



# 1992 Survey of the coarse fish of the River Tees before construction of the barrage

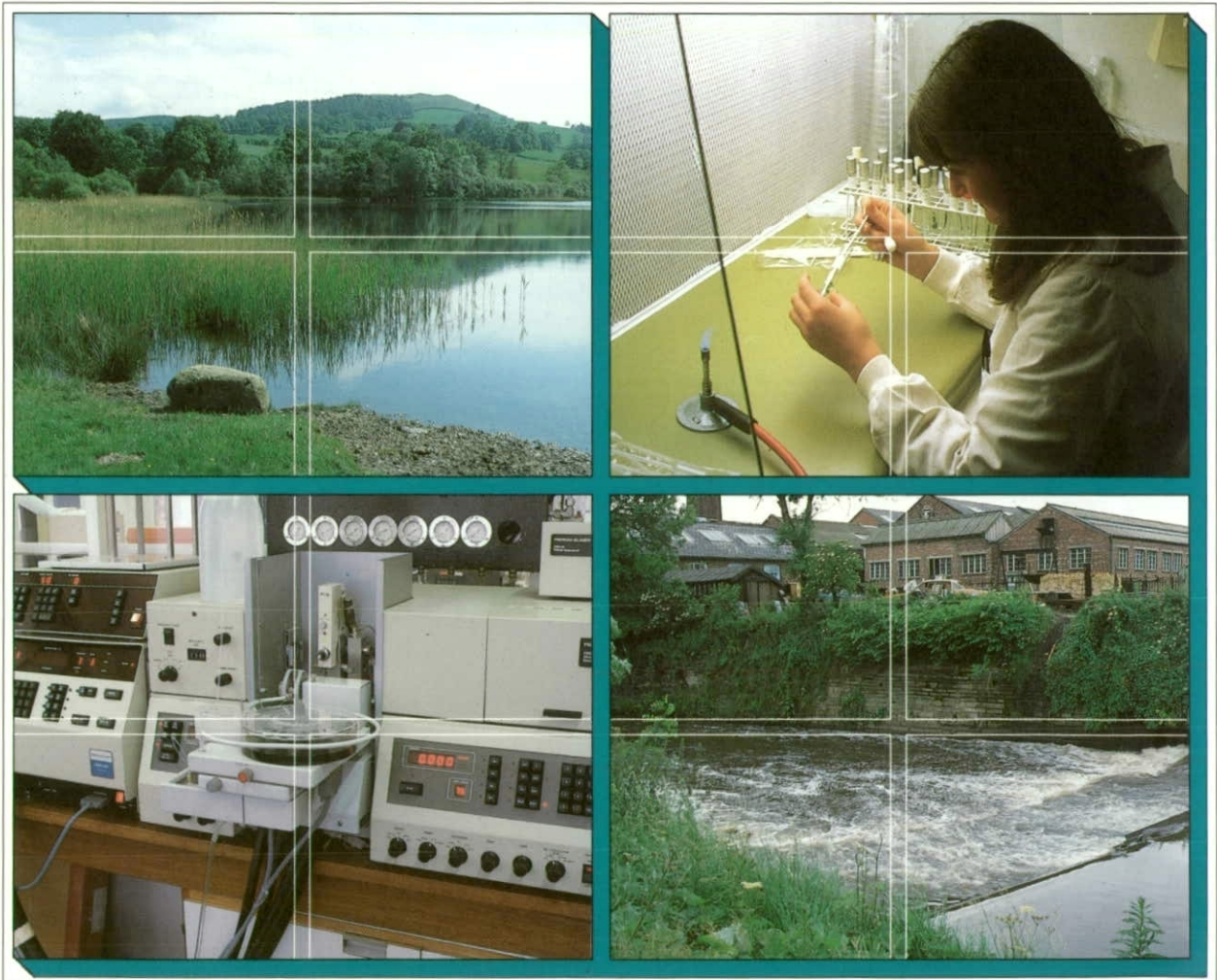
Progress report

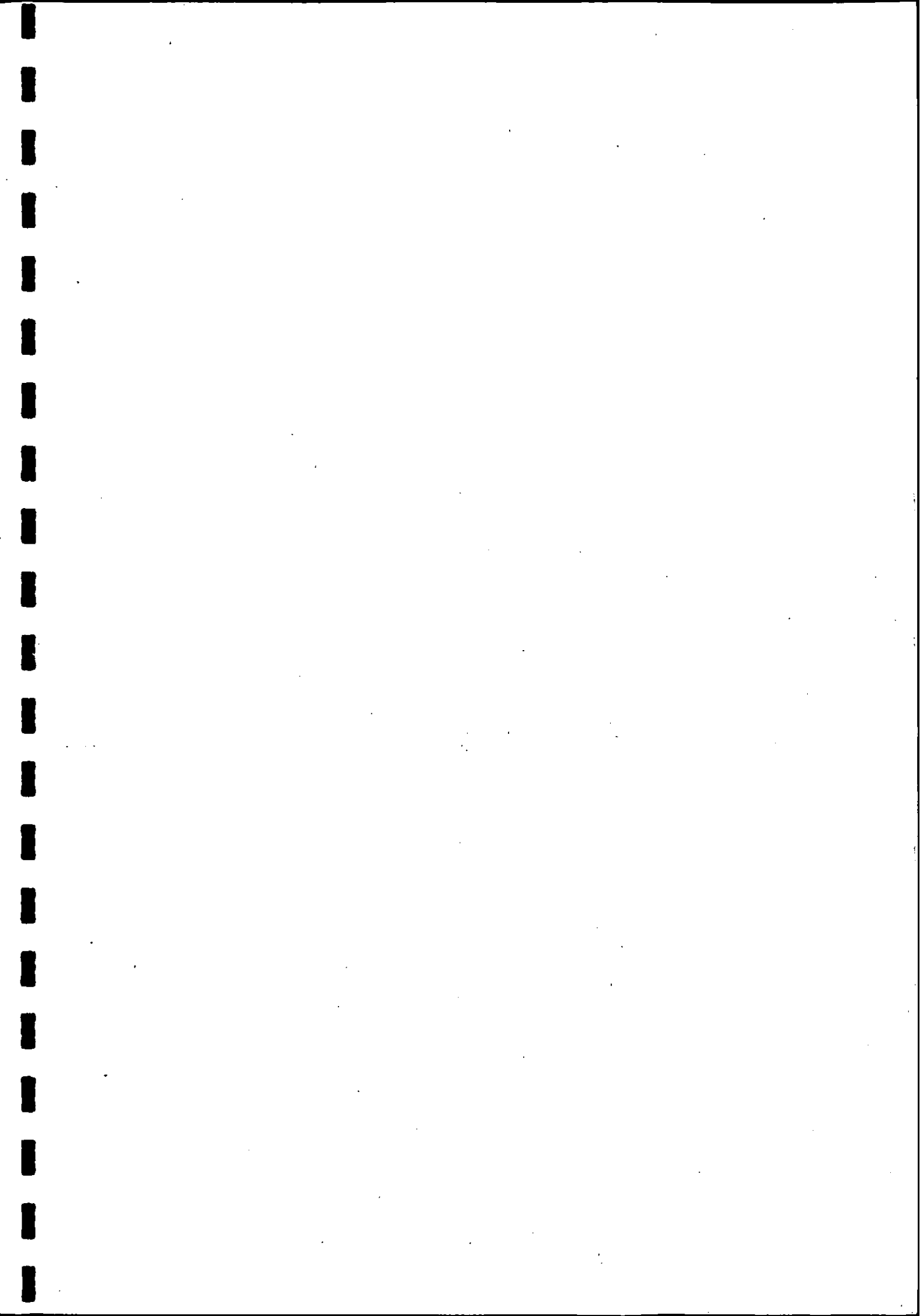
J.S. Welton, BSc, PhD, CBiol, MIBiol

W.R.C. Beaumont, LMIFM

B.E. Dear

A.C. Pinder





INSTITUTE OF FRESHWATER ECOLOGY  
River Laboratory, East Stoke, Wareham, Dorset BH20 6BB

1992 Survey of the coarse fish of the River Tees before construction of the barrage

Progress report

J.S. Welton, W.R.C. Beaumont, B.E. Dear & A.C. Pinder

Project leader:	J.S. Welton
Report date:	November 1992
Report to:	National Rivers Authority, Northumbria Region
IFE Report Ref:	RL/T04053v1/2
TFS Project No:	T04053v1

This is an unpublished report and should not be cited without permission, which should be sought through the Director of the Institute of Freshwater Ecology in the first instance. The permission of the NRA will also be required.

The Institute of Freshwater Ecology is part of the Terrestrial and Freshwater Sciences Directorate of the Natural Environment Research Council.

## CONTENTS

	Page
REVIEW OF PROGRESS	1
1. FRY SURVEY 1992	2
1.1 Introduction	2
1.2 Methods	2
1.3 Results	2
1.3.1 Distribution of fry	3
1.3.2 Length frequency distribution	11
2. SURVEY OF COARSE FISH SEPTEMBER 1992	20
2.1 Introduction	20
2.2 Methods	20
2.2.1 Fish trapping	20
2.2.2 Gill netting	20
2.2.3 Electrofishing	20
2.2.4 Processing	20
2.3 Results	21
2.3.1 Fish trapping	21
2.3.2 Gill netting	21
2.3.3 Electrofishing	21
2.3.4 Distribution of fish	23
2.3.5 Length frequency distribution	32
3. TEMPERATURE	50
3.1 Introduction	50
4. ANGLING DATA	51
4.1 Historical data	51
4.2 1992 match statistics	51
APPENDIX 1	52

## REVIEW OF PROGRESS

This report covers the period April 1992 to September 1992. Two sampling trips to the River Tees were planned for this period, the first to sample fry and the second to sample adult fish. The objectives of this year's work were to

1. Determine the spawning sites of dace in the lower Tees.
2. Conduct a detailed survey of the coarse fish of the Tees to add to information from the 1991 survey. Particular emphasis was to be placed in the area below Preston Park which is not intensively fished as it is perceived by the anglers to contain few fish.
3. Collect information from angling matches on the river and analyse results.
4. Continue data collection from temperature loggers.

1. Over 2700 fry were sampled and identified. High concentrations of dace fry were found at Yarm, Low Worsall and Low Moor. It is concluded that these are the major spawning sites on the lower part of the river.
2. Gill netting and fish trapping were tried in the sections of river where, because of high conductivity due to saline intrusion, it was not possible to electrofish (Thornaby-Pipe bridge). Few fish were caught by either method. Both methods suffered from drifting debris with traps moved or lost. Gill netting was concentrated around the time of slack tide and consequently the effect of drifting debris was minimized. The lack of fish in the nets is taken to be indicative of a general lack of fish in the area.

A gudgeon (length 15.5 cm) caught in a trap at below The Holmes (Thornaby) is the lowest recorded presence of coarse fish on the river.

Electrofishing in areas further upstream produced over 2500 fish including many young of the year. Important nursery areas have been identified. The length of each fish was measured and many were weighed. Scales were taken from a representative sample for age determination. Scales have been cleaned and mounted and await inspection.

Adult salmon were caught in sections 7 (Yarm), 11 (Aislaby) and 15 (Low Worsall). All were fresh with sea-lice. A further number (3-4) were seen between Yarm and Aislaby.

3. Information has continued to be collected from angling matches.
4. The temperature loggers have worked continuously this year.

## 1. FRY SURVEY 1992

### 1.1 Introduction

In 1991 the fry survey was conducted in September. This time was chosen as a compromise between the need to collect data on fry and on adults. At that time of year the fry were found to be highly mobile and, in particular, the dace had moved from the marginal habitats into deeper water. Thus it was difficult to assess the spawning areas for dace and the relative abundance of each species of fry.

To overcome these problems it was decided to bring forward the time of the fry survey. Sampling close to the time of hatch would give the best data on distribution along the river and location of spawning sites. However, at the pinhead stage, fry are difficult to identify and for this reason the survey was planned for July when it was expected that fry would not be excessively mobile and would still be in marginal habitats but would be easily identifiable. This time also had the advantage of being able to record dace, roach and chub, the three major species whereas earlier sampling would have been before the chub had spawned.

### 1.2 Methods

The survey was conducted in early July and covered most of the length of river to be affected by the barrage and areas above this for comparison. Effort was concentrated in areas known to contain adult fish (from the 1991 surveys) between Preston Park (Section 4) and Low Dinsdale (Section 25).

Electric fishing apparatus designed for fry sampling was used. This is battery powered with the anode ring mounted on a telescopic pole so that it can be extended in front of the boat to sample fry before disturbance. The shape and size of the anode allows point sampling, producing a high intensity field capable of stunning fry in a small area. At each sampling area up to 10 point samples were taken over a 25 metre area. The number of point samples depended on the number of fry caught.

In addition to the electric fishing, a micromesh seine was used in areas where large congregations of fry were expected and where no snags were present.

### 1.3 Results

Over 2700 fry were sampled, measured and identified. As in 1991, adult minnows and three spined sticklebacks were included in the results as these fish occupy similar habitats to those used by fry of larger coarse fish. Unlike the previous year when the dace fry had left the marginal areas of the river, dace fry were abundant comprising 34% of the fry sampled. Minnows and chub were the other common species comprising 31.7% and 17.1% respectively (Table 1). Barbel fry increased from 0.8% to 4.8% of the sampled fry with 124 individuals caught compared with 13 the previous year. The number of roach caught was lower, being 133 compared with 301 in 1991.

Table 1. Percentage composition and numbers of each species of fry sampled in the R. Tees in July 1992

Species	Total	Percentage
Barbel <i>Barbus barbus</i> (L.)	124	4.5
Chub <i>Leuciscus cephalus</i> (L.)	470	17.1
Dace <i>Leuciscus leuciscus</i> (L.)	936	34.0
Gudgeon <i>Gobio gobio</i> (L.)	168	6.1
Minnnow <i>Phoxinus phoxinus</i> (L.)	873	31.7
Roach <i>Rutilus rutilus</i> (L.)	133	4.8
Stone loach <i>Barbatula barbatula</i> (L.)	46	1.6
3 spined stickleback <i>Gasterosteus aculeatus</i> L.	5	0.2

### 1.3.1 Distribution of fry

The species composition in each of the sections sampled is shown in Figs 1-6 and summarized in Fig. 7.

The survey this year showed the presence of fry in Section 4 (Preston Park). No fry had been found in the previous year in this section. Four species were recorded, mainly chub and roach with one specimen each of a dace and a three spined stickleback (Fig. 1).

The main impetus of the sampling programme was to obtain information on the spawning sites of dace by mapping the distribution of the fry. Dace were found in all sections sampled apart from Section 6 (immediately upstream of the R. Leven). They were much more abundant in the samples than in the previous year with 936 individuals collected compared with 150 in 1991. High numbers were found in only four sections:

Section 7 Yarm, downstream of the bridges, 165 individuals (72% of the sampled fry).

Section 8 Yarm, between the bridges, 212 individuals (95% of the sampled fry).

Section 17 Low Worsall, 348 individuals (59% of the sampled fry).

Section 21 Low Moor, 157 individuals (16% of the sampled fry).

Whilst there is no guarantee that these four sites are the only dace spawning areas on this part of the R. Tees, the sampling was extensive within this area and it must be concluded that these are the main spawning areas.

D	=	dace
M	=	minnow
R	=	roach
C	=	chub
Oth	=	others
B	=	barbel
Gu	=	gudgeon



Fig. 1. Species composition of fry in Sections 1-4.

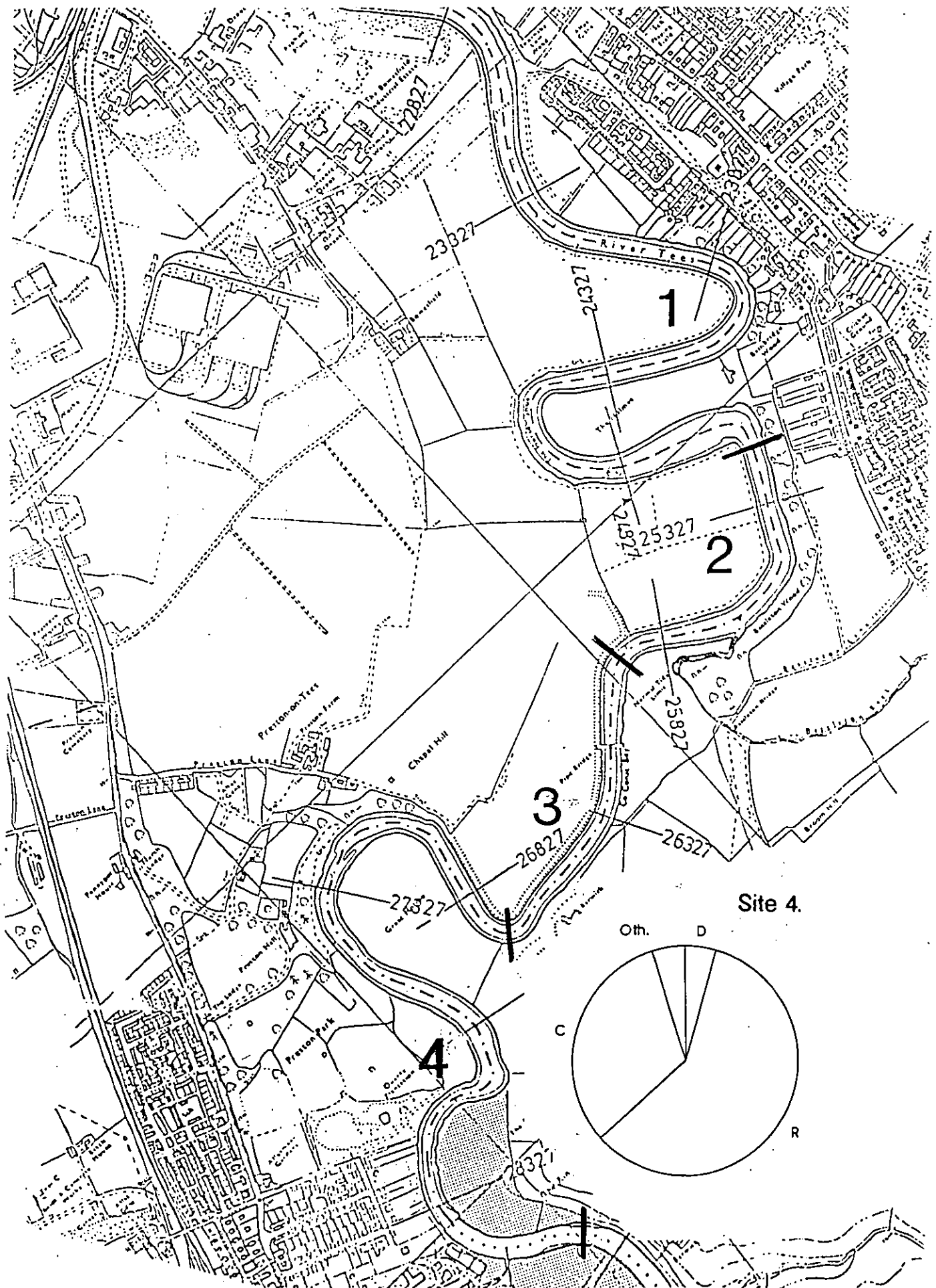


Fig. 2. Species composition of fry in Sections 5-9.

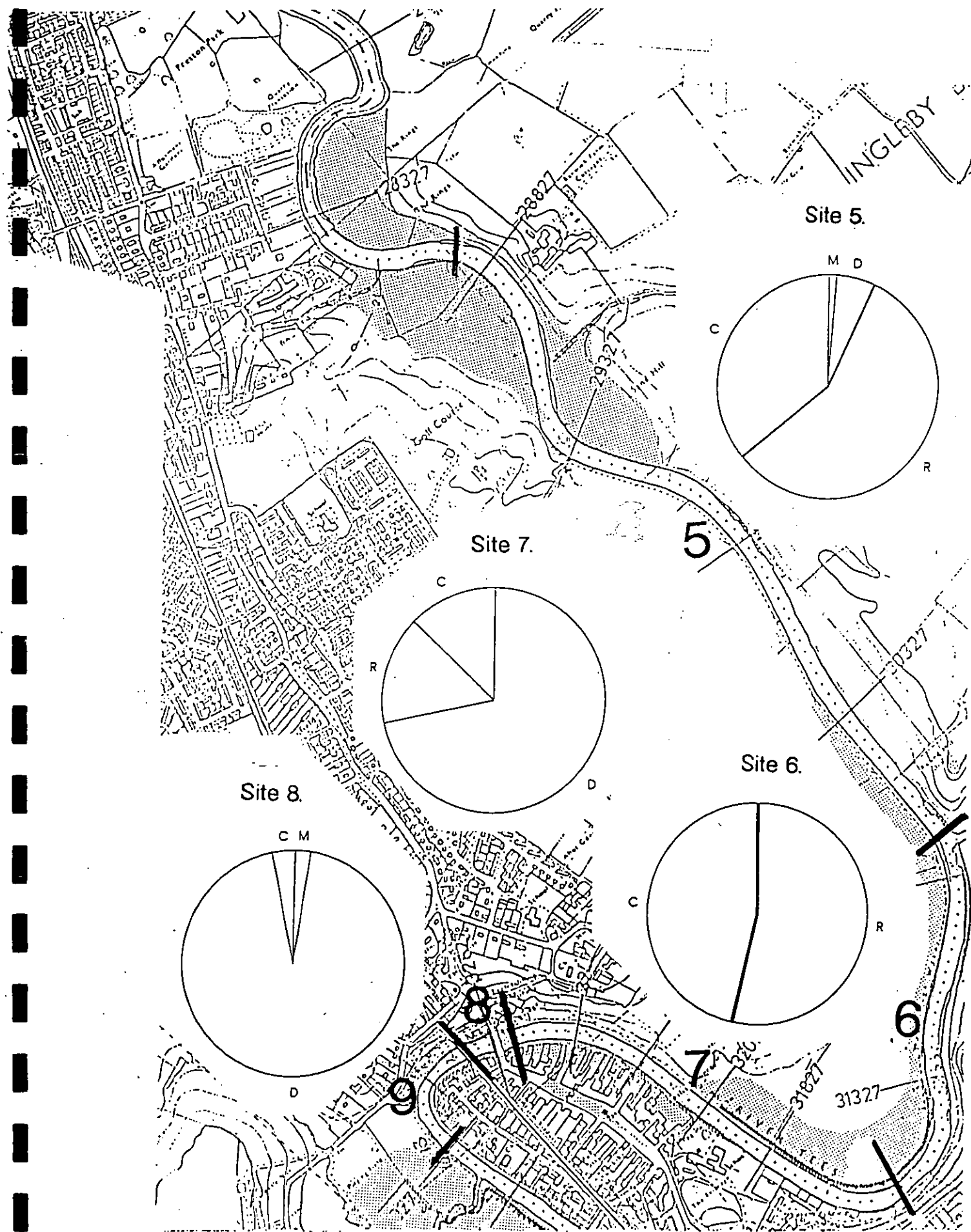


Fig. 3. Species composition of fry in Sections 10-14.

