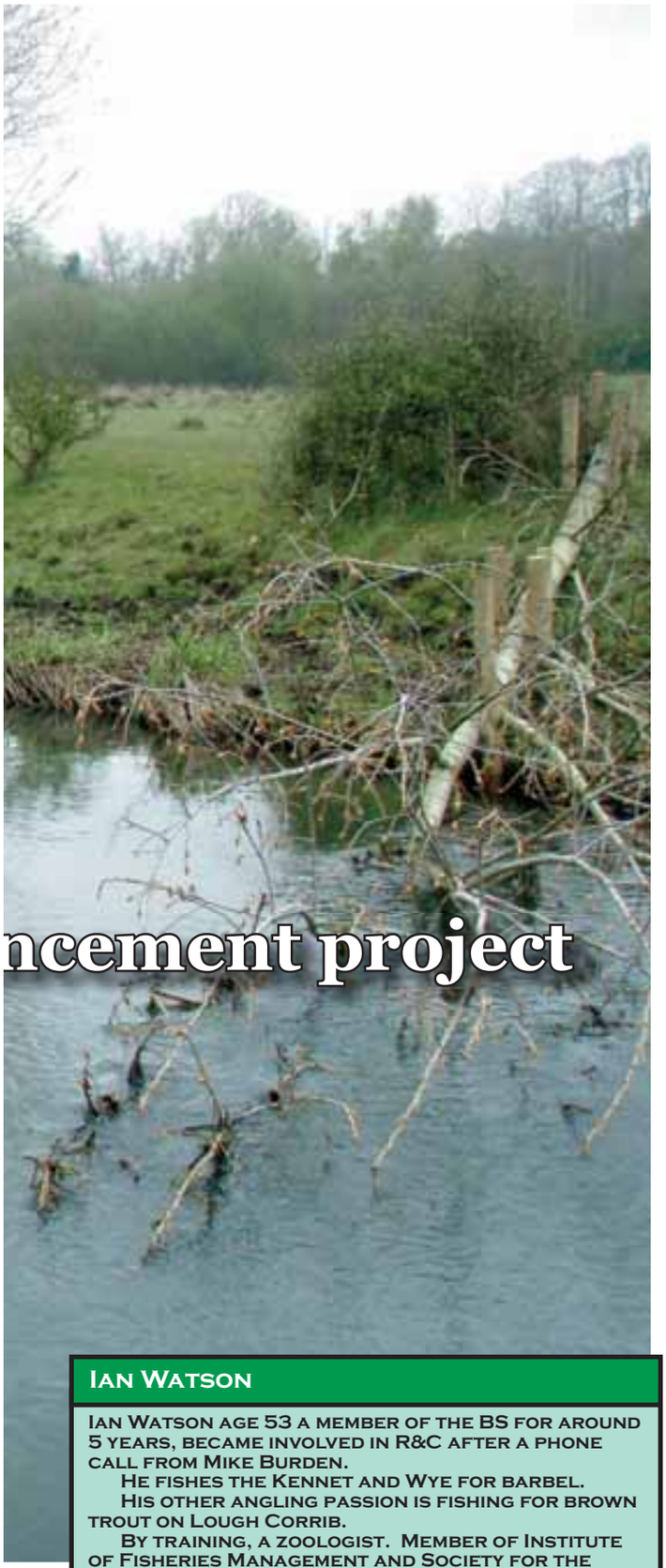
River Blackwater

Hawley Meadows fish habitat enhan

One week later

Above and left:
Woody debris and flow deflectors. You can see some of the stakes which hold the tree in place.



ncement project

Ian Watson

Ian Watson age 53 a member of the BS for around 5 years, became involved in R&C after a phone call from Mike Burden.

He fishes the Kennet and Wye for barbel.

His other angling passion is fishing for brown trout on Lough Corrib.

By training, a zoologist. Member of Institute of Fisheries Management and Society for the Environment (a Chartered Environmentalist no less!).

Ian also keeps tropical fish and is Chairman of the British Cichlid Association.

Pet hates – anglers who leave litter, anglers who adopt a "catch at any cost and bugger everyone else" attitude.

With many thanks to Dominic Martyn from the Environment Agency for providing information for this article. Text taken directly from EA reports is shown in italics.

What was done and why?

The Blackwater is a tributary of the Loddon and is developing a thriving barbel population, even if the size is lagging behind that of the monsters found in the Loddon these days. The whole Loddon catchment has been subject to much alteration and degradation of habitat quality since World War 2, including some major new town developments such as Basingstoke. Changes include a huge increase in abstraction, effluent discharge and river modification, mainly for "flood prevention", the latter having been carried out in a largely unsympathetic manner. Flood prevention has now given way to flood risk management and, thanks to continued pressure from the fisheries and conservation functions, the EA is now taking a more holistic approach to flood risk management, not just an engineered approach. Part of this new approach is to trade off works necessary to reduce flood risk against compensatory or mitigation measures elsewhere. This article describes what was done on part of the Blackwater to mitigate against some adverse effects of flood risk management works on the Cove Brook by providing an improved habitat to fish elsewhere.

