

**ENVIRONMENT AGENCY
NORTH WEST REGION**

**River Ribble Juvenile Fish Stock Assessment 1998
With Particular Reference to Salmonids**

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ENVIRONMENT AGENCY



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Summary

A total of 50 sites was electrofished throughout the Ribble catchment between 6th July 1998 and 23rd September 1998. These sites included 29 that had been previously sampled in the last comprehensive survey of the catchment, in 1992. No sites were surveyed on the middle and lower reaches of the main River Ribble, downstream of Settle and only very limited sampling (3 sites) was undertaken on the main river upstream of Settle due to the unusually high water levels that prevailed during this time.

The electrofishing procedure consisted of a single upstream pass at each site. The fish densities (expressed as numbers per 100m²) calculated from this method and presented in this report are semi-quantitative, or minimum estimates and therefore do not represent the complete juvenile salmonid production for these sites.

Salmon fry production was low throughout the catchment and also low in comparison with results from the 1992 survey. The most productive area for salmon fry was on the lower reaches of Long Preston Beck. Salmon fry were also found in low densities in Swanside Beck, Dean Brook, Holden Beck and Hellifield Beck.

Salmon parr production was relatively low throughout the catchment and also low in comparison with results from the 1992 survey. As was the case with salmon fry, the most productive area for salmon parr was in the lower reaches of Long Preston Beck. Outwith this area, salmon parr were found at low densities in Swanside Beck, lower Holden Beck, lower Skirden Beck, Rathmell Beck, Stainforth Beck, Horton becks and in the main Ribble downstream of Stainforth.

Trout fry production in 1998 was comparatively high, with the most productive areas being Dean Brook, upper Bashall Brook, Waddington Beck, West Bradford Beck, West Clough Beck, Swanside and Ings Becks, and also Bond and Tosside Becks. The least productive areas for trout fry were Boyces, Stydd and Duddel Brooks, lower Bashall Brook, Monubent Beck, lower Skirden Beck, Stock Beck, Sannat Beck, Gayle Beck and Cam Beck. Trout fry production in 1998 was similar to that reported in the 1992 survey.

Trout parr production in 1998 was comparatively high, with highly productive areas being found throughout the catchment. The least productive areas for trout parr were Stydd Brook, lower Bashall Brook, Stock Beck, Rathmell Beck, Sannat Beck and main Ribble sites. Trout parr production in the Ribble in 1998 was marginally lower than that reported in the 1992 survey.

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1. INTRODUCTION

This report presents data collected for the River Ribble in 1998 as part of the routine 5-year rolling programme of stock assessment surveys carried out by the Fisheries Science Management and Recreation Team, Environment Agency, North West Region, Central Area. The aim of this survey was to assess the distribution and abundance of juvenile salmon and trout within the Ribble catchment and to help to identify areas where habitat improvements are likely to result in increases in juvenile salmonid numbers.

The Ribble catchment is the largest and most diverse river system in the Environment Agency, North West Region, Central Area, draining an area of 2128 km².

The River Ribble rises at Newby Head Moss (NGR SD 793 845) in the Pennines, at an altitude of 422 metres. The river then passes through the Yorkshire Dales National Park and the Forest of Bowland, before entering the Irish Sea to the west of the town of Preston, a total of 110km from source to sea. The middle stretch of the Ribble is joined, to the south of Clitheroe, by two major tributaries, the Hodder and Calder. The River Darwen drains the conurbations of Darwen and Blackburn and meets the Ribble at Preston. Surveys of the Rivers Hodder, Calder and Darwen are reported independently.

The underlying geology of the Ribble catchment is dominated by Carboniferous Limestone and Millstone Grit with a small, isolated area of Pre-Cambrian/Silurian bedrock in the north of the catchment and an aquifer of Sherwood Sandstone in the lower catchment. Land use in the Ribble catchment is predominantly agricultural with rough grazing pasture for sheep in the higher altitudes and steeper gradients and improved pasture for cattle and sheep in the lower altitudes and lower gradient land.

The river water quality in the Ribble catchment is generally of good to fair standard (River Ecosystem Classification 1 or 2). However, the water quality for the middle reaches of Stock Beck is of a poor standard that is unlikely to sustain salmonids (RE class 4).

Surface water is abstracted from a number of sites within the Ribble catchment, mostly by North West Water for public water supply. In addition, groundwater is abstracted from aquifers in the lower catchment by means of wells and boreholes or by making use of naturally occurring springs.

Long Preston Deeps and the Ribble Estuary are designated Sites of Special Scientific Interest (SSSI). The Ribble Estuary is also a RAMSAR site and a Special Protected Area (SPA). There are also 31 non-riverine SSSI's within the catchment.

The Ribble supports major recreational fisheries for both coarse and game fish. Within the Ribble Estuary there are also commercial net fisheries for salmon (*Salmo salar*), sea trout (*Salmo trutta*) as well as sea bass (*Dicentrarchus labrax*) and mullet (*Chelon labrosus*). The survey area for this report is predominantly used as a game fishery for salmon, sea trout and brown trout.

2. METHODS

A total of 50 survey sites was electrofished on the main River Ribble and its tributaries, including 28 sites that had been sampled in the last survey of the catchment, in 1992. Sites were selected in shallow, wadeable areas to be representative of the available habitat, except on the main river where shallow riffle habitat was selected.

The survey commenced on 6th July 1998 and was completed on 23rd September 1998. All sites were sampled using pulsed DC electrofishing, powered by a 2.5 KVA Honda generator. All sites were electrofished once in an upstream direction using 1 anode for sites less than 4m wide, or 2 anodes for sites greater than 4m wide. Sites ranged in length from 10m to 70m and the total area surveyed at each site ranged from 10m² to 600m².

All salmonids, eels, lampreys and any major coarse species such as chub were collected for measurement. The fork length of salmonids and major coarse species was measured to the nearest 0.5cm below. In addition, the total wet weight of eels and each major coarse species was measured. Salmonid age classes were identified as 0+ (fry) or greater than 0+ (parr) based on the length frequency method. Minimum densities per 100m² were calculated for each age class of each species caught (the number of fish caught divided by the area fished and multiplied by 100). Minor coarse species such as bullheads, minnows and stone loach were not collected but their approximate numbers were estimated as tens, hundreds or thousands per 100m².

The fish data and physical habitat data were used to classify each site according to the National Fisheries Classification Scheme (NFCS). The NFCS compares the species/age class abundance data for each site with a national database of fish abundance, allocating each site to one of five abundance categories. These categories each represent one fifth of the national data set for that species/age class. For example, if the density of salmon fry for a particular site falls within the top fifth of salmon fry densities for national sites, then it will be classified as category A for salmon fry; a density in the bottom fifth will classify the site as category E. Where the species/age class is absent, the site is classified as category F (absent).

The actual densities of each species and age class that correspond to the NFCS grades are defined in Table 1 below.

Table 1 The densities (number per 100m²) of juvenile salmon and trout and corresponding NFCS grades.

NFCS Grade (Level 1 classification)	Salmon Densities (no./100m ²)		Trout Densities (no./100m ²)	
	Fry (0+)	Parr (>0+)	Fry (0+)	Parr (>0+)
A	>86	>19	>38	>21
B	45-86	10-19	17-38	12-21
C	23-45	5-10	8-17	5-12
D	9-23	3-5	3-8	2-5
E	0-9	0-3	0-3	0-2
F	0	0	0	0

3. RESULTS

3.1 Overview

Nine species of fish were recorded in the 1998 survey, namely; trout (*Salmo trutta*), salmon (*Salmo salar*), eel (*Anguilla anguilla*), bullhead (*Cottus gobio*), minnow (*Phoxinus phoxinus*), stone loach (*Barbatula barbatula*), stickleback, (*Gasterosteus aculeatus*), lamprey (*Lampetra* spp.) and chub (*Leuciscus cephalus*). Native white-clawed crayfish (*Austropotamobius pallipes*) were also found in the upper Ribble.

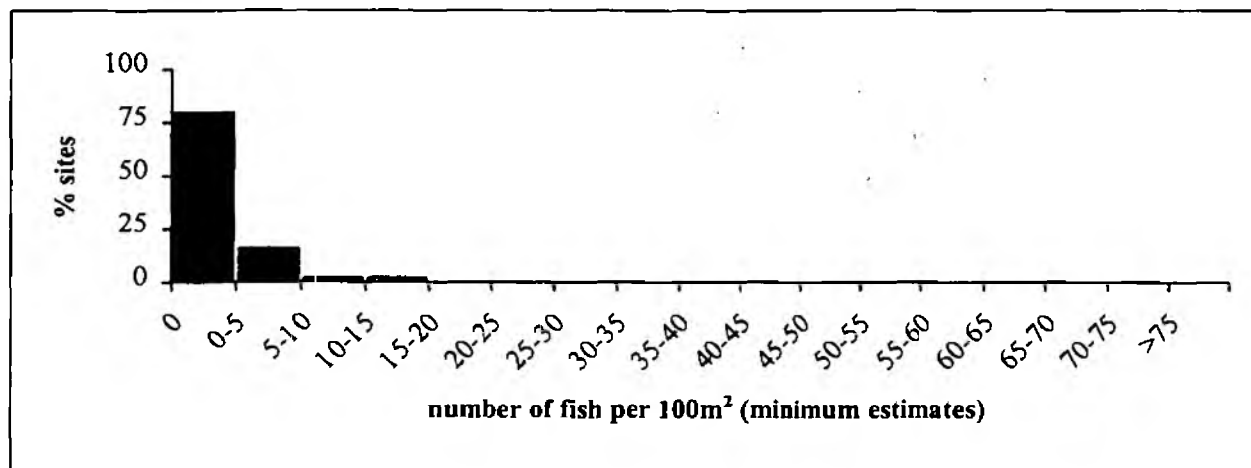
Several additional species are known to be present in the lower Ribble but none were caught in the present survey, probably due to the selective sampling of shallow, juvenile salmonid nursery areas. These include: barbel (*Barbus barbus*), roach (*Rutilus rutilus*), dace (*Leuciscus leuciscus*), rudd (*Scardinius erythrophthalmus*), pike (*Esox lucius*), perch (*Perca fluviatilis*), gudgeon (*Gobio gobio*), bream (*Abramis brama*), carp (*Cyprinus carpio*) and occasional migratory sea lamprey (*Petromyzon marinus*). Grayling (*Thymallus thymallus*) are also present in the middle reaches of the river but none were encountered in this survey. Rainbow trout (*Oncorhynchus mykiss*) may also be present in the Ribble as a consequence of escape from put-and-take fisheries. However these are unlikely to form a self-sustaining population and none were found in the 1998 survey.

Juvenile trout were the most abundant species caught in the survey, being found at 45 (90%) of the 50 survey sites. Juvenile salmon were found at only 17 survey sites (34%).

3.2 Juvenile Salmon Densities 1998

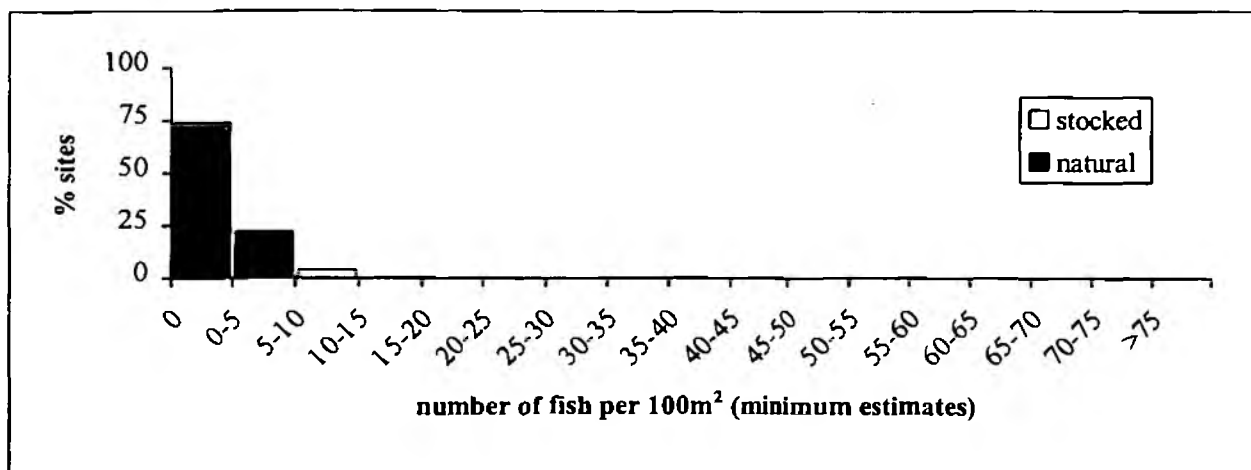
The distribution of salmon fry densities in the 1998 Ribble survey was very much skewed towards the lower densities, with fry being absent from 80% of survey sites. No sites recorded salmon fry densities in excess of 15 fry per 100m². No salmon fry were stocked into the Ribble catchment in 1998. Results presented here therefore represent only the natural production of salmon fry.