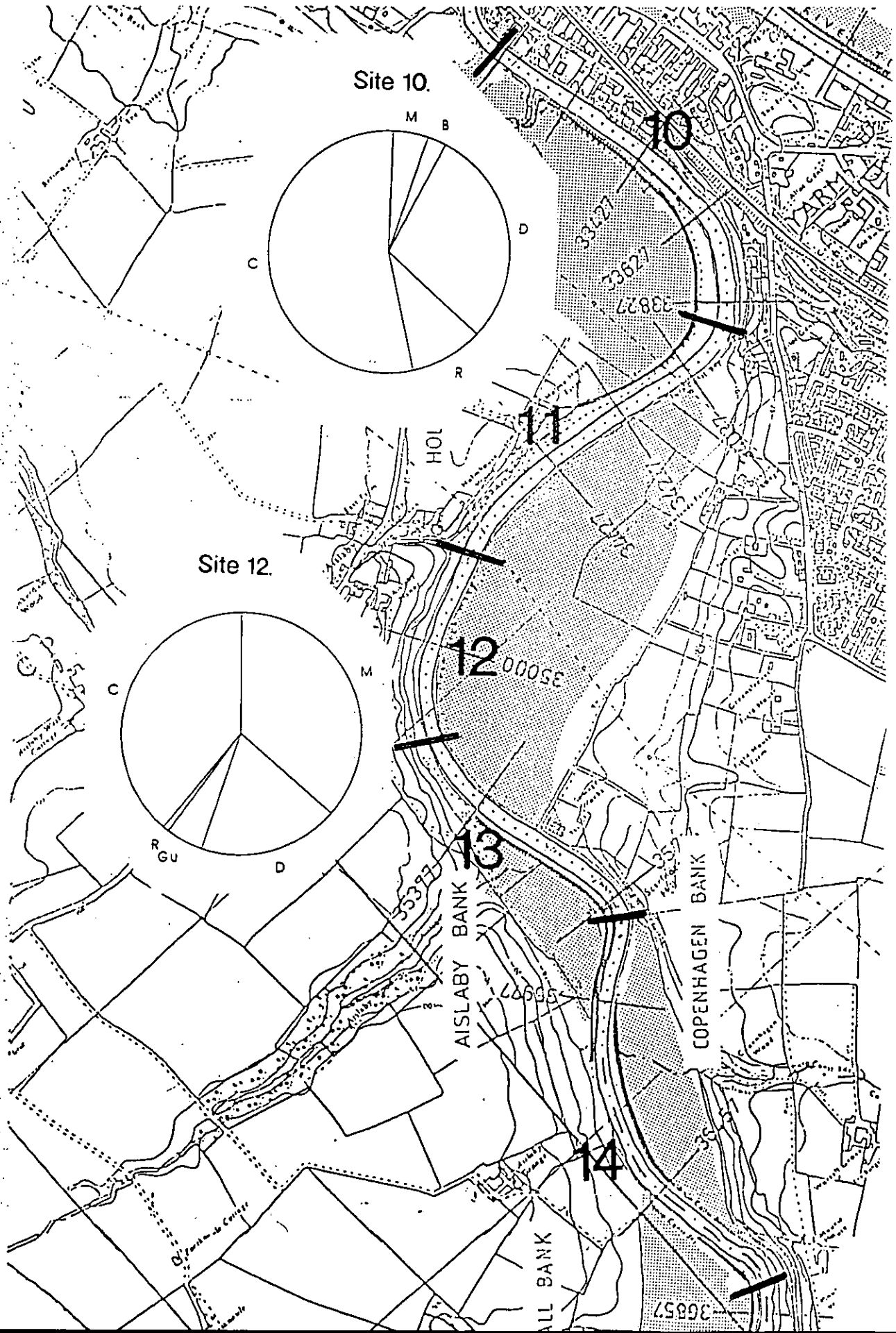


Fig. 4. Species composition of fry in Sections 15-18.

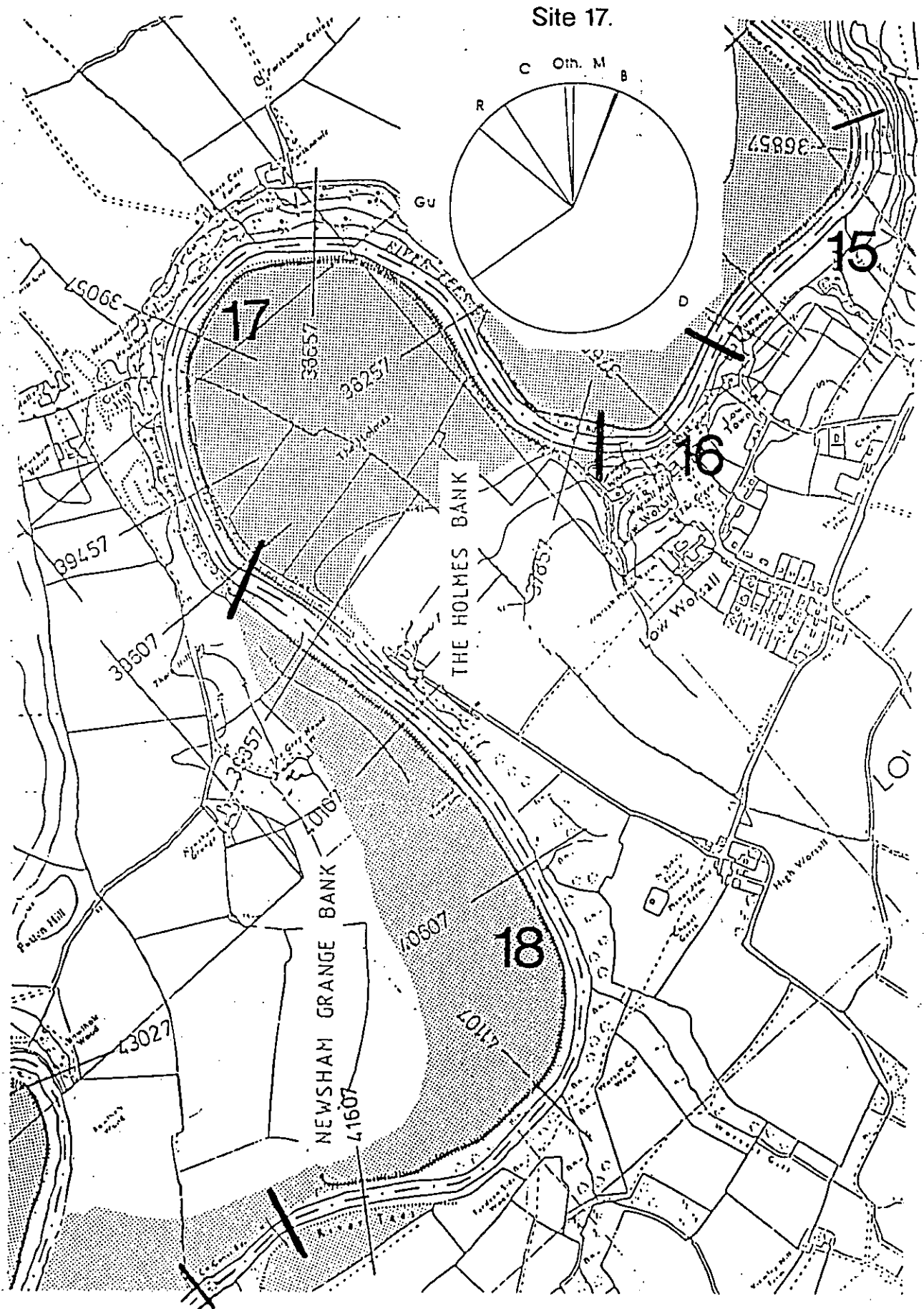
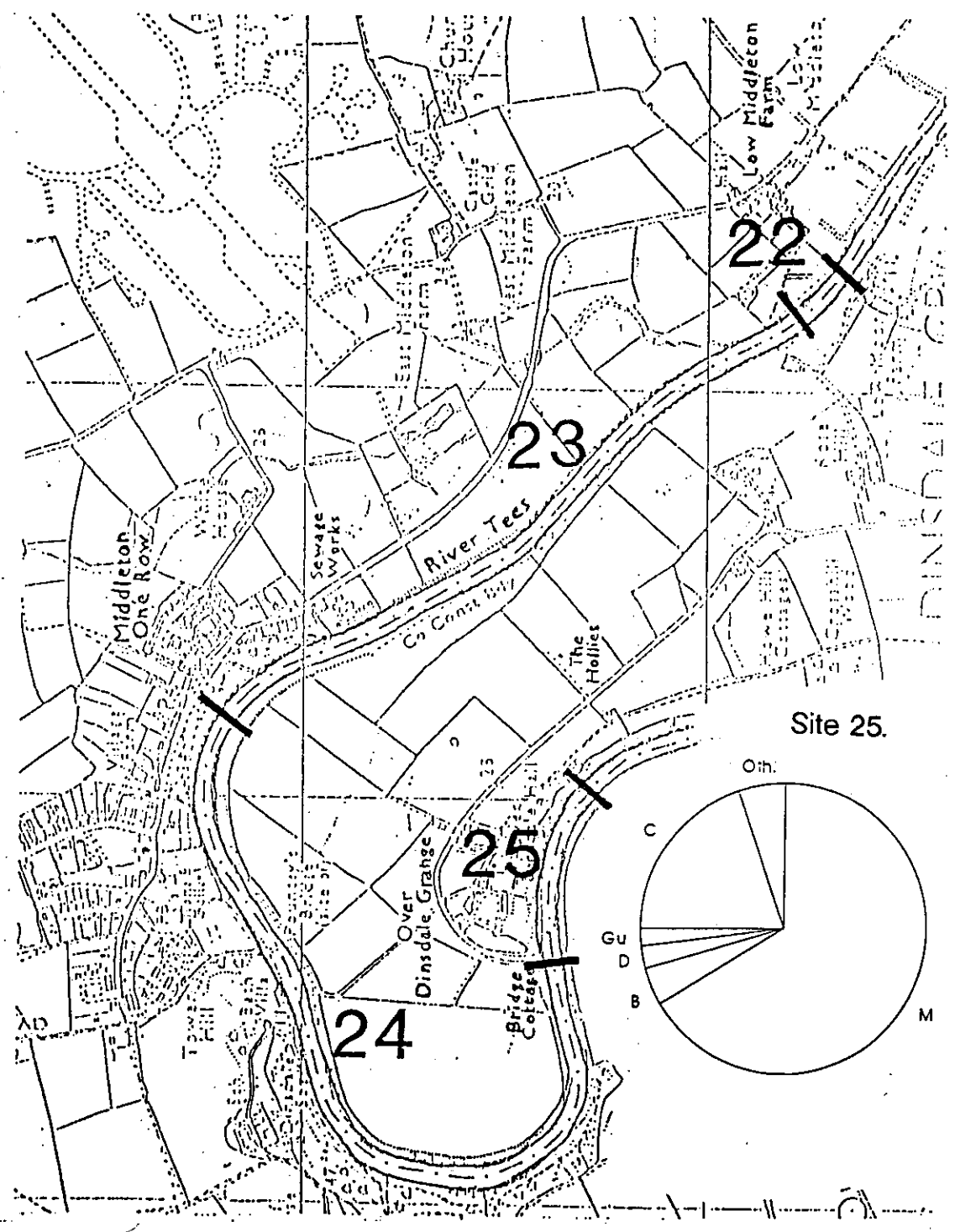
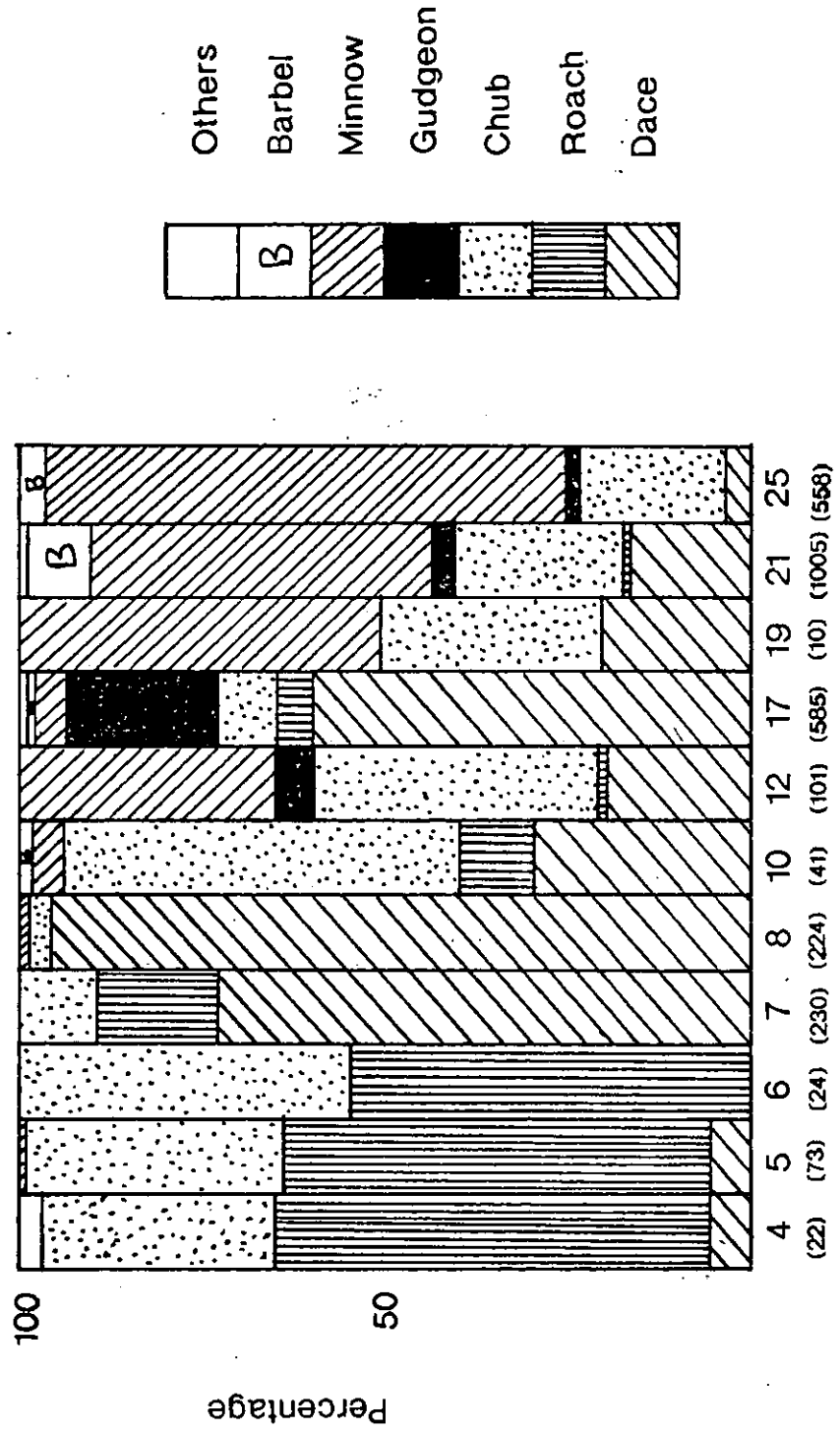




Fig. 6. Species composition of fry in Sections 22-25.



**Fig. 7.** Species composition of fry in the R. Tees in July 1992 at various sites. The number of fish caught in each section is given in parentheses.



Chub were found in all sections sampled and a similar number to last year was collected. High numbers were found in upstream sections (21 and 25) where they comprised c:20% of the sampled fry. Fair numbers were found distributed along the length of the study areas, in particular in Sections 5, 7, 10, 12 and 17. In comparison with other species, chub formed a high percentage of the fry sampled in all sections except 7, 8 and 17 where the percentage was low due to very high numbers of dace fry.

Roach fry were more common in the lower reaches of the river (below Yarm) where they represented over half of the fry sampled although numbers were never high. Roach were found in similar numbers in Section 17 (Low Worsall), the only site above Yarm with significant numbers of fry.

There was a large increase in numbers of barbel fry. Apart from one specimen in each of Sections 10 and 17, all fry were found in Sections 21 (Low Moor) and 25 (Low Dinsdale). At Low Moor they comprised 10% of the sampled fry.

Gudgeon fry were only found in four sections, all in the upper reaches of the study area. High numbers were found in Section 17 (Low Worsall) comprising 21% of the fry. They were more numerous than in 1991.

### 1.3.2 Length frequency distribution

Length frequency histograms are shown for each species (Fig. 8). Sizes of fry were smaller than in the previous year due to the earlier time of sampling. Dace were again the largest fry with a modal length of 36 mm. Apart from some very small chub fry (<14 mm) most species had similar size ranges.

There was no difference in size of dace fry between sites (Fig. 9). This does not appear to be the case for chub where size appears to be smaller in the upstream sections (21 and 25) (Fig. 10). This size difference is more clearly seen in roach (Fig. 11).



Fig. 8. Length frequency histograms for each species of fry in the R. Tees.

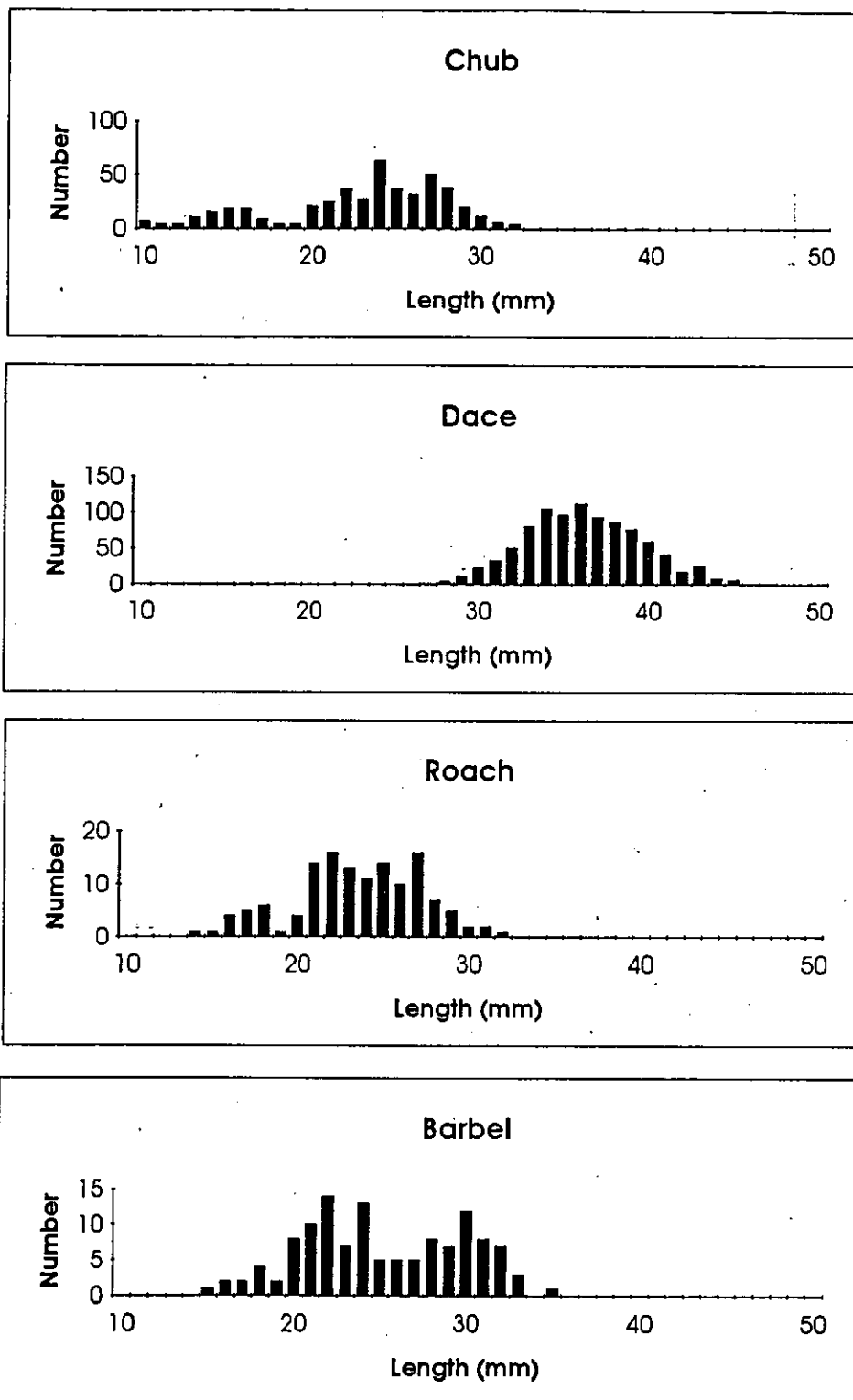


Fig. 8. Continued.

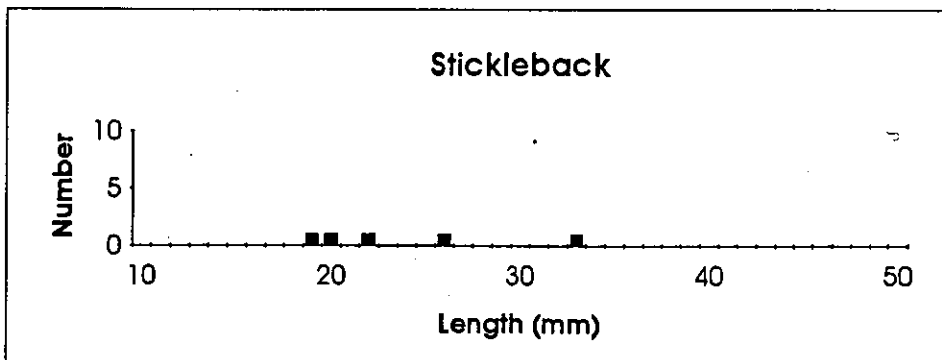
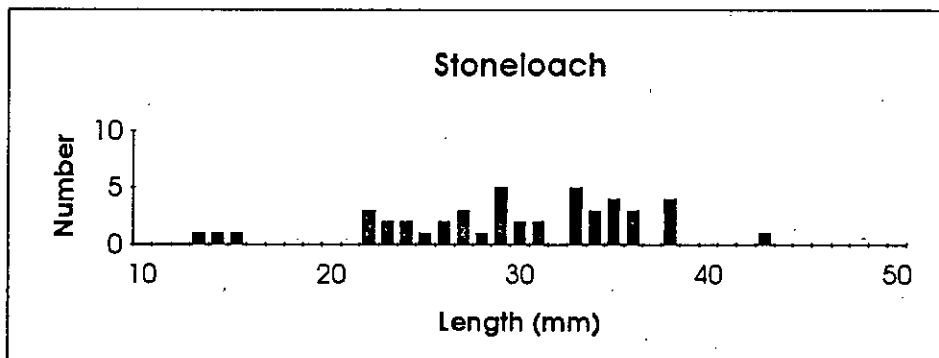
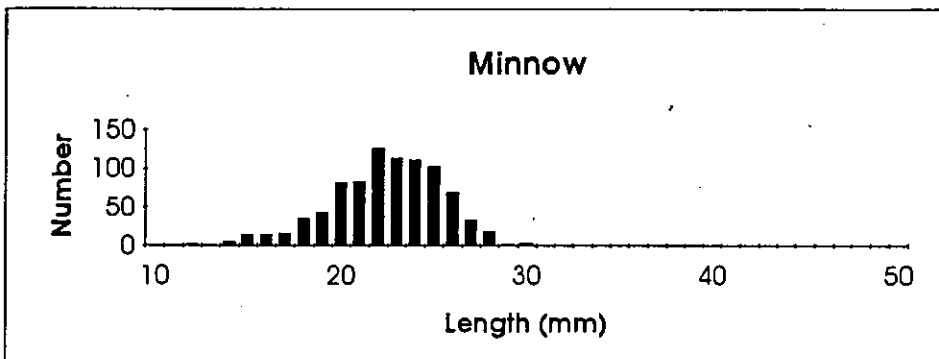
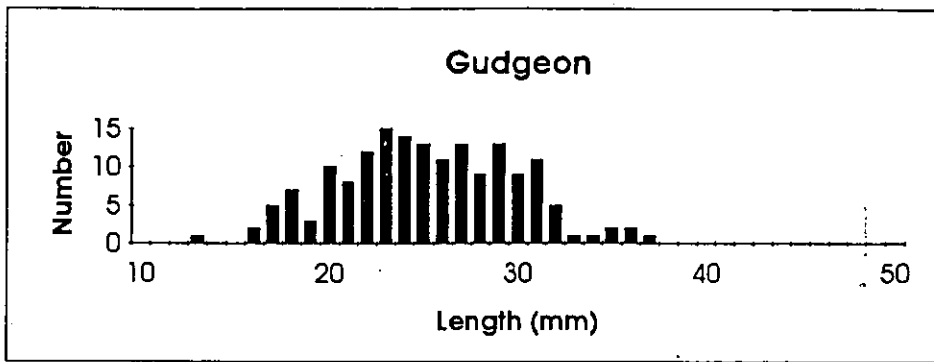


Fig. 9. Length frequency distribution of dace fry in each section in the R. Tees.

