



**HABITAT ADVISORY VISIT TO SWEATFORDS
WATER, ROCKBOURNE FISHERY,
HAMPSHIRE.**

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ROCKBOURNE TROUT FISHERY**

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1.0 Introduction

This report is the output of a site visit undertaken by Vaughan Lewis, Windrush AEC Ltd to the Sweatfords Water, Rockbourne Trout Fishery, Hampshire on 26th March 2008 on behalf of Rockbourne Trout Fishery. This visit was sponsored by the Environment Agency as part of the Cinderella Chalkstreams Project.

Comments in the report are based on observations on the day of the site visit, and discussion with the owner Jill Wraight, and Allan Frake (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 Habitat Assessment

The Sweatfords Water is a small, chalkstream winterbourne tributary of the Hampshire Avon, one of the finest examples of rivers in Britain. As such, the River Avon has been designated not only as a Site of Special Scientific Interest (SSSI) but also as a Special Area of Conservation (SAC) under EU Habitats Directive. This latter designation recognises its conservation importance in a European wide context.

Chalk streams are an important habitat in a national and international context. They are a key habitat in the UK Biodiversity Action Plan¹ (BAP). Their inclusion in the Hampshire BAP is an acknowledgement of this importance and recognition of the fact that the county contains a number of major chalkstream rivers.

In England, chalk streams are found in hills (downs) and plains within a crescent extending from Dorset, through Kent and Hertfordshire to Norfolk and North Humberside. This collection of watercourses is reported to constitute the most important resource of its type in Europe (UK Biodiversity Steering Group 1995).

This reach of the river was immediately downstream of the village of Rockbourne, which was the subject of an advisory visit in 2007. Total length of the river within the boundaries of Rockbourne Trout fishery was approximately 1.5km.

The flow in the Sweatfords Water was relatively high on the day of the advisory visit following a year of generally high precipitation. Water clarity was good, with the bed visible throughout the fishery.



Downstream reach of the fishery, showing managed RB and heavily shaded LB

The downstream reach of the fishery lay alongside Long Acre lake. Instream habitat was generally excellent, with gravel-dominated substrate and stands of mixed submerged vegetation including water parsnip, water crowfoot, starwort and water forget me not. The gravel was poorly sorted by size with significant volumes of fine sediment trapped within its interstices. There was a significant accumulation of silt in the margins, with colonisation of these areas by emergent vegetation limited by tree shading.

The RB of the fishery was regularly maintained by cutting, leaving a narrow fringe of marginal vegetation. This had been cut to reduce its height. The marginal vegetation growth was dense on the LB and was dominated by reed canary grass and sedge. There were also some stands of hemlock water dropout.

The LB was dominated by deciduous woodland, with alder, ash, hazel and hawthorn common. Some recent trimming of these trees had taken place, resulting in a reduction in local shading. Brushwood and timber arising from this work had been used to install faggot and wood narrowing at selected locations. Sediment and associated emergent vegetation had begun to accumulate at these locations.

Apart from the introduced timber, there was little Large Woody Debris (LWD) present in the channel, presumably due to its regular removal in the past.

A small weir had been constructed within the channel in order to permit a feed of water into Long Acre lake. The head loss across the weir was approximately 300mm., and posed no impediment to migrating brown trout.

Cover in the channel was provided by deeper pools, undercut banks and the presence of extensive root systems particularly on the LB.

A large weir had been erected in order to ensure a flow of water into a series of small stew ponds. This had a head loss of approximately 0.6m, and had a significant impact on the instream habitat in the upstream reach. The channel width increased to some 5m-6m, and the gradient was reduced, resulting in heavy deposits of fine sediment over the whole width of the channel. The underlying gravel was covered over much of the channel, and appeared too be of a generally smaller size than that found downstream.

Shading of the channel was far more significant in this upstream reach, as the river ran through an area of wet woodland and fen.



Larger impounding weir and wider, silt laden reach upstream

The banks of the river in this upper wooded area were very soft, and dominated by peaty soil. Wood anemones and bluebells were present, suggesting that the woodland was of a significant age. Marsh marigolds were in flower.

Water quality in the river appeared to be good. Many of the stones were stained red by the presence of the algae *Hildenbrandia*, whilst simple stone turning revealed a range of pollution sensitive invertebrate species, including large numbers of cased caddis. There is understood to be a good mayfly hatch in the river.

3.0 Fish stocks

The river has not been stocked in the recent past. Brown trout recruitment at the fishery appears excellent, with good numbers of fish observed on the day of the site visit. A small number of large ex-fish farm were visible in the deeper water areas.

