

## Midlands West Area Fisheries Team

### River Severn Angler Surveys Report 2011



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## Creel Census

This report refers to the angler surveys carried out in the period June to Dec 2010. These surveys were carried out purely to assess the level of success of recreational angling and the opinion of anglers. This type of survey is commonly referred to as creel census.

### Method

Anglers are approached by fisheries officers and asked for a few minutes of their time to complete an angler census card. Most importantly the interview will capture information on species caught, the size range of each species, the time spent fishing and methods used including baits. On this round of surveys we have also taken an opportunity to collect some more social information.

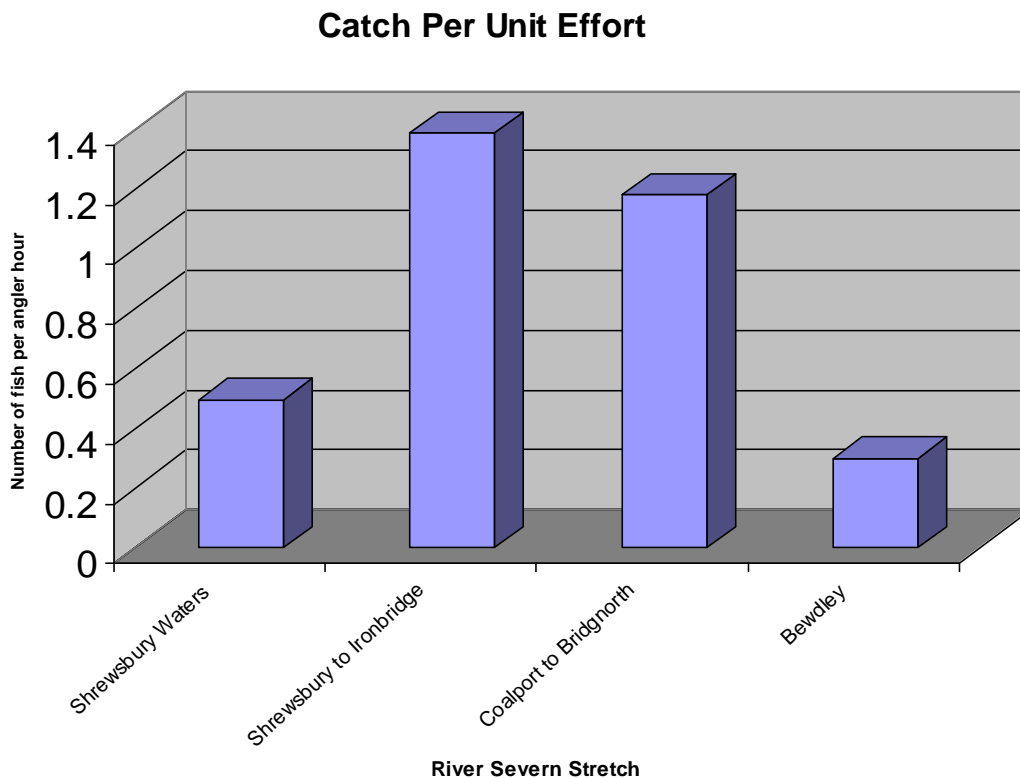
Date		Midlands Region Angling Census		Environment Agency				
Water Type		Location		Venue				
16/6/2010		SEVERN SHELDON		STONEY ALE				
Time spent fishing (hrs)		Circle start/stop times		01/02/03/04/05/06/07/08/09/11/12/13/14/15/16/17/18/19/20/21/22/23/24				
1.5								
	<5cm Bait used	5-9cm	10-14cm	15-19cm	20-24cm	25-29cm	30-34cm	>35cm
Chub								4 M
Des								
Roach								
Barbel							1 M	
Bream								
Blake								
Gudgeon								
Trout								
Salmon			1 M					
Grayling								
Perch								
Pike								
Ruffe								
Eel								
Other Species and lengths								
Comments				M-maggot C-caster LM-meat P-pellet W-worm Ft-float Led-Ledger Fed-Feeder S-spin/lure Fly-fly A- Other bait (please state in comments)				
M, FEB, CASTER. LEAD FLOAT.								