Figure 1 - The distribution of salmon fry densities (minimum estimates) for 50 sites surveyed in the Ribble catchment in 1998.



Salmon parr densities were similarly skewed towards the lower densities, with parr being absent from 74% of the sites. No salmon parr densities in excess of 10 parr per 100m² were recorded in the 1998 survey. Survey sites located in areas that had been stocked with salmon fry in 1997 were identified from stocking records. Parr densities at these sites in 1998 are therefore likely to represent a combination of natural production and the previous years fry stocking.

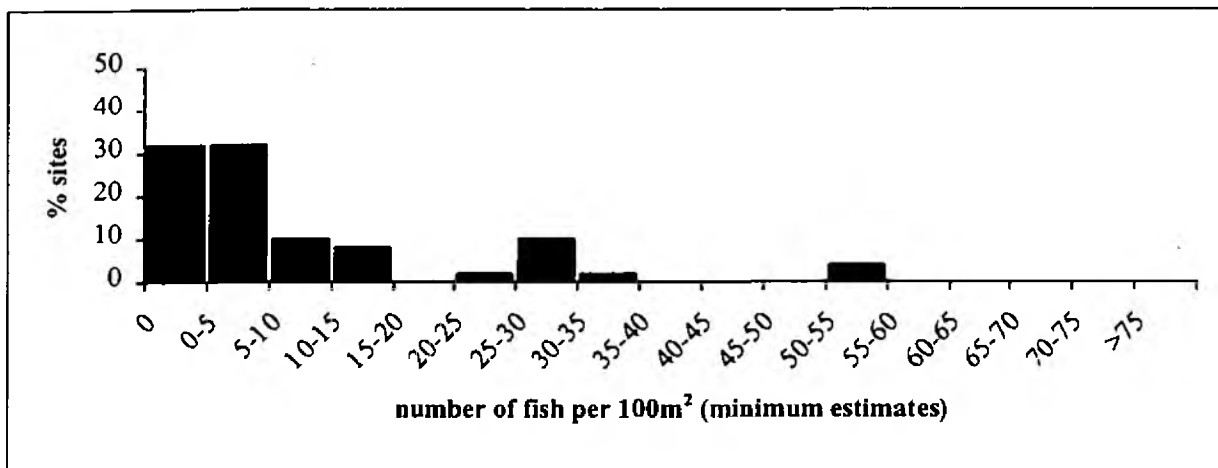
Figure 2 - The distribution of salmon parr densities (minimum estimates) for 50 sites surveyed in the Ribble catchment in 1998.



3.3 Juvenile Trout Densities 1998

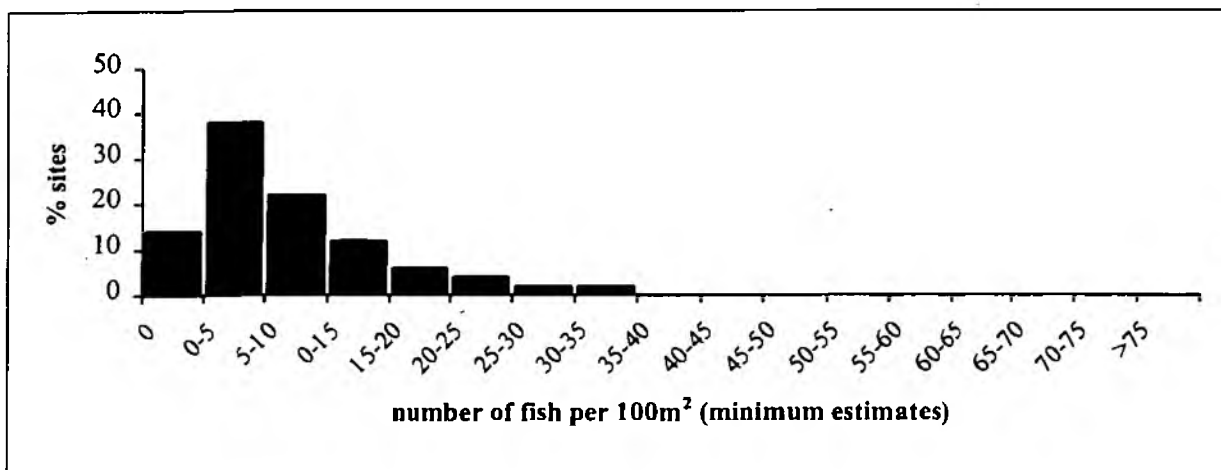
Densities of trout fry were generally low in the 1998 survey. Trout fry were absent from 32% of the survey sites while densities up to 10 fry per 100m² were recorded at 42% of survey sites. Higher trout fry densities, in excess of 20 fry per 100m², were recorded at 18% of sites. No stocking of trout fry took place in the Ribble catchment in 1998. Results presented here therefore represent only the natural production of trout fry.

Figure 3 - The distribution of trout fry densities (minimum estimates) for 50 sites surveyed in the Ribble catchment in 1998.



Trout parr densities tended to be relatively low, with parr being absent from 14% of survey sites. Densities of less than 10 parr per 100m² were recorded at 60% of sites while densities greater than 20 parr per 100m² were recorded at 8% of sites. Trout parr densities reported here are the results of only natural production as no stocking of juvenile trout took place in previous years.

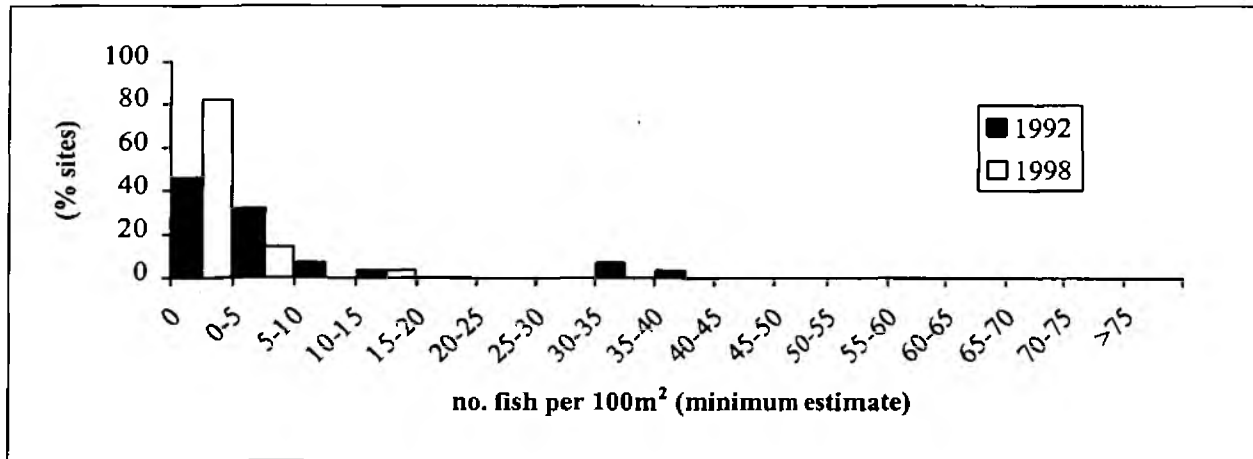
Figure 4 - The distribution of trout parr densities (minimum estimates) for 50 sites surveyed in the Ribble catchment in 1998.



3.4 Comparisons with 1992 Survey Results

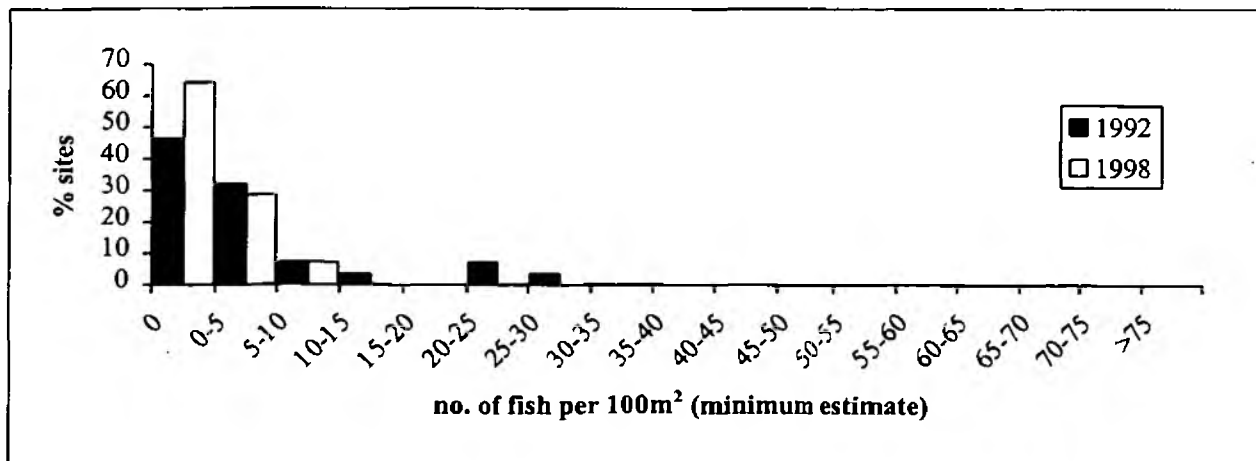
Salmon fry densities at the 28 repeated sites were markedly lower in 1998 than they had been in 1992. The percentage of those repeated sites from which salmon fry were absent increased markedly from 46% in 1992, to 82% in 1998. Less than 4% of the repeated sites recorded fry densities in excess of 10 fry per 100m² in 1998 compared to more than 22% of sites in this range in 1992 (Figure 5). The maximum recorded density of salmon fry among the 28 repeated sites was higher in 1992 (37 fry per 100m²) than in 1998 (11 fry per 100m²).

Figure 5 - The distribution of salmon fry densities (minimum estimates) for 28 sites in the Ribble catchment surveyed in both 1992 and 1998.



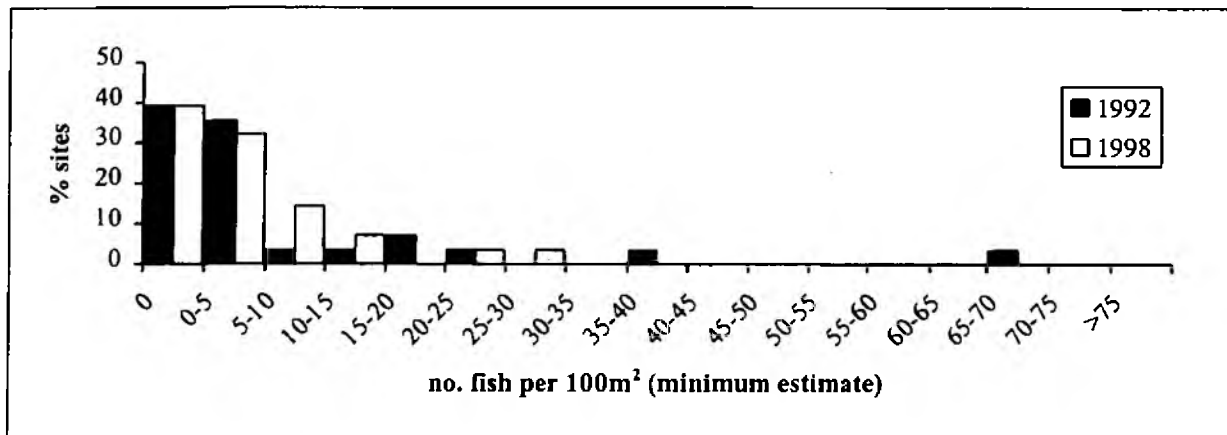
Salmon parr densities at the 28 repeated sites were also generally lower in 1998 than they had been in 1992. Salmon parr were absent from 46% of repeated sites in the 1992 survey, compared to 64% in the 1998 survey. Parr densities in excess of 10 parr per 100m² were recorded at 14% of the repeated sites in 1992 but no densities in this range were recorded in the 1998 survey. The maximum recorded density of salmon parr among the 28 repeated sites was higher in 1992 (29 fry per 100m²) than in 1998 (10 fry per 100m²).