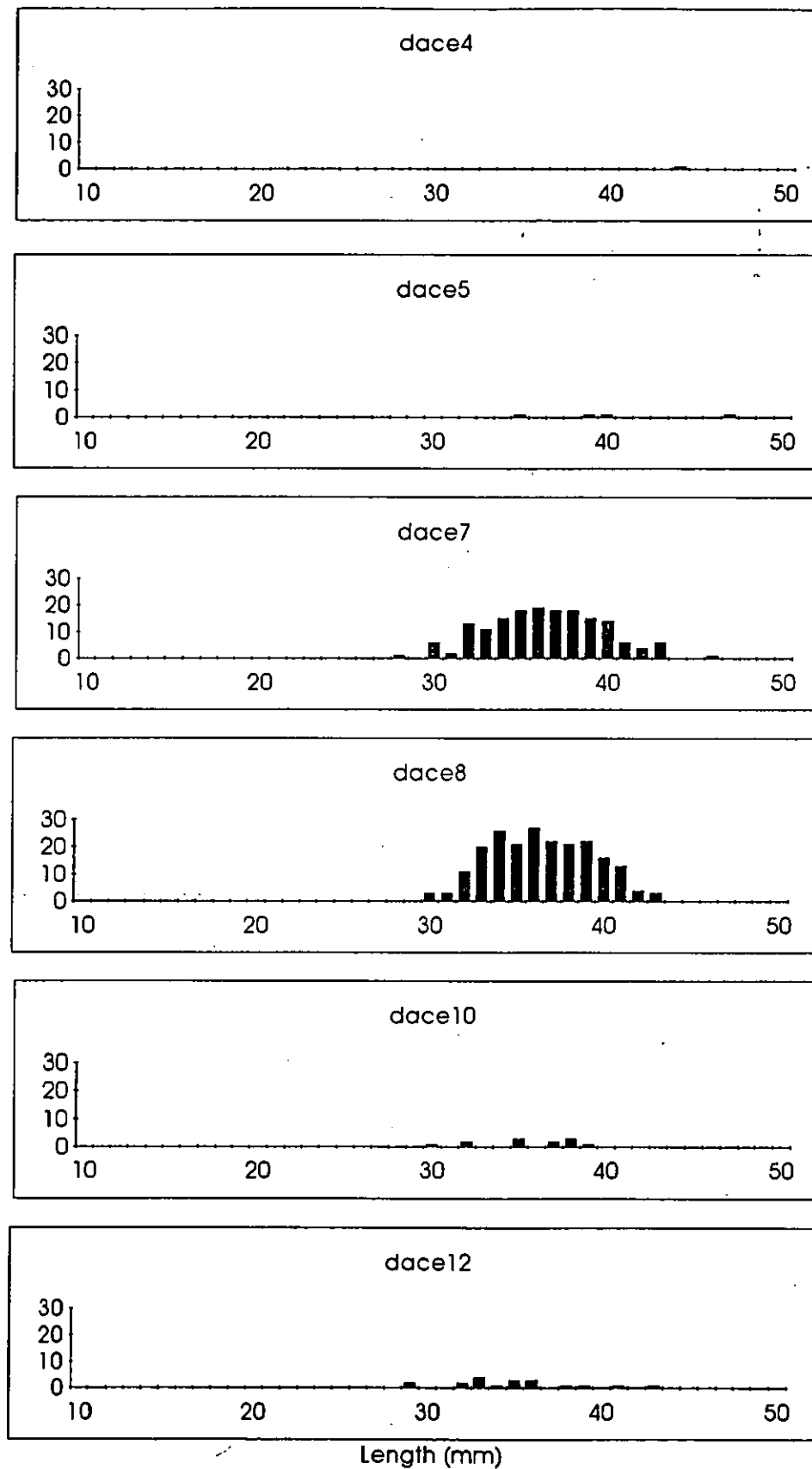


Fig. 9. Continued.

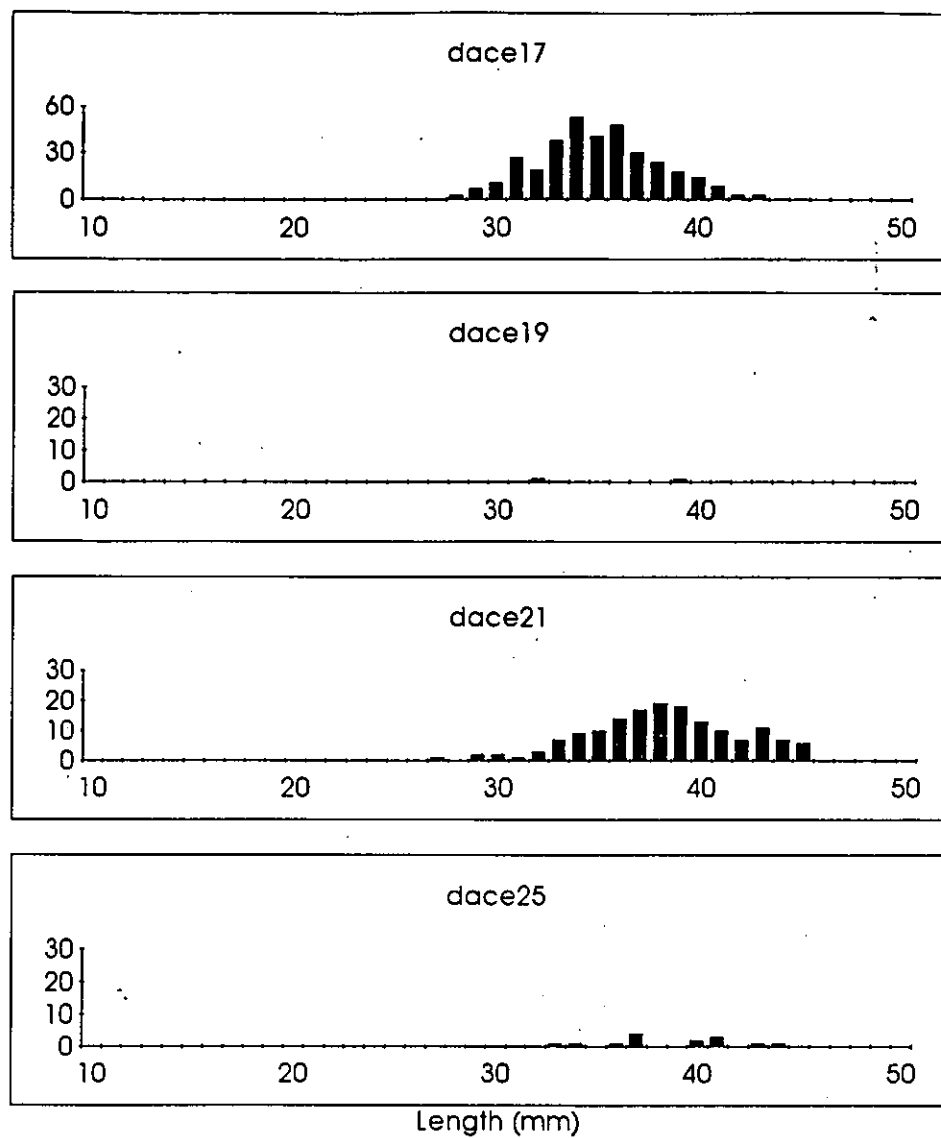


Fig. 10. Length frequency distribution of chub fry in each section in the R. Tees.

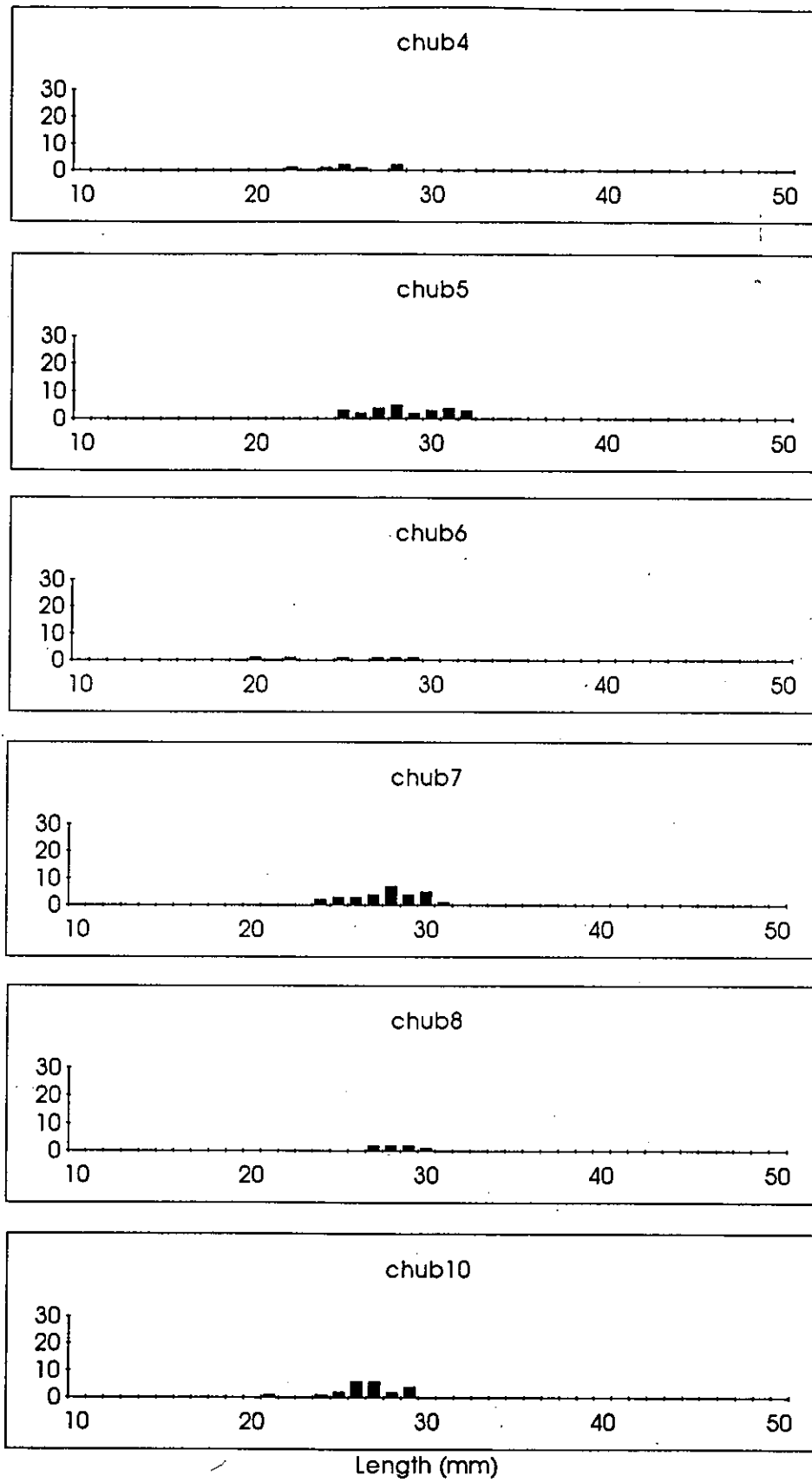


Fig. 10. Continued.

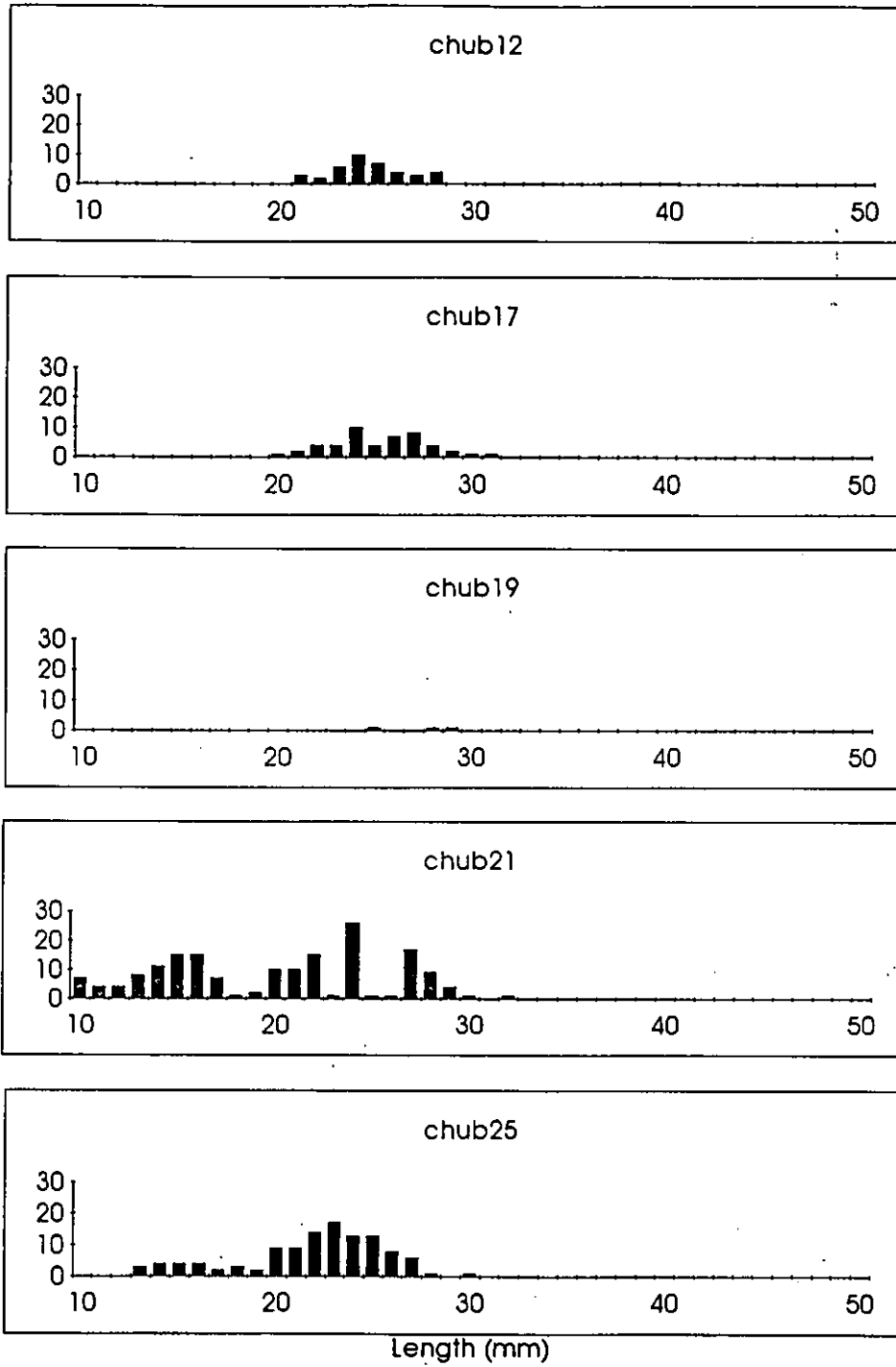


Fig. 11. Length frequency distribution of roach fry in each section in the R. Tees.

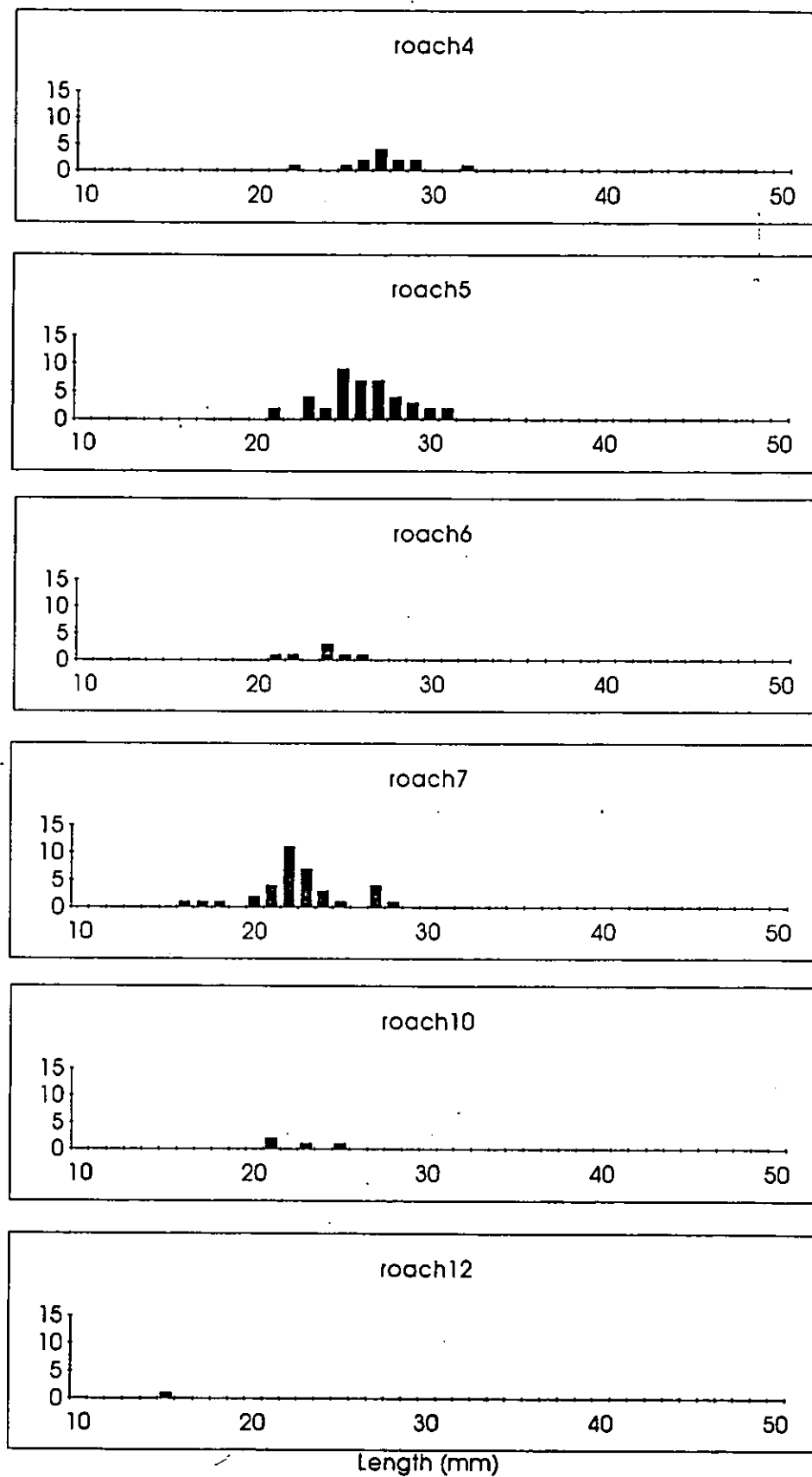
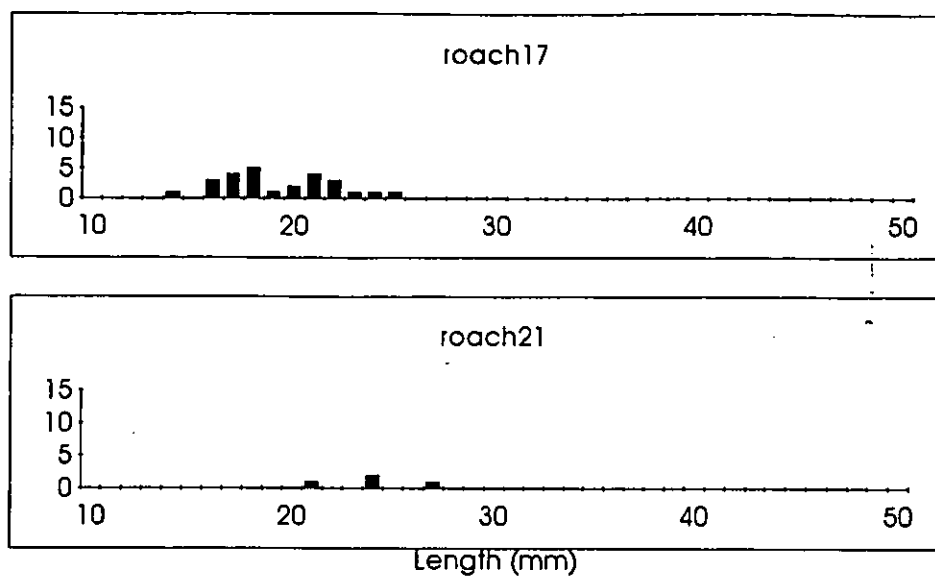


Fig. 11. Continued.





## **2. SURVEY OF COARSE FISH SEPTEMBER 1992.**

### **2.1 Introduction**

This survey was designed to increase the data base on the major fish species of the river before the construction of the barrage. It was carried out at the same time of year as previously and in sections as designated in the 1991 survey. Special emphasis was placed in the lower sections where saline intrusion makes electrofishing impossible at most states of the tide.

### **2.2 Methods**

In addition to electrofishing, fish trapping and gill netting methods were used on the river.

#### **2.2.1 Fish trapping**

Traps 1.3 m × 65 cm × 65 cm with a mesh size of 1 cm were baited with bread and anchored to the bottom of the river in sections 1-4 in different positions (ie mid river, close to bank, in backwaters etc). They were left in place for varying times depending on location and the state of the tide and were checked regularly.

#### **2.2.2 Gill netting**

Gill nets were used in Sections 1, 3 and 4. Due to the considerable amount of debris drifting in the river, they were deployed only around slack tide. Nets were laid parallel to the bank to minimize disturbance from drifting debris. The nets were 22 m × 1.8 m with a mesh size of 24 mm. The lead lines were set 50 cm from the bottom to avoid snags.

#### **2.2.3 Electrofishing**

Sections 4-16 were electrofished with the boom boat at 200 v, 10 amps from a 7.5 KVA generator. Each section was fished twice with the flow, once along each bank. Fish from both runs were retained in the holding tank and processed as one catch.

Section 21 was electrofished with twin anodes by wading (200 v, 1.9 KVA) and Section 25 by single anode fishing from a boat (200 v, 1.9 KVA).