Figure 1: Example of recording card

The most important aspect of this type of survey is to collate the data so that we can express the results in Catch Per Unit Effort (CPUE). CPUE is the overall time spent fishing by all anglers and expressed as the number of fish per angler hour or weight in grams per angler hour. This data has been collated and analysed to produce the following results.

## Results

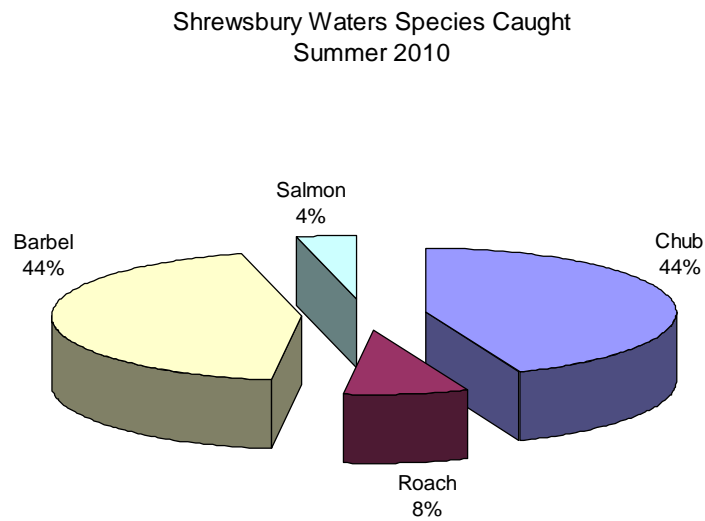
The angler census was successful in capturing data from 96 anglers in the period of June 16<sup>th</sup> to 15th Oct 2010. The total number of angler hours recorded for this period was 400.5 hours. The following charts and figures have been derived from the information gathered from interviews conducted with anglers.



**Figure 2: Summary of total catches expressed as CPUE.**

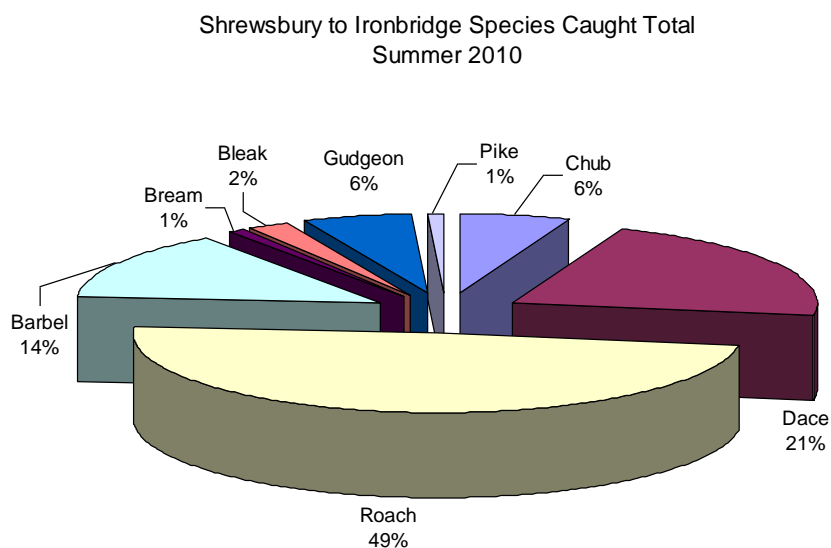
Figure 2 shows the variation in angler success for the four locations where the surveys were conducted. If you combined all the results the average catch per unit effort was 0.75 fish per hour of fishing per angler.

The following charts look in detail at the catch in those four areas.



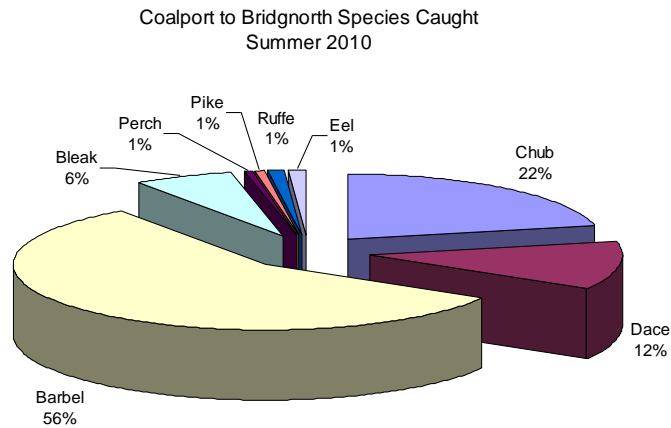
**Figure 3: Percentage catch of individual species in the Shrewsbury Waters section.**