Figure 6 - The distribution of salmon parr densities (minimum estimates) for 28 sites in the Ribble catchment surveyed in both 1992 and 1998.



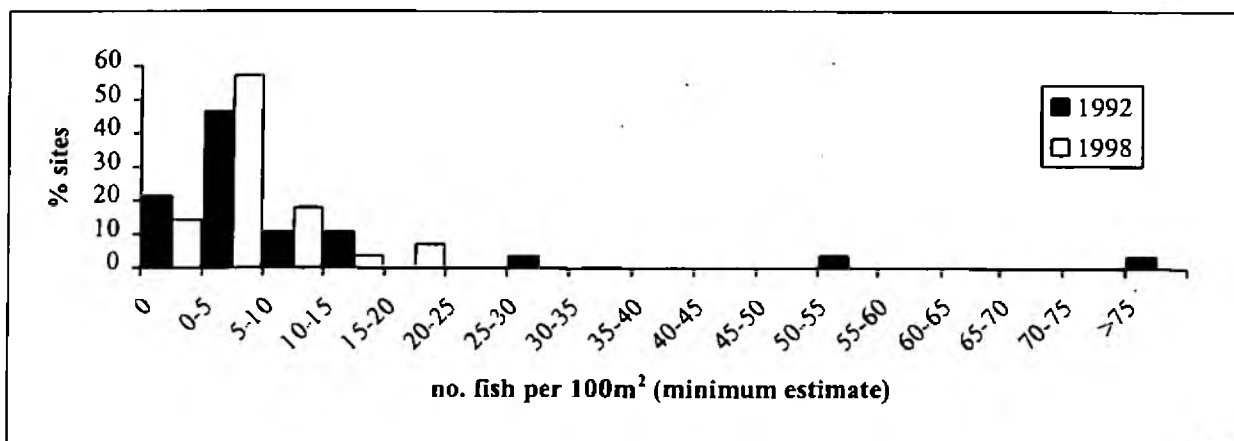
The distribution of trout fry densities from the 28 repeated sites were very similar in both survey years. The percentages of repeated sites from which trout fry were absent were similar in 1992 and 1998 (39% in both surveys). Trout fry densities in excess of 10 fry per 100m² were recorded at 21% of survey sites in 1992 compared with 14% in 1998. The maximum recorded density of trout fry among the 28 repeated sites was higher in 1992 (68 fry per 100m²) than in 1998 (27 fry per 100m²).

Figure 7 - The distribution of trout fry densities (minimum estimates) for 28 sites in the Ribble catchment surveyed in both 1992 and 1998.



Trout parr densities were generally lower in 1998 than in 1992 although the percentage of repeated sites from which trout parr were absent was lower in 1998 (14%) than in 1992 (21%). Parr densities in excess of 10 parr per 100m² were less common in 1998 (14%) than in 1992 (21%). The maximum recorded density of trout parr among the 28 repeated sites was markedly higher in 1992 (85 fry per 100m²) than in 1998 (18 fry per 100m²).

Figure 8 - The distribution of trout parr densities (minimum estimates) for 28 sites in the Ribble catchment surveyed in both 1992 and 1998.



3.5 National Fisheries Classification Scheme

The site-specific National Fisheries Classification Absolute Grades (Level 1) from the 1998 survey are given for each species/age class in figures 9 to 12.

Salmon fry densities were very low throughout the catchment and were only recorded at 10 of the 50 survey sites. Long Preston Beck and Swanside Beck were the most productive areas for salmon fry, albeit at low densities and fry were also present in Dean Brook, Holden Beck, Hellifield Beck and Gayle Beck. There are no records of salmon fry stocking in the Ribble in 1998, so these results therefore reflect natural production. Main river spawning areas are likely to sustain the majority of salmon production, particularly following relatively dry seasons when access to smaller spawning tributaries may be restricted. Since only three main river sites were included in this survey these results are therefore not likely to be truly representative of the salmon fry production in the Ribble system as a whole in 1998.

The distribution of salmon parr was relatively restricted with predominantly low densities occurring at the 13 sites where parr were present. Long Preston Beck was the most productive stream and the upper main river Ribble, including Stainforth Beck and Horton Beck were also main parr producing areas, albeit at low densities. Salmon parr were also found in Swanside Beck, Holden and Skirden Becks and Rathmell Beck. Salmon fry were stocked into Long Preston Beck and Stainforth Beck in 1997 and also into the main Ribble upstream of Settle. It is therefore likely that the salmon parr production recorded in these areas in 1998 has resulted, at least in part, from this introduction. As with salmon fry production, the lack of coverage of main river sites means that this survey is likely to underestimate salmon parr production in the Ribble in 1998.

Trout fry were found throughout the catchment at relatively high densities. The most productive areas for trout fry included Dean Brook, upper Bashall Beck, Waddington, West Bradford and West Clough Becks, Swanside and Ings Becks, and Bond and Tosside Becks. Fry were found at relatively low densities in most other areas of the catchment. While the majority of salmon spawning is likely to occur in main river spawning areas, trout spawning tends to be concentrated in smaller tributaries. The production of trout fry in the 1998 survey is therefore likely to be a representative reflection of production within the catchment.

Trout parr production in the 1998 survey was relatively high and was generally centred on the middle and lower tributaries. Relatively high densities of trout parr were found in Boyces Beck, Duddel Brook, upper Bashall Beck, Waddington, West Bradford and West Clough Becks, Swanside and Ings Becks, Bond and Tosside Becks, Hellifield Beck, Giggleswick Beck and Cowside Beck. Parr densities were low in Stydd Brook, lower Bashall Beck, Stock Beck, Rathmell Beck, Sannat Beck and the upper Ribble, upstream of Horton-in Ribblesdale. As with trout fry production, the coverage of sites in the 1998 survey is likely to provide a relatively accurate representation of trout parr production in the Ribble system.

Areas of Low Fish Production

A number of areas yielded particularly low densities of both trout and salmon. These include Stydd Brook, lower Bashall Beck, Bier Beck, Stock Beck and Sannat Beck. Some of these streams (eg. Sannat Beck) may be too narrow for salmon to enter and spawn in, however they should still hold trout, assuming water quality and habitat are suitable. Investigations to address why these areas produce such low numbers of juvenile salmonids should be a priority.

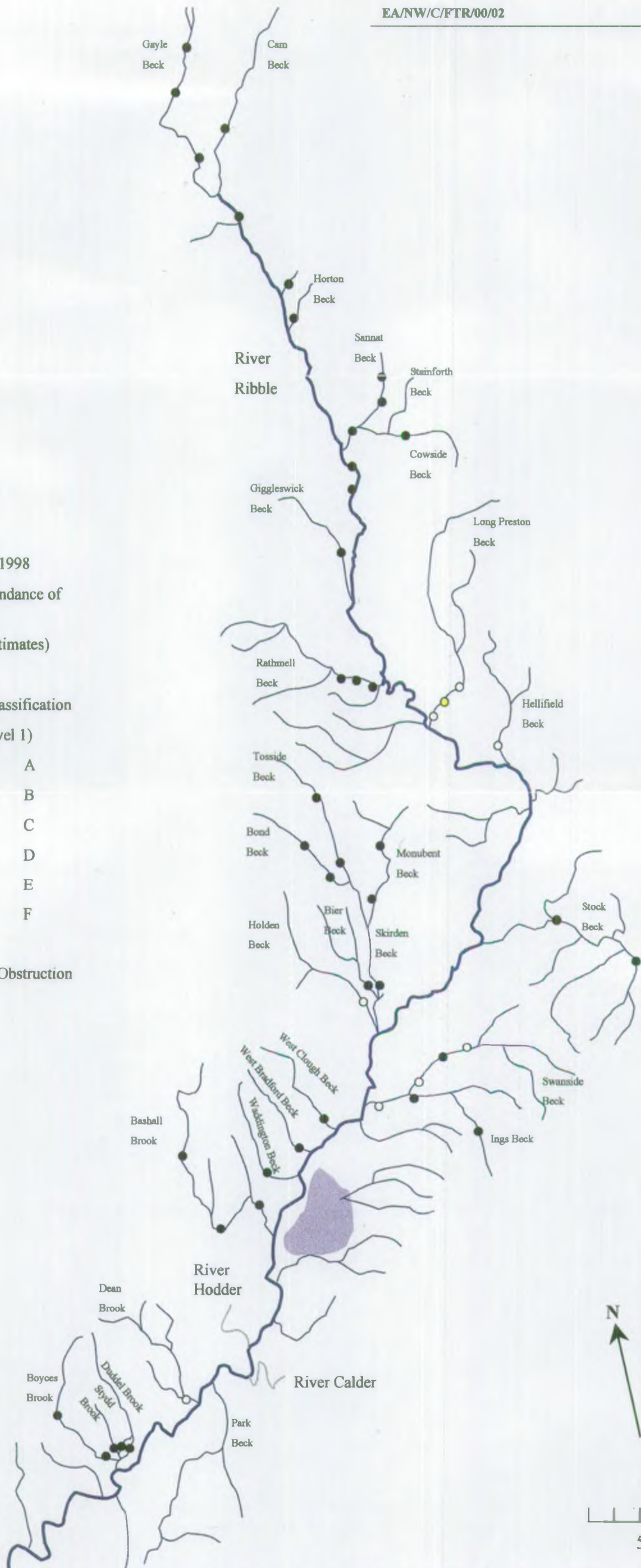
River Ribble Survey 1998
 Distribution and Abundance of
 Salmon Fry (0+)
 (minimum density estimates)

National Fisheries Classification

Absolute Grades (Level 1)

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

▬ Obstruction

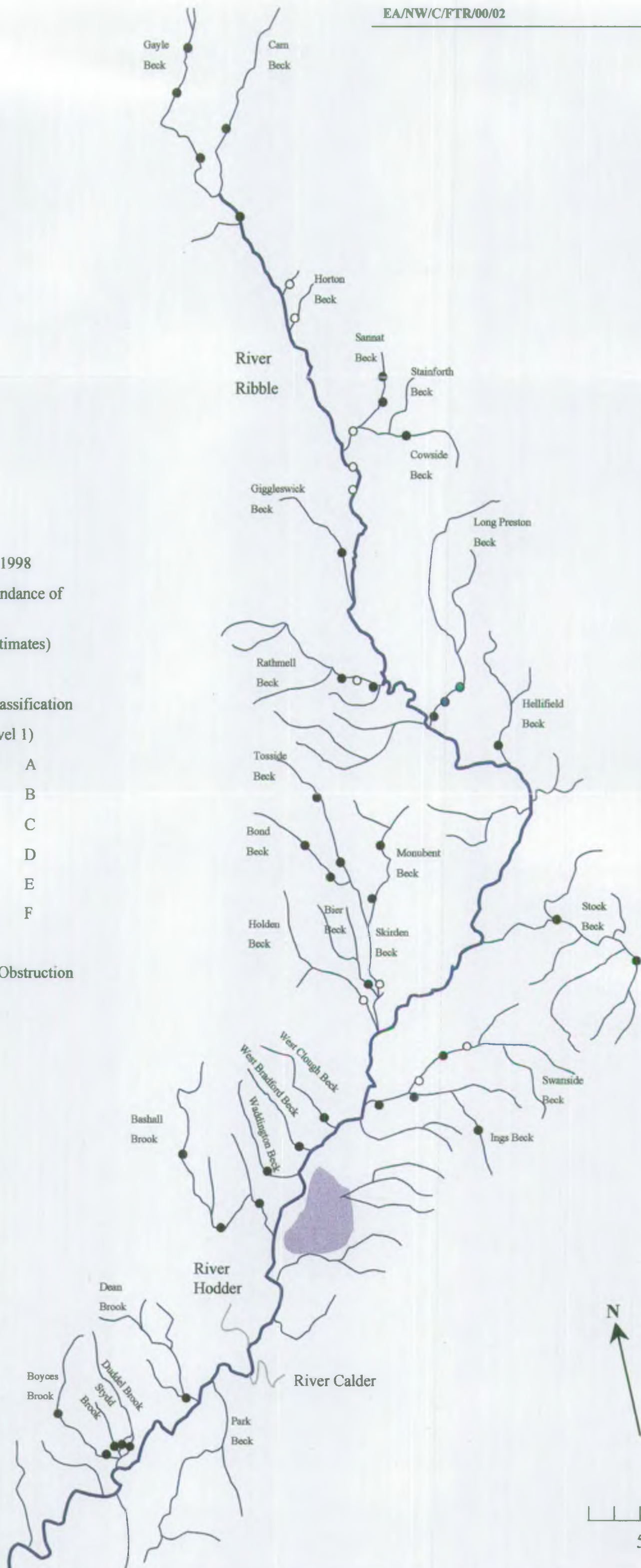


River Ribble Survey 1998
 Distribution and Abundance of
 Salmon Parr (>0+)
 (minimum density estimates)