#### **2.2.4 Processing**

Length measurements were taken from each fish and weight measurements and scales for aging were taken from a representative sample of these.

## 2.3 Results

Two species were recorded for the first time in this study. A river lamprey, *Lampetra fluviatilis* (L.) was found in Section 21 and bullhead, *Cottus gobio* L. in Section 25.

### 2.3.1 Fish trapping

The position of the traps within the sections is shown in Fig. 12: Three traps were placed in the general area of The Holmes (Thornaby) where there are no records of coarse fish and a fourth downstream of the pipe bridge where coarse fish were gill netted the previous year. Traps were set at approximately high tide (11 am) when the conductivity was  $5000 \mu\text{S cm}^{-1}$ . Eels were caught in Trap 1 (16.50 hr,  $1750 \mu\text{S cm}^{-1}$ ) and Trap 3 (overnight). A 15.5 cm gudgeon was caught in Trap 2 (Stockton side of The Holmes) at 13.15 hr. The conductivity at this time was between 5000 and  $1100 \mu\text{S cm}^{-1}$ . Two roach were caught in Trap 4, a 5.0 cm fish at 16.15 hr (conductivity  $250 \mu\text{S cm}^{-1}$ ) and a 17.0 cm individual overnight.

Traps 5-8 the following day were set in Sections 2-4 (Fig. 12) in areas known to contain fish. Only three fish (two roach and one dace) were caught.

Trap 7 was lost, presumably carried downstream by debris.

### 2.3.2 Gill netting

Gill nets were set downstream of The Holmes (Section 1), downstream of the pipe bridge (Section 3) and Preston Park (Section 4) (Fig. 12). Nets were set at approximately high tide and left as long as possible. In practice, 2-3 hours was possible. Only three dace were caught.

### 2.3.3 Electrofishing

Over 2800 fish were caught during the survey which is over double that caught in the corresponding period the previous year. This year, because of a perceived decline in fish of anglable size, all young of the year were also netted to compare with the fry survey carried out in July. Approximately 2000 of the fish caught were less than 8 cm in length compared with 200-300 the previous year when not all were netted. Interestingly, the number of fish  $>8$  cm caught in 1992 (c. 850) was not very different from 1991 (900-1000), indicating that perceptions can be erroneous.

Dace, chub and roach were again the most common species with increasing numbers of flounder and gudgeon compared with the previous September (Table 2).

Fig. 12. Map showing positions of traps and gill nets.

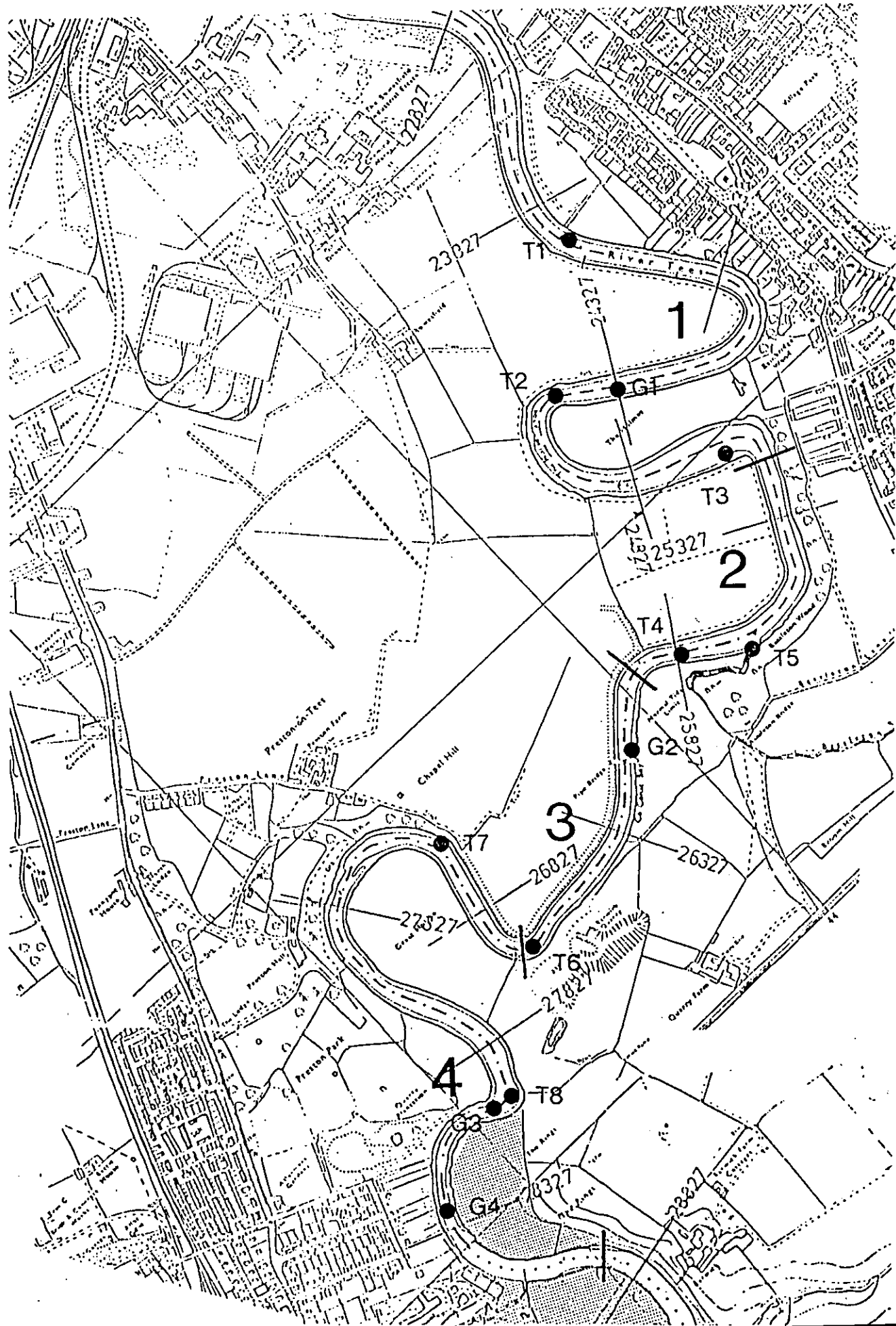


Table 2. Species lists for the R. Tees and number of each species caught - September 1992

Species	Totals
Barbel <i>Barbus barbus</i> (L.)	9
Bullhead <i>Cottus gobio</i> L.	1
Chub <i>Leuciscus cephalus</i> (L.)	356
Dace <i>Leuciscus leuciscus</i> (L.)	1566
Eel <i>Anguilla anguilla</i> (L.)	>>100
Flounder <i>Platichthys flesus</i> (L.)	85
Grayling <i>Thymallus thymallus</i> (L.)	2
Gudgeon <i>Gobio gobio</i> (L.)	275
Minnnow <i>Phoxinus phoxinus</i> (L.)	109
River Lamprey <i>Lampetra fluviatilis</i> (L.)	1
Roach <i>Rutilus rutilus</i> (L.)	385
Salmon adult <i>Salmo salar</i> L.	3
Stone loach <i>Barbatula barbatula</i> (L.)	12
Three spined stickleback <i>Gasterosteus aculeatus</i> L.	11
Trout (brown) <i>Salmo trutta</i> L.	15

#### 2.3.4 Distribution of fish

Species composition at each site is given in Figs 13-18 and summarized in Fig. 19. Site descriptions, fishing method, date, state of the tide, species and number of fish caught in each section are given in Appendix 1.

Semi-quantitative information on number of fish per 100 m of river for each section is given in Table 3. Comparisons between sections and between years may be made only after regard to the different efficiencies with which each section is fished, factors such as the state of tide, depth and turbidity having a marked effect.

Dace were found in all sections except Section 1 and comparisons with the survey in 1991 confirm that high densities occur in the Yarm area (Sections 7-9), at Aislaby (Section 12), at Low Moor (Section 21) and at Low Dinsdale (Section 25). The density at Low Worsall (Section 15) this year was much greater than in the previous year.

D	=	dace
M	=	minnow
R	=	roach
C	=	chub
Oth	=	others
B	=	barbel
Gu	=	gudgeon
T	=	trout
B	=	barbel

Fig. 13. Species composition of fish in Sections 1-4.

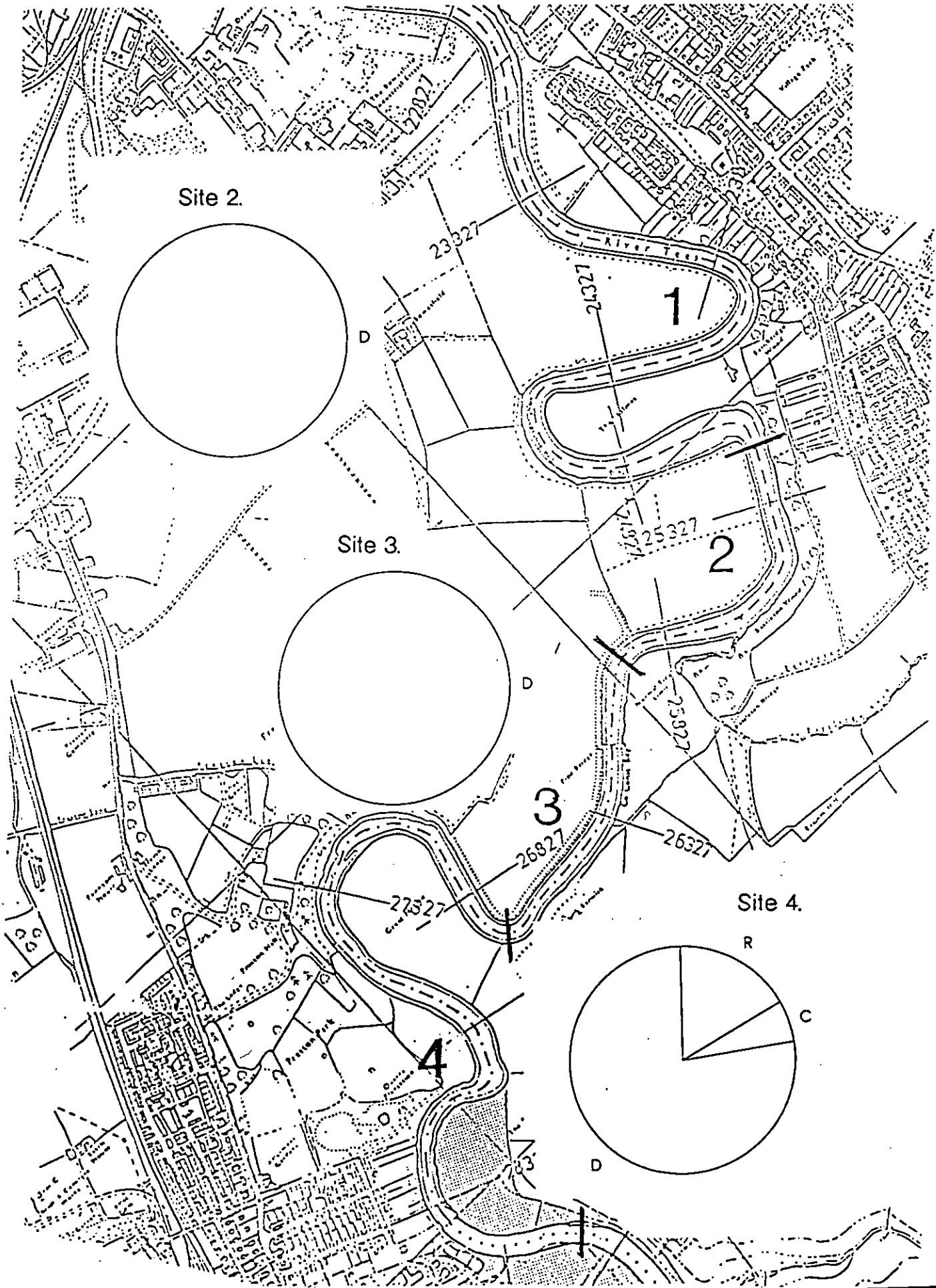


Fig. 14. Species composition of fish in Sections 5-9.

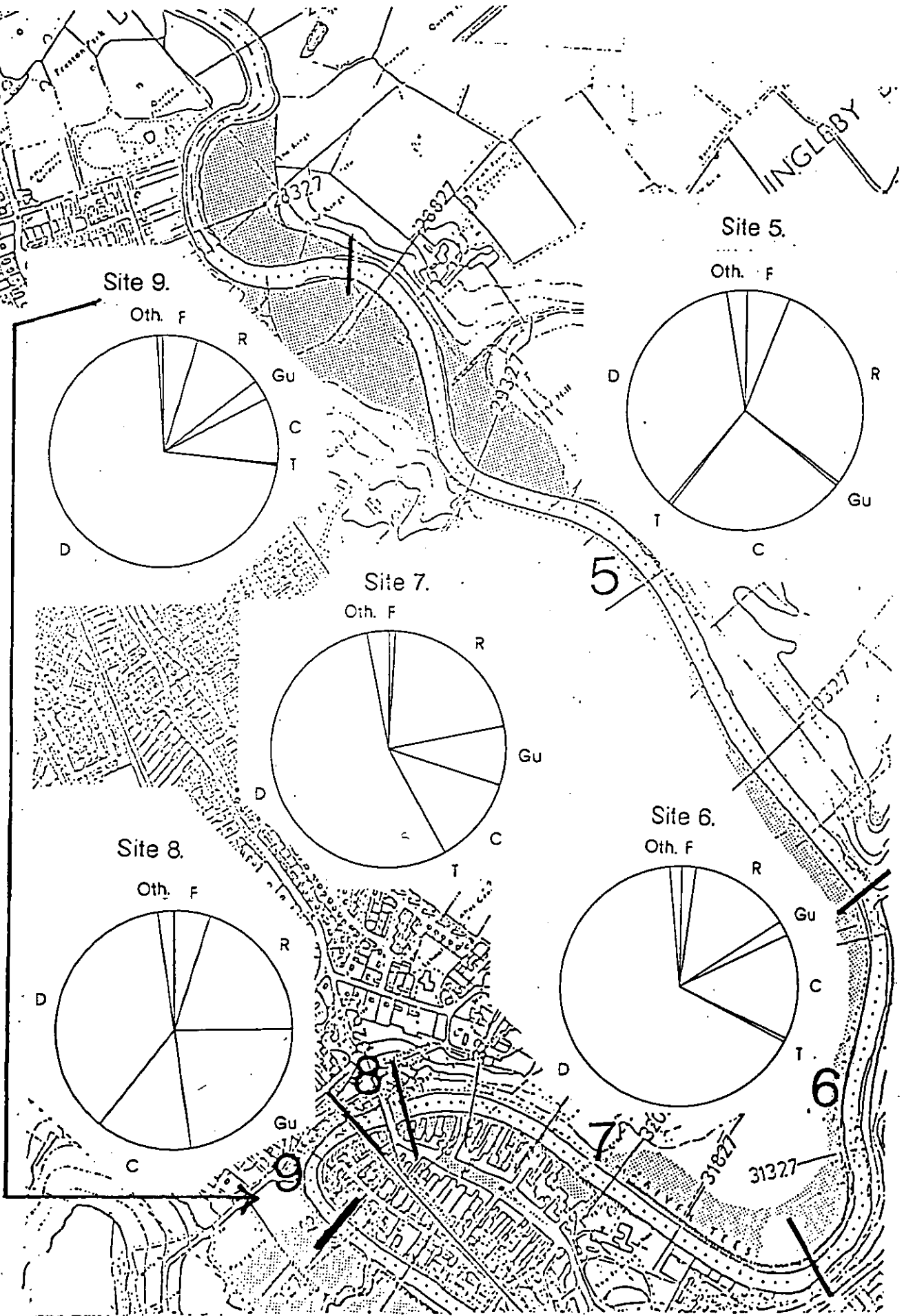


Fig. 15. Species composition of fish in Sections 10-14.

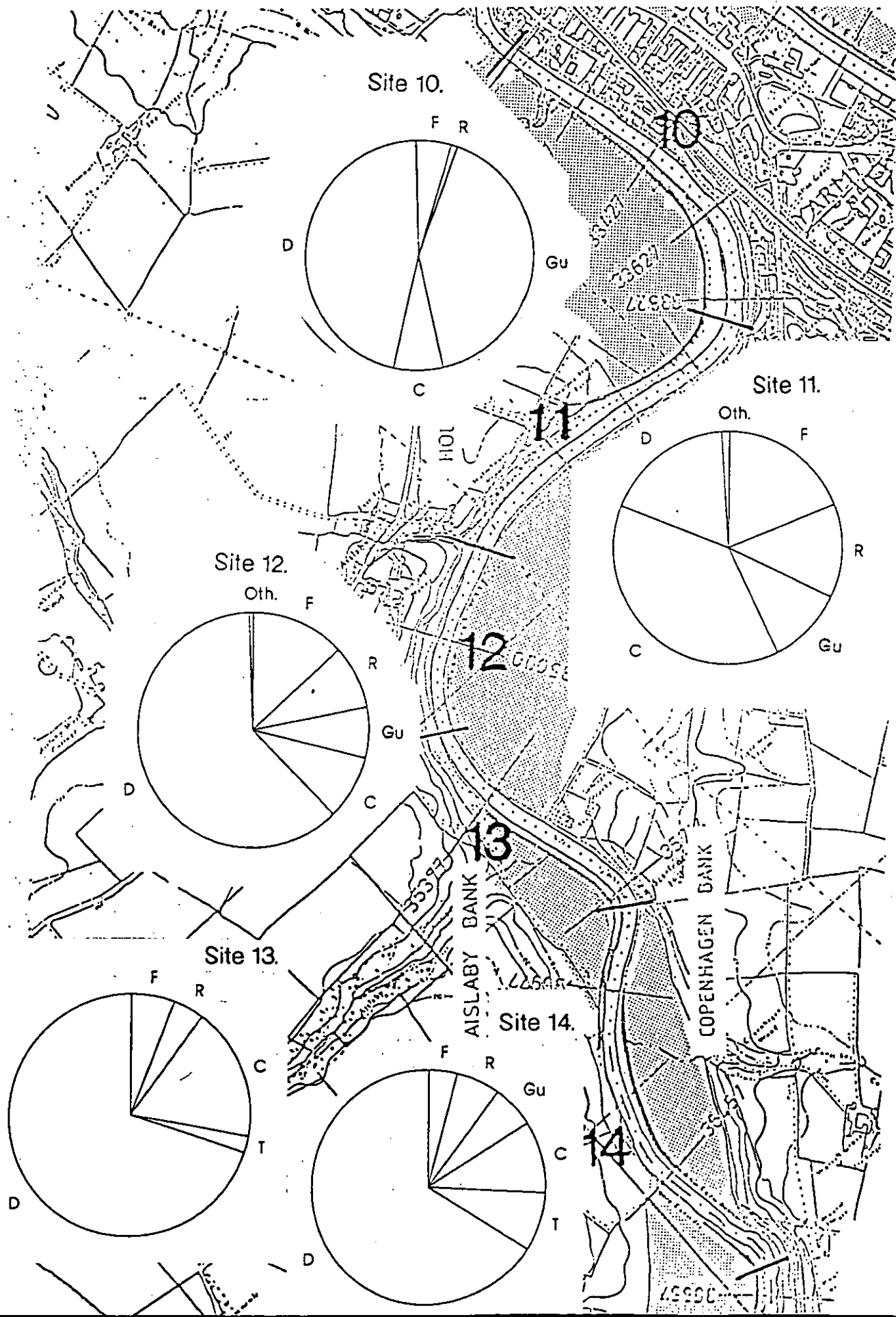
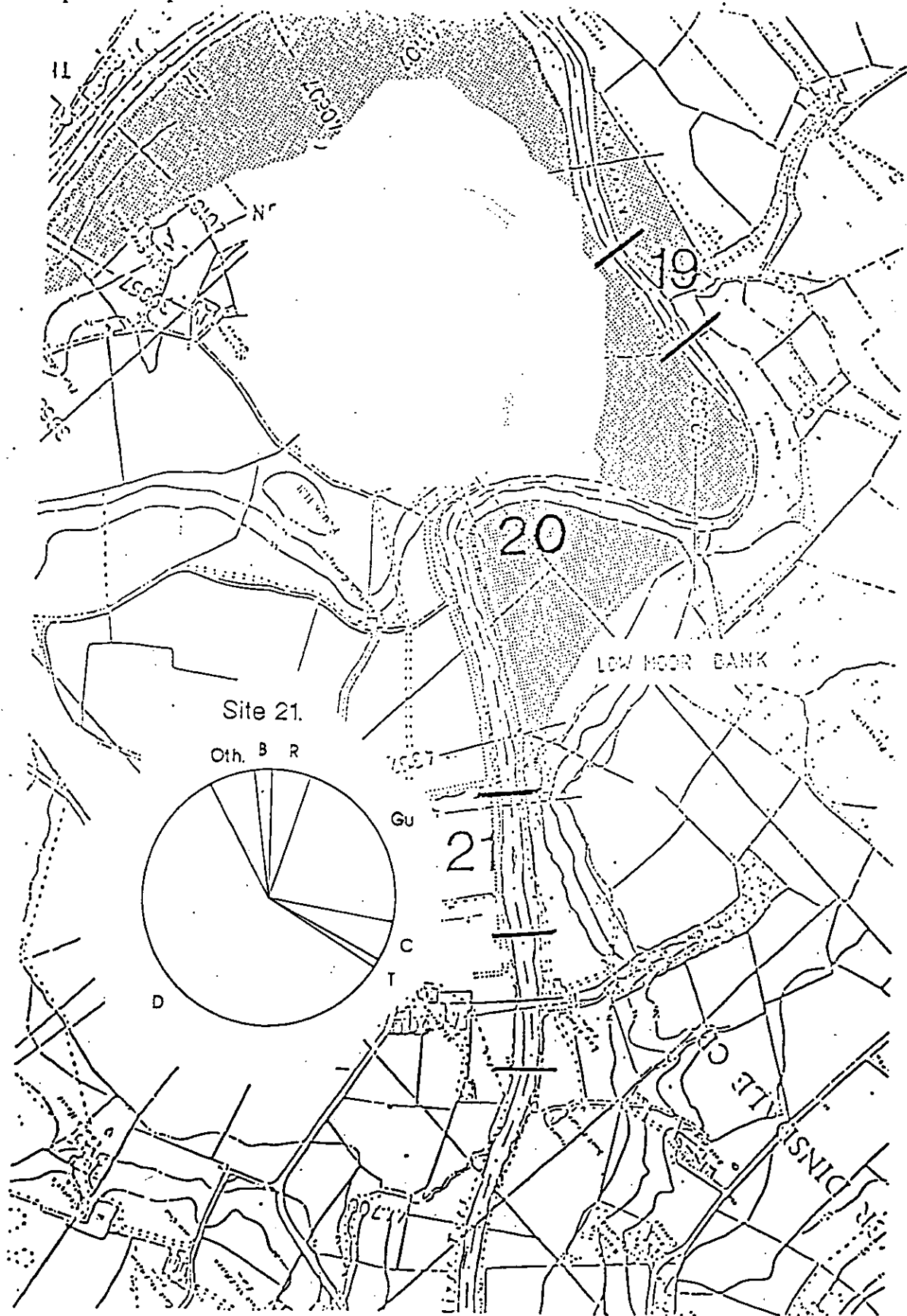






Fig. 17. Species composition of fish in Sections 19-21.





