1	2.5
96	966	2.81	130	5.61	665	4.01	22	5.14	6	7.33	0	0
97	651	2.84	120	5.79	327	3.69	20	6.35	4	5.5	1	4.5
98	677	2.77	97	6.06	350	3.51	16	10.28	0	0	1	7.5
99	1095	2.75	76	4.92	609	3.14	18	6.64	0	0	5	2.7
00	910	2.91	93	5.56	233	4.03	21	5.98	21	5.26	0	0
<b>AVERAGE</b>	<b>3364</b>	<b>2.59</b>	<b>224</b>	<b>5.10</b>	<b>832</b>	<b>3.37</b>	<b>28</b>	<b>6.68</b>	<b>10</b>	<b>3.88</b>	<b>15</b>	<b>4.05</b>



## 2 FISH CULTURE AND HATCHERY OPERATIONS

### Brood fish collection

	SALMON		SEATROUT	
	Male	Female	Male	Female
Northern Area				
Border Esk system				
Eden System *	12	19		
West Cumbria **	4	6		
South West Cumbria				
South Cumbria Rivers***	11	11		
Central Area				
Broadrairie Trap	20	20		
Leck Beck				
R. Hyndburn				
Ribble				
Hodder				

\* Eden system total includes:-

2 male, 8 female from the River Gelt for Eden Rivers Trust

8 male, 8 female from the River Lowther for Environment Agency

2 male, 3 female from the Upper Eden for Eden Rivers Trust

\*\* West Cumbria total was collected on behalf of Keswick Angling Association to aid their hatchery operation.

\*\*\* South Cumbria total was collected on behalf of Leven Angling Association to aid their hatchery operation

### Hatchery Operations and Salmon and Sea Trout Stocking

#### Warwick Bridge Hatchery

##### Numbers of ova laid down

Species	No. of Ova	Source
Salmon	39,900	River Lowther
Salmon	23,480	River Gelt (on behalf of Eden River Trust)
Salmon	20,640	Upper Eden (on behalf of Eden River Trust)

##### Salmon and seatrout planting

River	Ova	Fed Fry Salmon	Fed Fry Sea Trout	0+ parr Salmon	1+ parr Salmon	Salmon smolts
Lowther		40,000				

#### Central Area salmon and seatrout stocking

##### Numbers of ova laid down

Species	No. of Ova	Source
Salmon	20000+	River Hodder
Salmon	72000	R Lune Broaderaine trap

### 3 RESTOCKING WITH SALMON, TROUT AND FRESHWATER FISH

#### Non-Migratory Trout

Stocking by Angling Associations and Fish Farms not excluded under Section 34 of the Salmon Act 1986.

Area	No. of Section 30 Consents Issued	Total No. Brown Trout	Total No. Rainbow Trout
Northern Area	256	16,455 (34 consents)	225,309 (222 consents)
Central Area	189	32807	61224
Southern Area	471	35,130	35,661

#### Stocking carried out by Agency

##### Northern Area (char)

Date	Stocking Location	char
21/4/00	Ennerdale	4,000 eyed ova (ex Haweswater Hatchery)

#### Coarse Fish Planting by Agency ex-Leyland Hatcheries and Fish Farm

##### Central

Species	Number	Catchment	Tributary	Location
Chub	3000	Alt	Main River	Bull Bridge
Chub	2000	Alt	Downholland Brook	Stephenson Way
Chub	2000	Alt	Main River	Alt Bridge
Roach	2000	Alt	Main River	Bull Bridge
Chub	500	Douglas	Tawd	Summer Street, Skelmersdale
Chub	250	Douglas	Tawd	Nipe Lane, Skelmersdale
Chub	1000	Douglas	Tawd	Spencer Bridge, Back Lane, Lathom
Chub	2500	Douglas	Yarrow	D/S Pincock Bridge, Euxton
Chub	1000	Douglas	Yarrow	Syd Brook Lane, Croston
Chub	2000	Douglas	Yarrow	Eccleston Bridge
Chub	500	Douglas	Tawd	Skelmersdale College, Skelmersdale
Chub	750	Douglas	Tawd	Cobbs Clough Lane, Skelmersdale
Chub	1500	Douglas	Lostock	Mill Lane
Chub	1500	Douglas	Lostock	Slater Lane
Chub	2000	Douglas	Lostock	Fowler Lane
Roach	1000	Douglas	Tawd	Spencer Bridge, Back Lane, Lathom
Roach	2500	Douglas	Yarrow	D/S Pincock Bridge, Euxton
Dace	1250	Douglas	Yarrow	Eccleston Bridge
Roach	3000	Douglas	Yarrow	Eccleston Bridge
Dace	1250	Douglas	Yarrow	D/S Pincock Bridge, Euxton
Chub	1500	Ribble	Calder	Althom Bridge, Althom
Chub	1000	Ribble	Calder	Martholme Lane, Gt Harwood
Chub	1000	Ribble	Calder	Park Road, Padiham
Chub	1500	Ribble	Calder	Gawthorpe Hall, Padiham

Chub	1500	Ribble	Calder	Longton Road, Burnley
Chub	1500	Ribble	Calder	Townley High School, Burnley
Chub	1500	Ribble	Hyndburn Brook	Harmitage Street, Rishton
Chub	1500	Ribble	Hyndburn Brook	Mill Lane, Gt Harwood
Chub	1000	Ribble	Darwen	Clarence Street, Darwen
Chub	1000	Ribble	Darwen	Whitton Park, D/S R. Blakewater
Chub	1000	Ribble	Darwen	Anchor Road, Darwen
Chub	1000	Ribble	Darwen	Fore Street, Eccleshill
Roach	2500	Ribble	Calder	Althom Bridge, Althom
Roach	2500	Ribble	Calder	Park Road, Padiham
Roach	2000	Ribble	Hyndburn Brook	Harmitage Street, Rishton
Dace~Fry	10000	Ribble	Dinckley Brook	Langho
Dace~Fry	30000	Ribble	Main River	Tockholes Bridge, Ribbleton
Dace~Fry	30000	Ribble	Main River	Samlesbury
Dace~Fry	30000	Ribble	Main River	Ribchester
Dace~Fry	20000	Ribble	Boyces Beck	Ribchester
Dace~Fry	20000	Ribble	Main River	Eddisford Campsite
Dace~Fry	20000	Ribble	Calder	Martholme Lane
Dace~Fry	10000	Ribble	Calder	Hyndburn Brook, Mill Lane
Dace~Fry	25000	Ribble	Main River	Henthorn Tip
Dace	1500	Ribble	Hyndburn Brook	Mill Lane, Gt Harwood
Dace	1500	Ribble	Hyndburn Brook	Harmitage Street, Rishton
Dace	1500	Ribble	Calder	Townley High School, Burnley
Dace	1500	Ribble	Calder	Longton Road, Burnley
Dace	1500	Ribble	Calder	Park Road Padiham
Dace	1500	Ribble	Calder	Martholme Lane, Gt Harwood
Dace	2000	Ribble	Calder	Althom Bridge, Althom
Dace	1000	Ribble	Boyces Beck	Stoney Gate Lane, Ribchester
Dace	4000	Ribble	Main River	Boyces Beck Foot, Ribchester
Chub	1000	Wyre	Main River	St Michaels
Chub	3000	Wyre	Brock	Nearer Light Ash Farm
Chub	1500	Wyre	Main River	D/S Churchtown Weir
Chub	1000	Wyre	Main River	Tarnacre Farm
Roach	2000	Wyre	Main River	D/S Churchtown Weir

