

NATIONAL GRAYLING ANGLERS LOGBOOK SCHEME
ANGLER REPORT 2004/05



ENVIRONMENT
AGENCY



GRAYLING
SOCIETY

Cover photograph: "North Country grayling" by Rod Calbrade
Inside photo: chalkstream juvenile (Rich Cove)



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1. INTRODUCTION

In 2001, the Environment Agency and The Grayling Society launched a national angling logbook scheme for grayling. The broad aim of the scheme is to monitor and compare the performance of grayling fisheries across England, Wales and Scotland, and gain insight into the status of the stocks they exploit. Such information, collected over a number of years will serve to inform and direct management of this important species and advance the scientific knowledge that underpins it.

The main purpose of this report is to provide provisional results from the logbook scheme in its third full year 2004-05 (2001/02 formed a pilot study), firstly to feed-back information to anglers who kindly completed a logbook last season and secondly, to encourage the same anglers and hopefully others, to participate in the final two years of the study.

I would be interested to receive any comments you might have on the content of this report or the logbook scheme in general. In time, it is hoped to publish more comprehensive results on the Environment Agency and Grayling Society websites.

2. CATCH RESULTS

2.1 Logbook returns

Results from previous angling seasons have been revised from those published in the first three angler reports to take into account data from logbooks that arrived late.

After a very slow start to the scheme, angler participation increased in the first two full years (2002/3 and 2003/4). Unfortunately the response declined last season despite increased efforts to recruit more members. Again, very disappointingly, many individuals who completed logbooks in 2003/04 failed to return them last season - these would have made a significant difference to the success of the scheme.

Returns were also provided from a grayling angling "competition" on the River Avon (Hampshire) and from similar logbook schemes operated by the Agency in North East and North West regions. Should any further returns for 2004/05 follow publication of this report, they will be added to the data set and final results reported at a later stage.

For the first time since the scheme started, the total of number of grayling visits made failed to increase - falling below the number achieved in the first full year. No river met the Agency's provisional target of 150 angler days. The Eden recorded the most visits at 98 closely followed by the Welsh Dee (97) and Scottish Earn (89). Nearly 50% of all rivers recorded less than ten visits.

2.2 Grayling catch and fishing effort by region

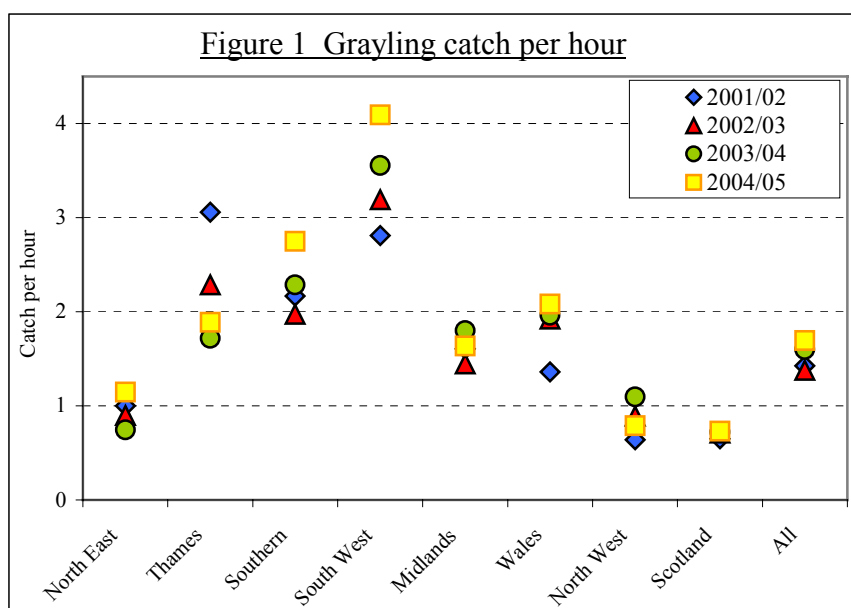
The logbook return for 2001-02 reported 61 rivers fished throughout England, Wales and Scotland with around 4,500 grayling caught in 739 visits (Table 1). This increased significantly to over 10,000 fish from 1,800 visits (90 rivers) in 2002-03, up to nearly 14,000 grayling (2,000 visits, 96 rivers) in 2003/04. Although returns fell last season (1,755 visits, 89 rivers), anglers still recorded over 12,000 grayling in 2004/05.