**Fig. 19.** Species composition of fish in the R. Tees in September 1992 at various sites.  
 The number of fish caught in each section is given in parentheses.

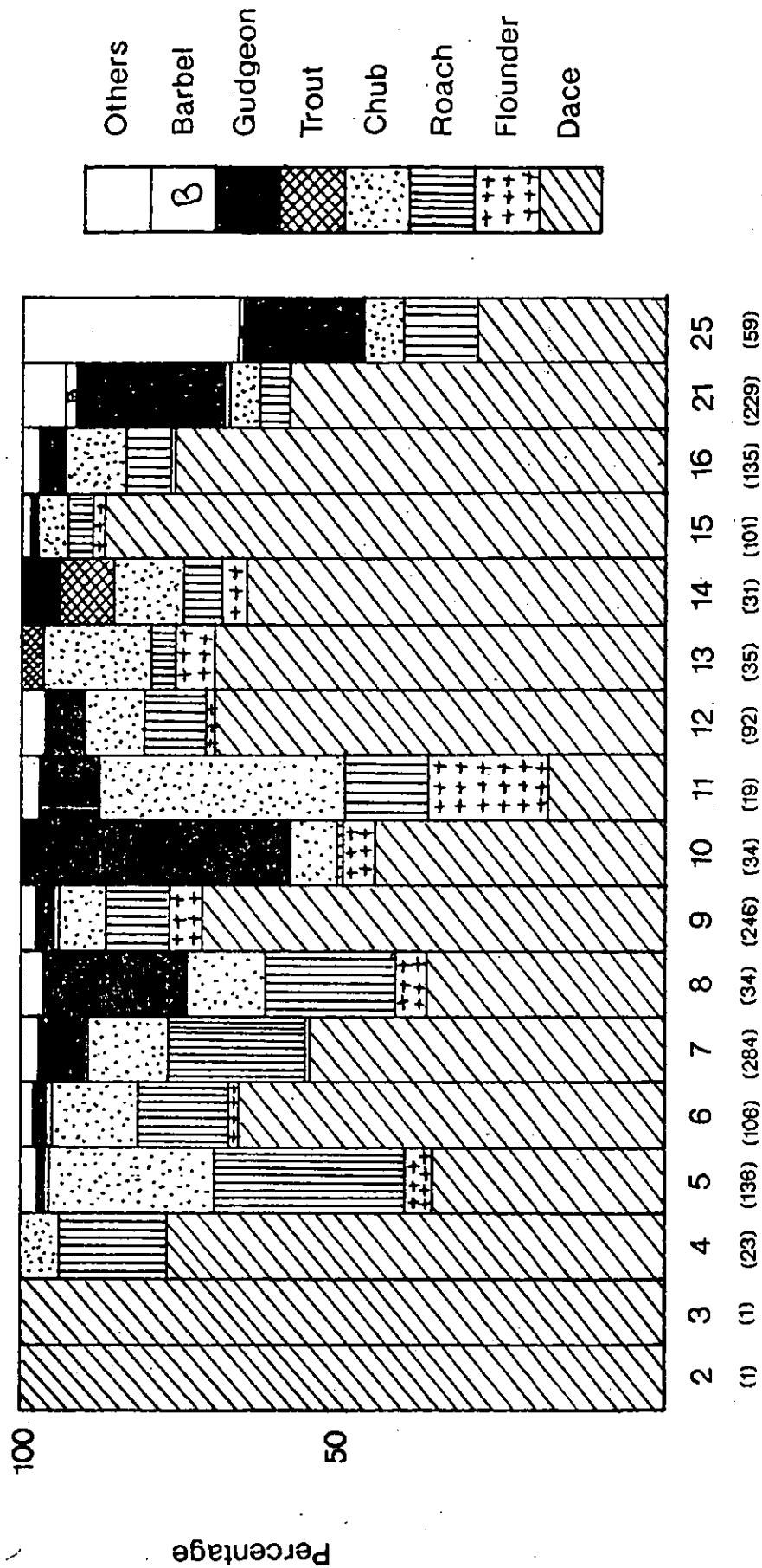


Table 3. Number of fish per 100 m found in each section in September 1992

Section	Dace	Roach	Chub
1	-		
2	0.1	-	-
3	0.1	-	-
4	1.0	0.2	<0.1
5	7.4	5.9	5.2
6	8.5	1.9	1.8
7	24.9	8.6	5.0
8	42.5	22.5	15.0
9	82.0	11.3	10.7
10	6.1	0.2	0.9
11	2.3	1.5	4.6
12	20.9	3.0	3.0
13	5.8	0.3	1.5
14	3.0	0.7	1.1
15	17.4	0.9	1.0
16	33.8	3.0	4.3
21	88.1	7.3	8.1
25	16.9	6.3	4.6

As in 1991, roach densities were greatest at Yarm (Sections 7 and 8) but at a much reduced level. Roach had also been associated with the sewage outfall in Section 13 but this year after the rerouting of the pipeline away from the river, they were not present in this area in the same numbers. In general, densities of roach were lower than the previous year.

Chub densities were much higher in the Yarm area than previously due in part to the large number of young of the year caught. In Section 21 (Low Moor), similar to roach, densities were lower than in 1991.

Adult salmon were caught in sections 7 (Yarm), 11 (Aislaby) and 15 (Low Worsall). All were fresh with sea-lice. A further number (3-4) were seen between Yarm and Aislaby.

### 2.3.5 Length frequency distribution

The length frequency distribution of each species is given in Fig. 20 and is divided into length frequency by section for each major species in Figs 21-24.

Young of the year dace were distributed along most of the study length of the river being absent in Sections 2 and 3 only (Fig. 21). Section 2 and 3 are low down the river system, highly affected by saline intrusion and contain few fish of any size. Low numbers of young of the year were found in Section 8, one of the spawning areas. No fry were found in Section 6 in July but in September large numbers of young of the year were present. It appears that fry have moved from some of the spawning sites into nursery areas. The main nursery areas are immediately 'downstream' of the spawning sites. At Yarm, however, fairly high numbers were found immediately 'upstream', presumably the fry drifted on a flooding tide into these areas.

High numbers of chub fry were found in Sections 21 and 25 in July but these areas produced few young of the year in September (Fig. 22). Most young of the year were found in Sections 5, 7 and 11, the former two having fair numbers of fry in July and the latter being between two sites having fair numbers of fry in July.

Roach young of the year were only found in good numbers in Sections 5 and 7, both areas containing fry in July. Few fish of this age were found above Yarm (Fig. 23).

Young of the year gudgeon were found in nine sections between Section 5 (golf course) and Section 25 (Low Dinsdale) compared with only four for fry in July. They were abundant in Sections 21 and 25, two of the sites where fry were found and common in Section 7 (Fig. 24).

Fig. 20. Length frequency distribution of fish in the R. Tees in September 1992.

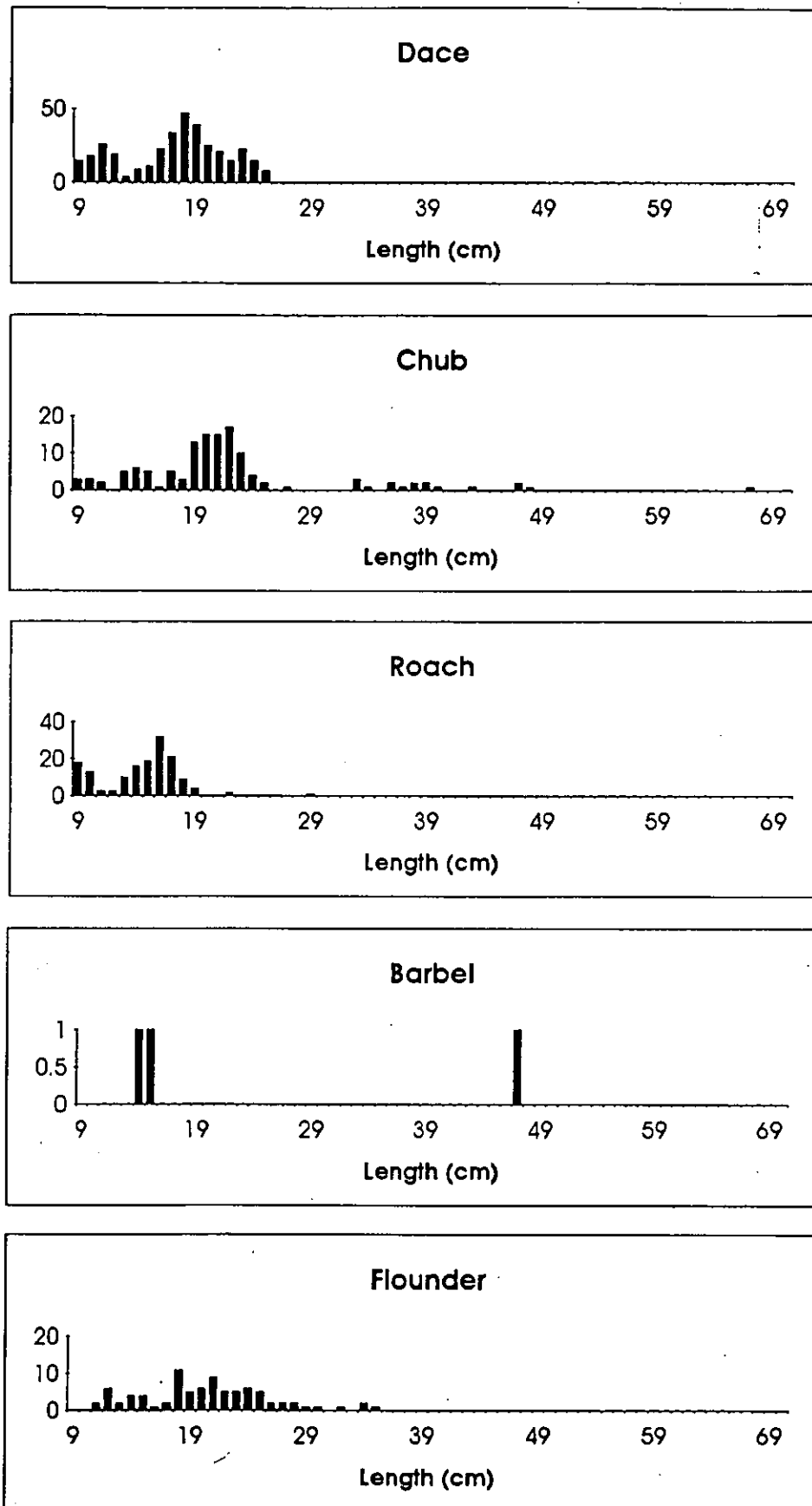


Fig. 20 Continued

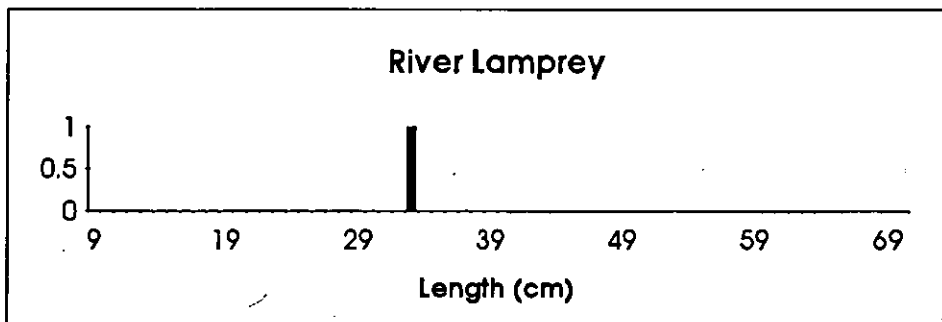
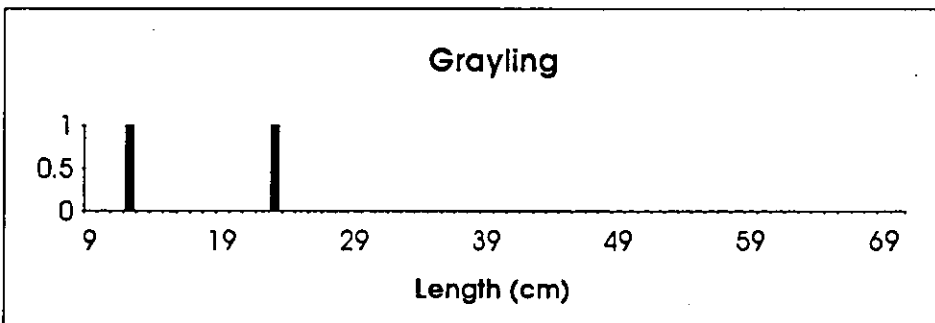
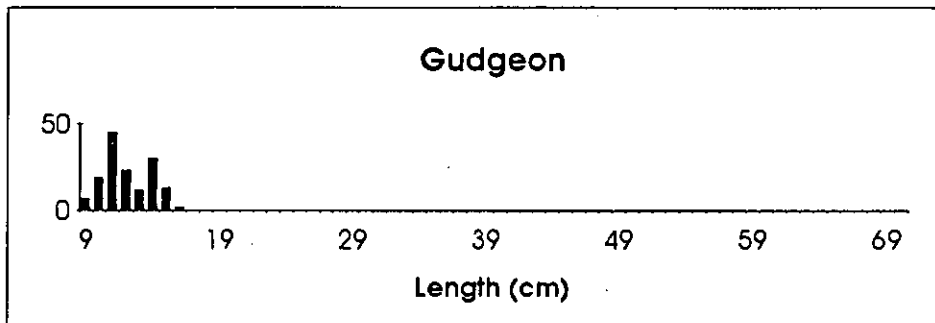
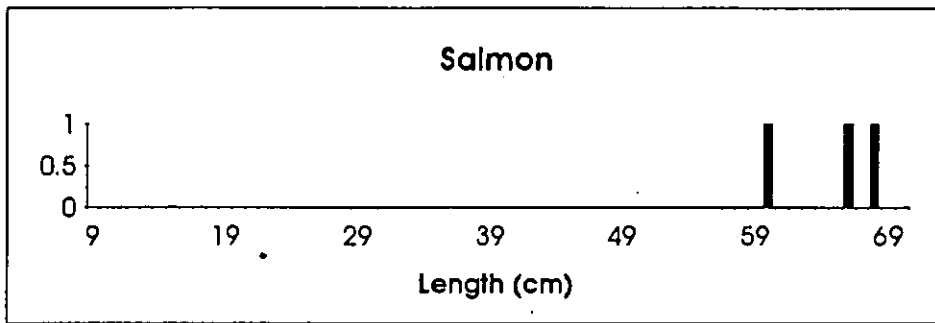
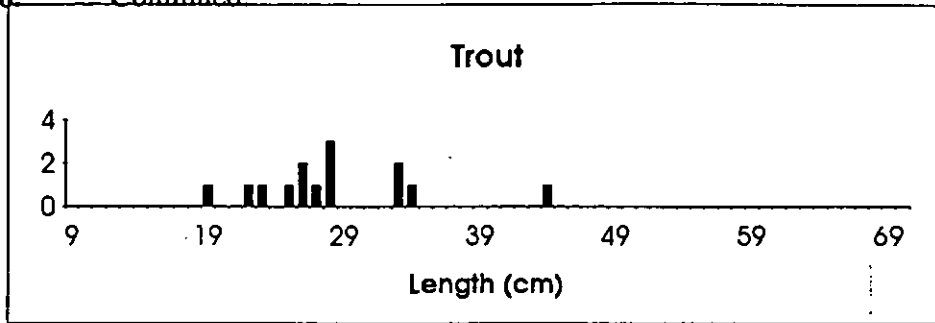




Fig. 21. Length frequency distribution of dace in each section of the River Tees in September 1992. All lengths in cm.

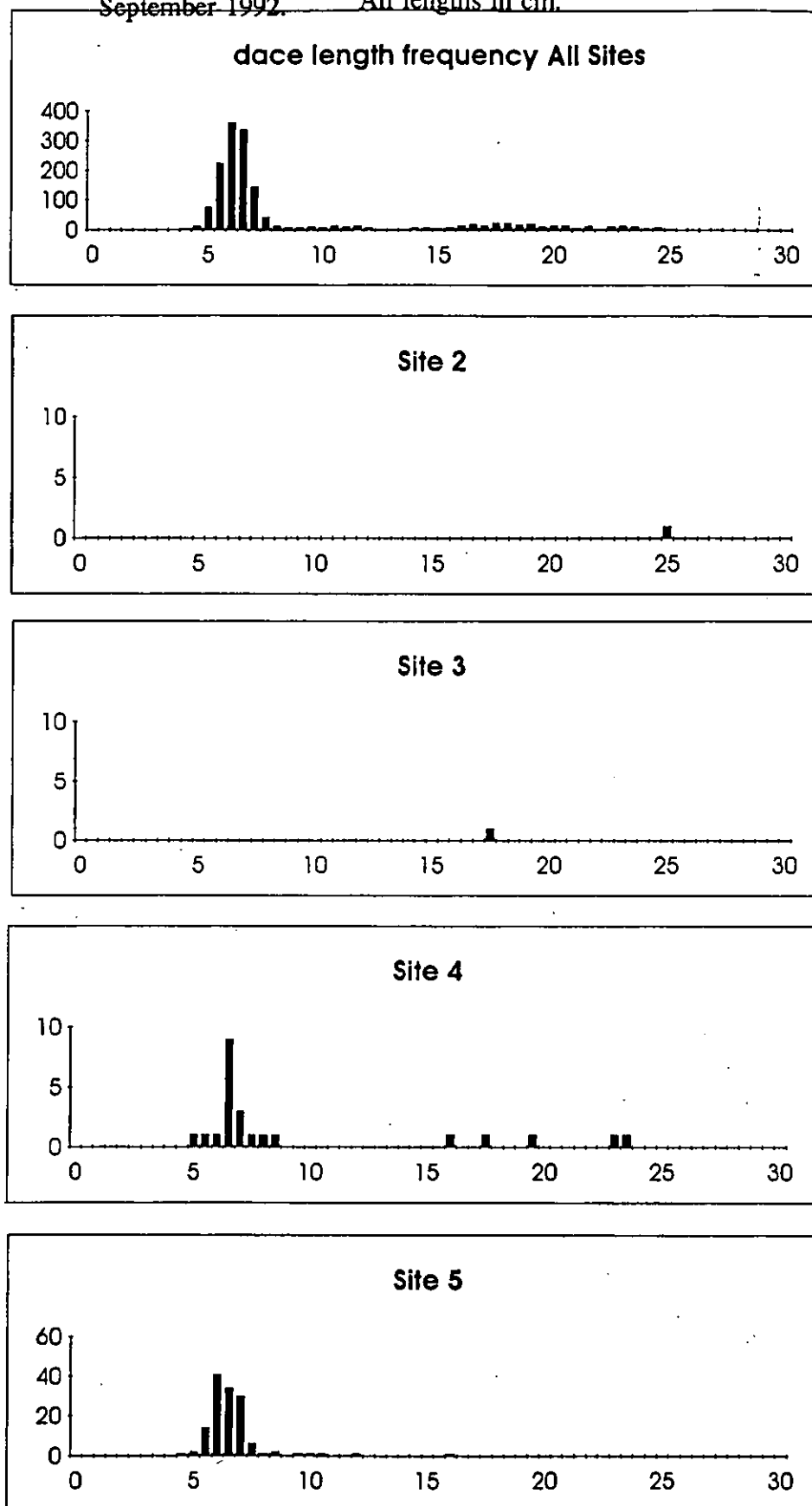


Fig. 21. Continued.

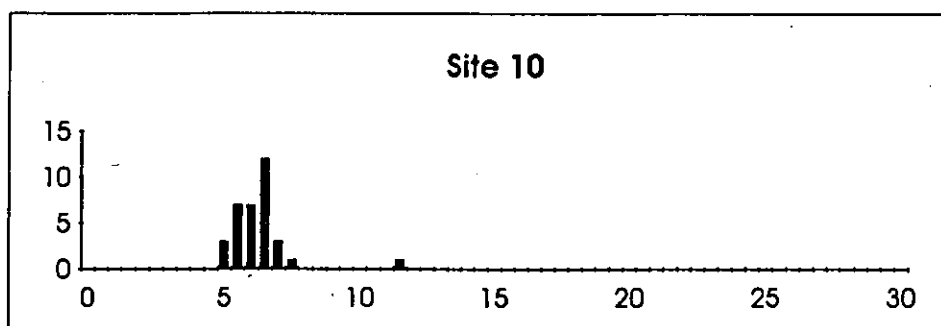
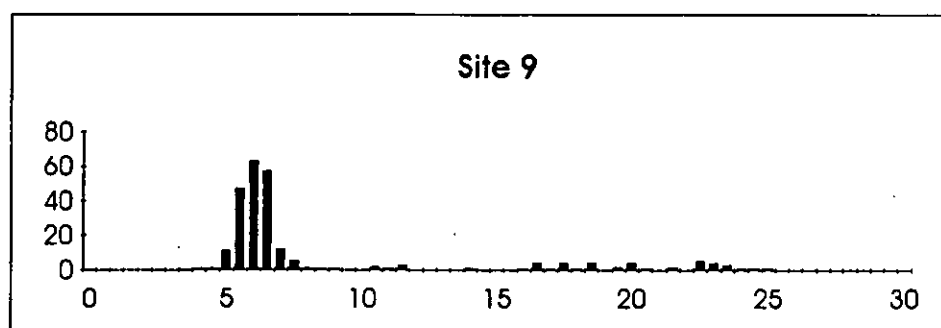
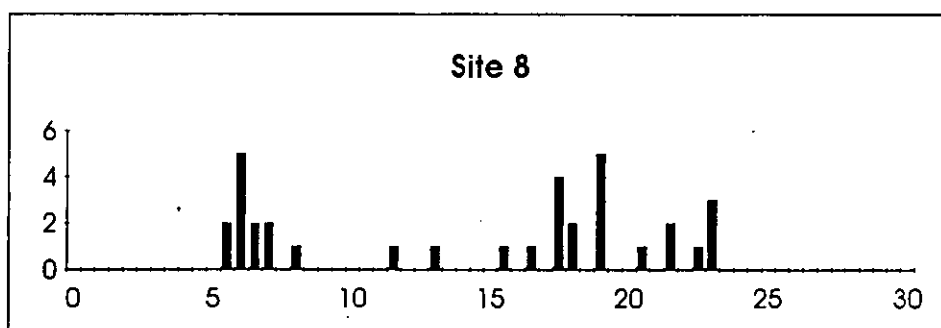
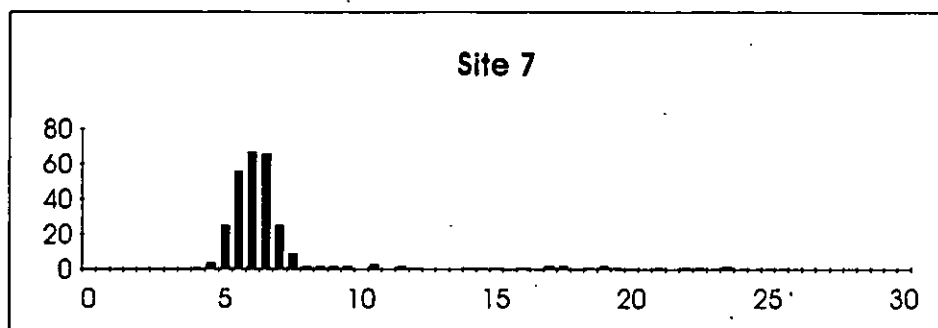
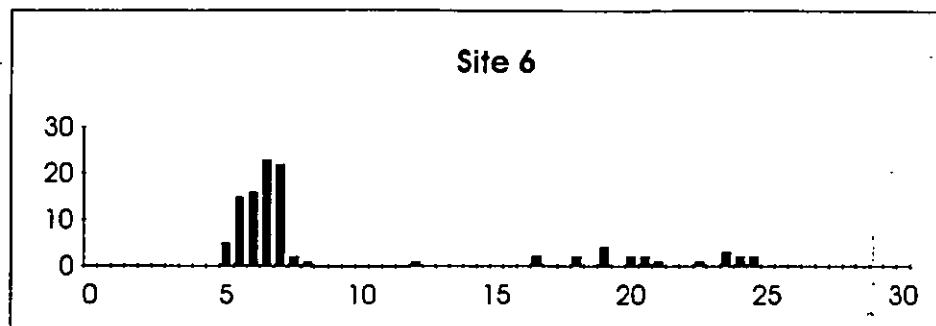


Fig. 21. Continued.