National Fisheries Classification
 Absolute Grades (Level 1)

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

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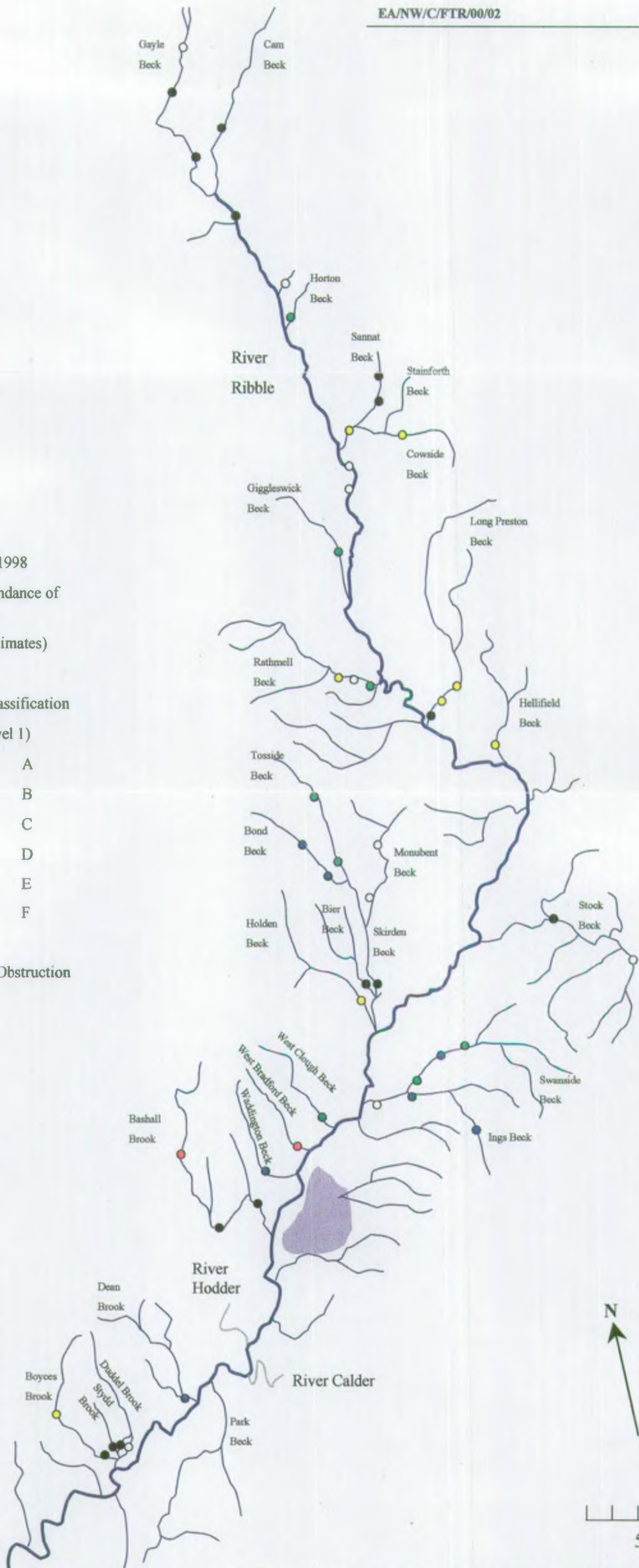
River Ribble Survey 1998
 Distribution and Abundance of
 Trout Fry (0+)
 (minimum density estimates)

National Fisheries Classification

Absolute Grades (Level 1)

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

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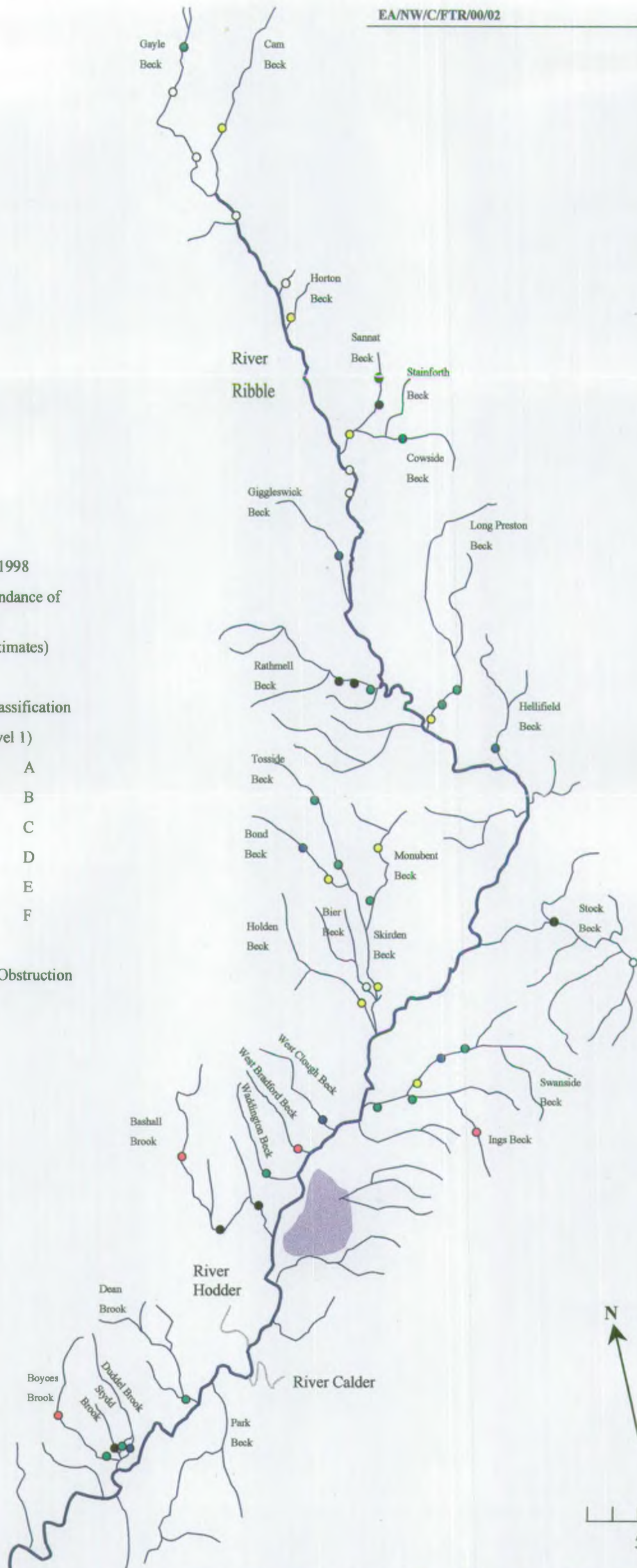


River Ribble Survey 1998
 Distribution and Abundance of
 Trout Parr (>0+)
 (minimum density estimates)

National Fisheries Classification
 Absolute Grades (Level 1)

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

| Obstruction



3.6 Map Corrections

- Salmon fry Map** Main River Ribble, upstream-most site should be grade E (low density of salmon fry present).
- Salmon parr Map** Main River Ribble, upstream-most site should be grade E (low density of salmon parr present).

The densities quoted in the site report sheets are correct and are the values used in the analysis presented here.

4. DISCUSSION

4.1 Species Composition

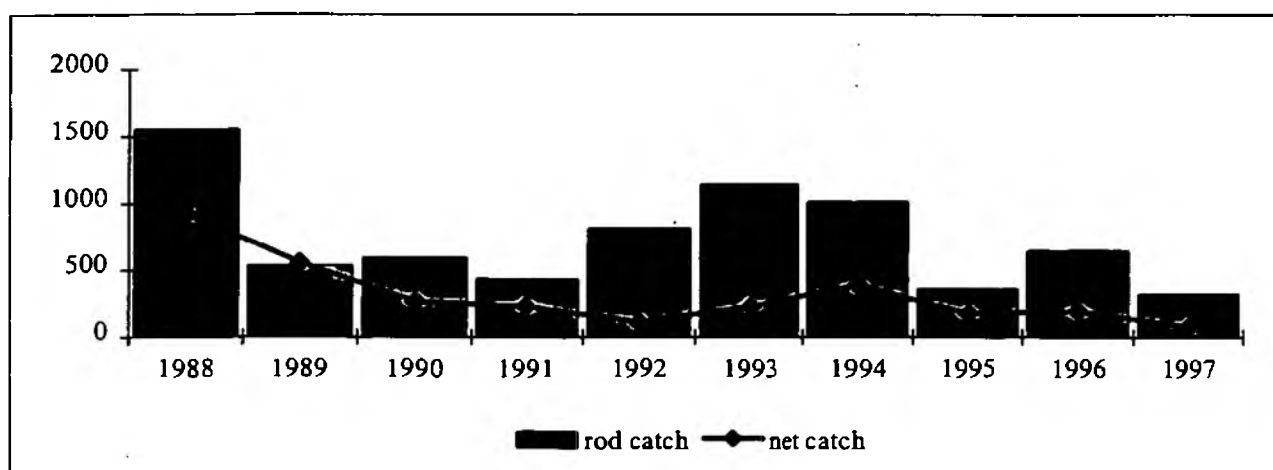
Limitations of the electrofishing technique restrict this survey to shallow riffle habitats that are typical of juvenile salmonid nursery areas. This type of survey will therefore focus on juvenile salmonid production and will not accurately reflect the status of deepwater fish populations such as major coarse species and adult salmonids. This is reflected in the range of species caught in the survey, compared with the range of species that are known to be present in the Ribble.

4.2 Adult Abundance

Habitat and stocking issues aside, the distribution and abundance of juvenile salmon and trout are significantly affected by the abundance of spawning adults, particularly in the two previous years, and the ability of those adults to reach the spawning areas. For example in low flow years, the ability of the adult stock to penetrate into spawning streams is likely to be reduced, therefore resulting in a more restricted distribution of juveniles in the following years.

The corrected rod and net catches for 1996 and 1997 were relatively low, in particular, the 1997 catches were the lowest on record, (Figure 9). While these two methods only sample the salmon run for part of the year they do provide a valuable index of salmon abundance. Counts of adult salmon at Waddow weir are only available from 1994, but also confirm the relatively low abundance of salmon in 1997. Such low catches, particularly in 1997 could partly account for the relatively low densities of salmon fry found in the 1998 survey. It should be borne in mind that both 1996 and 1997 were particularly dry years and may have effectively restricted the distribution of spawning salmon within the Ribble system. It is likely that a larger proportion of spawning occurred in main river areas, however the sampling of main river sites in the 1998 survey was very limited.

Figure 9 - Corrected rod and net catches of salmon, River Ribble, 1988 – 1997.



4.3 Water Quality

The Environment Agency uses two principal schemes for the reporting and management of river water quality; the General Quality Assessment (GQA) scheme and the Water Quality Objectives (WQO) scheme. The GQA scheme is used to make periodic assessments of the quality of river water in terms of general chemistry and general biology, in order to monitor geographical and temporal trends. GQA chemistry and biology are defined by six grades ranging from A (Very good) to F (bad). In terms of GQA chemistry from 1995 to 1997, the majority of the Ribble is described as very good or good (GQA classes A and B respectively), with only Stock Beck being described as fairly good or fair (classes C and D respectively). None of the catchment is described as classes E or F (poor and bad respectively).