**South**

<b>Species</b>	<b>Number</b>	<b>Catchment</b>	<b>Tributary</b>	<b>Location</b>
dace	3000	Goyt	Downstream of weir	Otterspool Bridge (d/s weir)
dace	3000	Goyt	Marple - u/s weir	Brabyns Park
dace	3000	Goyt	Marple - d/s weir	Brabyns Park
dace	5000	Mersey	Upstream of weir	Ashton on Mersey
dace	5000	Mersey	Downstream of weir	Ashton on Mersey
dace	3000	Goyt	Upstream of weir	Otterspool Bridge (u/s weir)
roach	4000	Dane	Ravenscroft	Ravenscroft
roach	5500	Mersey	Paddington Brook	Paddington Brook
roach	1500	Sankey	Gaskell Street St Helens	Sutton Bridge
roach	4000	Sankey	St Helens	ptc Vulcan Stream
roach	2500	Sankey	Warsley Brow	Watery Lane St. Helens
roach	1500	Sankey	Pennington Leigh	ptc River Glaze
roach	2000	Weaver	Weston Canal	Weston Canal
chub	2000	Weaver	Weston Canal	Weston Canal
chub	3000	Etherow	Bothams Hall	Bothams Hall
chub	3000	Goyt	Strines	Strines
brown trout	800	Irwell	Helmshore Museum	Helmshore Museum
brown trout	1400	Irwell	up and downstream of Irwell	Irwell ale
brown trout	800	Irwell	opposite Bridge End Pub	Free Lane
brown trout	1000	Irwell	off A676 Bolton Road N	Dale Street
brown trout	800	Goyt	Station Road	Station Road
brown trout	400	Goyt	Waterside Road	Waterside Road
brown trout	200	Roch	Gower Street	Gower Street
brown trout	200	Roch	ptc River Beal	Dyehouse Lane Rochdale
brown trout	80	Goyt	Station Road	Station Road
brown trout	500	Goyt	Waterside Road	Waterside Road
chub	700	Dane	Ravenscroft	Ravenscroft
chub	800	Dane	Forgemill	Forgemill
dace	2500	Tame		Spring Lane Heyrod
dace	3500	Goyt		Otterspool Bridge u/s & d/s
dace	1000	Sankey		ptc Vulcan Stream

**Stocking by Angling Associations etc. Numbers stocked of each species**

	Northern Area	Central Area	Southern Area
No. of Section 30 Consents Issued	28	187	471
Mixed Coarse		10100	3720
Roach	6,100 (3)	42920	78563
Rudd	1,540 (3)	4600	46660
Bream	740 (4*)	8290	19573
Chub		22200	5933
Carp		36108	32136
Crucian Carp	3,512 (2)	4910	6491
Grass Carp			70
Koi Carp			-
Gold Carp			-
Silver Carp			-
Mirror Carp	3,775 (11)		6189
Eels		8000	50
Tench	500 (1)	11228	6275
Barbel		2150	1835
Perch	1,000 (1)	220	1333
Golden Orfe			-
Silver Orfe			-
Pike			180
Other			117
Gudgeon	2,000 (1)	40	150
Wels			
Char			
Grayling			
Skimmer Bream			
Dace			-
Roch/Rudd Hybrid			
Broodstock			
Ghost Carp		4150	4461
Golden rudd			
Salmon (juvenile)	15,000 (2)		
Salmon (adult)			
Idc		5100	860
Sticklebacks			
Blue bream		500	
Brown goldfish		250	

The number in brackets is the number of consents issued.

\* One of the four consents issued no stocking went ahead

**Total number of fish transfers carried out by Agency on behalf of Angling Clubs and numbers of fish**

	Northern Area	Central Area	Southern Area
No. of transfers	2 (On behalf of Haig Anglers)	4	34
Roach	450	2300	115,775
Rudd	400		549
Bream	600	1500	1,175
Chub			0
Dace			0
Carp	1		763
Crucian Carp	600		2,049
Mirror Carp	5	15	0
Trout			0
Tench			0
Gudgeon			1,000
Perch	360		63,885
Pike			250
Mixed Coarse			4,713
Grass Carp			0
Barbel			0
Rainbow Trout			0
Golden Orfe			0
Other			0
Eels			0

**Total number of fish rescues carried out by Agency on behalf of Angling Clubs and numbers of fish rescued**

	Northern Area	Central Area	Southern Area
No. of rescues	0	0	25
Roach			17,177
Rudd			333
Bream			6,667
Chub			10
Dace			0
Carp			7,295
Mirror Carp			0
Crucian Carp			6,500
Grass Carp			0
Trout			245
Tench			7,076
Gudgeon			0
Perch			4,510
Pike			0
Mixed Coarse			7,234
Salmonid			0
Eels			0
Other minor coarse			0
Brook lamprey			0

## 4 MONITORING (SURVEYS, FISH COUNTERS AND REDD COUNTS)

### Fisheries Surveys in connection with Assessment, Improvement and development of Fisheries

Area	Electric Fishing	Netting	Biological	Water Analysis	Advisory Visit	Echo Sounding	Angling	Other
Northern Area (North Cumbria)	Liddel 35 Derwent 38 Cocker 5 Leith & Lyvennet 15 (B) St John's (2) (C) Eamont 26 (D)				18	1	1 (A)	
Northern Area (South Cumbria)	Duddon 33 Liza 9 Leven 27							
Central Area	93	15				3	0	
Southern Area	172	33	0	25	64	5	3	8

- (A) An angling survey for coarse fish was undertaken on the lower River Eden between 15<sup>th</sup> October and 14<sup>th</sup> January (i.e. salmon close season). This survey took place in both 1999/2000 and in 2000/2001.
- (B) The Environment Agency assisted Eden River Trust to survey 15 sites on the Rivers Leith and Lyvennet
- (C) Due to high water levels during September and early October only 2 of the usual 10 sites on St. John's Beck and the River Glenderamackin were surveyed.
- (D) As part of the Environment Agency Drought Project 16 sites were electrofished in March/April 2000 and 10 of these 16 sites were electrofished in August/September 2000.

