



**ADVISORY VISIT TO THE OKEOVER FISHERY
RIVER DOVE, DERBYSHIRE,
UNDERTAKEN BY VAUGHAN LEWIS,
WINDRUSH AEC LTD, ON BEHALF OF
OKEOVER FLY FISHING CLUB
APRIL 2008**

1.0 Introduction

This report forms the output of a site visit undertaken on 2 April 2008 to the Okeover Fishery on the River Dove, Derbyshire on behalf of the Okeover Flyfishing Club. Information for the report was gathered during the site visit. Additional information was provided by the river keeper, Michael Baines, club secretary Andrew Pirie and Tim Jacklin (Environment Agency). Throughout the report, normal convention is followed, with banks identified as RB (right bank) and LB (left bank) when facing downstream.

2.0 Overview of the fishery

Okeover Flyfishing Club controls some 5km of the River Dove upstream and downstream of Okeover Mill near Ashbourne, Derbyshire. The club has 29 members, with the water fished relatively lightly.

Downstream of Okeover Mill, an increasing number of beef cattle had been allowed to graze the LB of the river. This had resulted in some localised sections of excessive erosion, particularly in the vicinity of a colony of nesting sand martins. As a consequence, there was a concern that the erosion might lead to loss of nests and/or nesting sites. In contrast, the RB of the river was fenced, with a well-developed fringe of trees, dominated by alder *Alnus glutinosa*.



Excessive erosion of bank containing sand martin colony

Instream habitat downstream of Okeover Mill was generally good, with a well-developed pool and riffle sequence, with abundant lengths of gravel riffles suitable for spawning and juvenile salmonids. Stands of water crowfoot *Ranunculus* Spp were associated with these shallow sections of the river.

There was little Large Woody Debris (LWD) in the channel, limiting both cover for fish and reducing scouring of the substrate.

A relic weir was present towards the middle of this reach, with the channel downstream having clearly been artificially straightened in the past.

Upstream of Okeover Mill, the form of the channel was dominated by the impact of Mapleton Weir. Historically, this had been constructed to provide water for the mill along a high level channel. Above the weir, the channel was impounded and overwide for approximately 200m. The weir provided a partial block for migrating fish during low flow periods, with passage probably easing as flows increased.

The land on the RB above the weir had been placed into the Countryside Stewardship scheme, creating a valuable wetland resource. As part of the scheme the riverbank had been fenced to prevent damage by agricultural stock. Further upstream, the river was not fenced, allowing access to the banks for stock. As a consequence, there was some localised overgrazing and associated erosion.



Overgrazing and erosion of banks in the upper reaches of the fishery

The benefits of such fencing were clear; a section of fencing had previously been erected by the EA on a very badly cattle poached section of bank. Subsequently, the banks have become well vegetated and the river width narrowed.

Despite much of the upper reaches of the fishery being tree lined, there were limited amounts of LWD in the channel. Where large limbs/trunks had fallen into the channel, the beneficial impact on it was clear. Angler catches have been good in the location of LWD, particularly during winter grayling fishing.

The increasing number of cormorants and goosander has become a cause of concern to the fishing club. As a consequence, the club has obtained a licence from DEFRA allowing them to cull a fixed number of these piscivorous birds annually.

Michael Baines undertakes a regular programme of Himalayan Balsam *Impatiens glandulifera* control. This involves working downstream from the top of the fishery and hand pulling individual plants prior to their seeding. This appears to be working well, with the abundance of the plant dropping noticeably over recent years.

He also undertakes monthly samples of the macroinvertebrates present, using a standard kick sampling technique. Data to date clearly shows water quality in the river to be excellent.

Mink *Mustela vison* numbers are controlled using a combination of the excellent Game and Conservation Wildlife Trust (See: <http://www.gct.org.uk/>) monitoring rafts and cage traps (a mink had been caught the day previous to the advisory visit).

3.0 Fish Stocks

No stocking of trout has been undertaken on the fishery for many years. There is an excellent stock of wild brown trout present, with recruitment deemed to be good. The Mill Leat is apparently a particularly important nursery stream and is thus not fished by club members.

Grayling *Thymallus thymallus* numbers are still strong but are perceived to be declining, with apparently smaller numbers of large fish present.