The WQO scheme establishes clear quality targets to provide a commonly agreed planning framework for regulatory bodies and dischargers alike. This scheme is based upon the recognised uses to which a stretch of river may be put. Standards defining the five-tiered River Ecosystem (RE) use classes, which address the chemical quality requirements of different types of aquatic ecosystems, were introduced by "The Surface Waters (River Ecosystem) Classification Regulations 1994".

Table 2 – General descriptions of the five River Ecosystem classes.

River Ecosystem Class	Description
RE 1	Water of very good quality suitable for all fish species
RE 2	Water of good quality suitable for all fish species
RE 3	Water of fair quality suitable for high class coarse fish populations
RE 4	Water of fair quality suitable for coarse fish populations
RE 5	Water of poor quality which is likely to limit coarse fish populations
Waters that do not achieve RE 5 are of bad quality in which fish are unlikely to survive.	

River Ecosystem objectives are set for all of the specified reaches of the river system, on both a short to medium term basis and a long term basis. Short to medium term objectives are set where investment or campaigns are likely to result in a rapid improvement in water quality, and long term objectives are set where short term investment is not planned but an improvement in water quality is sought. The long term River Ecosystem objectives for the Ribble system are mostly set at RE1 or RE2 which are levels that are capable of sustaining salmonids.

4.4 Sub-Catchment Descriptions

Lower Ribble Tributaries (downstream of Calder Foot) (Boyces Brook, Stydd Brook, Duddel Brook, Dean Brook)

Recent Results Salmon fry were found at low densities (NFCS grade E) at only one survey site on these four tributaries, that being on Dean Brook. Salmon parr were absent from all sites. Trout fry were present in relatively low densities at these sites (NFCS grades D to F), with the exception of the Dean Brook site, which held a high density of fry (NFCS grade B). Trout parr production was relatively high in these tributaries (NFCS grades A to C) with the exception of the Stydd Brook site from which trout parr were absent.

Long Term Results None of these sites were included in the previous survey.

Water Quality Long term RE objectives for these streams are set to RE2 and complied with this standard in 1998. No RE objectives have been set for Dean Brook.

Lower Ribble Tributaries (upstream of Calder Foot) (Bashall Beck, Waddington Beck, West Bradford Beck, West Clough Beck)

Recent Results Both salmon fry and parr were absent (NFCS grade F) from all six sites surveyed on these four tributaries in 1998. However, relatively high densities of both trout fry and parr were recorded in these streams (NFCS grades A to C) with the exception of the two downstream-most sites on Bashall Beck from which trout fry and parr were absent.

Long Term Results These tributaries were not surveyed in the previous survey of the Ribble in 1992.

Water Quality Bashall Beck complied with its long term RE2 objective in 1998. Objectives have not been set for the other three streams.

Swanside Beck

Recent Results The Swanside Beck system has historically been considered to be an important spawning and nursery area for salmon within the Ribble catchment. Salmon fry and parr were found at low densities (NFCS grade E) in Swanside Beck in the 1998 survey. No salmon were found at the two survey sites on Ings Beck. Similarly low densities were obtained for both Swanside and Ings Becks in the previous survey in 1992. Production of both trout fry and parr however, was relatively high (NFCS grades A to C) in both Swanside and Ings Becks in the 1998 survey.

Long Term Results These densities compare favourably with results from the previous survey in 1992.

Water Quality Both Swanside and Ings Becks marginally failed to meet their RE1 long term water quality objective in 1998, because of pollution caused by agricultural activities.

Skirden Beck

Recent Results As with Swanside Beck, the Skirden Beck system has historically been considered to be one of the more important salmon spawning and nursery areas in the Ribble catchment. Both salmon fry and parr were absent from the majority of the Skirden Beck system in the 1998 survey. Fry were found at low density on lower Holden Beck (NFCS grade E) while parr were found at low densities at the same site and also on lower Skirden

Beck (NFCS grade E). Trout fry and parr were found throughout the Skirden system, with Bond and Tosside Becks being particularly productive (NFCS grades B & C).

Long Term Results Previous surveys of the Skirden system in 1993 and 1994 produced similar results, however the distribution of salmon fry and parr was significantly more restricted in the 1998 survey.

Water Quality The Skirden Beck system significantly failed to meet its long term RE1 objective in 1998, due to pollution generated by agricultural activity.

Stock Beck

Recent Results Stock Beck has also historically been considered to be one of the more important salmon spawning and nursery streams in the catchment. In the 1998 survey, both salmon fry and parr were absent from the two survey sites on Stock Beck. Trout fry and parr were absent from the downstream survey site, however both trout fry and parr were present at low densities at the upstream site.

Long Term Results Four sites were surveyed on Stock Beck in 1994. No salmon were found at these sites and only low densities of trout parr were present at the most downstream sites, close to the confluence with the Ribble.

Water Quality These low densities appear to result from poor water quality caused by effluents from industry and Waste Water Treatment Works (WwTW's). The upper reaches of Stock Beck upstream of Barnoldswick achieved their RE2 water quality objective in 1998. Downstream of Barnoldswick, the water quality objectives for the middle reaches of the beck are set to RE4. This standard was achieved in 1998. The lower reaches of Stock Beck significantly failed to comply with their RE2 objectives in 1998. The water quality in Stock Beck downstream of Barnoldswick was therefore not suitable to sustain salmonids in 1998.

Mid Ribble Tributaries (Hellifield Beck, Long Preston Beck, Rathmell Beck)

Recent Results Salmon fry were found at low densities (NFCS grades D & E) in Hellifield Beck and at all three survey sites on Long Preston Beck. However, no salmon fry were found in Rathmell Beck in 1998. Salmon parr were absent from Hellifield Beck and from the downstream site on Long Preston Beck. The two upstream sites on Long Preston Beck held relatively high densities of salmon parr (NFCS grades B & C). Salmon parr were found at only one site on Rathmell Beck, at low density (NFCS grade E). Trout fry densities were relatively low (NFCS grades D to E) in these streams while parr densities were relatively high (NFCS grades B & C) although parr were absent from the upstream sites on Rathmell Beck.

Long Term Results Salmon fry densities were generally higher in the previous survey of Long Preston and Rathmell Becks in 1992. Salmon parr densities were previously very low in Rathmell Beck (NFCS grade E)

Water Quality Long Preston Beck achieved its long term water quality objective of RE1 in 1998 while both Hellifield Beck and Rathmell Beck complied with their RE2 objectives.

Upper Ribble Tributaries (Giggleswick Beck, Stainforth Beck, Horton Beck, Cam Beck, Gayle Beck)

Recent Results Salmon fry were absent from all of the survey sites on the upper Ribble tributaries in 1998. Salmon parr were largely absent from the upper Ribble tributaries with the exception of lower Stainforth Beck, Horton Beck and an un-named beck upstream of

Horton Beck where parr were present at low densities (NFCS grade E). Trout fry were absent or present at only low densities (NFCS grades C to E) in these survey sites in 1998. Trout parr tended to be more widely distributed than fry through these sites, with Giggleswick and Cowside Becks recording relatively high parr densities (NFCS grade B).

Long Term Results The densities of juvenile salmon and trout recorded in the previous survey were similar to the densities recorded in 1998, although the distribution of salmon fry was more restricted in 1998.

Water Quality Long term water quality objectives for the upper Ribble tributaries were set to RE1 and all were compliant in 1998.

Upper Ribble (main river)

Recent Results Only three main river sites were included in the 1998 survey, these being located on the main river upstream of Settle. Salmon fry were found at low densities at the most upstream of the three sites, but were absent from the other two sites. Salmon parr were found at low densities at all three sites but, given that this area was stocked with salmon fry in 1997, it is likely that the presence of parr at these sites has arisen, at least in part, from this introduction. The particularly low densities of parr found at these sites indicates a very low survival rate from the stocked fry.

Trout fry were absent from the most upstream Ribble site but were found at low densities at the other two sites. Trout parr were found at low densities at all three sites.

Long Term Results The densities of both juvenile trout and salmon found at these sites in the 1998 survey were very similar to those found in the previous survey in 1992.

Water Quality Long term water quality standards for the upper main river complied with their RE1 objectives.

5. CONCLUSIONS

The inefficiency of the electrofishing technique in deep water has resulted in the under-representation of major coarse fish species in this survey.

Insufficient survey sites were included on the main river Ribble to accurately reflect juvenile salmon production in 1998.

Juvenile salmon densities were generally low throughout the Ribble catchment, and the distribution of salmon fry and parr was relatively restricted in comparison with previous survey results. Salmon fry were found at low densities (NFCS grades D and E) in Dean Brook, Swanside Beck, Holden Beck, Hellifield Beck, Long Preston Beck and also at the most upstream survey site on the main river.

Salmon parr were found at low densities (NFCS grade E) in Swanside Beck, Holden Beck, Skirden Beck, Rathmell Beck, Stainforth Beck, Horton Beck and in the upper main river. Parr were also present in Long Preston Beck in relatively high densities (NFCS grades B and C). These results suggest that both the 1997 and 1998 year classes are particularly weak, at least in the restricted survey area, therefore potentially affecting returns of grilse in 2000 and 2001 and returns of two sea-winter salmon in 2001 and 2002.

While it is recognised that the 1998 survey provided only a partial coverage of potentially important main river spawning areas, it appears that the River Ribble is below its carrying capacity for juvenile salmon. The cause of this cannot be identified from this juvenile survey but possible factors include; a lack of spawning adults, a high mortality rate among the various juvenile life stages, stream habitat related problems, or a combination of all of these factors.

Juvenile trout were found throughout the catchment in 1998 at relatively high densities (NFCS grades A to C). The most productive areas for trout fry included, Dean Brook, upper Bashall Beck, Waddington Beck, West Bradford Beck, Swanside and Ings Becks and Bond and Tosside Becks (NFCS grades A and B).

The most productive areas for trout parr included upper Boyces Beck, Duddel Brook, upper Bashall Beck, West Bradford Beck, West Clough Beck, Swanside and Ings Becks, Bond Beck, Hellifield Beck, Giggleswick Beck and Cowside Beck (NFCS grades A and B).

6. RECOMMENDATIONS

Given the importance of the lower Ribble as a mixed coarse fishery and the inefficiency of electrofishing in deep water, alternative techniques such as creel surveys or hydroacoustic surveys should be considered in monitoring these major coarse fish populations in the long term.

The current rolling program of river surveys does not allow the monitoring of year classes from one summer to the next and therefore cannot identify potential problems such as over-winter survival. A review of the current monitoring program is recommended in order to allow the regular monitoring of year-classes in a manner that would identify potential problems such as over-winter survival.

Juvenile salmon and trout were absent from three areas of the catchment that would be expected to contain salmonids. These areas were lower Bashall Beck, Stock Beck and Sannat Beck. Stock Beck is known to experience water quality problems that may limit salmonid production. However, the factors limiting salmonid production in lower Bashall Beck and Sannat Beck need to be investigated. These areas should be re-surveyed as a priority to investigate if salmonids are still absent and if so, what the limiting factors are likely to be.

The coverage of main river survey sites should be increased in order to provide a better representation of juvenile salmon production in main river areas. This is especially important following relatively dry years, when access for migratory salmonids into smaller tributaries may be restricted.