Among the regions fished, North East again recorded the greatest number of visits (416), followed by Wales (335), Scotland (277) and the North West (254). Thames region was yet again very poorly represented despite being targeted two years ago (only 23 visits). No data were received from Anglian region where grayling are not so numerous.

Table 1. Angler visits, hours fished and grayling catch

	2001/02			2002/03			2003/04			2004/05		
	Visits	Hours fished	Catch	Visits	Hours fished	Catch	Visits	Hours fished	Catch	Visits	Hours fished	Catch
North East	126	485.75	486	530	1,794.00	1,609	520	1,956.50	1,459	416	1,398.54	1,605
Thames	14	77.50	237	21	113.75	260	24	144.50	248	23	103.75	196
Southern	28	143.00	310	69	372.25	734	123	660.50	1,510	95	511.50	1,406
South West	106	418.75	1,176	114	522.75	1,667	261	1,108.00	3,938	235	877.10	3,589
Midlands	137	567.50	911	145	606.50	876	206	838.25	1,509	120	491.75	804
Wales	129	568.75	773	427	1,687.00	3,242	363	1,492.50	2,927	335	1,300.75	2,706
North West	62	234.00	150	204	804.75	718	371	1,372.75	1,502	254	987.50	778
Scotland	137	635.75	414	295	1,475.00	1,050	230	1,120.25	809	277	1,537.00	1,122
Total	739	3,131.00	4,457	1,805	7,376.00	10,156	2,098	8,693.25	13,902	1,755	7,207.89	12,206

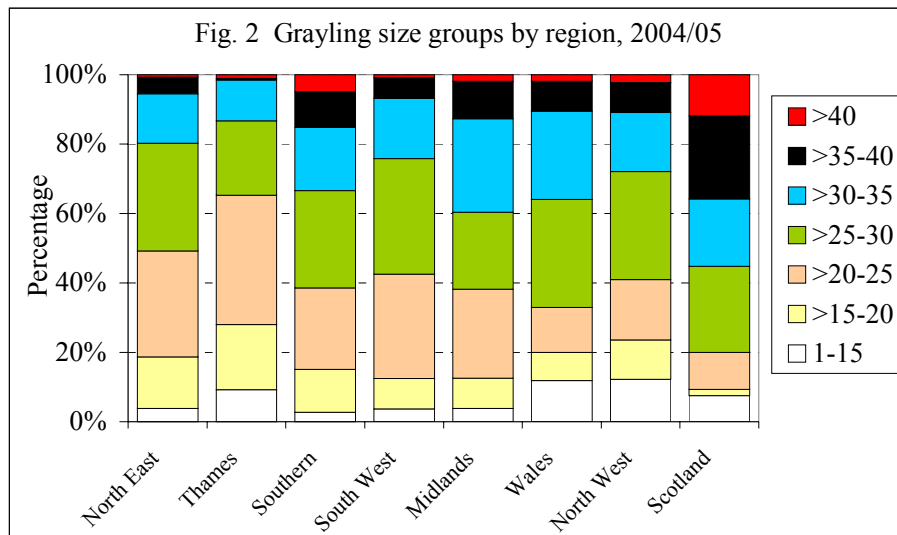
Figure 1 shows regional catch rates (number of grayling caught per hour) for 2001/02 to 2004/05. These indicate a remarkably similar pattern for all four seasons and consistent overall catch rate. South West, Southern & Thames regions recorded three of the four highest catch rates in all seasons – ranging between 1.8 and 4.1 fish per hour. At the other end of the scale, North East & North West regions, and Scotland all reported catch rates at around 1.0 fish per hour, with the rates for the individual regions being near identical in all the four seasons.



(Catch and catch per hour data for individual rivers are shown in Appendix I.)

2.3 Size of grayling caught

The percentage of grayling caught in each size category for 2004/05 is shown by region in Figure 2 (length in centimetres). Again this showed remarkable consistency with previous years. For all regions combined, the size composition of the grayling catch was remarkably similar to previous years.



(Percentage by size group for individual rivers is shown in Appendix II).

2.4 Combined catch rate and size

Regional catch rates for three size groups of grayling – ‘juveniles’ (0-25cm); ‘small adults’ (>25-35cm) and ‘large adults’ (>35cm) are shown in Figure 3a-h for each of the last four seasons (error bars indicate 95% confidence limits). Only rivers where returns were available in all four years were used to produce these regional estimates.