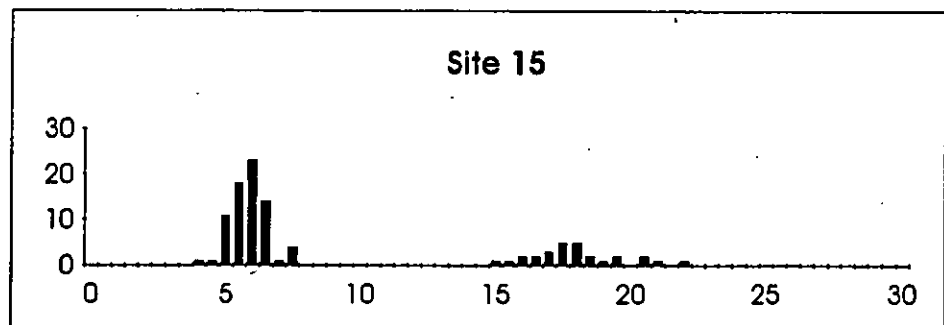
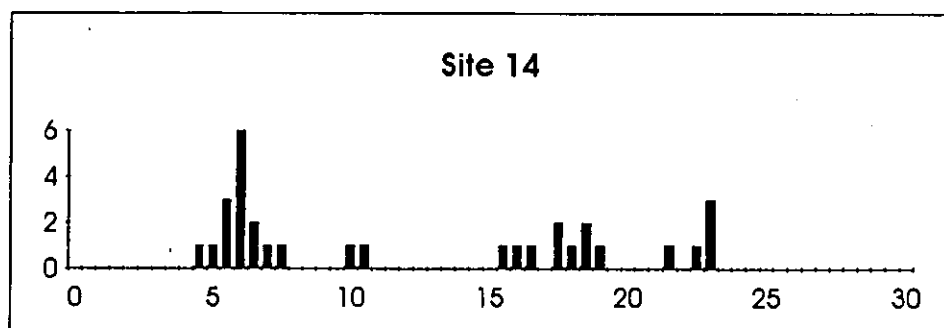
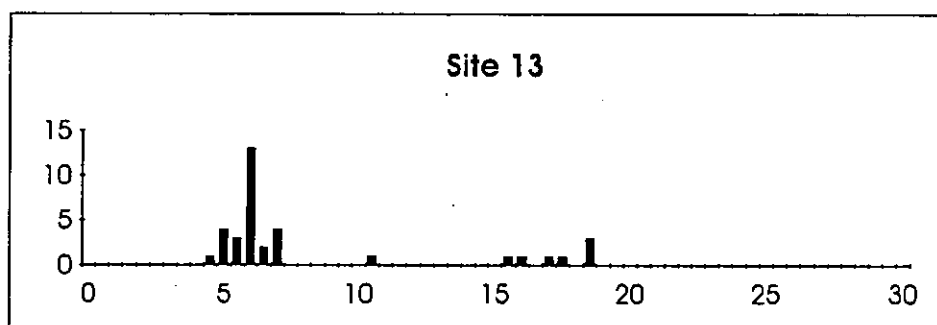
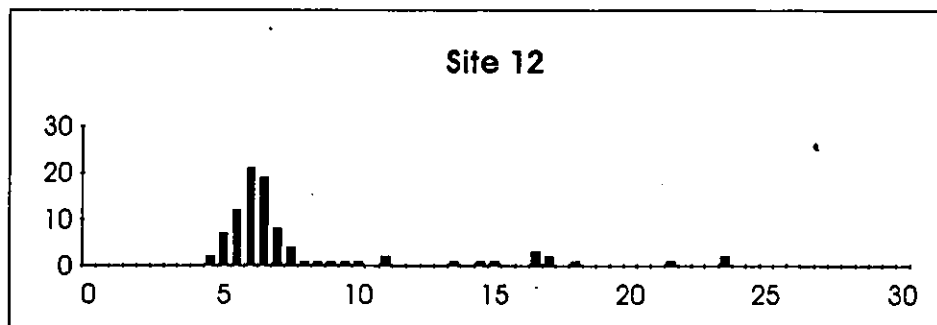
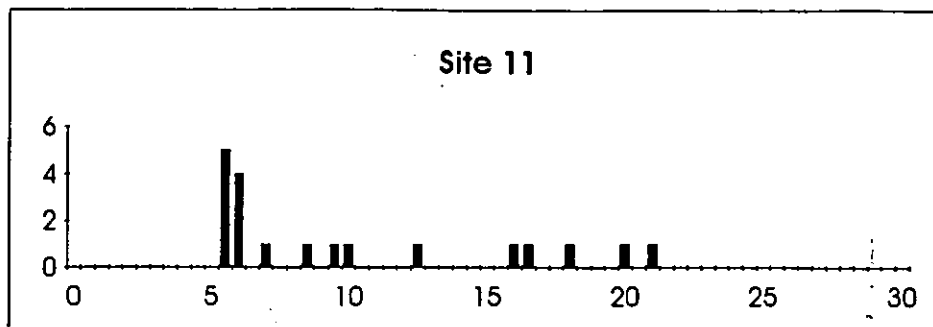


Fig. 21. Continued.

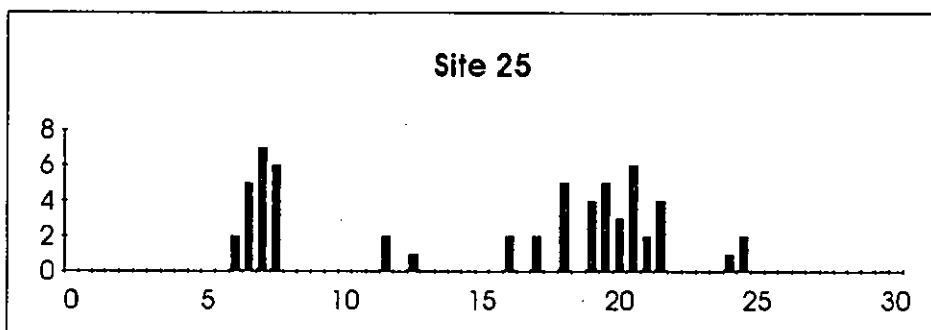
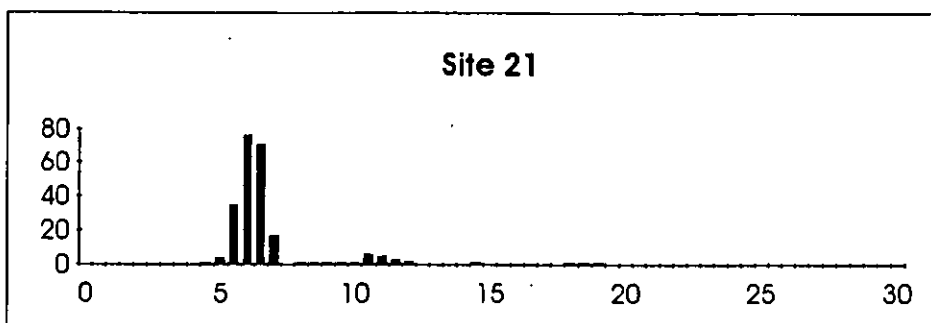
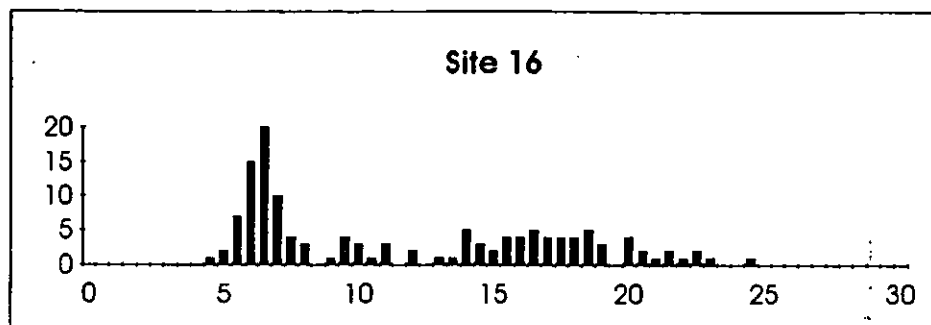


Fig. 22. Length frequency distribution of chub in each section of the River Tees in September 1992. All lengths in cm.

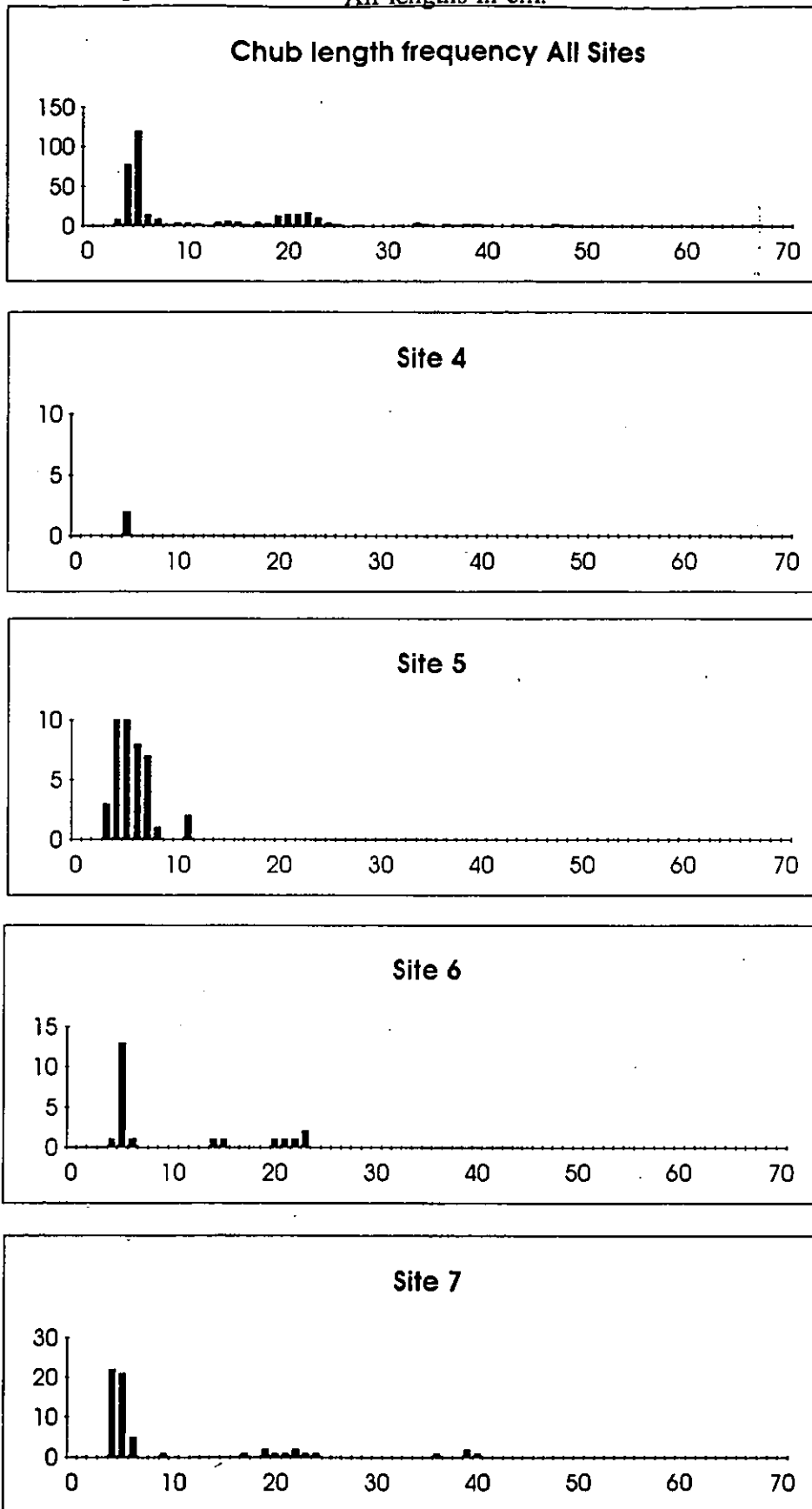


Fig. 22. Continued.

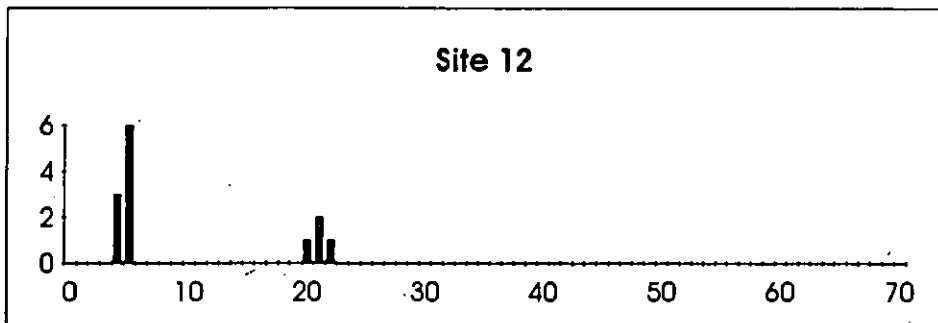
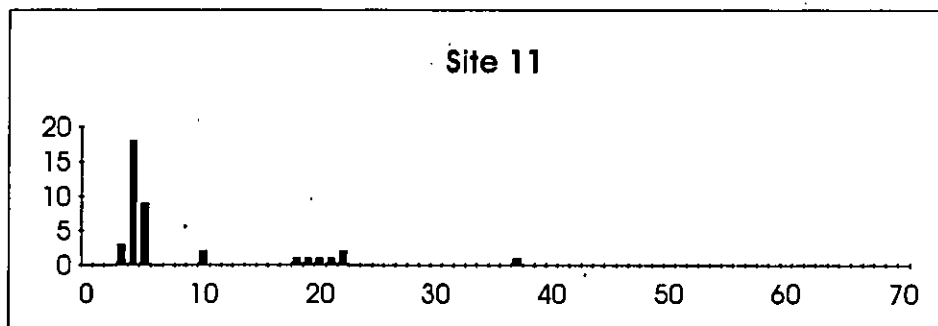
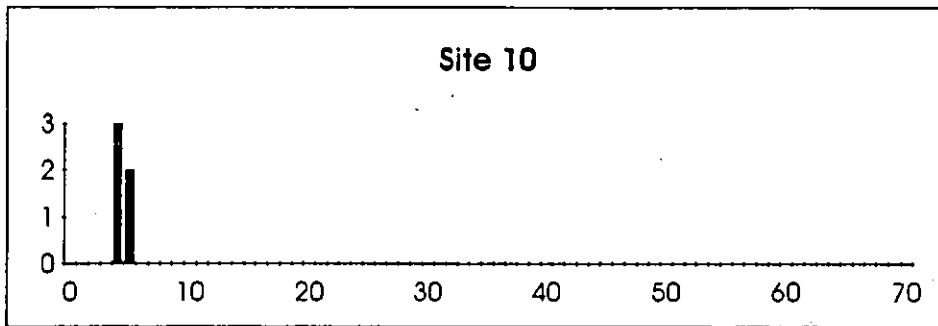
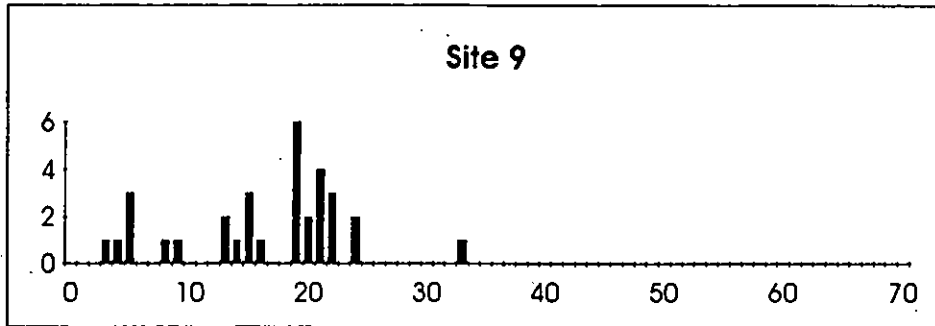
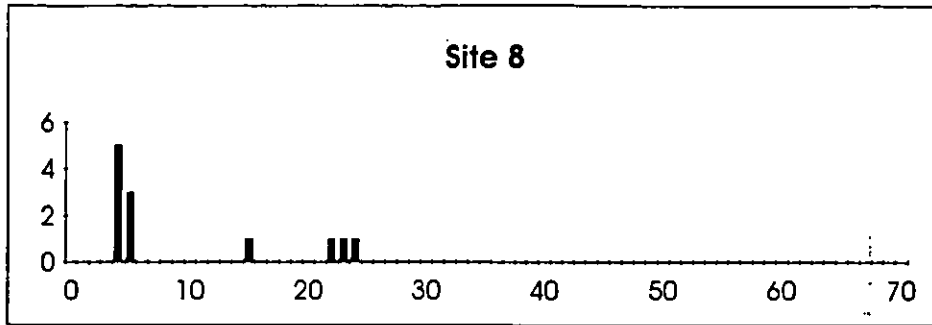


Fig. 22. Continued.

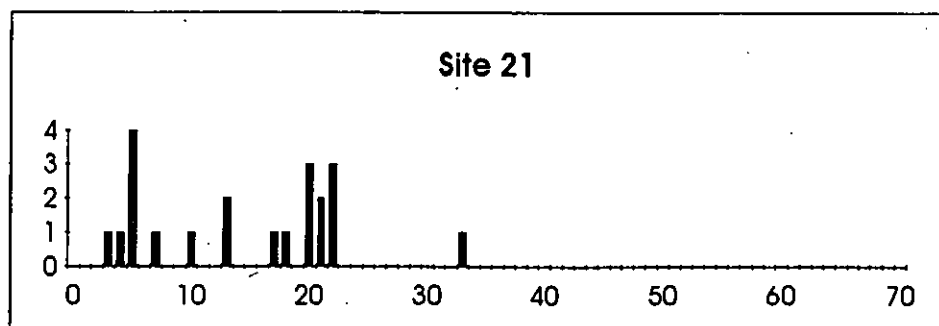
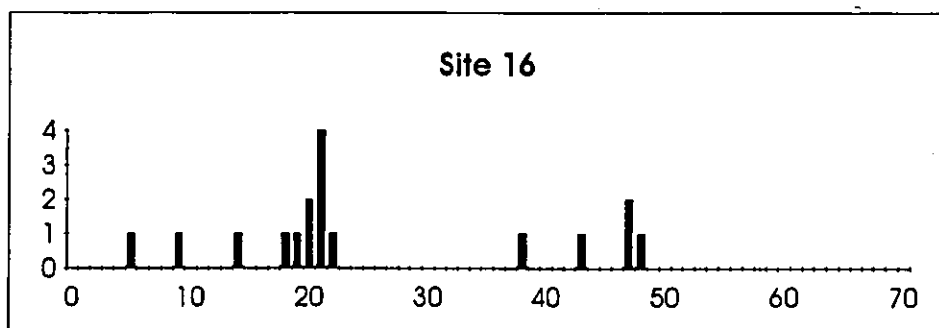
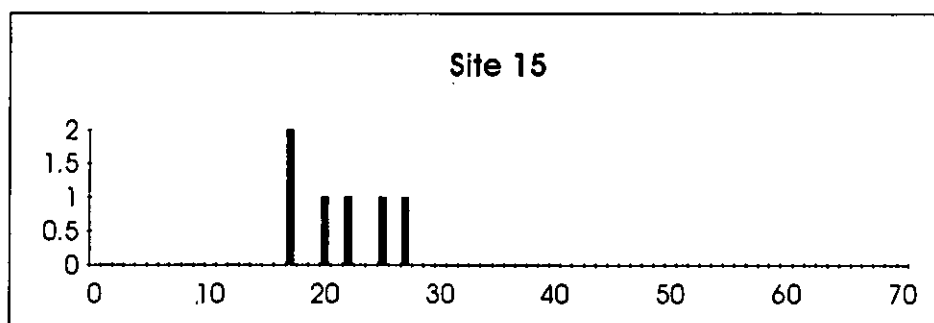
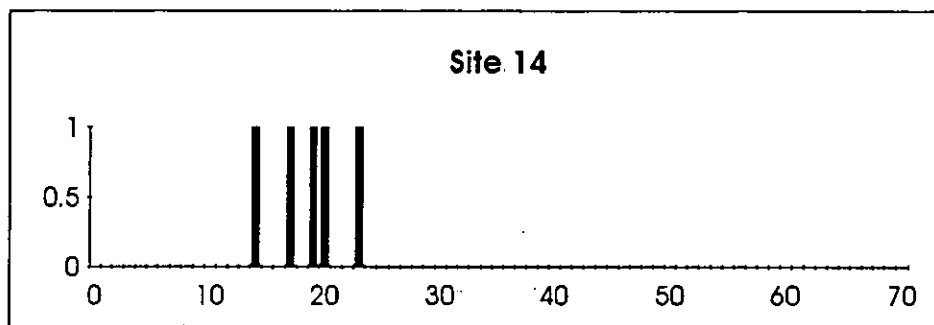
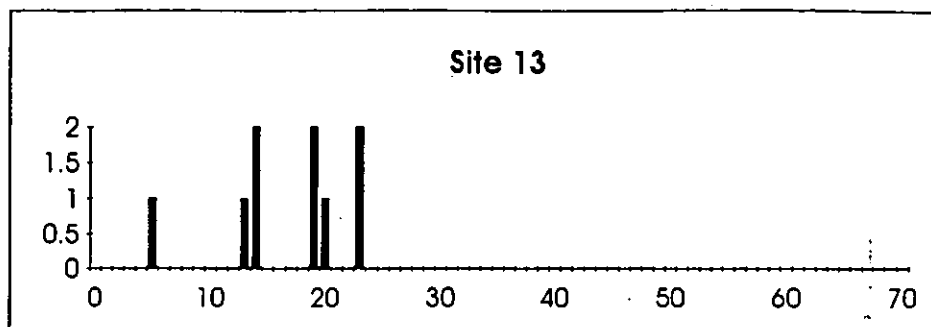


Fig. 22. Continued.