7. APPENDICES

Appendix I Salmonid Stocking, Ribble Catchment, 1997

Location	Date	Stage	Number
Long Preston Beck	23/7/97	0+ salmon	3000
Stainforth Beck	23/7/97	0+ salmon	3000
Main River (un-defined)	23/7/97	0+ salmon	20,500
Gayle Beck to Stainforth	7/4/97	0+ salmon	30,000
Main River (un-defined)	24/4/97	0+ salmon	32,097
Main River (un-defined)	14/5/97	0+ salmon	31,646

Appendix II Site Summaries, 1998 Survey Data

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Bb01
Watercourse:-	Boyces Beck	Date Fished:-	06/07/98
Location:-	Ribchester	NGR:-	SD 650 354

Habitat Features

Length (m):-	50	Mean width (m):-	2
Area (m ²):-	75	Mean depth (m):-	0.5
Gradient (m/km)	8.3	Max. depth (m):-	0.7
Water level:-	Low summer flow		
Site description:-	0 % Pool	80 % Glide	20 % Riffle
Adjacent land use:-	Rough grazing pasture		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	F	C

Comments

Species caught:- trout, chub, eels, bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		0
>0+ Trout		8
Total		8

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Bb02
Watercourse:-	Boyces Beck	Date Fished:-	06/07/98
Location:-	Ward Green Cross	NGR:-	SD 633 373

Habitat Features

Length (m):-	46	Mean width (m):-	2
Area (m ²):-	92	Mean depth (m):-	0.4
Gradient (m/km)	38	Max. depth (m):-	0.75
Water level:-	low summer flow		
Site description:-	0 % Pool	80 % Glide	20 % Riffle
Adjacent land use:-	Garden area, grass lined riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	D	A

Comments

Species caught:- trout and bullheads
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		3.72
>0+ Trout		22.3
Total		26.02

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Sy01
Watercourse:-	Stydd Brook	Date Fished:-	06/07/98
Location:-	Ribchester	NGR:-	SD 653 357

Habitat Features

Length (m):-	28	Mean width (m):-	1
Area (m ²):-	28	Mean depth (m):-	0.2
Gradient (m/km)	20	Max. depth (m):-	0.4
Water level:-	Low summer flow		
Site description:-	5 % Pool	70 % Glide	25 % Riffle
Adjacent land use:-	Grazing pasture with riparian grasses		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (50V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	F	F

Comments

Species caught:- bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		0
>0+ Trout		0
Total		0

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Du01
Watercourse:-	Duddle Brook	Date Fished:-	06/07/98
Location:-	Gallows Lane	NGR:-	SD 655 357

Habitat Features

Length (m):-	38	Mean width (m):-	3
Area (m ²):-	114	Mean depth (m):-	0.25
Gradient (m/km)	28	Max. depth (m):-	0.75
Water level:-	Low summer flow, clear		
Site description:-	10 % Pool	65 % Glide	25 % Riffle
Adjacent land use:-	Grazing pasture, riparian shrubs and trees		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (50V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	F	C

Comments

Species caught:- trout, eels, bullheads, stone loach, minnows and sticklebacks
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		0
>0+ Trout		9.74
Total		9.74

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Du02
Watercourse:-	Duddle Brook	Date Fished:-	06/07/98
Location:-	Gallows Lane	NGR:-	SD 656 359

Habitat Features

Length (m):-	50	Mean width (m):-	2
Area (m ²):-	100	Mean depth (m):-	0.4
Gradient (m/km)	28	Max. depth (m):-	0.7
Water level:-	Low summer flow, clear		
Site description:-	30 % Pool	60 % Glide	10 % Riffle
Adjacent land use:-	Grazing pasture with riparian grasses and shrubs		
Method:-	Upstream electro-fishing, 1 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	E	B

Comments

Species caught:- trout, eels, bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		2.66
>0+ Trout		12
Total		14.66

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Db01
Watercourse:-	Dean Brook	Date Fished:-	06/07/98
Location:-	Trough House	NGR:-	SD 685 369

Habitat Features

Length (m):-	50	Mean width (m):-	2
Area (m ²):-	75	Mean depth (m):-	0.2
Gradient (m/km)	19	Max. depth (m):-	1.5
Water level:-	Low summer flow		
Site description:-	0 % Pool	10 % Glide	90 % Riffle
Adjacent land use:-	Grazing pasture, scrub and grass riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	E	F	B	C

Comments

Species caught:- salmon, trout, eels, bullheads and stoneloach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		1.3
>0+ Salmon		0
0+ Trout		25.3
>0+ Trout		9.33
Total		35.93

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Ba01
Watercourse:-	Bashall Beck	Date Fished:-	07/07/98
Location:-	Stephen Bridge	NGR:-	SD 728 419

Habitat Features

Length (m):-	50	Mean width (m):-	3
Area (m ²):-	150	Mean depth (m):-	0.4
Gradient (m/km)	16	Max. depth (m):-	0.6
Water level:-	Low summer flow		
Site description:-	20 % Pool	40 % Glide	40 % Riffle
Adjacent land use:-	Grazing pasture, shrubs and riparian trees		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (50V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	F	D

Comments

Species caught:- trout, eels, bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		0
>0+ Trout		4
Total		4

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Ba02
Watercourse:-	Bashall Beck	Date Fished:-	06/07/98
Location:-	u/s Bashall Town	NGR:-	SD 705 421

Habitat Features

Length (m):-	50	Mean width (m):-	3
Area (m ²):-	150	Mean depth (m):-	0.25
Gradient (m/km)	38	Max. depth (m):-	0.4
Water level:-	Low summer, clear.		
Site description:-	0 % Pool	20 % Glide	80 % Riffle
Adjacent land use:-	One bank fenced (EA), other bank roadside.		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	F	F

Comments

Species caught:- bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		0
>0+ Trout		0
Total		0

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Ba03
Watercourse:-	Bashall Beck	Date Fished:-	06/07/98
Location:-	Clough Bottom	NGR:-	SD 702 437

Habitat Features

Length (m):-	45	Mean width (m):-	2
Area (m ²):-	112.5	Mean depth (m):-	0.2
Gradient (m/km)	35	Max. depth (m):-	0.3
Water level:-	Low summer flow, fast flow		
Site description:-	0 % Pool	50 % Glide	50 % Riffle
Adjacent land use:-	Rough pasture with riparian shrubs and trees		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	A	A

Comments

Species caught:- trout, bullheads and stone loach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		50.6
>0+ Trout		22.2
Total		72.8

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Rs10
Watercourse:-	Waddington Beck	Date Fished:-	08/07/98
Location:-	Waddington Village	NGR:-	SD 731 437

Habitat Features

Length (m):-	49	Mean width (m):-	2
Area (m ²):-	98	Mean depth (m):-	0.5
Gradient (m/km)	35	Max. depth (m):-	0.5
Water level:-	Medium summer flow		
Site description:-	40 % Pool	30 % Glide	20 % Riffle
Adjacent land use:-	Roadside and village, grass riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	B	C

Comments

Species caught:- trout, bullheads and stoneloach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		30.2
>0+ Trout		6.53
Total		36.73

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Wb01
Watercourse:-	West Bradford Beck	Date Fished:-	08/07/98
Location:-	Waddington Road Bridge	NGR:-	SD 742 446

Habitat Features

Length (m):-	45	Mean width (m):-	2
Area (m ²):-	90	Mean depth (m):-	0.2
Gradient (m/km)	35	Max. depth (m):-	0.5
Water level:-	Low summer flow, clear		
Site description:-	10 % Pool	50 % Glide	40 % Riffle
Adjacent land use:-	garden, u/s of fish pass		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	A	A

Comments

Species caught:- trout, eels, bullheads and stone loach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		53.3
>0+ Trout		25.18
Total		78.48

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Wc01
Watercourse:-	West Clough Beck	Date Fished:-	08/07/98
Location:-	Grindleton Road Bridge	NGR:-	SD 755 449

Habitat Features

Length (m):-	50	Mean width (m):-	2
Area (m ²):-	100	Mean depth (m):-	0.3
Gradient (m/km)	35	Max. depth (m):-	0.5
Water level:-	Medium summer flow		
Site description:-	5 % Pool	20 % Glide	75 % Riffle
Adjacent land use:-	Grazing pasture, grass riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	C	C

Comments

Species caught:- trout, bullheads and stone loach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		14
>0+ Trout		13.59
Total		27.59

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Sw01
Watercourse:-	Swanside Beck	Date Fished:-	12/08/98
Location:-	Smithies Bridge (A59)	NGR:-	SD 774 455

Habitat Features

Length (m):-	50	Mean width (m):-	4
Area (m ²):-	200	Mean depth (m):-	0.5
Gradient (m/km)	10	Max. depth (m):-	0.75
Water level:-	High summer flow		
Site description:-	0 % Pool	100 % Glide	0 % Riffle
Adjacent land use:-	Agricultural, grass and tree riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	E	F	E	C

Comments

Species caught:- salmon and trout
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		1.5
>0+ Salmon		0
0+ Trout		0.5
>0+ Trout		7.5
Total		9.5

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Sw02
Watercourse:-	Swanside Beck	Date Fished:-	12/08/98
Location:-	ptc Ings Beck	NGR:-	SD 788 456

Habitat Features

Length (m):-	37	Mean width (m):-	7
Area (m ²):-	259	Mean depth (m):-	0.15
Gradient (m/km)	22.2	Max. depth (m):-	0.75
Water level:-	High summer flow		
Site description:-	0 % Pool	0 % Glide	100 % Riffle
Adjacent land use:-	Grazing pasture with tree / shrub riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	E	E	C	D

Comments

Species caught:- salmon and trout
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		6.17
>0+ Salmon		1.15
0+ Trout		13.9
>0+ Trout		3.47
Total		24.69

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Sw04
Watercourse:-	Swanside Beck	Date Fished:-	12/08/98
Location:-	nr Cowgill Farm	NGR:-	SD 802 464

Habitat Features

Length (m):-	37	Mean width (m):-	1
Area (m ²):-	37	Mean depth (m):-	0.15
Gradient (m/km)	28.5	Max. depth (m):-	0.25
Water level:-	High summer flow		
Site description:-	10 % Pool	80 % Glide	10 % Riffle
Adjacent land use:-	grazing pasture, tree lined riparian strip		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	B	B

Comments

Species caught:- trout
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		29.01
>0+ Trout		15.6
Total		44.61

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Sw03
Watercourse:-	Swanside Beck	Date Fished:-	12/08/98
Location:-	nr Stopper Lane	NGR:-	SD 812 462

Habitat Features

Length (m):-	48	Mean width (m):-	5
Area (m ²):-	240	Mean depth (m):-	0.2
Gradient (m/km)	10	Max. depth (m):-	0.45
Water level:-	Medium summer flow		
Site description:-	40 % Pool	20 % Glide	40 % Riffle
Adjacent land use:-	Grazing pasture, tree lined riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	E	D	B	C

Comments

Species caught:- salmon and trout
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		2.08
>0+ Salmon		1.25
0+ Trout		9.58
>0+ Trout		5.41
Total		18.32

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	In01
Watercourse:-	Ings Beck	Date Fished:-	12/08/98
Location:-	ptc Swanside Beck	NGR:-	SD 788 452

Habitat Features

Length (m):-	45	Mean width (m):-	3
Area (m ²):-	135	Mean depth (m):-	0.15
Gradient (m/km)	22.2	Max. depth (m):-	0.5
Water level:-	High summer flow		
Site description:-	15 % Pool	65 % Glide	20 % Riffle
Adjacent land use:-	Grazing pasture, grass riparian strip		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	B	C

Comments

Species caught:- trout
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		26.6
>0+ Trout		10.6
Total		37.2

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	In01
Watercourse:-	Ings Beck	Date Fished:-	12/08/98
Location:-	nr Twiston	NGR:-	SD 809 409

Habitat Features

Length (m):-	35	Mean width (m):-	3
Area (m ²):-	105	Mean depth (m):-	0.3
Gradient (m/km)	30	Max. depth (m):-	0.8
Water level:-	medium summer flow		
Site description:-	20 % Pool	30 % Glide	50 % Riffle
Adjacent land use:-	Grazing pasture, riparian trees and grasses		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	B	A

Comments

Species caught:- trout and eels
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		25.3
>0+ Trout		35.9
Total		61.2

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Ho01
Watercourse:-	Holden Beck	Date Fished:-	08/07/98
Location:-	Holden	NGR:-	SD 777 490

Habitat Features

Length (m):-	49	Mean width (m):-	5
Area (m ²):-	245	Mean depth (m):-	0.2
Gradient (m/km)	5.6	Max. depth (m):-	0.5
Water level:-	Medium summer flow, clear		
Site description:-	10 % Pool	40 % Glide	50 % Riffle
Adjacent land use:-	Grazing pasture, riparian grass, shrub and small trees		
Method:-	Upstream electro-fishing, 2, anodes, pulsed DC (50V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	B	C	A
1998 Classification	E	E	D	D

Comments

Species caught:- salmon, trout and eels
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	2	0.9
>0+ Salmon	13	0.45
0+ Trout	9	5.44
>0+ Trout	85	3.62
Total	109	10.41