Generally, the highest catch rates were recorded among the juvenile and small adult groups - a pattern that might be expected given that these two groups are likely to comprise the most abundant components of the stock. The exception to this pattern occurred in Scotland where in all seasons apart from 2002/03, better mean catch rates were recorded on large adult fish than juveniles.

In some cases, catch rates showed signs of improvement over the time-series (e.g. small adult grayling in South West Region and large adult grayling in Wales) and in others, evidence of decline (e.g. large adult grayling in Thames region). In a number of instances, catch rates in 2004/05 were significantly higher (indicated by ★ in Figs. 3a, c, d, f & h) or significantly lower (indicated by ★ in Figs. 3b, f, g) than the overall mean catch rate for the previous three seasons.

Examining catch rates for different size groups of grayling provides some insight into the broad age structure of populations, their abundance and how they might be changing through time. However, interpretation of these results would be greatly improved if age and size details were available from a few individual fish on at least a small number of ‘indicator’ rivers. In this way, changes in the growth rates of grayling could be monitored in some detail, across the United Kingdom.

The most cost-effective way of obtaining information on the age and growth of grayling would be to persuade and train a few ‘target’ anglers to obtain scale samples (for ageing purposes) alongside detailed length (and possibly weight measurements) from some of the grayling they catch. The feasibility of conducting such a sampling programme will be examined in the coming year.