### Surveys carried out for Angling Clubs

#### North Area

Water Sampled	Reason
River Ellen	Habitat works
Broughton Tower Estate Ponds	Re-creation of coarse fishery

#### Central Area

Location	Recipient	Action
Centurion Way, Leyland	LMASC	Stock assessment
Lower Ince		Netting
Lancs House Farm	Farmer	Fish Health check
Ince Moss, Wigan	Club	Stock assessment
Shuttleworth Farm	Angling Club	Stock assessment
Mc Greals Lodge, Hapton	Angling Club	Stock Assessment
Clevely Mere	Owner	Water sample
Horns Dam	Mr Fletcher	Fish mortality
Liverpool	Liverpool city Council	Fish removal – Stanley Park
Croston		FD to provide new habitats
Carleton, Singleton	Blackpool Post Office	Pond netting survey
Liverpool	Liverpool City Council	Fish removal – Stanley Park
Carleton, Singleton	Blackpool Post Office	Pond netting survey
Clevely Beck	Chris Sodo	Pond survey
Farington Lodges	M. McNulty	Stock assessment and pike removal (29 pike).

Landgate Lodges	Mr Twigg, Bailiff	Took water samples and carried out post-mortems on dead fish. Initial report produced.
Landgate Lodges	Mr Twigg. Landgate Lodges	Netted to obtain a sample for health check in relation to diseased fish.
Orrell Water Park	Wigan MBC	Netted lower lodge for health check sample collection
Wharf Lake	Salmon & Trout Association	Fish removal and restocking to Duchy lake
Fernacre Greenhouse pond	GEC Freckleton	Fishery survey
A59 fishery	Jason Livesey	Netting Survey

### South Area

Water Body Sampled	Reason
Fox Farm, Daresbury	
Old Hall Mill Farm pool, Atherton	Stock assessment
Borrows Pit, Alsager	Stock assessment (Too many carp?)
Meadow View Fishery	Silt analysis
Mellor's Pool, Whiston	After large fish kill
Mouldsworth Mere	Prior to restocking
Buckley Wood, Rochdale	Fishery Advice
Stanley & Sefton Park Lakes	Health Checks
Chorlton Water Park	Fishery Advice
Millwood Pool, Speke	Health Checks
Painswick Park, Wythenshaw	Fishery Advice
Little Budwoth Mere Tarporley	Poor catch results
Ocean Pool Winsford	Health Check
Meols Pool, Meols	Assess Stocking Levels
Coffin Brook Pond, Bryn Hall	Assess Stocking Levels
Hatton Pools, Hatton	Poor catches, WQ problem
Tarporley Stock Pond	
New House Farm Pools, Hatton	
Gawsworth Pool	
Little Oaks	
Billinge Green	
King George V, Altrincham	Advice on fish stocks
Pond in Biddulph	
Rams Mill Lodge, Chadderton	Samples for CEFAS
Broad Oak, Bury	Samples for Brampton
Caldershaw Mill, Rochdale	Samples to Brampton (for health check – 40+ bream/roach)
Little Moss Pool, Droylsden	Samples for Brampton
Willow Pool, Antrobus	Fish kill
Comber Mere	Baseline fisheries data
Dove Mere, Allostock, Knutsford	Poor fishing
Bosley Reservoir	Fish kill
Black Duck	Water quality
Bosley Reservoir	Fish kill
Willaston Pond	Poor fishing
Besom Hill Reservoir, Oldham	
Marshes Farm Pond, Westhaughton, Bolton	Suspended solids entering water from pipeline works
Benty Heath Pool	Health sample (mixed)
Courtaulds Mill, Walkden	Health sample (roach)



Wallasey Central Park, Wirral	Health sample (mixed)
Besom Hill Pond, near Oldham (job: 00/10)	Fish stock assessment
Middle Brook Lodge, Deane, Bolton (job: 00/14)	Fish stock assessment
Chorley No. 6 lagoon (orig. Leyland Hatchery fish)	Health sample (roach)
East Lancs Paper Mill, Cricket Field Lodge (job: 00/05)	Fish stock assessment
Manley Old Hall	Fish stock assessment
Hewlitt Lodge, Westhaughton	Fish stock assessment
Greylag Pool, Ellenbrook, Boothstown, Worsley	Fish stock assessment
Holmston Hall	Fish stock assessment
Dunham Moat at Dunham Massey	Health checks
Holmston Hall, Eaton Sixes Hole, Whitegate	Following fish kills
Beesom Hill	Following fisheries survey

### Other visits / works

#### Central Area

VISIT	REASON
Bull & Leck Beck	200 trees planted
Keer	112 trees planted
Camm Beck	Limestone gravel addition
Garstang	Checked bank damage
Kelleth	Gravel movement study
Ribble Halton West	Tree planting regime to complete habitat work
Broughton	Advice on pond
Havrah Beck	Clear blocked culvert
Centurion Way, Leyland	Stock assessment
Sparting Brook	Fencing
Scorton	Checked fencing for flood damage
Lancs House Farm	Removed dead/diseased fish
Lower Ince	Netting
Lune at Tebay	Possible future habitat work
Lancs House Farm	Fish Health check
Ince Moss, Wigan	Discussed fishery/methodology
Cautley & Keld Becks	Future tree planting
Ince Moss, Wigan	Stock assessment
Shuttleworth Farm	Stock assessment
Park Beck	Proposed 200m fencing
Horns Dam	No netting survey read
Stone Dyke Barn, Stainfourth	Possible habitat work Ribble
ORSU	Check for flood damage
Lune Catchment	E.A team Habitat Tour
River Yarrow	Tree maintenance
South Lakes	Habitat Visit
ORSU	Check for flood damage
River Tawd	Agreed HI & signed contract
Tebay	Progress Habitat Lune
Abbeystead	Marked for fencing
Ribble Catchment	Extraction of silt traps from river
Mc Greals Lodge, Hapton	Stock Assessment
High Leuthwaite	Fish mortality