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Bi01
Watercourse:-	Bier Beck	Date Fished:-	08/07/98
Location:-	Holden	NGR:-	SD 779 495

Habitat Features

Length (m):-	45	Mean width (m):-	2
Area (m ²):-	90	Mean depth (m):-	0.25
Gradient (m/km)	5.6	Max. depth (m):-	0.75
Water level:-	Medium flow		
Site description:-	0 % Pool	0 % Glide	100 % Riffle
Adjacent land use:-	Rough pasture with riparian shrubs, nettles		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	A	B	A
1998 Classification	F	F	F	E

Comments

Species caught:- trout, eels, bullheads and stone loach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	7	0
>0+ Salmon	29	0
0+ Trout	21	0
>0+ Trout	55	1.1
Total	112	1.1

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Sk03
Watercourse:-	Skirden Beck	Date Fished:-	19/08/98
Location:-	Bolton-by-Bowland	NGR:-	SD 784 494

Habitat Features

Length (m):-	50	Mean width (m):-	5
Area (m ²):-	250	Mean depth (m):-	0.3
Gradient (m/km)	16.7	Max. depth (m):-	1
Water level:-	Low summer flow		
Site description:-	10 % Pool	40 % Glide	50 % Riffle
Adjacent land use:-	Grazing pasture, grass riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	C	A	E	C
1998 Classification	F	E	F	D

Comments

Species caught:- salmon, trout, eels, bullheads, stoneloach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	37	0
>0+ Salmon	25	0.44
0+ Trout	2	0
>0+ Trout	10	2.22
Total	74	2.66

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Mo01
Watercourse:-	Monubent Beck	Date Fished:-	19/08/98
Location:-	Forest Becks	NGR:-	SD 788 514

Habitat Features

Length (m):-	45	Mean width (m):-	3
Area (m ²):-	135	Mean depth (m):-	0.3
Gradient (m/km)	16.7	Max. depth (m):-	0.65
Water level:-	Low summer flow, clear		
Site description:-	20 % Pool	30 % Glide	50 % Riffle
Adjacent land use:-	Grazing pasture, some garden area, shrubs, trees and grasses		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	E	B	B
1998 Classification	F	F	E	C

Comments

Species caught:- trout, eels, bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	1.11	0
>0+ Salmon	1.66	0
0+ Trout	18.88	2.08
>0+ Trout	13.88	8.3
Total	35.53	10.38

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Mb02
Watercourse:-	Monubent Beck	Date Fished:-	08/07/98
Location:-	nr Mere Syke	NGR:-	SD 799 541

Habitat Features

Length (m):-	40	Mean width (m):-	2
Area (m ²):-	80	Mean depth (m):-	0.25
Gradient (m/km)	6	Max. depth (m):-	0.5
Water level:-	Low summer flow		
Site description:-	70 % Pool	20 % Glide	10 % Riffle
Adjacent land use:-	Grazing pasture		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (40V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	E	D

Comments

Species caught:- trout, bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		1.56
>0+ Trout		3.12
Total		4.68

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Bo03
Watercourse:-	Bond Beck	Date Fished:-	19/08/98
Location:-	Beckfoot	NGR:-	SD 775 537

Habitat Features

Length (m):-	48	Mean width (m):-	2
Area (m ²):-	96	Mean depth (m):-	0.25
Gradient (m/km)	10	Max. depth (m):-	0.4
Water level:-	Low summer flow		
Site description:-	10 % Pool	20 % Glide	70 % Riffle
Adjacent land use:-	Rough pasture with riparian shrubs, trees and trees		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (50V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	F	F
1998 Classification	F	F	B	D

Comments

Species caught:- trout, bullheads and stone loach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0
0+ Trout	0	23.9
>0+ Trout	0	3.13
Total	0	27.03

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Bo02
Watercourse:-	Bond Beck	Date Fished:-	19/08/98
Location:-	Ghyllis	NGR:-	SD 768 545

Habitat Features

Length (m):-	50	Mean width (m):-	2
Area (m ²):-	100	Mean depth (m):-	0.2
Gradient (m/km)	20	Max. depth (m):-	0.5
Water level:-	Low summer flow, clear		
Site description:-	25 % Pool	35 % Glide	40 % Riffle
Adjacent land use:-	Rough grazing pasture.		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	A	B
1998 Classification	F	F	B	B

Comments

Species caught:- trout, eels and bullheads
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0
0+ Trout	68	27
>0+ Trout	14	18
Total	82	45

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	To02
Watercourse:-	Tosside Beck	Date Fished:-	19/08/98
Location:-	Grunsagill	NGR:-	SD 781 545

Habitat Features

Length (m):-	70	Mean width (m):-	3
Area (m ²):-	210	Mean depth (m):-	0.3
Gradient (m/km)	20	Max. depth (m):-	0.4
Water level:-	Low summer flow		
Site description:-	10 % Pool	60 % Glide	30 % Riffle
Adjacent land use:-	Rough pasture, tree-lined riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	B	B
1998 Classification	F	F	C	C

Comments

Species caught:- trout, eels, bullheads and stoneloach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ⁴)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0
0+ Trout	37	10
>0+ Trout	13	5.23
Total	50	15.23

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	To01
Watercourse:-	Tosside Beck	Date Fished:-	19/08/98
Location:-	Tosside Road Bridge	NGR:-	SD 777 563

Habitat Features

Length (m):-	45	Mean width (m):-	2
Area (m ²):-	90	Mean depth (m):-	0.2
Gradient (m/km)	14	Max. depth (m):-	0.3
Water level:-	Low summer flow, clear		
Site description:-	10 % Pool	40 % Glide	50 % Riffle
Adjacent land use:-	Grazing pasture, shrub and grass riparian strip		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	F	A
1998 Classification	F	F	B	D

Comments

Species caught:- trout and bullheads
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0
0+ Trout	0	13.7
>0+ Trout	27.27	4.4
Total	27.27	18.1

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	St02
Watercourse:-	Stock Beck	Date Fished:-	07/09/98
Location:-	Monk Bridge	NGR:-	SD 857 497

Habitat Features

Length (m):-	50	Mean width (m):-	6
Area (m ²):-	300	Mean depth (m):-	0.3
Gradient (m/km)	2.3	Max. depth (m):-	0.5
Water level:-	Medium summer flow, clear		
Site description:-	0 % Pool	50 % Glide	50 % Riffle
Adjacent land use:-	Grassland, grass and tree riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	F	F
1998 Classification	F	F	F	F

Comments

Species caught:- stone loach, minnows and sticklebacks
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0
0+ Trout	0	0
>0+ Trout	0	0
Total	0	0

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	St01
Watercourse:-	Stock Beck	Date Fished:-	17/09/98
Location:-	Broad Ing Bridge	NGR:-	SD 879 479

Habitat Features

Length (m):-	46	Mean width (m):-	2
Area (m ²):-	92	Mean depth (m):-	0
Gradient (m/km)	6.7	Max. depth (m):-	0.35
Water level:-	Medium clear		
Site description:-	10 % Pool	70 % Glide	20 % Riffle
Adjacent land use:-	Grassland and trees on riparian edge		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	F	F
1998 Classification	F	F	E	E

Comments

Species caught:- trout, bullheads, stone loach, minnows and sticklebacks
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0
0+ Trout	0	1.08
>0+ Trout	0	1.08
Total	0	2.16

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Rs12
Watercourse:-	Hellifield Beck	Date Fished:-	07/09/98
Location:-	100m u/s Halton West Bridge	NGR:-	SD 851 554

Habitat Features

Length (m):-	53	Mean width (m):-	2
Area (m ²):-	106	Mean depth (m):-	0.25
Gradient (m/km)	11.1	Max. depth (m):-	0.4
Water level:-	Low summer flow, clear		
Site description:-	20 % Pool	40 % Glide	40 % Riffle
Adjacent land use:-	Grazing pasture, grass riparian strip		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	E	F	D	B

Comments

Species caught:- salmon, trout, eels, bullheads, stone loach, minnows and sticklebacks
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		1.25
>0+ Salmon		0
0+ Trout		3.77
>0+ Trout		13.8
Total		18.82

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Lp03
Watercourse:-	Long Preston Beck	Date Fished:-	07/09/98
Location:-	Hospital Bridge	NGR:-	SD 832 575

Habitat Features

Length (m):-	50	Mean width (m):-	5
Area (m ²):-	250	Mean depth (m):-	0.2
Gradient (m/km)	16	Max. depth (m):-	0.25
Water level:-	Low summer flow		
Site description:-	15 % Pool	10 % Glide	75 % Riffle
Adjacent land use:-	Road and rough grazing pasture		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	C	E	E
1998 Classification	E	F	F	E

Comments

Species caught:- salmon, trout, eels, bullheads, stone loach and minnows
 Stocking:- area stocked with salmon fry in summer 1997
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	6.86	0.4
>0+ Salmon	5.71	0
0+ Trout	1.14	0
>0+ Trout	1.14	2.22
Total	14.85	2.62

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Lp02
Watercourse:-	Long Preston Beck	Date Fished:-	02/09/98
Location:-	Long Preston	NGR:-	SD 836 579

Habitat Features

Length (m):-	50	Mean width (m):-	2
Area (m ²):-	100	Mean depth (m):-	0.2
Gradient (m/km)	17	Max. depth (m):-	0.25
Water level:-	Low summer flow		
Site description:-	0 % Pool	50 % Glide	50 % Riffle
Adjacent land use:-	Grazing pasture, riparian grass and scrub		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	D	D	E	E
1998 Classification	D	B	D	C

Comments

Species caught:- salmon, trout and eels
 Stocking:- area stocked with salmon fry in summer 1997
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	14.86	11
>0+ Salmon	3.43	10
0+ Trout	2.86	5
>0+ Trout	1.14	6
Total	22.29	32

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Lp01
Watercourse:-	Long Preston Beck	Date Fished:-	07/09/98
Location:-	Near Holmbridge	NGR:-	SD 842 582

Habitat Features

Length (m):-	50	Mean width (m):-	3
Area (m ²):-	150	Mean depth (m):-	0.2
Gradient (m/km)	17	Max. depth (m):-	0.35
Water level:-	High summer flow		
Site description:-	10 % Pool	20 % Glide	70 % Riffle
Adjacent land use:-	Farming pasture, riparian grass		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	C	A	C	C
1998 Classification	E	D	D	C

Comments

Species caught:- salmon, trout, eels, bullheads and stone loach
 Stocking:- area stocked with salmon fry in summer 1997
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	32.8	2.85
>0+ Salmon	20.6	5.14
0+ Trout	10.6	3.42
>0+ Trout	9.4	8
Total	73.4	19.41

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Ra02
Watercourse:-	Rathmell Beck	Date Fished:-	07/09/98
Location:-	Nr Hollow Gill confluence	NGR:-	SD 811 589

Habitat Features

Length (m):-	45	Mean width (m):-	2
Area (m ²):-	90	Mean depth (m):-	0.3
Gradient (m/km)	1	Max. depth (m):-	0.3
Water level:-	Low summer flow		
Site description:-	10 % Pool	50 % Glide	40 % Riffle
Adjacent land use:-	Farmland, grass and trees on riparian strip		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	C	E	E	D
1998 Classification	F	F	C	C

Comments

Species caught:- trout, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	32.8	0
>0+ Salmon	1.1	0
0+ Trout	2.8	10.37
>0+ Trout	4.32	10.37
Total	41.02	20.74

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Ra03
Watercourse:-	Rathmell Beck	Date Fished:-	07/09/98
Location:-	Rathmell	NGR:-	SD 807 593

Habitat Features

Length (m):-	50	Mean width (m):-	3
Area (m ²):-	150	Mean depth (m):-	0.4
Gradient (m/km)	1	Max. depth (m):-	0.65
Water level:-	Low summer flow		
Site description:-	30 % Pool	0 % Glide	70 % Riffle
Adjacent land use:-	Grazing pasture, grass and trees in riparian strip		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	E	F	E	F

Comments

Species caught:- salmon, trout, bullheads, lamprey, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0.8
0+ Trout		0.8
>0+ Trout		0
Total		1.6

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Ra01
Watercourse:-	Rathmell Beck	Date Fished:-	07/09/98
Location:-	Road Bridge	NGR:-	SD 806 594

