

# Woody

## Part 1: What it is

**Y**ou do not need to be a barbel angler for very long to work out that barbel like trees. Willows overhanging a steady glide make a classic barbel swim and trees actually in the water are even better. Even a piece of tree trunk or a stump on the river bed can attract barbel like a magnet and create a red hot, if snaggy swim. Not long after you figure this out, chance are that a

gang of people will turn up with chainsaws and take it all away! Properly managed, woody debris in rivers can be very effective at creating great barbel swims without creating a risk to other river users or to the people who live near the river.

### **What is woody debris?**

Woody debris is found in rivers and, as with everything, there is a jargon associated with it so that scientists can describe and

classify it:

- Fine woody debris consists of twigs and small branches. This can be an important energy source for invertebrates and although it may provide important juvenile barbel habitat, it is not of much concern for barbel fishers targeting larger fish.
- Coarse woody debris is much more interesting, comprising small to medium sized branches which are just the kind of thing to

attract barbel.

- Large woody debris comprises large branches, tree trunks and stumps and is the kind of stuff that creates a really interesting snag swim.

While a lot of woody debris is dead wood which has fallen in the river, some of the best swims are created by living trees which have either toppled into the river, had a branch collapse or have grown out into the river.



*Lower Benjoms,  
River Kennet. A nice  
example of a natural  
tree fall creating a  
good barbel swim*  
**Photo by Ian  
Watson**

# Why debris is and why we like it

Willows in particular seem totally unfazed by falling over into the river and, after a short pause to figure out which way is up, will quite happily settle in and start growing again, giving a swim which has an abundance of cover in the water with plenty of shade over it, something which barbel just love. Different kinds of trees bring different benefits and some, like alder tend to give only a short-lived benefit as they decay so quickly.

However, a hardwood stump or tree trunk can sit on the river bed for many years, giving shelter to barbel and creating a hot spot.

### **What does it do?**

**Food** – Some small creatures eat the woody debris, burrow into it or graze on the film of growth which tends to appear on anything sitting in a river for a few weeks. Woody debris in ponds has been shown to increase food production

substantially, leading to better fish growth and it's likely that something similar happens in rivers. If there is food to be had, you can be sure that barbel will be there to take advantage.

**Shelter** – Barbel just seem to like shade in sunny conditions and will welcome woody debris or overhanging trees just as shading. However, it also performs the very important function of providing shelter from

predators which seems to be very important for barbel. Keeping woody debris in rivers may become more important as otters recolonise their former habitats. Complex tangles of coarse woody debris probably serve an important function in protecting smaller fishes from predation by fish-eating birds which cannot get at them among the branches.

**Scouring** and depositing – large woody debris can have a major impact on the river bed by creating an area of scour and deposition. The gravel under and behind the woody debris gets moved by the deflected water flow and a depression is created in the river bed. Material deposited downstream can form gravel bars and in some circumstances form new spawning grounds for barbel, dace and chub amongst other fish. The impact of scour should not be underestimated and huge volumes of gravel can be shifted in this way, leading to a large depression being created on the river bed which will attract food and fish like a magnet (see Figures 3, 4 and 5). I have seen tree trunks on the bed of the Wye which have created nice scour holes behind them which will provide shelter from the floods. I'm still trying to work out how to drop a 6oz lead into the middle of the Wye accurately enough to take advantage of this!

**Too much of a good thing?**

Woody debris seems to bring very different reactions from different groups of anglers,

never mind other river users or interest groups. Clearly, it is something which needs to be managed, but can it actually cause problems and need to be removed? Again, there are many and varied views on this.

**It causes floods . . . doesn't it?**

The classic view taken by drainage authorities for decades seemed to be that any wood in the river was a flood risk and so it had to be removed. Even recently, some favourite swims on the Kennet have been ruined by the chain saw gangs from the Environment Agency's flood

risk management function. However, evidence suggests that the role of woody debris in creating flood risk is much less than previously thought. I have seen fine and coarse woody debris cause damming in small, steep-sided streams and there are plenty of pictures of this in articles on woody debris, but this is hardly a major flood risk. On the barbel rivers which I fish, I have never seen any sign of raised river levels upstream of even the largest pieces of woody debris. Indeed, given that some stretches are controlled by upstream and downstream weirs, the

presence of a tree in the river is probably irrelevant. As with everything, there is no right or wrong answer here and in some places, lots of woody debris might create flood risk, but I suspect that in many places the risk is either very low or non-existent.

**Shading**

Too much shading from overhanging trees can seriously affect the productivity of a river by shutting out sunlight. This can lead to the loss of water plants such as water crowfoot which not only create habitat for barbel but



*A fine example of a scour pool which has resulted in deposition of clean gravels which will be ideal for spawning. Photo courtesy of Dominic Martyn, Environment Agency*