Confluence of the Millstream and main river downstream on Okeover Mill

4.0 Recommendations

Generally, habitat within the Okeover fishery was excellent, with moderate/good stocks of wild brown trout and grayling. However, there are a number of recommendations that, if implemented, would further improve the quality of the fishery:

- In sections where increased pressure from agricultural stock has caused excessive bank erosion, stock proof fencing should be erected. Ideally, an ungrazed buffer of 10m should be created between the new fence line and the existing bank. This will both allow the development of coarse grasses and emergent vegetation that will slow down the rate of erosion, and will optimise detention of fine sediment from surface run-off. If it is not possible to create a 10m buffer strip, then the maximum practical width should be protected.
- The paucity of LWD in the river could be addressed both by retaining as much of any timber falling into the river as possible, and perhaps also by deliberately felling individual trees and anchoring them into the channel. Particular benefit would be obtained in the relatively uniform section of upper river gravel adjacent to the section previously fenced by the EA.

Introduction of LWD would not only provide valuable cover for fish from avian predators, but also would increase the diversity of bed morphology, and help to scour fine sediment from potential spawning gravel. In addition, it would reduce shading in heavily treed sections of the channel and could be used to selectively remove cormorant roosting trees, again helping to reduce the impact of these predators.

Fixing of timber in the channel can be achieved in a number of ways. The simplest involves wiring felled trees to the remaining stump on the bank, and stabilising the outer limbs of the trees in the water using wooden/metal stakes driven into the bed. Where appropriate, trunks can be drilled through and high tensile wire passed through in order to create a firm fixing. Similarly, lengths of 20mm-25mm diameter reinforcing bar can be driven through pre-drilled holes into the riverbed in order to hold trunks in place. Where possible, trees to be felled should be only cut through for 75% of their diameter and then 'hinged' into the river. This 'laying' technique maintains a firm fixing to the tree stump and in many cases, allows the tree to continue growing.

Larger trees can be held in place using the 'T' bar technique. The photograph below should be self-explanatory. This technique can be undertaken using smaller 'T' bar anchors buried in the ground if no access is available for mechanical plant.

It is of the utmost importance that the Environment Agency is contacted prior to the introduction of LWD into the river, both to ascertain whether Land Drainage consent is deemed necessary and also to ensure that they do not remove the LWD during subsequent routine management operations.



LWD with 'T' bar of wood attached and lowered into pre-dug slot. Slot is then backfilled to reinstate bank and create a firm fixing.

- The local success of the Himalayan Balsam control undertaken shows what can be achieved by hard, sustained and targeted work. It is recommended that the club approaches the EA with a view to both obtaining some funding for a continuation of this work, and perhaps a strategic extension of its boundaries to encompass adjacent reaches of the river.

- Concerns regarding the apparent decline in grayling stocks should be addressed with the EA. Reference should be made to any past survey data with a view to validating or refuting these concerns. In the absence of data, it would be valuable to undertake a quantitative electrofishing assessment of the abundance of this species in a selected length of river.

Whilst it may be tempting to ascribe the apparent decline in numbers of grayling to the increased abundance of piscivorous birds, recent research has suggested that there may be a significant impact on grayling breeding success as a result of benthic algal growth. This is of particular concern where there is source of nutrient input (for instance sewage treatment works or agricultural activity) that increases the growth of these algae. During warmer weather, the respiration of the algae can cause dissolved oxygen levels within gravel spawning beds to drop dramatically, killing any fish eggs deposited within redds. It is believed that this mechanism may help explain the differential survival of trout fry (eggs laid during the cool winter period) and those of grayling (eggs deposited during the warmer spring/early summer period). Further investigation of the impact of this phenomenon on the Dove may be of some interest.

- Additional funding for some of the work recommended might be forthcoming from the Wild Trout Trust who hold small ‘pump priming’ pots of money for projects of this nature. The Trust also operates a ‘Practical Visit’ scheme whereby a river restoration specialist undertakes up to 2 days work at the site in order to demonstrate techniques that are suitable to address the issues raised in this report. Contact the Tim Jacklin of the WTT at projects@wildtrout.org for further details. Other potential funding sources include the Environment Agency (contact Martin Cooper or Philip Wormald) or the Sharegift charity. This is a charity that collects unwanted share allocations and donates the profits to smaller groups undertaking a variety of work. Contact them at <http://www.sharegift.org/>
- Where possible, fishing should continue to be undertaken by wading, reducing the need for extensive bank management in order to allow access for angling.
- In the more densely tree lined sections of the fishery, the alder trees were generally very even aged. A programme of selective, rotational coppicing would not only increase light penetration to some of the more shaded sections, but would also promote the development of a more diverse age structure to the trees.
- Note that all works to bed or banks of the river or within 8m of its banks require the written consent from the Environment Agency under the Land Drainage legislation. The introduction of any fish or eggs into any inland water requires the consent of the EA under the Salmon and Freshwater Fisheries Act, 1975. It is imperative that all relevant consents are obtained by the club.
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