

River Teme Barbel Project

Dear Anglers, I'm hoping to meet lots of you out on the banks of the glorious River Teme over the next couple of years, whilst I carry out research for a PhD with Bournemouth University. The project is in collaboration with the Severn Rivers Trust, the Barbel Society and the Environment Agency. The research focuses on the European barbel, but river fish communities and interactions will also be investigated. I'll be studying a number of stretches from Ashford Carbonell all the way down to the confluence at the Severn, covering around 55 kilometres of the River Teme (see map).



A map of the River Teme with red markers showing the areas I'm hoping to study from Ashford Carbonell, Tenbury, Stanford Bridge, Knightwick, Bransford and Powick

I'm investigating what environmental factors may have a role to play in the successes and failures of the barbel population since their introduction to the River Severn in the 1950's. There are five main subjects I am hoping to look at during my research in the River Teme:

1. Historical and current population levels of barbel and other coarse fish

Fish populations are cyclic, increasing and decreasing over time, these changes can be caused by both natural and human factors. We are investigating changes in the River Teme barbel population levels over time. I am collecting data from a number of sources, however, local anglers are a vital source of information and this is where I am looking for your help. I'm collecting historical catch records from local anglers, I also want to collect current catch data over the next three years in an online survey.

2. The health of the River Teme barbel and other coarse fish

We can tell a lot about the health of a fish by looking at growth rates. We will be collecting information of sizes of fish, as a minimum we want to collect length information. Weight of fish is also useful if this can be collected, but on its own is not useful due to weight of individual fish varying seasonally. In addition to this we are collecting scales. Scales are laid down in rings like a tree, counting these rings can give the age of a fish. This will the size information can tell us about how quickly the fish has grown. We can also gain further information about what the fish has been eating by looking at the chemical make-up of the scale using a technique called 'Stable Isotope Analysis'. If you feel confident in collecting scales or are interested in learning how to do this then please get in touch.

3. Investigate spatial movement of barbel in the Lower Teme and identify spawning, feeding and refuge areas

We are catching and tagging some fish in the Lower Teme and will follow their movements for the next year and a half. This spatial data will help to identify important areas for feeding, spawning and refuge. It will also allow us to see how large the home range is of these fish and if there is variation within the population on how far fish travel each day or month or year. Barbel have been known to struggle to get past some barriers such as weirs, we're hoping that our spatial data will also identify barriers to movements and spawning migrations.

4. Assess the spawning, nursery and recruitment of barbel and other coarse fish

Spawning migrations of individual barbel in the summer are dependent on environmental triggers such as water temperature and other factors such as sex of the fish. Spawning grounds consist of relatively shallow gravel riffles where they build redds and spawn; this can often be seen from the



A young barbel of around 4 years old Photo courtesy of EA

river bank. I hope to identify spawning areas from observing barbel behaviour or redds and would appreciate anyone observing barbel spawning to contact me. Once the eggs hatch the larvae have a yolk reserve to feed on before they emerge and need to find food. After hatching the first feeding of fry is a critical time for survival. Later in the summer I'll be looking at fry growth, feeding and what habitats the juvenile fish use.

5. Assess spawning gravel quality

Little is known about spawning gravels of barbel in the wild, how many eggs are laid and how deep they are buried. We're hoping to be able to find out what habitat and gravels are best for egg survival and for larvae.

How you can help Anglers are an invaluable source of knowledge of fish populations, and I hope will have a major role in the success of this project to understand more about this secretive fish.

If you are fishing on the River Teme, I would be grateful if you would fill in an online survey of your catches. The main information we want to collect is location, and number and species of fish caught. It is important that we understand where no catches have been made, so I'd like to hear from you if you have been targeting coarse fish but have not had any catches. Please find a link to the online survey below,

<http://www.temeanglercatch.co.uk/limesurvey/index.php/938625/lang-en>.

I'm happy to provide paper copies of the survey if you'd prefer and would be happy to visit local angling clubs and forums to discuss the project. Take a look at the survey to see what data you might want to jot down when you're on the river bank.

I hope that you all have a good fishing season and that I get to meet many of you soon.



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