The catch data collected for this survey section in Figure 3 was predominately collected on one day, 16<sup>th</sup> June 2010 the first day of the season. Nineteen anglers were interviewed with a total fishing time of 50.5 hours and a total catch of 25 fish. Conditions at the time seemed ideal, water temperature warm with slight algal tinge. The majority of angling effort was targeted towards barbel and chub.



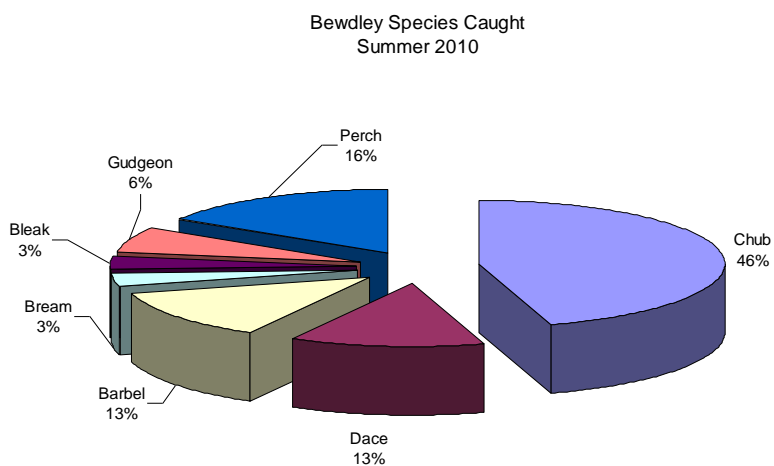
**Figure 4: Percentage catch of individual species in the Shrewsbury to Ironbridge section.**

The catch data collected for the section in Figure 4 again came mainly from surveys conducted on the 16<sup>th</sup> June with some collected later in the year. These surveys collected from twenty one anglers having spent 97.5 hours fishing producing a catch of 135 fish. Importantly in this section one angler on two occasions targeted roach by fishing float and maggot for a total of four hours. This angler's catch was 66 roach 49% of the total catch of this sections survey.



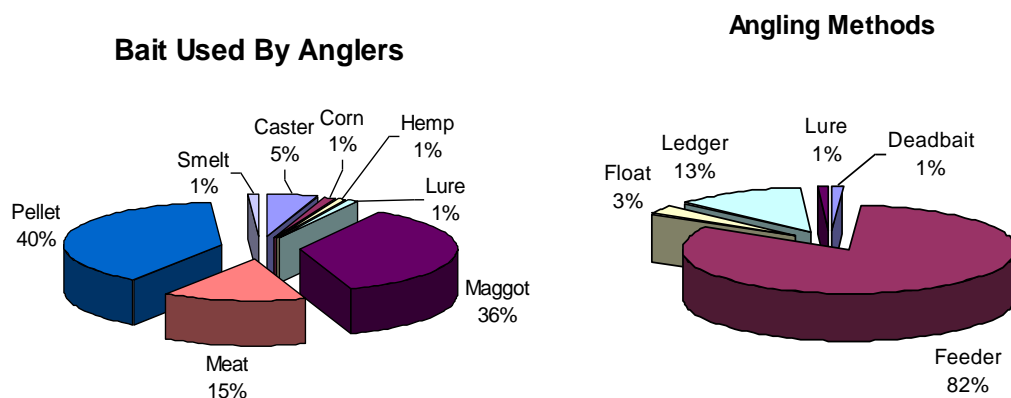
**Figure 5: Percentage catch of individual species in the Coalport to Bridgnorth section.**

Catch data collected from the section in Figure 5 spanned a larger date range to some of the other sections with surveys carried out through July & August. A total of 36 anglers recorded 148.5 hours fishing for a total of 175 fish, with 95 of those fish being barbel greater than 35cm. The one angler that fished float and maggot for 5 hours accounted for 20 dace and 20 small chub; this was 23% of the overall catch for this section.



