



**HABITAT ADVISORY VISIT,
RIVER LAMBOURN, BERKSHIRE,
UNDERTAKEN BY VAUGHAN LEWIS,
WINDRUSH AEC ON BEHALF OF
LAMBOURN FLYFISHERS.**

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1.0 Introduction

This report is the output of a site visit undertaken by Vaughan Lewis, Windrush AEC to the River Lambourn, Berkshire on May 7 2002. The visit was sponsored by English Nature, as part of its commitment to support the biodiversity of chalk rivers through the offices of the Wild Trout Trust.

Comments in the report are based on observations on the day of the site visit, discussion with Keith Johnson (Hon.Secretary) and Nigel Ling, and information provided by the Environment Agency, Thames Region. Throughout the report, normal convention is followed with respect to bank identification i.e. banks are designated Left Hand Bank (LHB) or Right Hand Bank (RHB) whilst looking downstream.

2.0 Background

The River Lambourn is a chalk fed tributary of the River Kennet, rising in the Lambourn Downs above the village of Lambourn (SU322798). Its perennial head is located in the vicinity of Great Shefford (SU 380752).

The river is designated by English Nature (EN) both as a Site of Special Scientific Interest (SSSI) and a candidate Special Area of Conservation (cSAC) under the EU Habitats Directive. These designations are in recognition of the ecological value of the river both in a national and European context. They also impose significant controls and restrictions on the management of the river.

The fish stock of the river is dominated by brown trout and grayling. Other species present include bullhead, brook lamprey, stone loach and minnow.

The reach covered by this advisory visit is controlled by Lambourn Flyfishers and runs from SP389744 through Elton Farm to the footbridge at SU401738, a distance of approximately 1km. The club has 40 members, who can fish the river and a small adjacent lake at any time. A limit of 1 brace of fish can be killed on any day, although the members practise catch and release almost exclusively.

3.0 Habitat Assessment

The discharge pipe for the West Berkshire Groundwater Scheme was located at the upper end of the fishery. This was designed to augment flows during drought conditions, but has never been operated for this purpose.

Habitat below the outfall was generally of good quality, although there was evidence of overgrazing by the large number of sheep on the RHB. This had restricted marginal vegetation growth in places, leading to some localised overwidening.

A small stream fed tributary stream entered the river on the RHB. Numbers of trout fry have been seen in this stream in previous years, but flows on the day of the site visit were too low to allow fry to occupy the stream.

Further downstream, there was a more robust growth of marginal vegetation,

including water mint *Mentha aquatica*, brook lime *Veronica beccabunga*, water speedwell *Veronica anagallis-aquatica* and water cress *Rorippa nasturtium-aquaticum*. The marginal fringe was recovering after previously very heavy poaching by cattle. The presence of a large amount of the non-native and invasive water fern *Azolla filiculoides* was noted in the river margins throughout the length of the club's fishery.

There was a good variation in channel form with excellent sections of un-imbedded gravel suitable for both spawning and juvenile trout. Brown trout have been noted spawning as late as January, with numbers of fry observed indicating successful recruitment. Adult trout habitat was under-represented in the reach, with a relative lack of deeper water areas. Growth of water crowfoot *Ranunculus spp.* starwort *Callitriche spp.* and water parsnip *Berula erecta* was reasonable for the time of year. A small groyne had been created by the installation of corrugated iron sheets.

The river immediately upstream of the main road access bridge was significantly overwide, with a relative lack of in-channel cover and poor sorting of bed material. Recent pollarding of riparian trees has taken place on the RHB. There was no grazing pressure on this section of the river

Downstream of the road bridge, the river was significantly oversized due to the impact of past overgrazing by cattle and historic dredging work undertaken by the National Rivers Authority (NRA). Recently erected fencing had stopped the damaging poaching, but an over deep section remained as a result of the dredging. The marginal vegetation growth had increased, with an associated consolidation of soft banks and narrowing of the channel. Despite these changes, a large and valuable riffle area existed below the bridge, providing potentially excellent habitat for spawning and juvenile trout

Further down this section, the river was influenced by the backwater effect of an impoundment associated with an Environment Agency (EA) gauging weir. This has reduced flow velocity upstream of the weir, with an associated deposition of fine silt on the bed and a reduction in submerged weed growth. This section of river provided little juvenile trout habitat but was excellent holding water for adult fish.

A small lake existed adjacent to the Lambourn on the RHB. Large numbers of waterfowl were associated with the lake.

Downstream of the gauging weir, the river was heavily shaded by RHB tree growth

4.0 Recommendations

As a result of the site visit, a number of recommendations are made for the future management of the fishery:

- If opportunities exist, the club should lobby farm tenants to enter riverside fields into an agri-environment scheme such as Countryside Stewardship in order to reduce poaching of the banks by stock. Agri-environment schemes provide farmers with payments to manage land for general environmental benefit. The recent Foot and Mouth disease outbreak will result in a significant change in both

farming practice and the availability of agri-environment grants. The designation of the Lambourn as a cSAC may mean that English Nature could assist in the management of the riparian meadows under their Wildlife Enhancement Scheme (WES). Contact Graham Steven at English Nature (01635 268881) for further information.

