



**ADVISORY VISIT TO THE RIVER WEY,
SURREY,
UNDERTAKEN BY VAUGHAN LEWIS,
WINDRUSH AEC LTD, ON BEHALF OF
FARNHAM ANGLING SOCIETY
MAY 2007**

1.0 Introduction

This report is based on a visit to the River Wey, Surrey, on the 1st May 2007 on behalf of Farnham Angling Society. Information in the report is based on observations made during the site visit. Further details were provided by members of the club and the Environment Agency.

Throughout the report, normal convention is followed with respect to bank identification i.e. banks are designated Left Bank (LB) or Right Bank (RB) whilst looking downstream.

2.0 Fishery Description

The upstream limit of Farnham AS's reach of the River Wey near Frensham was marked by the presence of the large impoundment formed by Frensham Mill. It is alleged that the sluices in the mill have been regularly operated in order to flush accumulated material down the river. This management regime has a dramatic effect on downstream water levels, with flow virtually stopping for short periods of time.

The river ran through greensand dominated geology. The river had a strongly meandering course. There was a well-developed pool-riffle regime, with significant lengths of shallow and deep glide also present. The substrate was dominated by fine, mobile sand. In places, this was very deep, with any gravel present in the riffle areas heavily coated with sand. It was very likely that there was significant entrainment of fine sand within the gravel matrix, reducing its value for spawning brown trout.



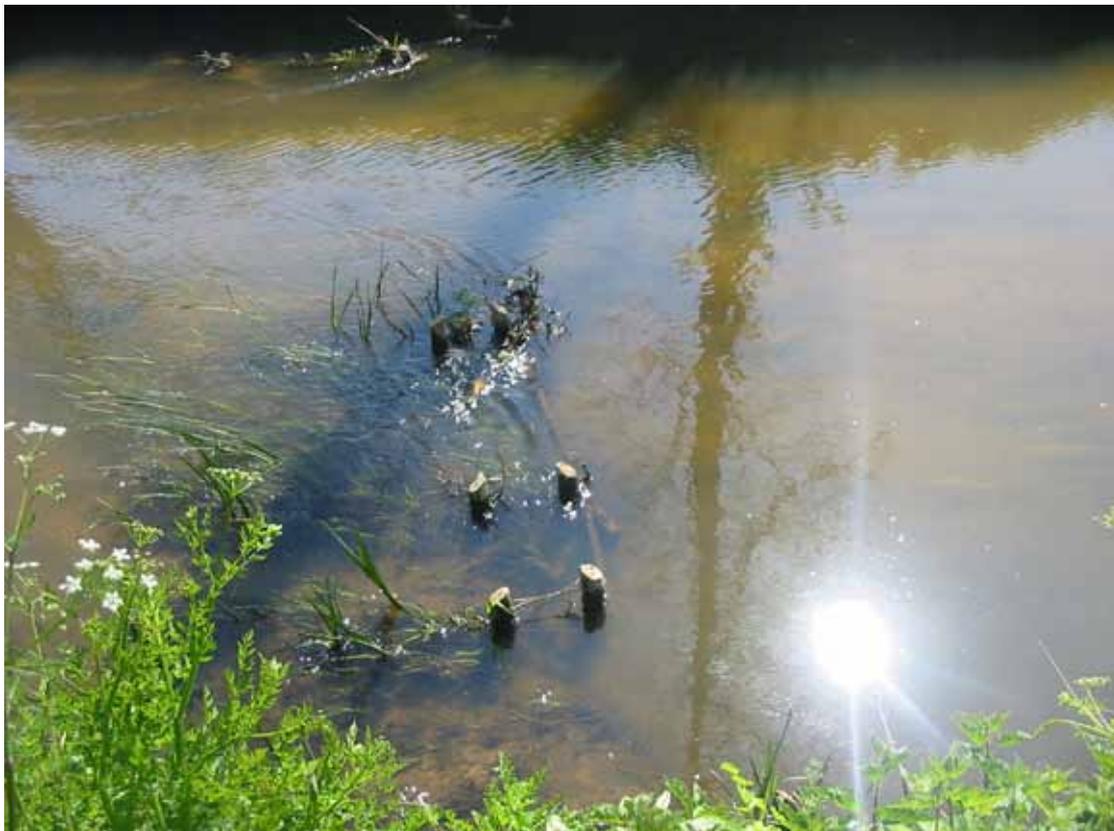
Typical section of the River Wey at Frensham

Instream vegetation was restricted to small stands of starwort *Callitriche* Spp. and unbranched bur-reed *Sparganium emersum*. Emergent vegetation included hemlock water dropwort *Oenanthe* Spp., fool's water cress *Apium nodiflorum* and reed canary grass *Phalaris arundinacea*.