Clevely Mere	Water sample
Tebay	Possible Habitat work
River Tawd	Installation of fencing
Boyles Brook	Collect Dace Broodstock
Mill Beck	Tree N <sup>o</sup> s and species
Abbeystead	Cleaned Abbeystead
Horns Dam	Fish mortality
Liverpool	Fish removal – Stanley Park
Croston	FD to provide new habitats
Carleton, Singleton	Pond netting survey
Liverpool	Fish removal – Stanley Park
Junior Lodge	Carp transfer to roach Bridge
Cliveger	Advice on Planting
Charnock Richard	Disease check
Myerslough	Net loan scheme
Bamber Bridge	Stocking
Carleton, Singleton	Pond netting survey
Clevely Beck	Pond survey
Springfield Pond	Restocking advice following de-silting operation.
Easington	Facilitating habitat improvement
Horns Dam	Fish mortality
Greenhalgy	Advice on setting up fishery
Cliveger	Advice on Planting
Scorton Street	Fencing sites, willow raddling
Scorton Street	Fencing sites, willow raddling
Scorton Street	Fencing sites, willow raddling
Cliviger	Advice on planting
Morgans Pool, Wigan	Advice on implications of ILFA
Ribble at Horton	Future Habitat Work
Ribble at Horton	Habitat improvements site
Horwich	Distressed / diseased fish. Discussed best way forward.
Landgate	Disease report and recommendations
Wenning	Assess habitat work
Bryan Hey Res, Belthorn	Fishery development/advice and National Lottery funding bid
Boylands Lake	Disease report. Took water sample and advised on visual condition of fish seen.
Chorley	Vandals have damaged the weir and led to water level reducing. Advised on how to make the weir vandal-proof.
Barrowford	Advice on fish kill - likely due to recently introduced fish.
Burnley	Small fish kill - 7 dead carp. Probably due to spawning stress.
Hatchery Brook at Middleton	Dig out gravel to maintain water flow during dry periods
Greta At Wrayton	Assess habitat work
River Keer	Habitat work on River Keer
Wigglesworth Beck	Habitat improvements
River Greta	Habitat enhancement using willow stakes
Mill Beck	Future fencing and tree planting
Ribble at Horton	Fencing, tree planting on the main Ribble
Grindleton	Habitat improvements
Runshaw Pool	Suspected low DO. Took water sample
Brinscall	Development of new fishery
Upper Lune	Monitor weed growth with ecology
Boylans Lake	Fish disease present

Westhoughton	Algal bloom, possibly from land leachate following fertilisation. Took water sample.
Singleton	Advice on water quality
Dubbs Farm Newbiggin on Lune	Future fencing and tree planting
Grimсарgh Reservoir	Representative requested a sample of fish to be taken as a number of fish were lost over a period of 1 month
R.Alt	Advice on methodology of proposed in river works to reduce impact on fish populations
Freckleton	Advice on fish stock density for the club water
Star Lodge, Horwich	Took water sample after dead fish removed from the lodge.
Lower House Mills, Barrowford	Took water sample following small scale mortality and disease report
Victoria Pk Lake, Nelson	Site visit to assess whether a UFDP project was viable and what was needed.
Orrell Water Park	Took water sample as part of mortality investigation
Queen St Mill Lodge	Investigated mortality and took water sample
Darwen	Took water sample following disease report.
SAPPI	Disease report investigation
Middleton	Disease report investigation
R Wyre	Research project
Clevely Mere	Water pollution / algae bloom
R Wyre	Water sample for Puddlehouse AA
Slyne	Discussed the employment of a Landfill Tax student placement
Clevely bank	Mechanical weed control in pond
Hambleton	Management of diseased fish
Clevely Mere	Diseased fish / algae control
Roach Bridge	Advice in relation to modification of Lake.
Queen St Mill Lodge	Relayed WQ results following a disease outbreak
Lower House Mills, Barrowford	Discussed disease problem
Platts Lane, Burscough	Took Water sample and discussed the disease problem and management of the fishery
Rowley Lake, Burnley	Took Water sample following reports of diseased fish.
North Moss Pit	Club wished to demonstrate effectiveness of work carried out so far and to reaffirm that previous advice given was still valid
Carr Moss Lane, Halsall	To give advice on the suitability of the pond to hold fish. Also to give general advice
Aker Pits Little Crosby	Advice regarding recent loss of carp. Also to give general advice.
Halton	Stock density advice
Runshaw Pool	Water quality and remediation techniques
Rowley Park	Water quality and disease
Platts Lane	Water quality, disease and planting
Oswaldtwistle	Creation of new pond
Ribble catchment	Advice given regarding Crayfish Plague in the Ribble
Tems Beck, Giggleswick	To set up a site visit between the Council and the catchment officer
Hodder and Lune	To ensure compliance with Section 30 consent procedure
Swan Pool Aughton	Advice regarding fish showing signs of damage/disease
Hoddlesden	Requested advice on the creation of a new fishery
High Heys Farm	Requested advice on stocking density and info on general fishery management
Burnley	Requested info on building fishing pegs and general pond management

Lutra	Discussed UFDP's and what we can do to help South Ribble Borough Council
Tickled trout	FMA requested for the setting up of a new fishery
Newton Hall pond	Netting survey needed
Thornton Cleveleys	Advice on pond
Blackpool	Advice on shallowing a pond
Wrea Green	Habitat work and netting survey advice on ponds.
Sawley	Advice on the re-erection of fencing at Sawley
Giggleswick	Weed clearance information and advice

### South Area

VISIT	REASON
Ocean Pool	Stocking densities
Atherton Hall Mill Farm	Fish Rescue
Mouldsworth Pool	All aspects of fishery
Bigmoor	Cormorants
Pool off West Lea Lane, Leigh	Weed control -- <i>Elodea densa</i>
River Glaze	Habitat Improvements
Outlet Pennington Flash	Construction Of New Fishing Platforms
River Mersey	Seals in River Mersey
Meadow View Fishery	Advice re: fish mortality following poisoning
River Irwell	Hydroelectric scheme to generate power
Holly Hedge Pool	Stocking densities
Brindle Heath Lodges, Salford	Weed control – <i>Glyceria</i> sp.
Top End Farm, Barthomley	All aspects of new fishery
Weaver Navigation	Weed control (floating pennywort)
New Pool, Dagfields	Stocking
Water Name & Location	Advice on: (eg. Weed control, habitat improvement etc)
Brick Lane, Goostrey	Weed control
Rochdale Canal Central Manchester	Possible fish rescue
New House Farm Hatton	Weed control
Ludworth Reservoir, Glossop	Weed control
Shore Top Reservoir, Wigan	Habitat creation, angling platforms, disabled access
Crime Lake daisy Nook CP	Possible fish transfer
Cheshire Police pool	Weed planting
Alkington Lake Middleton	Habitat Improvement
Halford Hall Moat off Chester Road, Plumley	Weed control – <i>Cladophora</i> sp.
Border Fishery, Betley	All aspects of fishery
Pond at Croxton, Widnes	Weed control – Blanket weed
1 <sup>st</sup> Cartons	Fish removal
Pool in Lostock, Bolton	Weed control ( <i>Cladophora</i> sp.)
Cassia Lodge, Whitegate	Weed control ( <i>Elodea</i> sp.)
Pool at Hassal	Fishery management
Manley Old Hall, Nr. Helsby	Creating a new commercial coarse fishery on existing ponds
Barthomley Hall, Acton Bridge	Weed control ( <i>Cladophora</i> sp.) , general fisheries advise
Craiglands, Rochdale	Establishing a fishery
Stone Steps, Manley	Weed control ( <i>Myrophyllum</i> sp.)
Barley Croft Terrace, Scholar Green	Creation of conservation pond with fish.
Hall Lane Brook	Weed control ( <i>Phragmites</i> sp.)

