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Habitat Advisory visit to the River Avon at Great Somerford, Wilts. Sponsored by Orvis and undertaken on behalf of Sid Jeavons (owner) and Somerford Fishing Association by Vaughan Lewis, Windrush AEC Ltd

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1.0 Introduction

This report forms the output of a site visit to the River Avon at Great Somerford, Wilts, on 29th June 2005. The visit was sponsored by Orvis as part of their continued support for the preservation and restoration of wild trout fisheries in the UK. Information in the report is based on observations on the day of the visit and additional comments provided by Sid Jeavons, the owner of the fishery. Throughout the report, normal convention is followed, with right bank (RB) and left bank (LB) of the river identified when looking downstream.

2.0 Fishery Description

Sid Jeavon's section of the River Avon at Great Somerford, Wilts was some 1 km in length. It was leased to Somerford Angling Association, a club that had been in existence for more than 175 years, with a membership approaching 230. The river supported a mixed fishery, with a robust population of coarse fish including chub *Leuciscus cephalus* and barbel *Barbus barbus*, with the latter species strongly associated with patches of yellow water lily *Nuphar lutea.*

Typical barbel habitat

Brown trout *Salmo trutta* recruitment in this section of the river was believed to be relatively poor, probably due to the limited availability of suitable spawning and juvenile habitat (see below).

The river had an average width of some 10m. Depth varied between 0.2m and >3m. The channel planform was gently meandering, with the river significantly incised following historic dredging. This had resulted in a loss of both in-channel diversity and much of the hard substrate. As a consequence, there was a paucity of shallow, gravel dominated sections suitable for the spawning of brown trout. Indeed, only a

single short section of such habitat was present in the reach, immediately downstream of a small weir structure. Head loss over the weir was some 300mm-350mm.

Constructed weir……

……and associated downstream gravel shallow

The dredged gravel had been deposited on the banks of the river, forming a raised bund on, predominantly, the LB. Observation on the day of the site visit indicated that there was a considerable percentage of gravel in this raised bund. Land use on both banks of the river was dominated by permanent pasture.

Much of the river was over-wide and over-deep for the contemporaneous flow. As a consequence, there was a significant growth of emergent vegetation including reed sweet grass *Glyceria maxima* and unbranched bur-reed *Sparganium emersum.* Submerged vegetation present included milfoil *Myriophyllum* Spp., and beds of yellow water lily.

There were good numbers of trees present along the marginal zone, with mixed willow species *Salix* Spp., ash *Fraxinus excelsior*, hawthorn *Crateagus monogyna* and elder *Sambucus nigra* dominant. These shaded sections of the channel, restricting the growth of emergent vegetation in these areas.

The river was noticeably coloured on the day of the site visit. This was apparently a consequence of the mobilisation of algae from a lake connected to the river upstream of Great Somerford.

3.0 Fish stocking

This reach of the River Avon receives a stocking of some 600-800 hatchery reared brown trout annually. Fish are introduced in 3 batches, equally spaced throughout the trout fishing season. All fish introduced are grown on from fingerlings by the club in a separate local facility.

4.0 Recommendations

- Whilst the constructed weir has created the only section of flow dependent, gravel dominated habitat within the reach, it has also caused deposition of fine sediment in the upstream reach. One possible option to maintain the valuable gravel shallows whilst reducing the impounding effect of the weir would be take the weir down and replace it with a series of constructed gravel riffles. The gravel for the construction of the riffles could be imported from a local mineral excavation site, or preferably, by screening of the previously deposited dredgings on the LB of the river. Small trial pits should be dug into the raised gravel berm on the LB to ascertain the percentage of gravel present. If adequate amounts of gravel are found, then it would be worth screening the gravel on site and using it in the riffle construction. The advantages of this approach include reduced cost, fewer lorry movements and the net neutral impact on flood plain storage. In addition, carefully planned excavation could result in the creation of a wide marginal berm at or just above summer water level, with associated benefits to a range of wildlife

- This approach could be further extended if one or more ponds/wetland features were to be excavated in the LB field. Gravel could potentially be won from such a project, cleaned on site and introduced into the river channel in order to create additional riffles along the reach. Benefits from such an approach would be manifold, with both floodplain and riverine ecology enhanced.

Both of these recommendations are probably beyond the scope of an individual owner/angling club and would need to be promulgated in partnership with the Environment Agency. There are a series of statutory requirements before construction could commence, including an assessment of potential impacts on flooding. In addition, the schemes would not be cheap, with costs almost certainly in excess of £50,000. It is thus recommended that the Agency be contacted at an early stage with a view to development of one or both of these options for implementation in autumn 2006.

Possible site for wetland/pond construction

- If successful, the construction of additional riffles should improve recruitment of wild trout, with an associated reduction in reliance on introduction of hatchery reared fish. This approach is in line with the aspirations of the EA's Trout and Grayling Strategy. They would also act as spawning/nursery areas for barbel, chub and other rheophilic coarse fish species

- 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.

5.0 Disclaimer

This report is produced for guidance only and should not be used as a substitute for full professional advice. Accordingly, no liability or responsibility for any loss or damage can be accepted by Windrush AEC Ltd as a result of any person, company or

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