Sections of the channel, particularly at the downstream end of the reach, were shaded by riparian alder *Alnus glutinosa* trees. These were generally multi-stemmed, indicating historic coppicing. Many of them showed signs of infection with the fungus, *Phytophthora infestans*. The root systems of these trees and the associated undercut banks provided excellent cover for trout and other fish.

Water clarity in the river was poor, with a light brown opalescence very obvious despite there having been no meaningful rain in catchment for several weeks.

Some basic deflectors had been installed by the Environment Agency a few years ago. These had been constructed pointing downstream with the result that there had been some bank erosion, leaving the groynes remote from the bank.



Wooden groyne

Surrounding land use was dominated by improved pasture for stock grazing. Extensive and severe bank erosion was visible as a result of overgrazing, with sections of exposed sand visible. There was clear evidence of large inputs of sand into the channel, with much of its bed heavily coated with sand.



Exposed banks of sand caused by excessive grazing pressure

Young Himalayan Balsam *Impatiens glandulifera* plants were observed along the length of the fishery, with club members noting that this invasive weed is becoming more of an issue over time.

3.0 Fish stocks

A total of 15 species of fish was captured during a recent electrofishing survey (October 2005) undertaken by Sparsholt College. There were small numbers of wild brown trout in the fishery. In addition, a viable population of grayling *Thymallus thymallus* was present, allowing with mixed coarse fish.

The club supplements the low stocks of wild trout, with regular introductions of hatchery origin trout.

4.0 Recommendations

- The single dominating limiting factor on the well-being of the River Wey as a fishery is the excessive volume of fine, mobile sand present in the channel. This is a catchment-based issue, with the sand eroding from the banks, floodplain and surrounding land over a wide area. Pressure should be brought to bear on the Environment Agency and the Department of Farming and Rural Affairs (DEFRA) to actively deploy a Catchment Sensitive Farming officer within the Wey catchment specifically to address this issue (at present the Thames CSF officer Robert Isles. Contact: robert.iles@environment-agency.gov.uk. is deployed in the Kennet and Lambourn catchments). The officer should focus on using the requirements of soil conservation cross compliance measures under the Single Farm Payment and Entry

Level Environmental Stewardship schemes to influence agricultural interests to minimise the erosion of sand.

- At a local level, there was clear evidence of overgrazing of the riverbanks. Damage resulting from this was all too obvious; sections of bank were devoid of vegetation with extensive areas of exposed sand apparent. Casual observation of the riverbed revealed huge tracts dominated by fine sand with little submerged vegetation or gravel remaining visible. It is imperative that protection is given to both banks from agricultural stock, along the length of the fishery. **WITHOUT THIS HAPPENING THERE IS LITTLE PROSPECT OF LONG TERM IMPROVEMENT TO THE INSTREAM AND RIPARIAN HABITAT OF THE RIVER OR TO THE FISH STOCKS THAT IT HOLDS.** The sediment will also be affecting a range of macroinvertebrate and macrophyte species, and will prejudice attempts by the EA and others to meet biodiversity targets for the river.

- Protection from grazing stock can be achieved in a number of ways. Standard 3 barbed wire strand and post fencing can be erected to prevent stock accessing the banks. Cost of this option would be in the region of £4/linear metre. Alternatively, temporary electric fencing could be erected during the periods when grazing animals will occupy the field. Whatever system is adopted, it is important that an adequate width of grass is fenced off. Ideally, this would be at least 5m from the top of the riverbank. This width would allow for the partial control of sediment in any run-off from the land, and would also allow for a degree of erosion to take place whilst the damaged vegetation is re-establishing. If insufficient buffer width is left between the riverbank and fence, there is a real risk that erosion will reach the fence before protective vegetation has re-established. Compensation payments could be made to the farmer for any loss of grazing occasioned by the new fence. It will also be necessary to include suitably designed stock watering areas within each field. There are a number of illustrations pre and post erection of riparian fencing shown in the Wild Trout Survival provided with this visit.