Moreton Fishery	Weed control (Problem weed = <i>Nymphoides peltata</i> and blanket weed)
Pool at Rixton	Re: Transco pipeline
	Developing a day ticket coarse fishery.
Mill Cottage, Biddulph	Re-instatement of mill dam to create 12 peg day ticket coarse fishery
Shropshire Union Canal, Ellesmere Port	Unknown weeds
Brookside Fishery	Fishery in general (DO level problem)
Dove Mere, Wash Lane, near Knutsford	Algal bloom, nutrient enrichment, barley straw. Water Sample taken.
British Legion Pools, Stretton	Fisheries advise
Pools at High Leigh	Weed control advice
Pool in Heswall, Wirral	Weed control advice
2 pools in Heswall	Weed control (Duckweed)
Private syndicate waters at High Leigh	Weed control (Duckweed)
Besom Hill Reservoir	Water sample and habitat improvement
Caldershaw Mill, Rochdale	Planning to fill in reservoir
Marshes Farm Pond, Westhaughton	Construction of new pond
Commonside Pool, Frodsham	Fish stocking levels
20 acre site in Lymm	Creating a 17 acre specimen carp lake
Timperley Conservative Club	Weed control – Problem weed was Yellow Fringed Water Lily
Halewood Linear Park	Removal of illegally stocked coarse fish from pool containing Great Crested Newts
Meadow View Fishery, Statham	Flooding problems
Border Fisheries, Balterley	De-silting and stock levels
R. Weaver	Weed control (Problem weed = Pennywort)
Hartford Campus Pool	Weed control (Problem weed = <i>Crassula</i> sp.)
Farm land, Norley	Creating 17 acre specimen carp fishery
Parkfield Reservoir	Silt Problem
Doe Hey Reservoir	Weed control and fisheries advise
Pennington Flash	Fisheries Management
Arnfield Reservoir	Advise on fish rescue

### River Lune

FORGE WEIR					BROADRAINE WEIR			
Month	<35.0 cm	35.1- 50.0 cm	50.1- 65.0 cm	>65.0 cm	<35.0	35.1- 50.0	50.1- 65.0	>65.0
Jan	0	28	29	47	0	0	0	7
Feb	0	3	6	10	23	13	3	4
Mar	0	136	55	10	11	1	4	2
Apr	2	31	57	32	1	9	15	4
May	0	475	575	426	9	4	14	23
Jun	6	2092	2303	848	52	132	115	125
Jul	0	925	1024	986	47	56	51	87
Aug	3	463	600	1675	49	135	75	105
Sep	0	284	716	2109	127	198	245	265
Oct	0	586	322	1257	42	71	62	368
Nov	0	83	157	785	4	7	4	92
Dec	0	85	0	167	13	9	4	29
Total	Counts have been trace verified and lengths calculated from counter signal size				Counts have been trace verified. Lengths represent counter signal size which is an underestimate of true fish length.			

### River Ribble Catchment

WADDOW WEIR					LOCKS WEIR			
Month	<35.0	35.1- 50.0	50.1- 65.0	>65.0	<35.0	35.1- 50.0	50.1- 65.0	>65.0
Jan	0	0	0	0				
Feb	0	0	0	1				
Mar	0	0	0	0				
Apr	3	2	0	0				
May	43	26	18	13	Year 2000 data not yet available			
Jun	550	310	147	34				
Jul	839	369	147	149				
Aug	450	227	174	332				
Sep	563	224	285	305				
Oct	590	190	83	69				
Nov	52	38	16	35				
Dec	4	3	4	4				
Total	Counts have been trace verified. Lengths represent counter signal size which is an underestimate of true fish length.							

### River Hodder

WINCKLEY WEIR				
Month	<35.0	35.1- 50.0	50.1- 65.0	>65.0
Jan	0	1	0	0
Feb	No reliable data			
Mar	5	3	1	0
Apr	19	21	12	5
May	26	24	11	21
Jun	205	375	247	270
Jul	137	202	87	61
Aug	44	50	26	15
Sep	95	132	67	68
Oct	55	67	25	91
Nov	31	48	44	68
Dec	111	54	21	24
Total	Counts have been trace verified. Lengths represent counter signal size which is an underestimate of true fish length.			

### Counts of salmon and sea trout spawning redds

RIVER/AREA	1995		1996		1998		1999		2000	
	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout
Eden d/s Eden Grove	See	Below					Not	Counted	Not	Counted
Eden d/s Eden Brow	See	Below					Not	Counted	Not	Counted
Eden u/s Temple Sowerby	535	-	165		179	0	Not	Counted	Not	Counted
Eden d/s Temple Sowerby	193**	-	2 (tribs only)		13	0	Not	Counted	Not	Counted
Eamont	230	-	35 (tribs only)		24 (tribs only)	0	Not	Counted	18	
Lowther	149	-	73		131	0	Not	Counted	Not	Counted
Irthing	43*				21	6 brown	Not	Counted	Not	Counted
Gelt	-*	-			31	0	Not	Counted	2	
Border Esk	243	143	197	37	55	12	Not	Counted	Not	Counted
Caldew	169	-	182	5 trout	129	2 trout	Not	Counted	Not	Counted
Liddel	308	84	29	115	16	11	Not	Counted	Not	Counted
Wampool/Waver							Not	Counted	Not	Counted
Lyne	36	153	4	74			Not	Counted	Not	Counted

Note: In all these years high and turbid river conditions made redd counting difficult or impossible and the figures given above are undoubtedly incomplete. 1993/4 particularly poor weather. Only limited count possible. 1995 Good year North & West Cumbria due to low flows: redds easy to see