In addition to brown trout, bullhead *Cottus gobio* were present in the bourne. This species is cited in Annex II of the EU Habitats Directive, in recognition of its conservation importance in a European context.

4.0 Recommendations

- There is a desire by the EA to designate the upstream reaches of major salmonid rivers as 'Wild Fisheries Protection Zone' under its National Trout and Grayling Fisheries Strategy. Given the potentially valuable conservation status of the Sweatfords Water and the relatively limited migration of any stocked fish into the site, this seems a logical step to take for the reach. In return, the parish council might expect the Agency support for the management of the reach. This support might be expressed by the Agency both in financial and practical assistance. I would recommend contacting Dr. Allan Frake at the Agency's Blandford Office (Tel: 08708 506506) to discuss the management of the Sweatfords Water.

- The present bank cutting regime should be modified. A wider margin of vegetation should be allowed to grow alongside the river, providing cover both for fish in the channel and for anglers fishing the river. It is not good practice to cut the banks and margins prior to the winter period, as this reduces valuable overwintering cover, in particular for invertebrates.

- Rotational coppicing of the riparian trees on the LB will reduce shading of the channel, increasing the growth of fringing marginal cover. Care should be taken to coppice no more than 30% of the trees in single season. A second cut can be made after 5-10 years, depending on the speed of re-growth. This will ensure retention of a mixed aged stand of trees, with benefits to both aquatic and terrestrial ecology.

Winter cover in the river was relatively limited, rendering brown trout vulnerable to predation by heron *Ardea cinerea* and other piscivorous birds. In order to increase its provision, help sort the substrate and increase the diversity of the bed profile, it is recommended that a significantly increased amount of Large Woody Debris (LWD) should be retained within the stream. Tree trunks and large limbs arising from the coppicing could be pegged/wired into the channel, creating useful groynes. Careful positioned, the LWD will scour sections of gravel riffle, removing much of the entrained fine sediment, improving spawning habitat for brown trout.

- Finer brash could be tied into faggot bundles (approximately 1.5m x 0.5m) and fixed parallel to the bank. This would be of particular benefit in overwide sections of the river where they will encourage consolidation of the banks, as well as providing habitat for a range of species, particularly water voles. In general, narrowing should be concentrated on the inside of bends, where sediment would naturally accumulate. Flow will be fastest on the outside of bends, where limited, controlled erosion will create deeper pools and runs, ideal as refuge areas for adult trout.

Narrowing could also be undertaken by the construction of small mid-channel islands constructed from faggot bundles. These have proved very successful on other small

chalkstreams, helping to braid the channel and create a new type of habitat for a range of invertebrate species.



Small faggot islands constructed on the River Glaven in Norfolk

- The need for coppicing and the installation of faggot bundles was greatest in the upper wooded reach of the river, where erosion of the very friable banks generated large volumes of fine sediment. Faggot bundles and associated marginal vegetation can trap and stabilise large volumes of such sediment in the margins and in mid-channel islands.
- In order to improve spawning success and subsequent hatch rate, cleaning of the gravel during mid September to mid October would be of great benefit. This can be done in a variety of ways. A tractor mounted cultivator, high-pressure water jet and hand digging are all acceptable ways of cleaning sediment from the gravel prior to the trout spawning season (mid October - January). All areas of gravel should not be cleaned in one season, as this could prove disruptive to macroinvertebrate populations. Work should progress downstream so that disturbed silt does not settle on previously cleaned sections. Disturbed silt should not be allowed to adversely affect downstream neighbour's interests. It would be prudent to contact the Environment Agency to alert them to the fact that gravel cleaning is taking place.
- It would be of benefit to the river to try and link the enhancements proposed in this report, with those recommended to Rockbourne Parish Council for implementation on the reach running through the village. Linkage of enhancements increases their ecological benefits, and provides a corridor of good quality habitat for a range of species.

- 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 Tim Jacklin at the Trust at projects@wildtrout.org further details. Other potential funding sources include the Environment Agency (contact Allan Frake).
- In addition to the possibility of the ‘Practical Visit’ the WTT hold regular demonstration days throughout the country. Rockbourne fishery would be an ideal location for such a day. Combined with the cookery demonstration and opportunities to try out new fishing rods (Orvis are one of the Trust’s key sponsors and can often arrange demonstrations for such days) an excellent, mutually beneficial event could be arranged. If Rockbourne fishery is interested in pursuing this idea, then please contact the Trust’s newly appointed conservation officer, Andy Thomas woodtomo@aol.com
- Note that all works to bed or banks of the river or within 8m of its banks may require the written consent from the Environment Agency under the Land Drainage legislation.

5.0 Disclaimer

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