**Figure 6: Percentage catch of individual species in the Bewdley section**

The catch data in Figure 6 was again all recorded on one day 16<sup>th</sup> June. Where 20 anglers fished 104 hours to catch a total of 31. An interesting difference here was the fishing method. Where most fishing upstream would be feeder with pellet or meat, in Bewdley anglers preferred to fish feeder with maggot. This accounts for anglers picking up smaller chub, bleak, gudgeon, dace and perch.



**Figures 7 & 8: Breakdown of the angling techniques deployed**

The breakdown in angling methods and baits clearly suggests that most pleasure anglers are interested primarily in catching barbel. Of the 96 anglers 95% used methods to fish off the bottom with weighted baits and accounted for 132 barbel from a total species catch of 366 fish.

There were only 3 survey returns of the 96 which used float with maggot specifically to target the smaller species. One of the three returns was zero. So two survey returns over 9 hours of fishing accounted for 133 fish 36% of the total catch. The catch per unit effort for these returns is 14.7 fish per hour. The most interesting finding of this work is that whilst anglers express concern over a lack of silver fish i.e. roach and dace this survey has specifically highlighted that between the period of June 16<sup>th</sup> to October that the majority of recreational anglers fish for barbel and chub.

It should be noted that the majority of the results were from the first day of the season and with such intense angling effort on that day fish may be spooked or not accustomed to the baits presented. This may also explain the better results from Shrewsbury to Ironbridge and Coalport to Bridgnorth as these were collated from surveys later in the season.

As part of the survey anglers were asked “Why have you come fishing to this venue?” most answered “it was a good place to fish” and they were locals visiting the river more than once a month.

By the end of July anecdotal reports from anglers suggested that the river had improved, with some reports of double figure barbel being regularly caught in the Shrewsbury and Bewdley areas. The reports from the sections above, below and through Ironbridge suggested that a few fish were present with nothing being caught through the centre of Ironbridge.

## MATCH CATCH RESULTS

Information collected from matches is very important, it can give us the best available data and we need to continue to build upon the data already collected. Reported matches from Shrewsbury, Ironbridge and Bridgnorth have been very poor for 2009 and 2010. But unfortunately we are struggling to assess the full extent due to missing, partial or incorrect data being supplied. To help, we need all matches recorded correctly on match catch cards as in Figure 9; these are posted freepost to the address on the reverse. Any information missing from the card cannot be entered onto the data system rendering the data invalid.

**Environment Agency Match Record**  
Please complete each match and return by post (postage prepaid)

Name of Club SHROPSHIRE ANGLING FEDERATION  
 Date of Match 14-03-10 River SEVERN Venue MONKMOOR  
 Number of Competitors 12 Start time 10-00 Duration of match 5 hours  
 Section/permanent peg number fished \_\_\_\_\_ Total Weight Caught 20 lb 8oz (lbs/ozs) OR (g)  
Delete as appropriate  
BETWEEN BRIDGES Winning weight 10 lb  
 Number of anglers weighing-in 10 2nd weight 2 lb 4oz  
 Species caught in: \_\_\_\_\_ 3rd weight 2 lb  
 a) Greatest numbers DACE (b) 2nd greatest numbers ROACH  
 c) Other species caught BARBEL - IN THE WINNING WEIGHT