\* very limited count

\*\* Includes all d/s Eden counts

1999 = No counts due to high and turbid river conditions

2000 Very limited or no counts due to high and turbid river conditions - those counted may not be true counts

RIVER/AREA	1996		1997		1998		1999		2000	
	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout
Ellen	34	12	105				9	53	27	14*
Derwent	342	-	22	12*			Not counted	Not counted	Not	Counted
-Marron	30	25	61	2			27	28	Not	Counted
Cocker	94	-	72				Not counted	Not counted	Not	Counted
Greta	14	-	62				25		Not	Counted
Ehen	114	61	18	43+	12++/+	0	18++	Not counted	30	22
Keekle	not	counted	0	6+	0+	3		Not counted	Not	Counted
Dub Beck	not	counted	0	9+	not	counted	Not counted	Not counted	Not	Counted
Calder	32	16	7	1++	not	counted	Not counted	Not counted	16	
Irt	213	156	88	70+	108+	101	56	98	93	43
Bleng	(See Irt)	(See Irt)	(See Irt)	(See Irt)	(See Irt)	(See Irt)	7	5	(see Irt)	(see Irt)
Esk	27	181	0	31++	3++	7	55	242	49	31
Mite	19	16	18	10+	35+	10	11	11	Not	Counted
Annas	not	counted	4	27++	13+	1	Not counted	Not counted	9	14

\* Main river not all done

\*\* In divert channel . High water hampered all counts in 1994

+ High flows hampered counts

++Incomplete counts

1999 Many rivers not counted due to high flows

2000 limited or no counts due to high and turbid river conditions - those counted may not be true counts



RIVER/AREA	1996		1997		1998		1999		2000	
	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout	Salmon	S/Trout
Duddon	121	295	34	107*	81*	201	71	265	Not	Counted
Crake	141	229	25	220*	72*	209	33	200	Not	Counted
Leven & tribs	299	450	8	93**	115*	54	30	50	Not	Counted
Eea	58*	55	0	91*	51*	139	9	104	Not	Counted
Winster	47	113	15	75**	6*	59	4	112	Not	Counted
Gilpin	32	159	4	49**	9*	70	2	78	Not	Counted
Kent & Tribs	1040	586	137	400**	613*	434	36	386	Not	Counted
Bela	68	217	64	119**	60*	238	35	375	Not	Counted
Kirkby Pool & Tribs					34	171	(See R Duddon)	(See R Duddon)	Not	Counted
Rusland Pool					30*	331	40	288	Not	Counted
Keer	5	62	0	72						
Lune	931	10	197**	24**	472**	301				
Rawthey	-	-	47	160	1*	25				
Dee	-	-	72	87						
Greta	-	-	101	153	50*	15	No	Reliable		
Wenning	-	-	79	233	62*	149	counts	Due to		
Other Lune tribs	370	302	41	249	34*	41	Very high	water		
Ribble	250	142	164*	289*	250**	205				
Hodder	288	507	31	408	53**	426				
Wyre	19	31	25	85	27**	44				
Conder	3	41	2	26	3**	23				

- High water hampered counts High water hampered counts 1994 Many rivers incomplete \*\* Incomplete count
- 2000 limited or no counts due to high and turbid river conditions - those counted may not be true counts

## 5 FISH MORTALITIES

The tables below illustrate the main fish kill incidents (Greater than 20 fish). The causes have been split into four categories : pollution (sewage effluent and industrial discharges), environmental (low dissolved oxygen, algal bloom, low flow etc.,) disease and unknown

### North Area

LOCATION	DATE	NO.	SPECIES	CAUSE
Winnrow Beck	5/9/00	40+	Brown trout, sea trout, minnows	Unknown
Canal Foot, Uiverston	8/9/00	500	Flukes	Effluent
River Ehen/Calder Confluence	7/00	200+	Whitebait	Natural Causes

### Central Area

LOCATION	DATE	NO.	SPECIES	CAUSE
Appley Bridge	January	400	dace/chub	unknown
Austwick	April	96	minnow, br. trout	pollution
Farrington Park	April	89	roach	environmental
Farrington Park	April	400	roach	disease
Orrell	May	100	crucian carp	pollution
Foulridge	May	81	sticklebacks, br. trout	pollution
Burnley	May	50	roach	unknown
Barnoldswick	June	80	brown trout	pollution
Eccleston Delph	July	2000	mixed roach and perch	unknown
Formby	July	161	various coarse	unknown
High Walton	July	21	roach	environmental
Charity Farm	August	20	roach	unknown
Kirk Beck	August	2700	minnow	pollution
Rishton	August	24	pike	environmental
Feniscowles	August	96	bullheads	unknown
Pilling	August	184	eels	unknown

### Southern Area

LOCATION	DATE	NO.	SPECIES	CAUSE
Ogden Brook, Helmshore	March	725	Brown Trout	Pollution
Ogden Brook, Helmshore	March	471	Bullhead	Pollution
T & M Canal	March	27	Bream, Roach	Other
River Goyt	April	1000+	Brown Trout, Grayling	Pollution
Straines/Woodend	April	135	Brown Trout, Grayling Barbel	Pollution
River Goyt	April	111	Grayling B/Trout	Pollution
Bridgewater Canal	April	22	Roach	Pollution
Crew Road Pools, Sale	April	200	Mixed	Other
Moor Road Ponds	April	30	Roach	Unknown
Moor Road Wythenshaw	April	100+	Roach	Other
Sutton Mill Dam, St. Helens	May	1000+	Mixed coarse	Pollution
Healey Dell, Rochdale	May	30+	Bream	Other (After stocking)
Monastery Dam	May	100+	Mixed coarse	Pollution
Woodside Farm	May	40+	Mixed coarse	Natural
Downstream Dutton Locks	May	150	Mixed coarse	Not known
Alex Park, Oldham	May	20	Mixed coarse	Natural
Abney Hall, Cheadle	May	35+	Mixed coarse	Natural