Fig. 3a North East

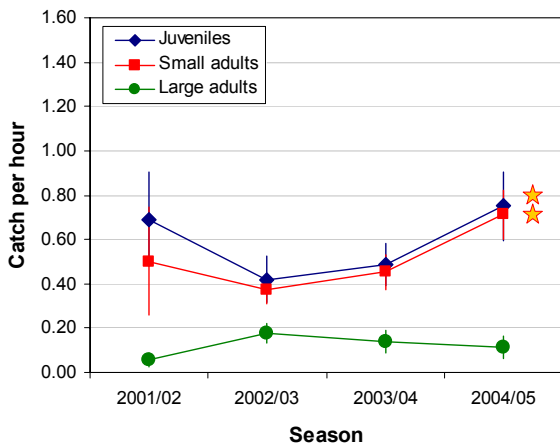


Fig. 3b Thames

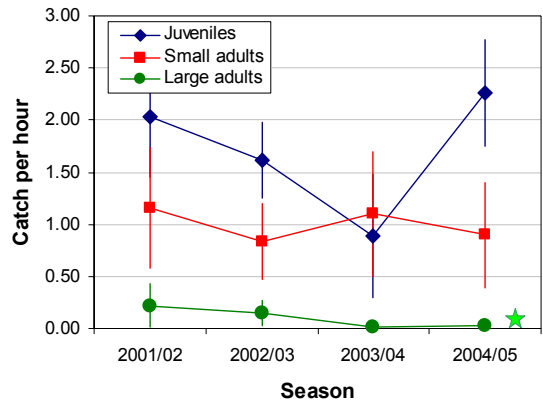


Fig. 3c Southern

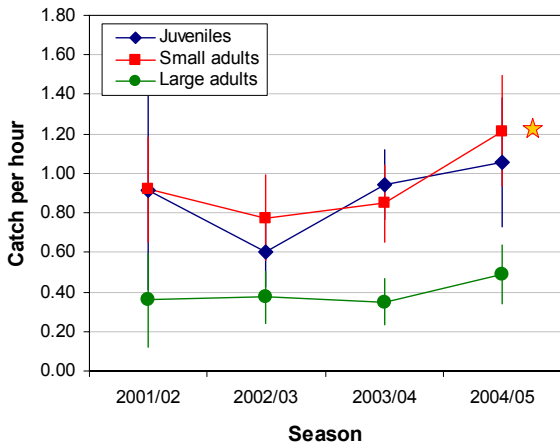


Fig. 3d South West

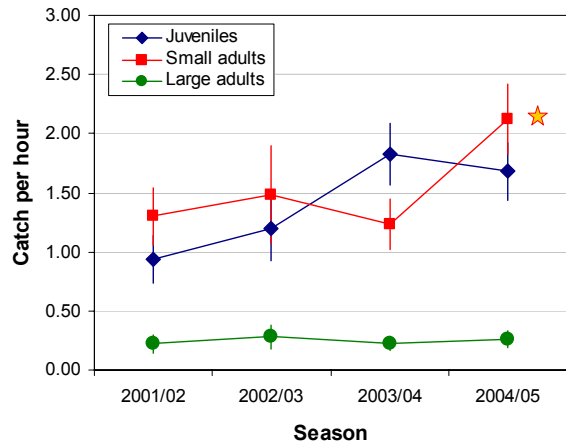


Fig. 3e Midlands

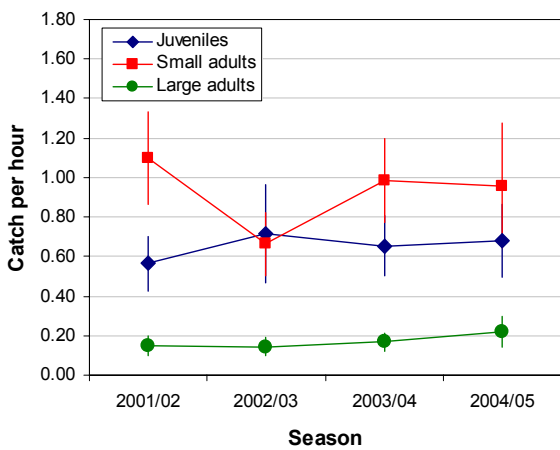
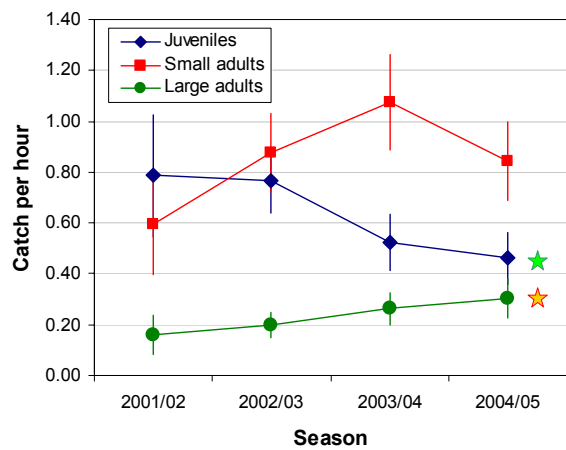
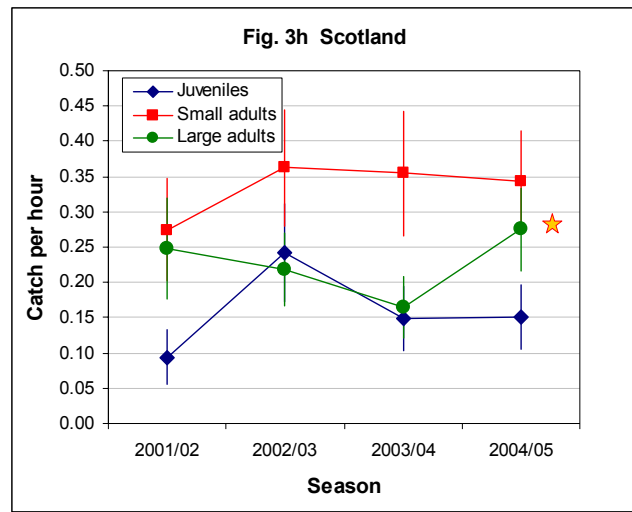
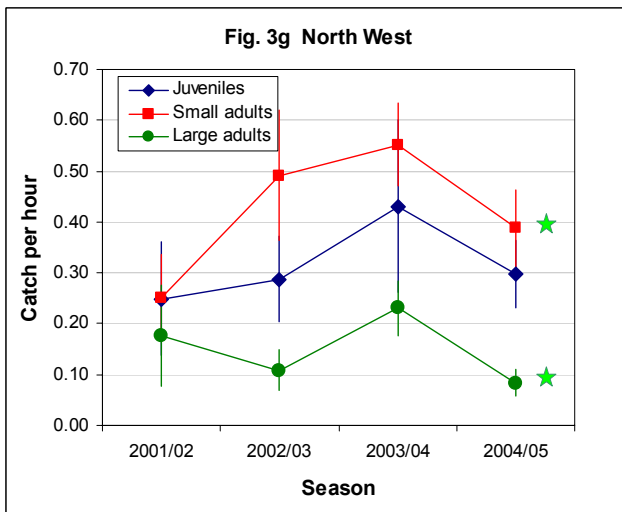