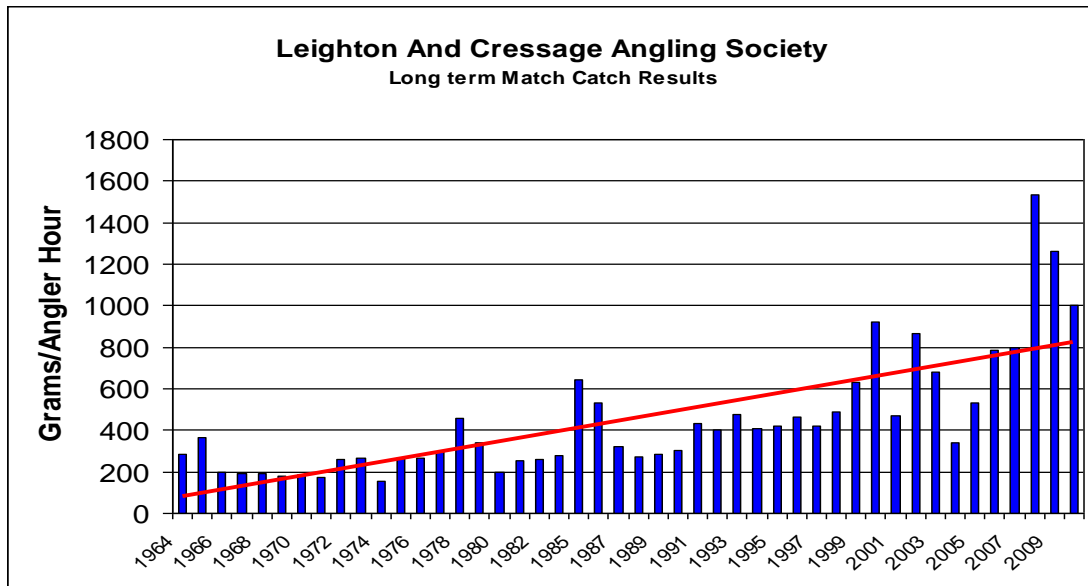
In the table below, please tick the option in each column that best describes conditions at the time of the match.

RIVER			RIVER TEMP FOR TIME OF YEAR	WEATHER CONDITIONS		
Level	Colour	Condition		Brightness	Wind	Rain
Low	Clear	<input checked="" type="checkbox"/> Falling	Cold	Dull	Still	Dry
Normal	<input checked="" type="checkbox"/> Coloured	Steady	Normal	<input checked="" type="checkbox"/> Changeable	Light	<input checked="" type="checkbox"/> Drizzle
High	Green	Rising	Warm	Bright	Moderate	Light
					Strong	Heavy

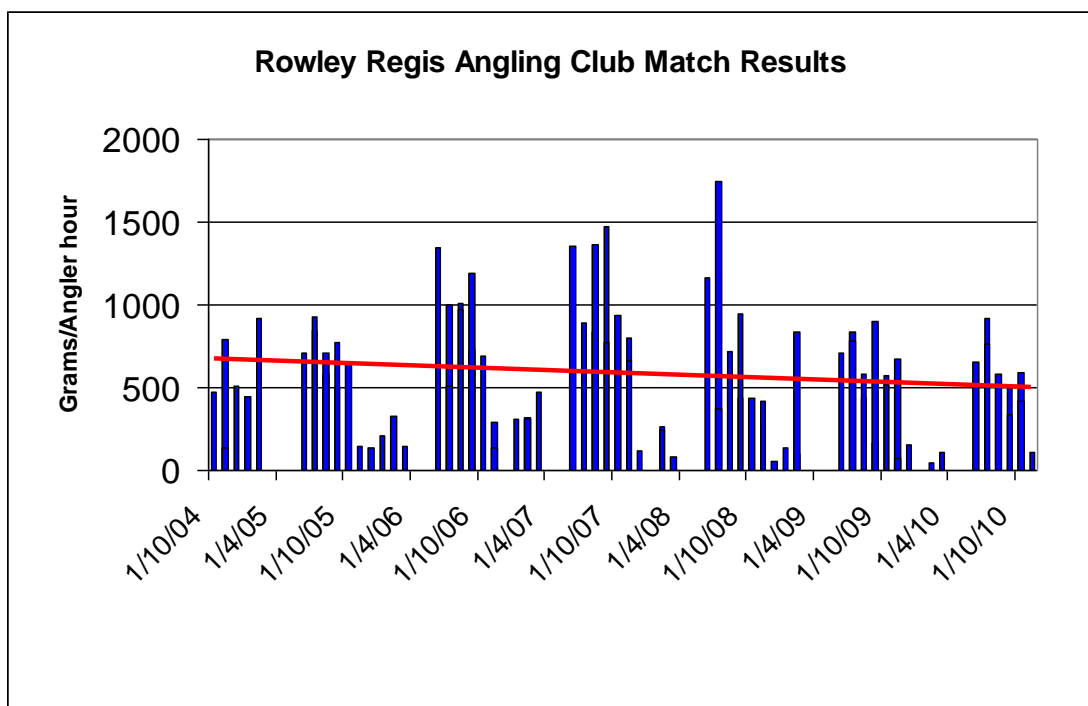
Any other comments? RIVER TEMP 6°C, RIVER VERY CLEAR  
 Signed [Signature] (Club Secretary)

**Figure 9. Match catch return card**

The charts in Figures 10 and 11 are two very good examples of accurate data collected from club matches on the River Severn. Each example has used the catch per unit effort methods described earlier in this report, with the difference that the catch is reported as weight in grams. The overall trend line is included for each example.