Little Moss Pool, Droylsden	May	30+	Carp	Not known
Ashton Canal, Openshaw	May	76+	Mixed coarse	Pollution
Taylor's Pool, Ince, Wigan	May	20+	Carp	Other (Over stocking)
Trent & Mersey Canal, Whatcroft	June	100	Mixed coarse	Pollution
Shropshire Union Canal, Ellesmere. Manning aeration on 6 <sup>th</sup> .	June	100	Roach, perch	Pollution
New Pool, Antrobus	June	30	Roach, bream	Natural (algal bloom)
Healey Dell (879 157)	June	200	Mixed coarse	Unknown
Denton Pool (SJ 904 951)	June	71	Roach, bream	Natural
Rope Hall, Willaston, nr Nantwich	June	105	Carp, stickleback	Unknown (Pollution ?)
Peak Forest Canal, Hyde	July	500 1025	Roach Mixed coarse	Pollution (low DO's)
Woods Le Pool	July	50	Roach, perch	Natural (Algal dieback)
River Roch	July	37	Brown trout	Pollution
River Irwell	July	36,000	Mixed coarse and brown trout	Pollution
Northwood Farm (SJ 642 411)	August	20	Rainbow trout	Unknown
Partridge Lakes	August	20	Rainbow trout	Natural (Algal bloom)t
Merrydale Farm, Over Peover, SJ745 790	August	60 1	Crucian Carp roach	Possible pollution
River Roch	August	48	Brown trout	Pollution
Merrydale Farm. Over Peover, SJ745 790	August	800	Crucian, Common & Mirror carp and roach	Other (Disease)
Black Brook, Chinley SJ 047 821	September	105	Brown & rainbow trout, roach	Pollution
Egerton Lake, Cholmondley	September	5000	Roach, carp	Pollution (Farm)
Egerton fruit farm near Malpas	October	20000	Roach, Carp, Bream, Tench	Pollution
Wrinchill Pool SJ 652 536	October	100	Rudd	Unknown
Trent & Mersey Canal (NGR SJ 729 631)	November	2,000	Gudgeon	Pollution

## 6 DETAILS OF FISHERIES PROSECUTIONS (SALMON AND FRESHWATER FISHERIES ACT 1975)

Offence	Section	No of Charges	Dismissed	Withdrawn	Cond disc	Abs Disc	Community Service	No Sep Pen	Not Proven	Fines	Costs
Prohibited implement	1	3	0	0	0	0	3	0	0	£0.00	£375.00
Unclean/immature fish	2	0	0	0	0	0	0	0	0	£0.00	£0.00
Fixed engine	6	2	0	0	0	0	0	0	0	£300.00	£50.00
Close season salmon	19(2)	0	0	0	0	0	0	0	0	£0.00	£0.00
Trout	19(4)	2	0	0	0	0	0	0	0	£60.00	£125.00
Freshwater fish	19(6)	5	0	0	3	0	0	0	0	£55.00	£141.66
Rainbow trout	19(7)	0	0	0	0	0	0	0	0	£0.00	£0.00
Unlicensed instrument - coop	27	0	0	0	0	0	0	0	0	£0.00	£0.00
hands		0	0	0	0	0	0	0	0	£0.00	£0.00
net		2	0	0	0	0	0	0	0	£490.00	£150.00
rod		317	1	11	2	12	0	0	0	£17,449.00	£15,451.65
Eel fork		0	0	0	0	0	0	0	0	£0.00	£0.00
hand line		0	0	0	0	0	0	0	0	£0.00	£0.00
Introducing fish	30	5	0	0	0	0	0	0	0	£650.00	£216.66
Refuse seizure	31	0	0	0	0	0	0	0	0	£0.00	£0.00
Failing to produce/ to state	35	28	0	0	0	0	0	2	0	£1,190.00	£842.48
Set Lines	27	0	0	0	0	0	0	0	0	£0.00	£0.00
<b>Total</b>		<b>364</b>	<b>1</b>	<b>11</b>	<b>5</b>	<b>12</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>£20,194.00</b>	<b>£17,352.45</b>

**FISHERY BYELAWS**

Offence	No.	No of Charges	Dismissed	Withdrawn	Cond disc	Abs Disc	Community Service	No Sep Pen	Not Proven	Fines	Costs
	7b	0	0	0	0	0	0	0	0	£0.00	£0.00
	11	0	0	0	0	0	0	0	0	£0.00	£0.00
	8(3)	1	0	0	0	0	0	0	0	£75.00	£25.00
	12(x)	0	0	0	0	0	0	0	0	£0.00	£0.00
	12(vii)	0	0	0	0	0	0	0	0	£0.00	£0.00
	13(v)	0	0	0	0	0	0	0	0	£0.00	£0.00
	17	3	0	0	0	0	0	0	0	£750.00	£375.00
	18(I)	7	0	1	3	0	0	0	0	£110.00	£116.66
	18(ii)	0	0	0	0	0	0	0	0	£0.00	£0.00
	19	5	0	0	0	0	0	0	0	£330.00	£116.66
	20	1	0	0	1	0	0	0	0	£0.00	£16.66
	22	1	0	0	0	0	0	0	0	£50.00	£25.00
	23	0	0	0	0	0	0	0	0	£0.00	£0.00
	24(a)	1	0	0	0	0	0	0	0	£75.00	£37.50
	25	0	0	0	0	0	0	0	0	£0.00	£0.00
	26	0	0	0	0	0	0	0	0	£0.00	£0.00
<b>National Salmon Byelaws</b>											
	5	0	0	0	0	0	0	0	0	£0.00	£0.00
	6	0	0	0	0	0	0	0	0	£0.00	£0.00
<b>Sea Fishery Committee Byelaws</b>											
	7	0	0	0	0	0	0	0	0	£0.00	£0.00
	11	2	0	0	0	0	0	0	0	£100.00	£50.00
<b>Totals</b>		21	0	1	4	0	0	0	0	£1,490.00	£762.48

MISCELLANEOUS LEGISLATION

Offence	Section	No of Charges	Dismissed	Withdrawn	Cond disc	Abs Disc	Community Service	No Sep Pen	Not Proven	Fines	Costs
Angling in private waters	Theft Act 1968	1	1	0	0	0	0	0	0	£0.00	£0.00
Salmon Handling	Salmon Act 1986	0	0	0	0	0	0	0	0	£0.00	£0.00
Threatening behaviour	Public Order Act 1986	0	0	0	0	0	0	0	0	£0.00	£0.00
Obstruction	Police Act 1964	0	0	0	0	0	0	0	0	£0.00	£0.00
Skerton Weir Byelaw 1		0	0	0	0	0	0	0	0	£0.00	£0.00
Assault	Offences Against the Person Act 1861	0	0	0	0	0	0	0	0	£0.00	£0.00
Art 6	Border Rivers Order 1999	4	0	0	0	0	0	0	0	£300.00	£200.00
Attempting to pervert the course of justice		0	0	0	0	0	0	0	0	£0.00	£0.00
<b>Totals</b>		<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>£300.00</b>	<b>£200.00</b>

## 7 NUMBERS OF ROD AND COMMERCIAL FISHING LICENCES ISSUED

### Rod and Line

	NUMBERS	COST	VALUE
<b>COARSE LICENCES</b>			
FULL	58618	£19.00	£1,113,742.00
CONCESSION	25079	£9.50	£238,250.50
8 - DAY	3093	£6.50	£20,104.50
1 - DAY	21376	£2.50	£53,440.00
<b>TOTAL COARSE</b>	<b>108166</b>		<b>£1,425,537.00</b>
<b>SALMON LICENCES</b>			
FULL	3071	£58.00	£178,118.00
CONCESSION	1570	£29.00	£45,530.00
8 - DAY	486	£16.50	£8,019.00
1 - DAY	1928	£5.50	£10,604.00
<b>TOTAL SALMON</b>	<b>7055</b>		<b>£242,271.00</b>
<b>GRAND TOTAL</b>	<b>115221</b>		<b>£1,667,808.00</b>

(a) Full and concession salmon and sea trout licences include upgrades from non-migratory trout and coarse fish licences.