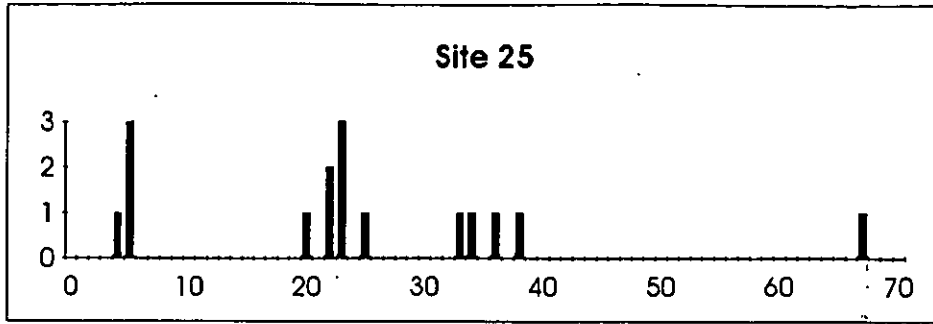




Fig. 23. Length frequency distribution of roach in each section of the River Tees in September 1992. All lengths in cm.

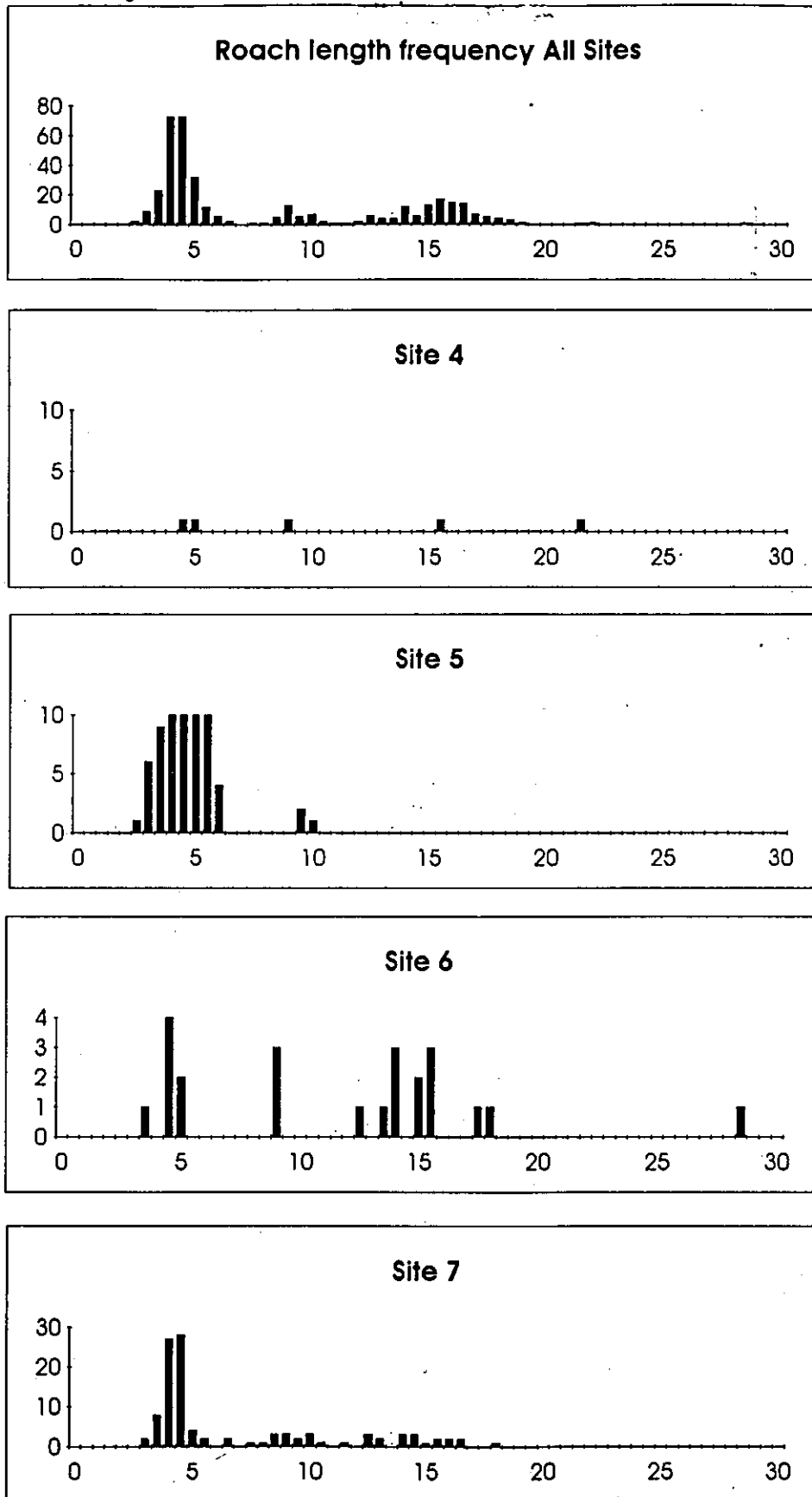


Fig. 23. Continued.

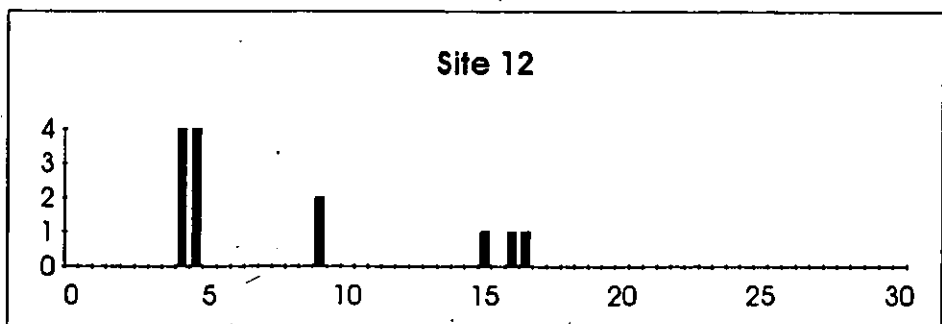
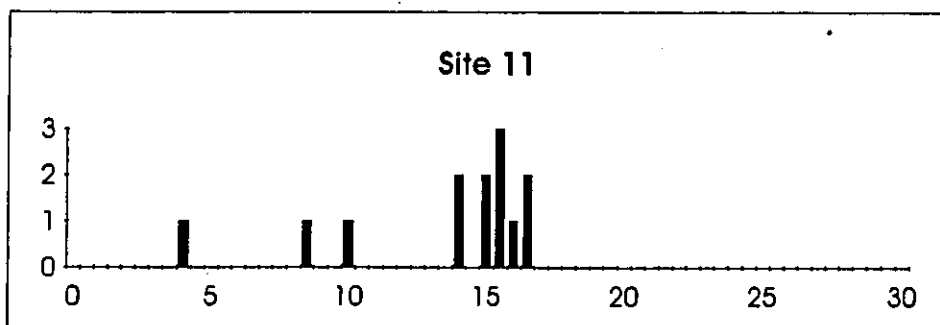
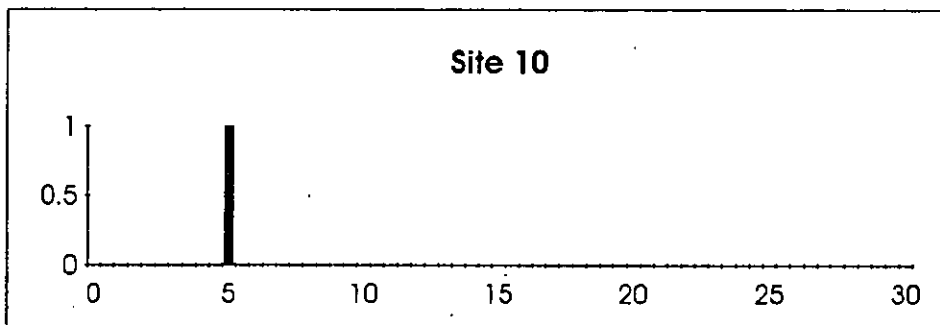
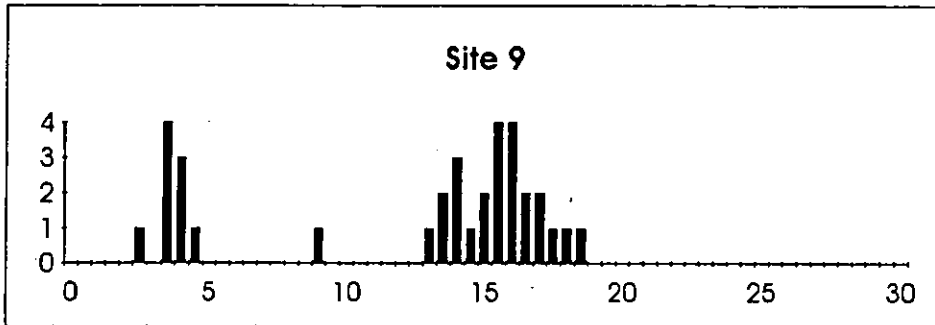
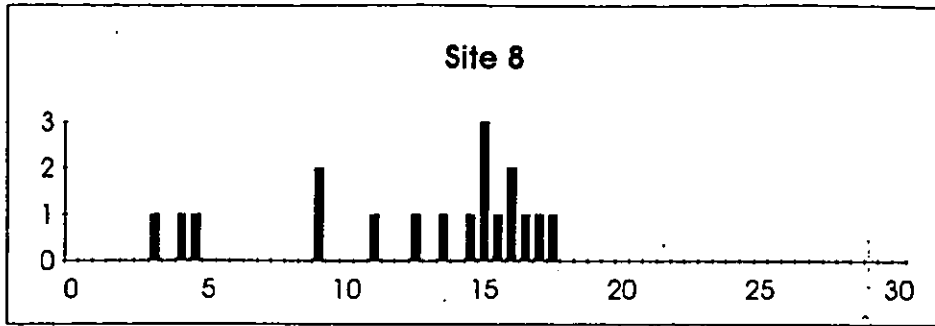


Fig. 23. Continued.

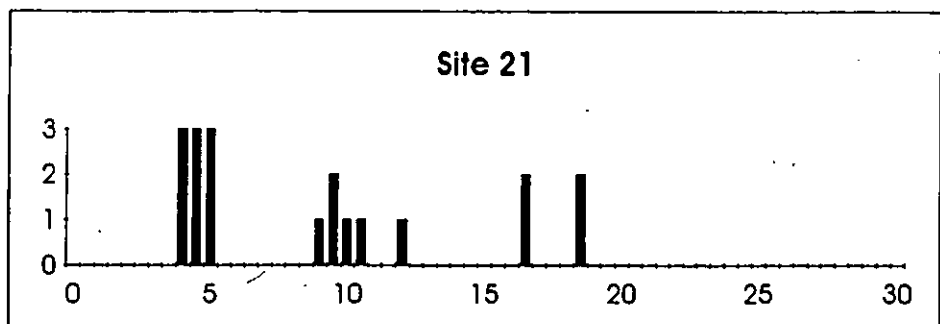
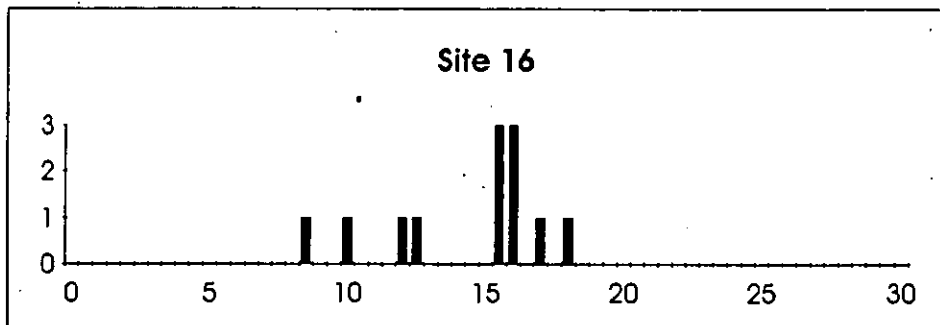
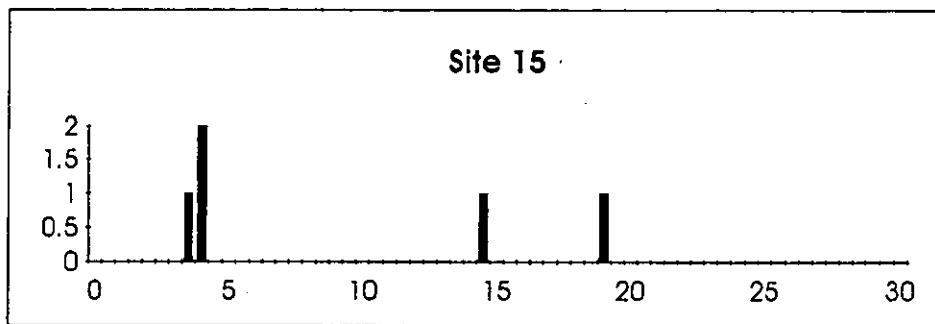
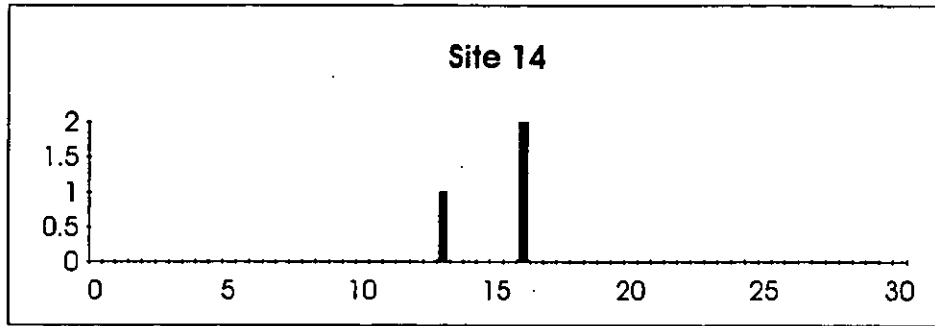
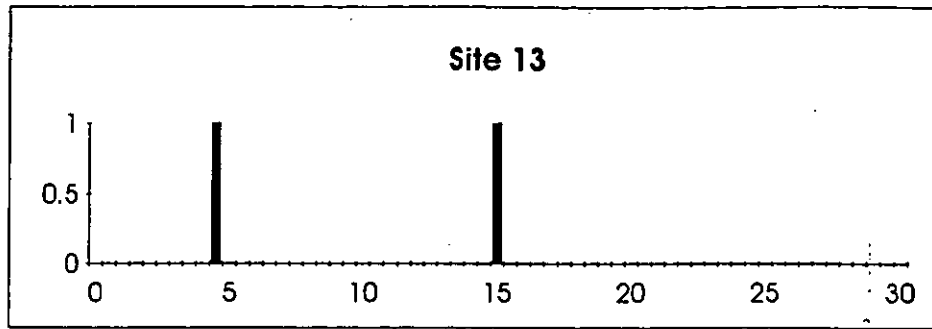


Fig. 23. Continued.

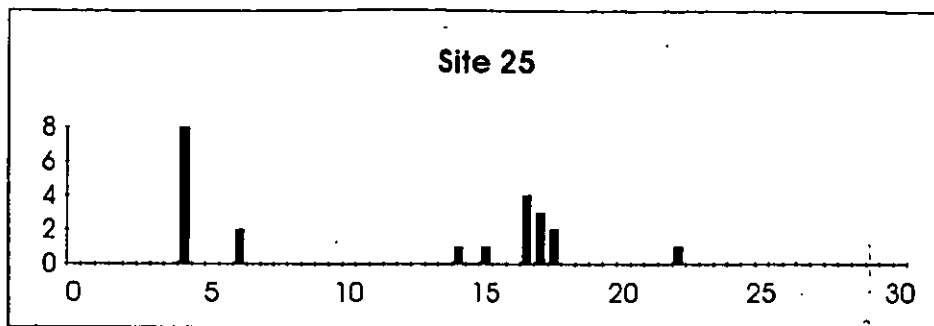


Fig. 24. Length frequency distribution of gudgeon in each section of the River Tees in September 1992. All lengths in cm.

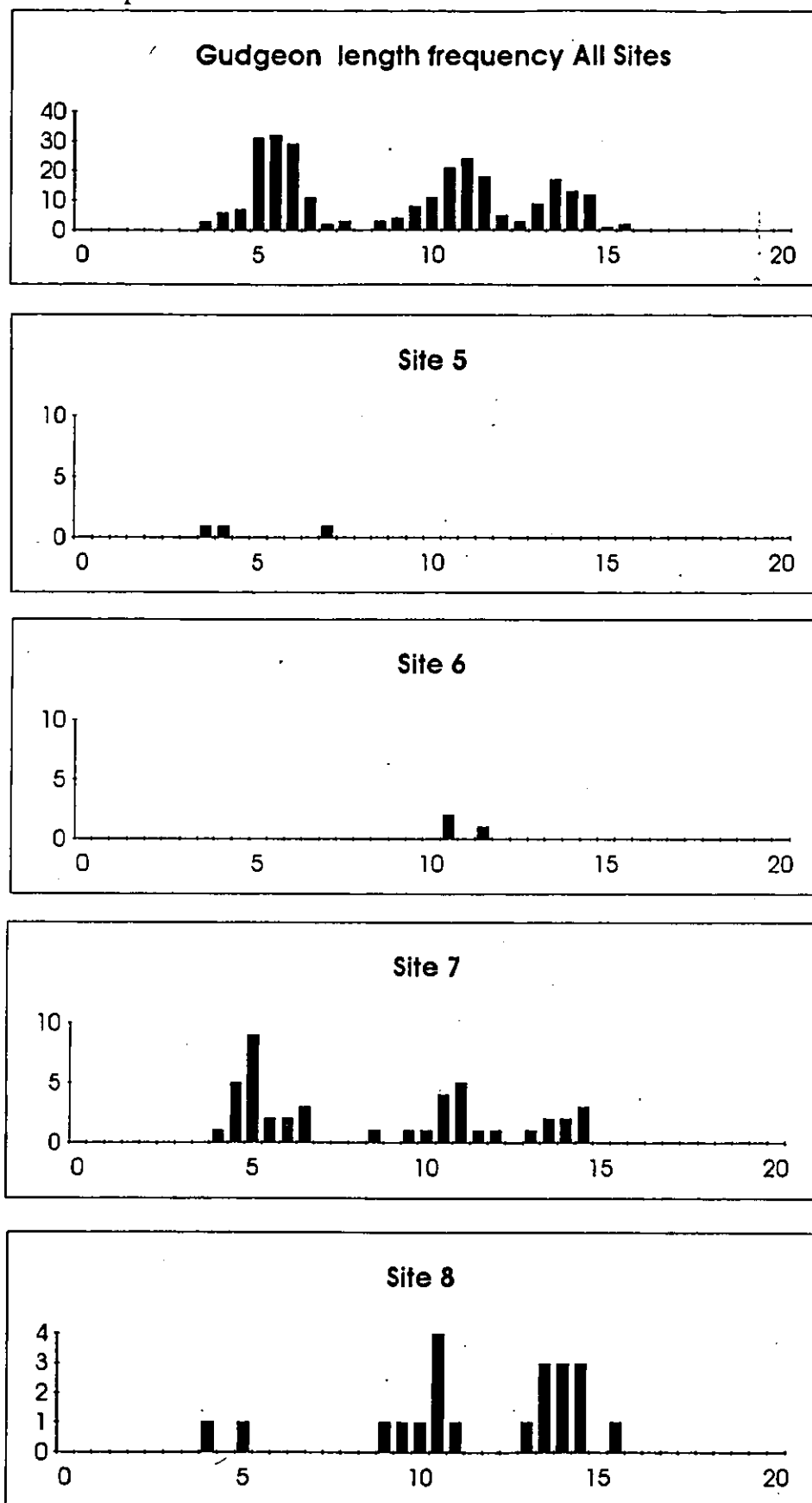


Fig. 24. Continued.