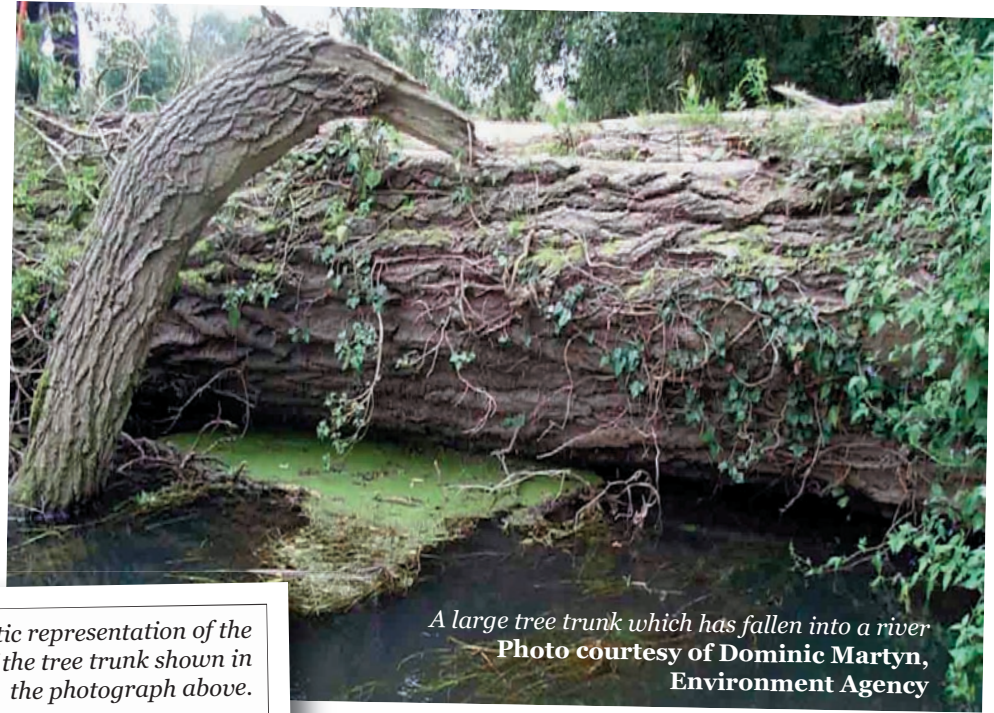
*The Pill Box swim on Lower Benyons, River Kennet. Once a great swim, now all the willow that attracted barbel is just firewood on the bank (arrowed). Photo by Ian Watson*

also are the source of much of their food such as the insect larvae which graze on them. Limited cutting back of overhanging trees can improve the habitat on a small river without taking away too much of the shelter which fish need.

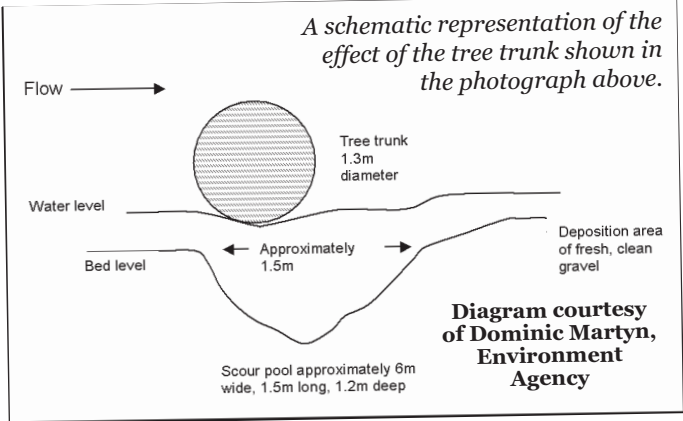
**The risk to structures**

Now this is a real risk. Woody debris can get displaced by floods and will tend to accumulate up against any structures

in the river. Every year, teams of EA workers have to clear weirs of all the wood which is caught up on the weir structure during floods to prevent damage. Damage to the structure of a weir can have very serious consequences so removing all the wood before it can cause damage is essential. Woody debris piled up against bridge supports is also a very serious risk to such structures during floods as the additional pressure on the bridge is considerable and may cause it to collapse. Again, such debris needs



*A large tree trunk which has fallen into a river*  
**Photo courtesy of Dominic Martyn, Environment Agency**



to be removed as soon as possible.

### Anglers

Not all anglers like trees, let alone snag swims. Those anglers who like to trundle an enormous trolley, loaded with tackle along the river bank and then trot a float through a swim without impediment are often only too pleased to have the woody debris taken out. Sadly, this can often be self-defeating. The fish are in swims with tree cover and woody debris for a very good reason and removal of either can just lead the fish to vote with their fins and shove off to somewhere with cover. There can be no argument against a bit of judicious pruning to make swim access a bit easier, but wholesale removal can simply ruin a swim.

### Navigation

Dropping a tree across a navigable stretch of river is just never going to work, so you may as well forget that. However, there might well be a case for creating some woody debris at the side of the river. Even such heavily trafficked rivers such as the Thames have a lot of such areas at the side of the river where trees and branches have fallen in. They can create some very useful habitat without affecting navigation.

That said, there has been a bit of a sea change in how woody debris is viewed and you might well find that your local EA fisheries team is now quite enthusiastic about having it as part of the natural habitat of a river. This is a relatively new subject for the UK so there is quite a bit of work to be done to even determine the

usefulness of woody debris, let alone figure out how to manage it best.

### What do we know?

Actually, with regard to barbel rivers we know very little at all which is a great shame. A look through the literature on woody debris reveals two things. Firstly, nearly all of it comes from outside the UK which makes it rather hard to judge its relevance. Secondly, nearly all of it is about salmonids in small rivers and streams and trying to judge how relevant it is to barbel is rather more guesswork than science. Some things come out very clearly though. What comes out most often is that fish love woody debris and

you will find accumulations of fishes wherever there is a pile of woody debris in the river. We know that applies to barbel as well; EA electrofishing surveys show repeatedly that open stretches of a river may be devoid of barbel, but that lots of barbel turn up at any sort of woody debris in the river.

Having decided that woody debris is mainly a good thing for barbel and for the barbel angler, the question arises of how to manage it and, given the enthusiasm that some people have for removing it, how to hang on to it? In the next article, we will take a look at some simple techniques for getting and keeping woody debris in barbel rivers.



*A close up of a scour hole created by woody debris*  
**Photo courtesy of Dominic Martyn, Environment Agency**