What and where?

The work took place in 2008 in cooperation with Hartley and Wintney Angling Society and the Blackwater Valley Countryside Partnership to improve fish habitats in the River Blackwater at Hawley Meadows using woody debris and gravel.

Hawley Meadows is a floodplain meadow downstream of the confluence of the Blackwater and Cove Brook. The in-stream improvements included cleaning existing gravel and supplementing new gravel in a known fish spawning area, and installation of two tree trunks staked to the river bed. This work was agreed as mitigation for managing flood risk nearby in the Cove Brook. An annually sampled fish survey site at this location provides an opportunity for ongoing monitoring of the scheme.

***Method:** Gravels were raked and cleaned across a known silted spawning area. The bed level was lowered by 0.1m over a 10m by 10m section and 4 tonnes of locally sourced clean gravel (25-40mm) introduced and dressed over the traditional spawning site. This will improve spawning conditions for chub, dace and barbel.*

This was a pretty simple operation and yet is achieved a great deal, so the key question is "how much did it cost?" It was remarkably cheap, costing only £400 for materials (gravel) plus 5 days of EA staff time (plus angling club time). That's a lot of improvement for a small outlay and (always assuming you have all the approvals from the EA), something that any angling club should be able to do.

What was achieved?

The results were more or less immediate as you can see from the pictures below. Just a few weeks after the new gravel had been put in, they were used by chub for spawning; hopefully, barbel will also make good use of the gravel. Hopefully, this

will be repeated in future years and the barbel will be joining in. In the long term, this replacement spawning gravel should compensate for lost areas in other parts of the Blackwater.

Woody debris

There will be much more on woody debris in a future article, but I will just outline what was done on the Blackwater. Part of the works on the Cove Brook involved the removal a great deal of in-stream cover, including woody debris. Obviously, this removed much needed cover for fish and so some compensatory measures were needed. However, these had to comply with the need to minimise flood risk and so could not be allowed to impede the flow of water. This is not quite so hard to achieve as you might think.

A large lump of wood across a river can have a damming effect on some rivers and so increase flood risk. However, the same piece of wood laid at a shallow angle along the bank still provides shelter for fish but, as it has far less impact of flow, the flood risk is very much less. Not only that, but as anyone who fishes the smaller rivers will tell you, it also can create a first class barbel swim. Depending on how the wood is installed,

Left & below: River Blackwater at Hawley Meadows, before and after gravel improvement. The effect of the new gravel is plain to see as a fine riffle has been created and improved scouring which should help to keep the gravels clean in the future.

Above: *Thirty to 40 chub in spawning mode in between the cattle on the redressed riffle. Subsequent sampling proved that spawning had taken place.*

Woody debris during June floods in place and secure.

Trees one week on

it can also improve the scouring effect where current has been decreased (such as by abstraction) to prevent siltation of gravels so keeping them clean for spawning. Two kinds of wood were used. Willow was used on one bank and this has the advantage that it carries on living if cut in the right way. If the tree is cut part way through and then felled, is will generally carry on living. Willows cling on to life with great determination and it is surprising just how much damage they will withstand. Going from vertical to horizontal seems to cause no problems at all and the tree adapts in no time at all, throwing out a lot of new stems, pointing upwards. Now, there is a drawback which worries the flood risk management people. As it carries on growing, there is a risk that the size of the obstruction can increase over time, eventually becoming a flood risk. Willow obstacles need regular maintenance to trim them from time to time. There are no such problems with the other wood used. Poplar dies and so the only long term problem to be addressed is that it will need replacing from time to time. You can see the kind of woody structures that were created in the pictures.

This work only needed four people for two days and a day for planning. With the assistance of a lot of muscle or a tractor, it's the kind of thing which a club could take on so long as they get permission first! It is another very effective and cheap way to improve a barbel river. The benefit of these will take some time to establish as it will be measured by anglers as well as by fishery surveys. There was some fish biomass monitoring which showed that biomass had doubled compared to the average before woody debris was put in. Don't get too excited about that as it simply reflects fish moving from a less suitable habitat into a better quality one. The real impact of the new woody debris will take a few years to establish and will probably not be apparent for at least 4-5 years. It would be very surprising if they did not bring a significant, long-term benefit to the river. There are quite a few of these simple measures being used to improve the Loddon and its tributaries, most of which will be of benefit to barbel and so to barbel anglers. Depending on what is developed, the Research and Conservation committee will look at transferring experience to other barbel rivers to see if they too can be improved. It does not take big science or big engineering to make real improvements to a river.