Habitat Features

Length (m):-	42	Mean width (m):-	1
Area (m ²):-	42	Mean depth (m):-	0.15
Gradient (m/km)	1	Max. depth (m):-	0.2
Water level:-	Low summer flow		
Site description:-	10 % Pool	80 % Glide	10 % Riffle
Adjacent land use:-	Woodland, riparian area tree-lined		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	E	E	C
1998 Classification	F	F	D	F

Comments

Species caught:- trout, bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0.22	0
>0+ Salmon	0.22	0
0+ Trout	0.15	7.14
>0+ Trout	7.85	0
Total	8.44	7.14

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Gw01
Watercourse:-	Giggleswick Beck	Date Fished:-	18/09/98
Location:-	Giggleswick Village	NGR:-	SD 811 634

Habitat Features

Length (m):-	42	Mean width (m):-	2
Area (m ²):-	84	Mean depth (m):-	0.2
Gradient (m/km)	6	Max. depth (m):-	0.3
Water level:-	Low summer flow, clear		
Site description:-	0 % Pool	0 % Glide	100 % Riffle
Adjacent land use:-	Roadside, riparian grasses and shrubs		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	F	B	D
1998 Classification	F	F	C	B

Comments

Species caught:- trout, eels, bullheads and stone loach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	1.67	0
>0+ Salmon	0	0
0+ Trout	18.33	9.5
>0+ Trout	5	15.4
Total	25	24.9

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	R16
Watercourse:-	River Ribble	Date Fished:-	19/09/98
Location:-	Robinsons Pool	NGR:-	SD 822 659

Habitat Features

Length (m):-	45	Mean width (m):-	7
Area (m ²):-	315	Mean depth (m):-	0.4
Gradient (m/km)	7.9	Max. depth (m):-	0.8
Water level:-	High summer flow		
Site description:-	0 % Pool	20 % Glide	80 % Riffle
Adjacent land use:-	Grassland, riparian grass and small trees		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	E	E	E
1998 Classification	F	E	E	E

Comments

Species caught:- salmon, trout and eels
 Stocking:- area stocked with salmon fry in summer 1997
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	1.25	0
>0+ Salmon	1.5	0.31
0+ Trout	0.75	1.26
>0+ Trout	0.5	0.63
Total	4	2.2

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	R15
Watercourse:-	River Ribble	Date Fished:-	23/09/98
Location:-	nr Taitlands Farm	NGR:-	SD 819 665

Habitat Features

Length (m):-	50	Mean width (m):-	12
Area (m ²):-	600	Mean depth (m):-	0.4
Gradient (m/km)	6	Max. depth (m):-	0.75
Water level:-	Medium summer flow		
Site description:-	0 % Pool	100 % Glide	0 % Riffle
Adjacent land use:-	Grazing pasture and sports field		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	E	E	E
1998 Classification	F	E	E	E

Comments

Species caught:- salmon, trout, eels and bullheads
 Stocking:- area stocked with salmon fry in summer 1997
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	2.8	0
>0+ Salmon	2.56	0.16
0+ Trout	0.93	0.33
>0+ Trout	0.23	0.33
Total	6.52	0.82

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	St01
Watercourse:-	Stainforth Beck	Date Fished:-	17/09/98
Location:-	Above stepping stones	NGR:-	SD 824 675

Habitat Features

Length (m):-	50	Mean width (m):-	5
Area (m ²):-	250	Mean depth (m):-	0.3
Gradient (m/km)	29	Max. depth (m):-	0.5
Water level:-	Medium summer flow		
Site description:-	0 % Pool	0 % Glide	100 % Riffle
Adjacent land use:-	Car park on RHB, LHB trees and shrubs		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	F	D
1998 Classification	F	E	D	D

Comments

Species caught:- salmon, trout and bullheads
 Stocking:- area stocked with salmon fry in summer 1997
 Access for migratory salmonids:- inaccessible to migratory salmonids

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	1.77
0+ Trout	0	4.44
>0+ Trout	4.5	2.66
Total	4.5	8.87

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Sa02
Watercourse:-	Sannat Beck	Date Fished:-	18/09/98
Location:-	Billinger Barns	NGR:-	SD 833 682

Habitat Features

Length (m):-	40	Mean width (m):-	2
Area (m ²):-	80	Mean depth (m):-	0.3
Gradient (m/km)	20	Max. depth (m):-	1
Water level:-	Medium summer flow		
Site description:-	20 % Pool 0 % Glide 80 % Riffle		
Adjacent land use:-	Grazing pasture, rough grass riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	E	E
1998 Classification	F	F	F	F

Comments

Species caught:- none
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- inaccessible to migratory salmonids

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0
0+ Trout	0.01	0
>0+ Trout	0.01	0
Total	0.02	0

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Sa01
Watercourse:-	Sannat Beck	Date Fished:-	18/09/98
Location:-	Neals Ing	NGR:-	SD 839 688

Habitat Features

Length (m):-	10	Mean width (m):-	1
Area (m ²):-	10	Mean depth (m):-	0.2
Gradient (m/km)	20	Max. depth (m):-	0.3
Water level:-	medium summer flow, clear		
Site description:-	0 % Pool	100 % Glide	0 % Riffle
Adjacent land use:-	Grazing pasture, grass riparian strip		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	F	F
1998 Classification	F	F	F	F

Comments

Species caught:- none
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- inaccessible to migratory salmonids

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0
0+ Trout	0	0
>0+ Trout	0	0
Total	0	0

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Cw01
Watercourse:-	Cowside Beck	Date Fished:-	18/09/98
Location:-	Cowside	NGR:-	SD 844 667

Habitat Features

Length (m):-	50	Mean width (m):-	4
Area (m ²):-	200	Mean depth (m):-	0.3
Gradient (m/km)	35	Max. depth (m):-	0.5
Water level:-	Medium summer flow, clear		
Site description:-	0 % Pool	50 % Glide	50 % Riffle
Adjacent land use:-	Roadside site, with riparian shrubs and trees		
Method:-	Upstream electro-fishing, 1 anode, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification				
1998 Classification	F	F	D	B

Comments

Species caught:- trout and bullheads
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- inaccessible to migratory salmonids

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon		0
>0+ Salmon		0
0+ Trout		4.5
>0+ Trout		14
Total		18.5

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Rs03
Watercourse:-	Ribble Side Beck	Date Fished:-	19/09/98
Location:-	d/s Horton Bridge	NGR:-	SD 807 728

Habitat Features

Length (m):-	43	Mean width (m):-	5
Area (m ²):-	215	Mean depth (m):-	0.3
Gradient (m/km)	5	Max. depth (m):-	0.5
Water level:-	Medium summer flow, peaty colour		
Site description:-	0 % Pool	0 % Glide	100 % Riffle
Adjacent land use:-	Grazing pasture, riparian grasses		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	F	E
1998 Classification	F	E	F	D

Comments

Species caught:- salmon, trout, bullheads and stone loach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	1.39
0+ Trout	0	0
>0+ Trout	0.67	3.25
Total	0.67	4.64

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Hr01
Watercourse:-	Horton Beck	Date Fished:-	17/09/98
Location:-	d/s Horton-in-Ribblesdale	NGR:-	SD 806 717

Habitat Features

Length (m):-	50	Mean width (m):-	8
Area (m ²):-	400	Mean depth (m):-	0.3
Gradient (m/km)	1	Max. depth (m):-	0.5
Water level:-	Medium summer flow		
Site description:-	0 % Pool	80 % Glide	20 % Riffle
Adjacent land use:-	Grazing pasture, grass and trees in riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	F	F	E
1998 Classification	F	E	E	E

Comments

Species caught:- salmon, trout, bullheads, stone loach and minnows
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0	0.5
0+ Trout	0	0.25
>0+ Trout	0.67	0.75
Total	0.67	1.5

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	R02
Watercourse:-	River Ribble	Date Fished:-	17/09/98
Location:-	Dale Mire Barn	NGR:-	SD 795 758

Habitat Features

Length (m):-	50	Mean width (m):-	5
Area (m ²):-	250	Mean depth (m):-	0.2
Gradient (m/km)	3.8	Max. depth (m):-	0.3
Water level:-	Medium summer flow		
Site description:-	0 % Pool	0 % Glide	100 % Riffle
Adjacent land use:-	Grazing pasture, rough grass on riparian strip		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	E	F	F
1998 Classification	F	F	F	E

Comments

Species caught:- trout, bullheads and stone loach
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0.2	0
>0+ Salmon	0.4	0
0+ Trout	0	0
>0+ Trout	0	0.4
Total	0.6	0.4

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Cm01
Watercourse:-	Cam Beck	Date Fished:-	17/09/98
Location:-	Nether Lodge Farm	NGR:-	SD 795 779

Habitat Features

Length (m):-	50	Mean width (m):-	4
Area (m ²):-	225	Mean depth (m):-	0.3
Gradient (m/km)	13	Max. depth (m):-	0.4
Water level:-	Medium summer flow, peaty colour		
Site description:-	50 % Pool	30 % Glide	20 % Riffle
Adjacent land use:-	Rough pasture with riparian shrubs and bushes		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	E	F	E
1998 Classification	F	F	F	D

Comments

Species caught:- trout, bullheads, minnows and crayfish
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	0.67	0
0+ Trout	0	0
>0+ Trout	0.67	4.88
Total	1.34	4.88

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Gb03
Watercourse:-	Gayle Beck	Date Fished:-	17/09/98
Location:-	Nether Lodge Farm	NGR:-	SD 786 775

Habitat Features

Length (m):-	50	Mean width (m):-	7
Area (m ²):-	350	Mean depth (m):-	0.2
Gradient (m/km)	4	Max. depth (m):-	0.25
Water level:-	Low summer flow		
Site description:-	0 % Pool	0 % Glide	100 % Riffle
Adjacent land use:-	Grazing pasture		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	E	E	E
1998 Classification	F	F	F	E

Comments

Species caught:- salmon, trout, bullheads, stone loach and minnows
 Stocking:- area stocked with salmon fry in summer 1997
 Access for migratory salmonids:- accessible to sea trout and salmon

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0.6	1.71
>0+ Salmon	0.2	0.57
0+ Trout	0.4	0
>0+ Trout	0.2	0.28
Total	1.4	2.56

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Gb02
Watercourse:-	Gayle Beck	Date Fished:-	23/09/98
Location:-	Beside B6255	NGR:-	SD 790 813

Habitat Features

Length (m):-	43	Mean width (m):-	3
Area (m ²):-	129	Mean depth (m):-	0.3
Gradient (m/km)	22	Max. depth (m):-	0.4
Water level:-	medium summer flow		
Site description:-	65 % Pool	10 % Glide	25 % Riffle
Adjacent land use:-	Grazing pasture, no riparian vegetation		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	E	F	F	F
1998 Classification	F	F	E	C

Comments

Species caught:- trout and bullheads
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- inaccessible to migratory salmonids

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	2	0
>0+ Salmon	0	0
0+ Trout	0	0.93
>0+ Trout	0	6.51
Total	2	7.44

SITE REPORT

Site Details

River System:-	River Ribble	Site Code:-	Gb01
Watercourse:-	Gayle Beck	Date Fished:-	23/09/98
Location:-	Near Far Gearstones	NGR:-	SD 786 802

Habitat Features

Length (m):-	46	Mean width (m):-	4
Area (m ²):-	184	Mean depth (m):-	0.3
Gradient (m/km)	11	Max. depth (m):-	0.5
Water level:-	Low summer flow, clear		
Site description:-	50 % Pool	0 % Glide	50 % Riffle
Adjacent land use:-	Grazing pasture, riparian grasses		
Method:-	Upstream electro-fishing, 2 anodes, pulsed DC (75V), wading, no stopnets		

Fishery Classification (level 1)

	0+ salmon	>0+ salmon	0+ trout	>0+ trout
1992 Classification	F	C	E	E
1998 Classification	F	F	F	D

Comments

Species caught:- trout
 Stocking:- no known stocking in 2 years prior to survey
 Access for migratory salmonids:- inaccessible to migratory salmonids

Species	Density (no. per 100m ²)	
	1992	1998
0+ Salmon	0	0
>0+ Salmon	7.78	0
0+ Trout	1.11	0
>0+ Trout	1.11	1.63
Total	10	1.63