Fig. 3f Wales

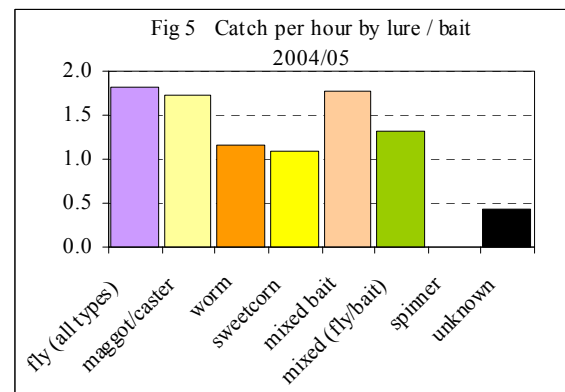
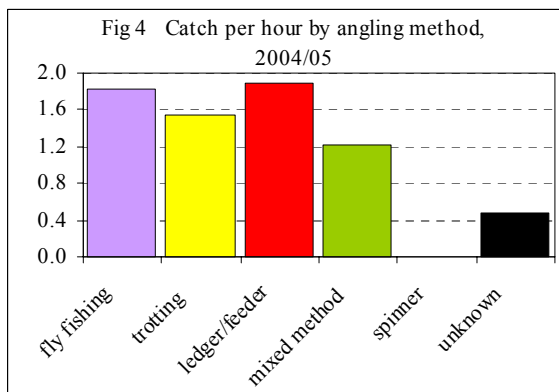




2.5 Angling methods

In all four seasons, fly fishing (dry fly, wet fly, nymph fishing, etc) proved the most popular angling method for grayling - increasing on a yearly basis from 56 to 64%. This was followed by trotting with bait and/or fly (29% in 2004/05).

Due to its popularity, fly fishing also accounted for the majority of the catch – 67% of fish compared to 26% caught by trotting. In three of the four seasons, fly-fishing also produced a marginally higher catch rate than trotting. Surprisingly ledgering or feeder fishing produced the highest catch rate in 2004/05 (although only of 4% of the angling effort) (Fig. 4). Mixed method (using both fly and trotting on the same day) produced the lowest catch rate (this excludes where method is unknown).



Unfortunately the success of fly fishing using particular methods i.e. dry fly, wet fly, etc. can't be measured as most anglers do not state the flies used or they use many types per angling session. Where anglers used traditional "coarse angling" methods, the most successful bait used was maggot - with mixed baits (maggot / sweetcorn / worm) outperforming worm (Figure 5).

2.6 Catch and release

The proportion of the catch killed by anglers appeared to be extremely low in all regions with a maximum of 1.1% in Scotland (12 fish out of 1122 caught). Overall only 21 grayling were deliberately killed by logbook scheme anglers (representing less than 0.2% of the catch). This diminutive level of 'exploitation' is very unlikely to be detrimental to many grayling populations, except perhaps where numbers are small or particular components of populations are under threat. It is recognised that these results are likely to

underestimate 'exploitation' levels by all anglers (those not participating in this scheme) but it is still unlikely that rod exploitation by UK anglers is threatening stocks.

The size of fish killed has fluctuated by season, but due to good angling practise, less than 6% of the fish killed are greater than 40cm in length i.e. trophy fish. In the four seasons sampled, more than 50% of killed fish have measured between 30-40cm.

2.7 Other species

Anglers captured eleven other species of fish as a by-catch of their grayling fishing activity. Trout dominated the catch with over 4,000 brown and 355 rainbow trout recorded. Anglers reported catching fewer adult salmon (9 including 3 kelts) and sea trout (91 including 20 kelts) than usual. Most of these fish were captured by Scottish anglers and all were returned to the river. Many coarse fish were also captured including over 200 chub and 400 dace. Other species included barbel, bream, eel, gudgeon, minnow, perch, roach and a shad.

2.8 River conditions

For each angling event anglers were asked to record the river height, colour and weather conditions. Figures 6 and 7 show the conditions under which anglers fished in 2004/05. For river colour, most years have seen similar a similar pattern with anglers preferring to fish under clear water conditions (64-70%). Moderate colour accounted for 20-31% of angling trips and very little fishing was undertaken in coloured (strong) water. For river height, most fishing activity again took place under low or moderate conditions. Mean catch rates (Fig. 8 & 9 - all seasons combined) indicate that the most productive angling sessions occur under clear/moderate and low/moderate river conditions.