(b) Includes revenue from telephone licence sales not attributed to regions

### Instruments Other Than Rod and Line

Northern Area	No	No Endorsees	Duty £	Amount £ (incl. Endorsees)
Solway - Haaf nets	105		100	10500
R.Eden District -Coops	3	6	257	772.2
South West Cumbria - Garth	0			
Cumbrian Coastal Waters - Drift nets	1	4	408	408.8
Duddon Estuary - Draw or Seine Nets.	0			
Kent Estuary - Lave Nets	8		100	800
Leven Estuary - Lave Nets	6		100	600
Derwent Coop	0			
<b>Central Area</b>				
Ribble Estuary - Drift or Hang Nets	6	20	297	1786
Lune Estuary - Drift or Hang nets	6	14	408	2451.6
- Draw or Seine Nets	0			
- Heave or Haaf Nets	12		200	2400
<b>Totals</b>	<b>147</b>			<b>19718.6</b>

### Eel Fishing Licences - Whole Area

	Duty £	Licences	No. of Nets	Amount £
Fyke Nets	5.5	21	270	1485
Traps/Putcheons/ Baskets	16.6/25	5	125	83
Dip nets	11	31	31	341
Fixed eel traps	83.25	3	3	249.75
<b>Totals</b>		<b>60</b>	<b>429</b>	<b>2158.75</b>

### Numbers of persons engaged in commercial salmon and trout fishing

#### TYPE OF NET, etc

AREA	Haaf	Drift	Draw	Lave	Fixed Engine
<b>NORTH</b>					
Licence Holders	105	1		14	3
Endorsees	0	4		0	6
<b>CENTRAL</b>					
Licence Holders	12	12			
Endorsees	0	34			

**General Licences Number issued = 9, income £1664**

**Temporary Licences (Rod and Line) Number issued = 3, income £92, 26 no charge**



## NORTH WEST REGION ADDRESSES

### REGIONAL OFFICE

Environment Agency  
PO Box 12  
Richard Fairclough House  
Knutsford Road  
Warrington WA4 1HG  
Tel: 01925 653 999  
Fax: 01925 415 961

### NORTH AREA OFFICE

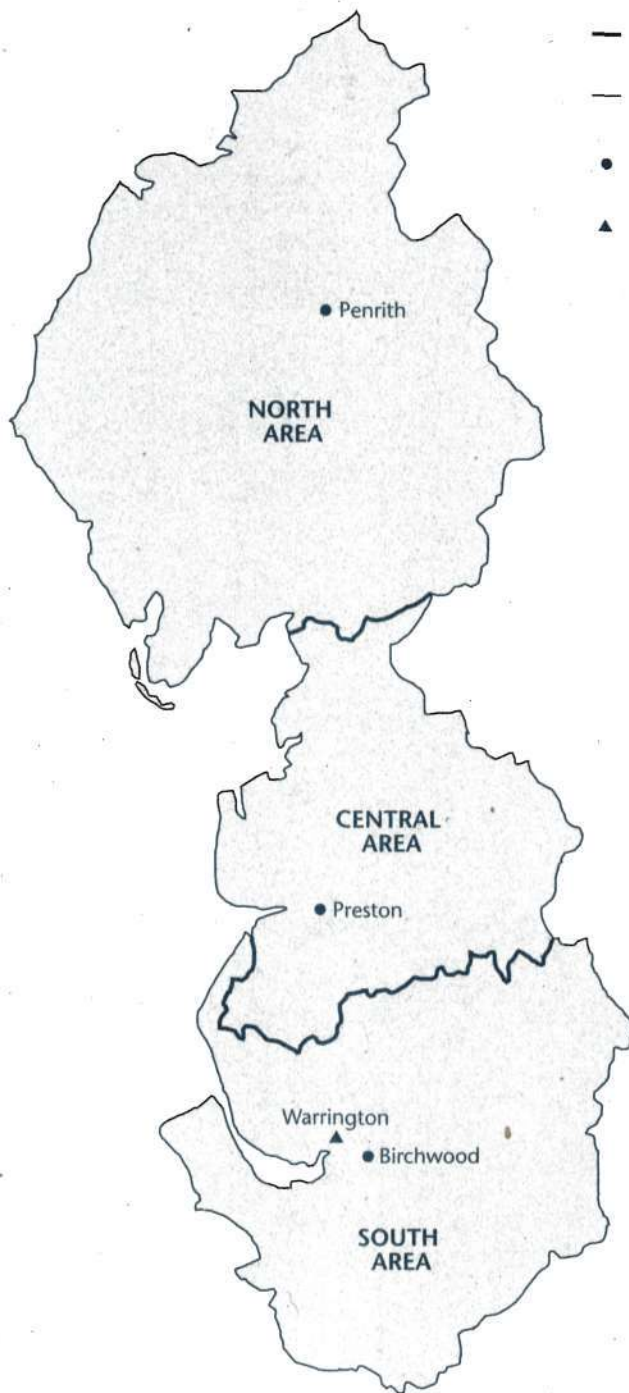
Environment Agency  
Ghyll Mount  
Gillan Way  
Penrith 40 Business Park  
Penrith  
Cumbria CA11 9BP  
Tel: 01768 866 666  
Fax: 01768 865 606

### CENTRAL AREA OFFICE

Environment Agency  
Lutra House  
Dodd Way  
Walton Summit  
Bamber Bridge  
Preston PR5 8BX  
Tel: 01772 339 882  
Fax: 01772 627 730

### SOUTH AREA OFFICE

Environment Agency  
Appleton House  
430 Birchwood Boulevard  
Birchwood  
Warrington WA3 7WD  
Tel: 01925 840 000  
Fax: 01925 852 260



[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

ENVIRONMENT AGENCY  
GENERAL ENQUIRY LINE

**0845 933 3111**

ENVIRONMENT AGENCY  
FLOODLINE

**0845 988 1188**

ENVIRONMENT AGENCY  
EMERGENCY HOTLINE

**0800 80 70 60**



**ENVIRONMENT  
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