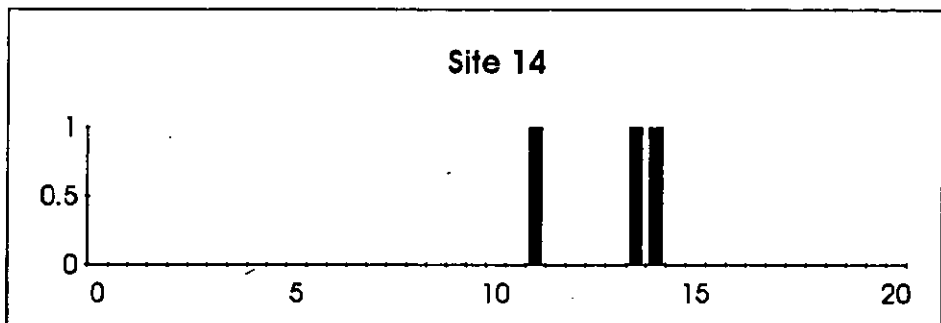
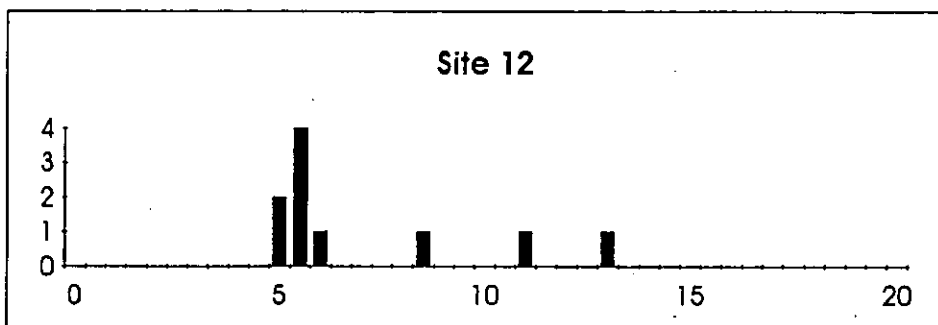
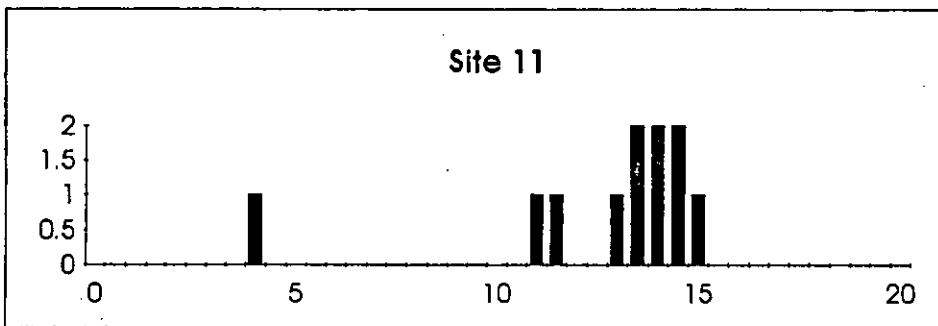
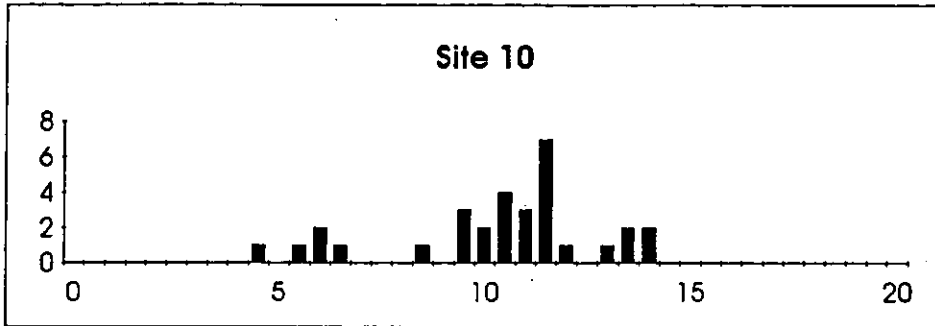
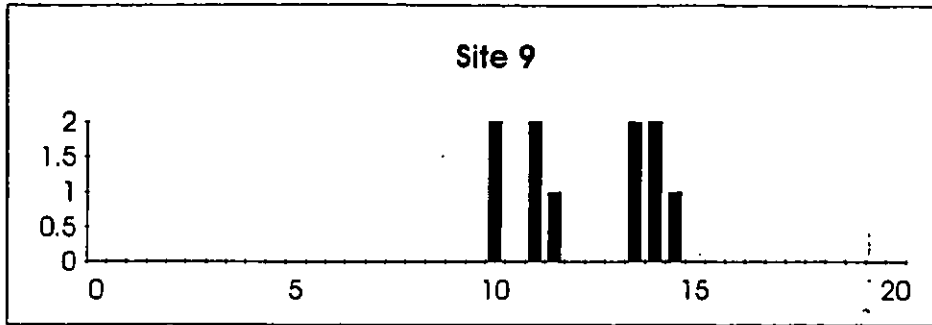
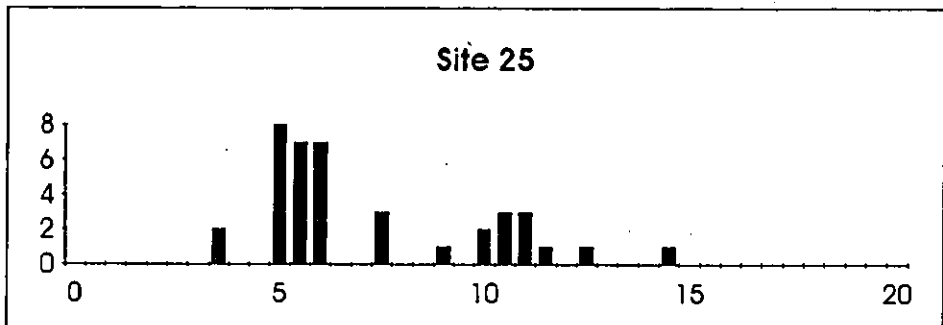
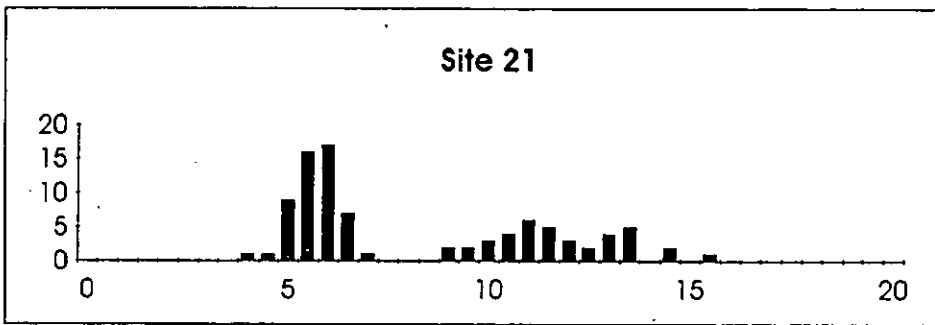
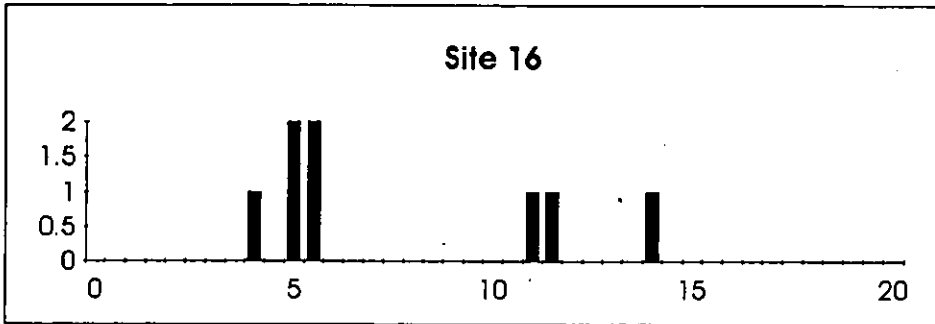
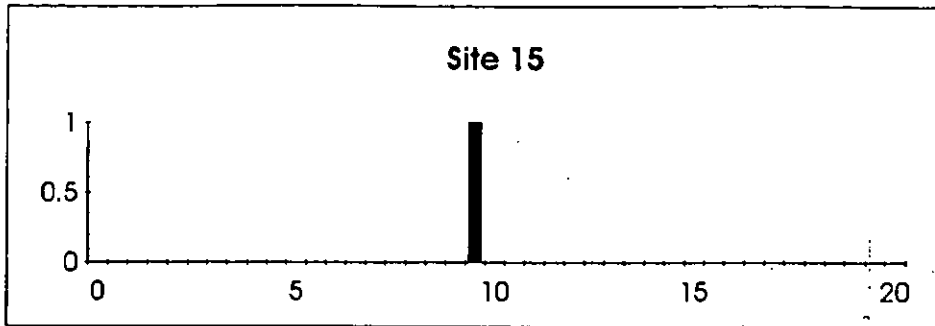


Fig. 24. Continued.



### 3. TEMPERATURE

#### 3.1 Introduction

The problems reported last year have been resolved and all three loggers are functioning correctly and logging temperature continuously. The next interrogation is due in December 1992.

Monthly means and means of daily ranges are given in Table 4. The monthly means for the R. Frome in Dorset are given for comparison.

The logger at Stockton Marina may have to be closed down to allow construction work to proceed.

Loggers and temperature probes are available for installation into off river supplementation units when they are constructed.

**Table 4.** Monthly means ( $^{\circ}\text{C}$ ) and mean of daily ranges in the River Tees at a) Low Moor, b) Ingleby Barwick and c) Stockton. n = number of days that data were collected.

	Low Moor		Ingleby Barwick		Stockton		Frome
	Mean	Range	Mean	Range	Mean	Range	Mean
Dec 91	-	-	-	-	10.9	2.87	6.7
Jan 92	-	-	1.8	0.65	8.8	3.63	6.5
Feb	5.7	1.17	4.3	0.77	7.1	2.19	6.8
March	6.5	1.25	6.4	0.81	8.6	1.61	7.4
April	8.6	1.28	8.7	0.99	9.3	2.16	10.6
May	15.1	2.55	15.0	1.24	13.7	4.69	13.3
June	18.8	2.28	18.4	1.17	16.2	4.04	16.7
July	18.0	1.81	18.0	0.99	16.9	3.23	17.4
August	16.2	1.73	16.4	0.99	16.1	3.21	17.0



## 4. ANGLING DATA

### 4.1 Historical Data

The match records of Yarm A.A. are the most detailed for the river and have been analysed for between-year and within-year variation (see 1991 report) using total catch data for each match. Information on the distribution of fish at different times of the year can be obtained from these records by analysing catches from different pegs. There are many factors, apart from distribution of fish and habitat characteristics, which determine the catch from a particular peg. These include the ability of the individual anglers and state of tide. Before the pegs are ranked, the performance of individual anglers was assessed.

Preliminary analysis of the data showed wide confidence limits on the mean catches of anglers attending few matches. It was decided to limit the analysis to those anglers attending at least one third of the annual number of matches.

The ranking of the pegs is in progress and will be reported in March 1993. There are several complications in the analysis including the fact that all pegs are not necessarily used in each match. The inclusion of a particular peg will depend on the number of anglers fishing and the secretary's perception of whether a peg will fish well or not. Some pegs are seen to produce fish at certain times of the year and not others. Pegs thought to be poor on the day are not be used unless there is a full complement of anglers.

### 4.2 1992 Match Statistics

Data continue to be collected from angling matches on the river and will be analyzed when all pre-barrage data are recorded.

## Appendix 1. Site descriptions and details of fish caught.

## SECTION 1

Date fished 5/6 September 1992  
 Area The Holmes and downstream  
 Length 1300 m  
 NGR NZ446159 - NZ448161  
 State of tide Flooding to high slack tide and then ebbing  
 Time 11.00-13.30  
 Fishing method Gill net  
 Site description River lined with reeds. Meadows, few trees.

Species from sections 1-5	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)		
Dace <i>Leuciscus leuciscus</i> (L.)		
Flounder <i>Platichthys flesus</i> (L.)		
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	1	15.5
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)		
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## Appendix 1. Site descriptions and details of fish caught.

## SECTION 1

Date fished 5/6 September 1992  
 Area The Holmes and downstream  
 Length 1300 m  
 NGR NZ446159 - NZ448161  
 State of tide Flooding to high slack tide and then ebbing  
 Time 11.00-13.30  
 Fishing method Gill net  
 Site description River lined with reeds. Meadows, few trees.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)		
Dace <i>Leuciscus leuciscus</i> (L.)		
Flounder <i>Platichthys flesus</i> (L.)		
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	1	15.5
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)		
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 2

Date fished 5/6 September 1992  
 Area Bend below pipe bridge to upstream limit of The Holmes  
 Length 780 m  
 NGR NZ441157 - NZ446159  
 State of tide Flooding to high slack tide and then ebbing  
 Time 11.00-13.30, 11.00-overnight  
 Fishing method Gill net Traps  
 Site description River lined with reeds. Meadows, few trees.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)		
Dace <i>Leuciscus leuciscus</i> (L.)	1	24.8
Flounder <i>Platichthys flesus</i> (L.)		
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)		
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)		
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 3

Date fished 5/6 September 1992  
 Area Bend below Great Holme to bend below pipe bridge  
 Length 800 m  
 NGR NZ434154 - NZ441157  
 State of tide Flooding to high slack tide and then ebbing  
 Time 11.15-13.45, 10.45-overnight  
 Fishing method Gill net Trap  
 Site description River lined with reeds. Meadows, few trees.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)		
Dace <i>Leuciscus leuciscus</i> (L.)	1	17.5
Flounder <i>Platichthys flesus</i> (L.)		
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)		
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)		
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 4

Date fished 6 September 1992  
 Area The Rings and Great Holmes  
 Length 2280 m  
 NGR NZ431147 - NZ434154  
 State of tide Ebbing  
 Time 14.30-15.30  
 Fishing method Boom boat  
 Site description High banks with meadows and few trees. River lined with reeds.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	2	4.6-5.0
Dace <i>Leuciscus leuciscus</i> (L.)	23	5.0-23.5
Flounder <i>Platichthys flesus</i> (L.)		
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)		
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	5	4.5-21.2
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 5

Date fished 9 September 1992  
 Area Downstream of R. Leven - start of The Rings  
 Length 1840 m  
 NGR NZ365105 - NZ431147  
 State of tide Flooding  
 Time 10.00-11.50 and 12.45-14.00  
 Fishing method Boom boat  
 Site description High banks with meadows. Some trees and shrubs on the banks, very few overhanging the water. High wooded banks at the bottom of the section.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	95	2.8-10.8
Dace <i>Leuciscus leuciscus</i> (L.)	136	4.2-15.7
Flounder <i>Platichthys flesus</i> (L.)	21	12.0-34.6
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	3	3.4-6.6
Minnow <i>Phoxinus phoxinus</i> (L.)	4	4.0-7.4
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	108	2.4-9.8
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.	5	4.1-5.2
Trout (brown) <i>Salmo trutta</i> L.	2	23.0-27.1

## SECTION 6

Date fished 9 September 1992  
 Area River Leven - large bend upstream  
 Length 1240 m  
 NGR NZ423122 - NZ430130  
 State of tide Flooding - high slack  
 Time 15.00-16.15  
 Fishing method Boom boat  
 Site description High banks. Overhanging trees on south bank. Open land on north bank.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	22	3.4-22.6
Dace <i>Leuciscus leuciscus</i> (L.)	106	4.8-24.3
Flounder <i>Platichthys flesus</i> (L.)	3	14.2-24.5
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	3	10.3-11.2
Minnow <i>Phoxinus phoxinus</i> (L.)	3	3.8-4.3
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	23	3.3-28.5
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.	5	4.1-5.2
Trout (brown) <i>Salmo trutta</i> L.	1	33.1



## SECTION 7

Date fished 10 September 1992  
 Area Upstream of Section 6 - Yarm road bridge  
 Length 1140 m  
 NGR NZ418132 - NZ423122  
 State of tide Flooding  
 Time 09.00-10.30  
 Fishing method Boom boat  
 Site description High banks. Yarm on south bank. Open meadows on north bank.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	62	3.2-39.7
Dace <i>Leuciscus leuciscus</i> (L.)	284	4.0-23.5
Flounder <i>Platichthys flesus</i> (L.)	5	11.5-21.5
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	44	3.8-14.4
Minnow <i>Phoxinus phoxinus</i> (L.)	8	3.7-7.8
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	107	2.8-17.7
Salmon adult <i>Salmo salar</i> L.	1	67.8
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.	3	4.2-5.1
Trout (brown) <i>Salmo trutta</i> L.	1	24.9

## SECTION 8

Date fished 9 September 1992  
 Area Yarm road bridge - Yarm railway bridge  
 Length 80 m  
 NGR NZ417132 - NZ418132  
 State of tide Ebbing  
 Time 17.00-17.30  
 Fishing method Boom boat  
 Site description High banks. Gravel bar on south bank. Water otherwise deep.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	12	3.2-23.1
Dace <i>Leuciscus leuciscus</i> (L.)	34	5.3-23.0
Flounder <i>Platichthys flesus</i> (L.)	5	14.1-24.3
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	21	3.7-15.5
Minnow <i>Phoxinus phoxinus</i> (L.)	1	6.8
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	18	2.7-17.2
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 9

Date fished 10 September 1992  
 Area Yarm railway bridge - upstream to outfall on north bank  
 Length 300 m  
 NGR NZ415131 - NZ417132  
 State of tide Low tide - flooding  
 Time 14.15-15.30  
 Fishing method Boom boat  
 Site description Flood defence construction on south bank. On north, high bank with bushes and herbacious vegetation.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	32	2.5-32.8
Dace <i>Leuciscus leuciscus</i> (L.)	246	4.0-24.9
Flounder <i>Platichthys flesus</i> (L.)	17	10.2-29.8
Grayling <i>Thymallus thymallus</i> (L.)	1	11.3
Gudgeon <i>Gobio gobio</i> (L.)	10	9.6-14.1
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	34	2.3-18.5
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.	1	25.1

## SECTION 10

Date fished 8 September 1992  
 Area Upstream of section 9 - downstream of section 11  
 Length 560 m  
 NGR NZ415122 - NZ415131  
 State of tide Ebbing  
 Time 18.00-19.00  
 Fishing method Boom boat  
 Site description High banks. Thin line of trees and shrubs on the north bank, more open on the south bank.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	5	3.2-4.5
Dace <i>Leuciscus leuciscus</i> (L.)	34	4.7-11.3
Flounder <i>Platichthys flesus</i> (L.)	4	17.7-22.0
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	31	4.4-14.0
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	1	4.8
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 11

Date fished 7 September 1992  
 Area Aislaby at The Cabins - bend downstream  
 Length 840 m  
 NGR NZ407123 - NZ415122  
 State of tide Flooding  
 Time 11.15-12.10  
 Fishing method Boom boat  
 Site description High banks. Wooded area

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	39	2.6-36.6
Dace <i>Leuciscus leuciscus</i> (L.)	19	5.3-20.6
Flounder <i>Platichthys flesus</i> (L.)	20	10.7-27.7
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	11	3.8-14.8
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	13	3.6-16.4
Salmon adult <i>Salmo salar</i> L.	1	66.0
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 12

Date fished 7 September 1992  
 Area Aislaby at The Cabins - middle of 1st bend upstream  
 Length 440 m  
 NGR NZ405120 - NZ407123  
 State of tide Flooding - high slack  
 Time 10.30-11.00 and 13.00-13.40  
 Fishing method Boom boat  
 Site description High banks, meadows with few overhanging trees

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	13	3.8-21.8
Dace <i>Leuciscus leuciscus</i> (L.)	92	4.3-23.2
Flounder <i>Platichthys flesus</i> (L.)	2	17.6-22.9
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	10	4.6-12.7
Minnow <i>Phoxinus phoxinus</i> (L.)	1	5.9
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	13	3.6-16.1
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 13

Date fished 7 September 1992  
 Area Upstream of Aislaby, end of Section 12 - next bend upstream  
 Length 600 m  
 NGR NZ404114 - NZ405120  
 State of tide Flooding - high slack - ebbing  
 Time 14.00-15.15  
 Fishing method Boom boat  
 Site description High banks, meadows with few overhanging trees

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	9	4.8-22.5
Dace <i>Leuciscus leuciscus</i> (L.)	35	4.5-18.5
Flounder <i>Platichthys flesus</i> (L.)	3	19.2-23.0
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)		
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	2	4.2-14.8
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.	1	21.3

## SECTION 14

Date fished 7 September 1992  
 Area End of Section 13 - next bend upstream  
 Length 1040 m  
 NGR NZ401105 - NZ404114  
 State of tide Ebbing  
 Time 15.45-16.45  
 Fishing method Boom boat  
 Site description High banks, more wooded than sections 12 and 13. Deep water

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	5	14.0-22.7
Dace <i>Leuciscus leuciscus</i> (L.)	31	4.4-23.0
Flounder <i>Platichthys flesus</i> (L.)	2	20.5-27.7
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	3	10.6-14.0
Minnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	3	12.6-15.9
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.	4	25.5-43.8



## SECTION 15

Date fished 8 September 1992  
 Area Pumping station - bend downstream. Lower limit opposite upstream limit of section 14.  
 Length 580 m  
 NGR NZ395103 - NZ401105  
 State of tide High slack  
 Time 14.50-16.10  
 Fishing method Boom boat  
 Site description High banks, wooded section. Shallow water with gravel banks

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	6	16.2-26.4
Dace <i>Leuciscus leuciscus</i> (L.)	101	3.9-21.7
Flounder <i>Platichthys flesus</i> (L.)	2	25.6-31.4
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	1	9.2
Minnnow <i>Phoxinus phoxinus</i> (L.)		
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	5	3.3-18.9
Salmon adult <i>Salmo salar</i> L.	1	59.7
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 16

Date fished 8 September 1992  
 Area Lower Worsall - pumping station  
 Length 400 m  
 NGR NZ392103 - NZ395103  
 State of tide Ebbing  
 Time 16.40-17.30  
 Fishing method Boom boat  
 Site description Banks less steep. Open meadows upstream with tree cover increasing downstream. Shallow water.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)		
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	17	4.2-47.2
Dace <i>Leuciscus leuciscus</i> (L.)	135	4.4-24.3
Flounder <i>Platichthys flesus</i> (L.)	1	21.4
Grayling <i>Thymallus thymallus</i> (L.)	1	22.1
Gudgeon <i>Gobio gobio</i> (L.)	8	3.9-13.7
Minnow <i>Phoxinus phoxinus</i> (L.)	4	6.2-7.1
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	12	8.4-17.8
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		

## SECTION 21

Date fished 11 September 1992  
 Area Downstream of ford below Low Moor weir  
 Length 260 m  
 NGR NZ365106 - NZ376104  
 State of tide Not affected by the tide  
 Time 13.30-14.15  
 Fishing method Twin anode wading  
 Site description High banks with some trees on the south bank. Open meadows. A small number of willows overhanging the water on the north bank. Water generally up to 80 cm with deeper pools under overhanging trees. Substratum cobbles/gravel with fine organic sediment in areas of low flow.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)	8	3.5-14.7
Bullhead <i>Cottus gobio</i> L.		
Chub <i>Leuciscus cephalus</i> (L.)	21	3.0-32.9
Dace <i>Leuciscus leuciscus</i> (L.)	229	4.4-18.7
Flounder <i>Platichthys flesus</i> (L.)		
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	91	3.7-15.1
Minnow <i>Phoxinus phoxinus</i> (L.)	22	3.0-6.8
River Lamprey <i>Lampetra fluviatilis</i> (L.)	1	33.0
Roach <i>Rutilus rutilus</i> (L.)	19	3.6-18.5
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)	1	5.7
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.	5	7.0-32.9

## SECTION 25

Date fished 11 September 1992  
 Area Lower Dinsdale toll bridge - first bend upstream  
 Length 350 m  
 NGR NZ350113 - NZ345114  
 State of tide Not influenced by the tide  
 Time 10.00-12.00  
 Fishing method Single anode wading and boom boat  
 Site description Fast flowing over bedrock. Gravel banks present in places usually near the bank. Very high wooded banks. Fallen trees in the water often with associated macrophyte debris.

Species	No. of individuals	Size range (cm)
Barbel <i>Barbus barbus</i> (L.)	1	47.0
Bullhead <i>Cottus gobio</i> L.	1	6.8
Chub <i>Leuciscus cephalus</i> (L.)	16	4.0-66.8
Dace <i>Leuciscus leuciscus</i> (L.)	59	5.6-24.4
Flounder <i>Platichthys flesus</i> (L.)		
Grayling <i>Thymallus thymallus</i> (L.)		
Gudgeon <i>Gobio gobio</i> (L.)	39	3.3-14.2
Minnow <i>Phoxinus phoxinus</i> (L.)	66	1.9-6.5
River Lamprey <i>Lampetra fluviatilis</i> (L.)		
Roach <i>Rutilus rutilus</i> (L.)	22	3.6-18.5
Salmon adult <i>Salmo salar</i> L.		
Stone loach <i>Barbatula barbatula</i> (L.)		
Three spined stickleback <i>Gasterosteus aculeatus</i> L.		
Trout (brown) <i>Salmo trutta</i> L.		



## DISTRIBUTION SHEET

To be completed by all Project Leaders completing commissioned research project reports. Please bind a copy of this distribution sheet as the final page in all internal (IFE) copies of the report.

1.	<p><b>Authors:</b> Welton J.S., Beaumont W.R.C., Dear B.E. &amp; Pinder A.C.  <b>Title:</b> 1992 Survey of the coarse fish of the River Tees before construction of the barrage  <b>Report Ref.:</b> T04053v1/2  <b>Master copy held by:</b> D.M. Morton  <b>Report access code (please assign a suitable code from list below):</b> C</p>		
2.	<b>DISTRIBUTION LIST (A-G standard distribution; H other)</b>	<b>No.copies</b>	<b>Date</b>
A)	Contract Customer: NRA	3	27.11.92
B)	J.G. Jones (title page and abstract only)		
C)	A.D. Pickering	1	"
D)	A.D. Berrie (Internal Coordinator for Commissioned Research)	1	"
E)	Project Leader: J.S. Welton	1	"
F)	FBA Library, Windermere	1	"
G)	FBA Library, River Laboratory	1	"
H)	Other (please list below and indicate no. copies in RH column)		
1.	W.R.C. Beaumont	1	"
2.	B.E. Dear	1	"
3.	A.C. Pinder	1	"
4.			
5.			
6.			
7.			
8.			
9.			
10.			
<b>Total number of copies made</b>		<b>11</b>	

### REPORT ACCESS CODES

- S** In strict confidence - restricted access Access to named customer(s) - (could be named restricted access individuals), IFE Directorate, Project Leader and all authors.
- C** In confidence - restricted access Access to customer, IFE Directorate, Project Leader, all authors, and IFE staff with permission of Project Leader.
- N** 'Normal' access Access to customer and all IFE staff. Access to visitors and general public with permission of Project Leader.
- G** General access General access to anyone as required.