- The water fern infestation of the river is a potentially very serious issue. The shade effect of the fern will reduce the abundance and diversity of marginal plants. This will directly reduce the conservation value of the river, and more importantly from the club's point of view, cause an overwidening of the stream, loss of flow velocity and a probable knock on reduction in the abundance of *Ranunculus*. EN and the EA are aware of this issue and are currently considering how best to deal with it. It is important for the club to maintain contact with these Agencies with respect to this issue.
- The coppicing/pollarding undertaken has opened up the channel, and reduced excessive shading. This is a positive long-term enhancement and should be continued in the other short sections where heavy shading occurs. I would suggest that a rotational cutting regime should be established. Detailed advice should be sought from EN regarding this issue.
- The arisings from the tree trimming should be used to create faggots, roughly 2m long with a diameter of approximately 300mm. Once manufactured, the faggots can be used to reform a new edge to the river in the sections identified as overwide. The channel should be narrowed locally by 2-4m (use the line of deposited silt as a guide to the exact width of the new channel) using the faggots. They should be pinned in place using wooden stakes and backfilled with secured brushings or locally derived sub-soil/granular fill. The top of the faggots should be set at approximately 100-150mm above mean summer water level. The faggot bundles could be used in places to create mid-channel islands, effectively narrowing the river and creating an interesting and under-represented habitat type. Small willow "snow shoes" could also be manufactured and pinned to shallow sections of riverbed in a chequer board fashion in order to trap water crowfoot, thus establishing new submerged weed beds. Details of faggot techniques can be found in the Wild Trout Trust guide provided to the club.
- The corrugated iron groyne should be removed from the river. It is unsightly and is serving no real purpose.
- A regime of cleaning spawning gravels each September should be established. This can be achieved by either manual raking, or by the use of high-pressure water jets. Care must be taken to clean riffles rotationally, with only short sections being treated annually. It is important that the EA are contacted prior to any cleaning of gravel, due to the possible discoloration of water in the river resulting from the operation. The same concerns dictate that downstream neighbours should also be forewarned of the operation.
- The large number of waterfowl present is having a detrimental effect on the river. If the landowner permits, their numbers should be reduced and maintained at a lower level than presently.

- The club presently stocks the river with between 50 and 250 brown trout. These vary in size between fingerlings and 11-12” fish. In the immediate future, I would be inclined to dispense with the stocking of the smaller trout. Research and practical experience has shown that the overwintering survival of all stocked trout is poor (<5% typically). As a consequence, the benefit of the small fish to recreational angling is likely to be low. Stocking with sizeable (11”-12”) fish will maximise the overall recreational return.
- In the longer term, the changes to stocking policy proposed under the EA’s draft brown trout and grayling strategy may preclude stocking of brown trout in key rivers such as the Lambourn. Given this possibility, it may be worth considering alternative mechanisms of stock augmentation.
- A wealth of research has highlighted the poor over-wintering success of hatchery reared trout. It seems likely that this may be largely a result of behavioural modification that takes place in the hatchery and renders the stock fish less able to cope energetically with the rigours of river life. One rearing system that aims to minimise these behavioural changes is the deep substrate incubation box. Basically, these are gravel filled boxes, approximately 0.6m in each dimension, that are filled with suitably sized gravel and seeded with 10,000 - 20,000 trout eggs. A water feed at the bottom of the box allows 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 overspill from the riverside pond. Fish could be allowed to naturally restock the main river or could be trapped on emergence from the box and restocked at strategic locations, including the small upriver tributary. More details can be found on the Wild Trout Trust web site www.wildtrout.org or in Volume 2 of the Trust’s magazine, *Salmo trutta*.

5.0 General

All works to the River Lambourn will require the consent of the Environment Agency under current Land Drainage legislation. In addition, due the river’s designation as a SSSI and cSAC, consent from English Nature will be required for any work to the river or its immediate environs. Consent is also required from the EA for the introduction of any fish or fry to the river or adjacent pond.

Water voles may be present along this reach of the Lambourn. Under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act, 2001, it is an offence to recklessly or intentionally damage or destroy or obstruct access to any structure or place which water voles use for shelter or protection or to disturb water voles while they are using such a place. Prior to the commencement of any work, a survey for the presence of water voles should be undertaken by a suitably experienced field ecologist. Advice should be then be sought from English Nature regarding suitable mitigation methods for the protection of water voles at any sites at which water voles are active. In order to protect bird populations at the site and to comply with the prescriptions of the Wildlife and Countryside Act 1981, any proposed works should be undertaken in the period late August - early March inclusive (i.e. outside the bird nesting season).