Alternative mechanisms for the protection of the banks centre on changes to the present management. These include managing the fields for hay or silage, with aftermath grazing by sheep using electric fencing to prevent access to the water. A final alternative would be for the club to rent or buy the grazing, allowing it to control the grazing pressure and hence erosion of the banks. This system would only work if the fields in question were surplus to requirements for the present farming regime. Present grazing rents would be expected to be in the region of £100/ha, with agricultural land values of around £10,000/ha.

- Short sections at the downstream end of the fishery were over shaded by alder trees. Limited rotational coppicing of these trees on a 15-20 year cycle would reduce this shading, potentially increasing the amount of instream and marginal vegetation growth. Coppicing of some of the trees elsewhere in the fishery may stimulate regrowth from the *Phytophthora* infected stools (there is anecdotal evidence that this can help to prolong the life of individual trees). In addition, it will provide valuable timber that could be used in Phase II of the enhancements (see below).

- The regular use of the mill sluices to allegedly flush away accumulated debris may potentially be an illegal operation. Under the terms of the Control of Pollution

Act 1974, it is an offence, except with the consent of the Environment Agency, to cause a deposit accumulated by a dam, weir or sluice to be carried away in the water of a stream when cleansing a channel. It is recommended that the Environment Agency should be asked in writing for their opinion on the present operating regime and whether it breaches any statute.

- The presence of Himalayan Balsam is undesirable. It is classified as an alien invasive weed species. There is no policy for its control on a catchment basis, with no authority having a remit to undertake this work. Despite this, it may be possible for the club to undertake limited control of the large stands of balsam present in some areas of the fishery. Chemical control with the herbicide glyphosate when the plant is actively growing in early spring should be effective. Alternatively, the plants can be cut at ground level before the flowering stage (June) or they can be pulled up by the roots and disposed of by composting or burning unless seeds are present. It should be recognised that fencing of the riverbank could potentially increase the extent and abundance of balsam, with a consequent requirement for increased control.

- If it proves possible to reduce grazing pressure on the riverbanks, either by fencing or other mechanisms, then it would be possible to improve instream habitat by the introduction of Large Woody Debris deflectors, in the form of tree trunks/large limbs arising from coppicing of the alder trees. **NO WORK OF THIS NATURE SHOULD BE CONTEMPLATED UNLESS THE OVER-GRAZING ISSUE IS RESOLVED AS THE UNVEGETATED BANKS WOULD BE VERY PRONE TO EXCESSIVE EROSION.** Trunks should be placed on the inside of bends facing upstream with their end securely keyed into the bank to prevent erosion at this vulnerable location. Wooden stakes and wire should be used to hold the LWD in the channel. Alternatively, smaller, upstream paired 'v' groynes could be used to promote scouring of mid-channel pools.



Upstream facing ‘v’ groyne in a small river

- Detailed provisions for each pool/stretch of river have been prepared in a report by Geoff Samuelsson-Brown (FAS). If protection for the banks can be secured, then it would be possible to consider the implementation of some of these recommended management options.
- There is presently a ‘bottleneck’ in the trout’s lifecycle during the spawning stage as a result of the presence of the fine sand in the river. It is possible to ‘bypass’

this bottleneck in the short term by the use of deep-substrate incubation boxes in order to produce semi-natural fish. Basically, these are gravel filled boxes, approximately 0.6m in each dimension, which are filled with suitably sized gravel and seeded with 10,000 - 20,000 trout eggs. A feed of water enters at the bottom of the box allowing the eggs to incubate and hatch. Once they reach the swim-up fry stage, they leave the box via the overspill pipes, stocking themselves into the river. In effect, they are naturally reared fish without the unhelpful behavioural modifications associated with hatcheries. Such a system could be established using the existing mill impoundment at the upper end of the fishery, provided that the co-operation of the upstream riparian owner could be gained. More details on incubation boxes can be found on the Wild Trout Trust web site www.wildtrout.org or in Volume 2 of the Trust's magazine, *Salmo trutta*.

- 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 or Edward Twiddy at the Trust at office@wildtrout.org for further details. Once some initial funding has been obtained, then other potential sources including the Environment Agency, can be approached with a view to them providing 'matched' funding. It may also be worth approaching 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/>. It is estimated that approximately £10,000 would be needed to fence the reach adequately including the provision of cattle drinking areas and access gates.
- Note that the installation of faggots, LWD, timber groynes or any other work to the bed or banks of the river or within 8m of it, the introduction of fish or their eggs and the use of approved herbicides near to and in watercourses, all require the written consent of the EA under various statutory acts.
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