**Figure 10: Actual long term match catch data from R Severn between Shrewsbury and Ironbridge ( 453.6 grams =1lb)**



**Figure 11: Recent short term data from R Severn at Coalport ( 453.6 grams =1lb)**

Interestingly for Leighton and Cressage Angling Society (Figure 10) there has been an upward trend sustained from 1964 to present, whilst for Rowley Regis Angling Club there is a slight downward trend although there is very little difference between 2009/2010 results and 2004/2005 results

Examples like this show quite clearly that this method of reporting has been far more consistent, we can analyse overall trends and fluctuations with clarity. For example, in both Figures 9 &10 we can see that we have

experienced poor catches in 2004 as has been experienced in 2010, this was after some very good years 2001/2003 similar to the exceptional years of 2007 and 2008.

Angler catch analysis can have some limitations due to the inherent bias, mainly associated with different fish species being easier or harder to catch, larger fish being targeted, or the accuracy of data recording.



**Figure 12. 14lb catch of roach from a match in Shrewsbury, winter 2009**

The photograph in Figure 12 is an example of this, the majority of these fish being roach of a very similar size and most likely within a very close age range of each other. This could be possible evidence of a strong year class, but it also could be an example of catch bias, the small fish have not been targeted. If there is evidence of a strong year class as that age group reaches the end of its life there will be a collapse in population numbers, typically larger fish. Angler perception can be that there are no fish to catch in periods between fluctuations, but it could be the case that methods used will not pick up very small young of year fish, which could be plentiful. In the winter of 2010 this scenario has been played out with a number of anglers in matches on the Severn so fed up with catching nothing, they have resorted to a whip, size 22 hook baited with a single maggot and have caught 80 plus fish of less than a total weight of a pound.

The examples presented in this report appear to suggest in the long term the fishery is performing well.

Matches towards the end of the 2010 season in early March have recorded some exceptional catch weights. These have predominately been made up of large barbel. In the Angling times, 1<sup>st</sup> March 2011 edition, results for a match won in Bewdley with a total weight of 50lbs and a specimen barbel of 12 1/2

lbs was reported. Leighton and Cressage Angling Society's last match of the season was won with a final weight of 64lb 9oz consisting of 14 barbel and 1 chub, five more anglers weighed in a further 105lbs of fish.



**Figure 13. Carl Pavey winner of the final Leighton and Cressage winter league match on the 13<sup>th</sup> March 2011 for 64lb 9oz (14 Barbel and 1 Chub).**

The improvement in match weights is explained simply by the catches of less fish but bigger fish such as barbel and chub. It may be that the barbel population is in a very strong position and currently makes up the majority of the biomass of the carrying capacity of the river.

## Conclusions

- Angler census surveys alone will not address the issues raised by angling groups, with regard to poor fish stocks in the Middle Severn. Especially with respect to the roach and dace which are traditionally fished for in the later part of the season.
- A combination of survey techniques are required to provide some robustness in data.
- The data provided by angling clubs from match catches to date, gives the best indication of the performance and long term trends.
- Improvements need to be made in the accurate collation, collection and reporting of match catch results.
- There is some catch bias in data purely from angler catch.
- Most recreational anglers prefer to target barbel and chub.
- Barbel and chub appear to dominate the current fish community biomass.

The Environment Agency is currently working to develop a strategic sampling programme to improve understanding of the fish population dynamics in the River Severn. This will include a combination of sampling methods some of which will require the assistance of anglers.

This will require better collaboration with angling clubs to accurately collate catch data from match venues, the collection and analysis of this data must be via the match card system. A mechanism is needed to feedback to the angling community either through tackle shops or via an annual seminar. Consideration is currently being given to running matches to collect better data e.g. matches that are awarded points for species caught to stop bias towards large species.

There should be more active liaison between the Environment Agency and the Severn Rivers Trust to identify areas for more collaborative partnerships looking for opportunities to improve habitat and angler access.

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