



Advisory Visit to the Upp Hall Fishery,  
River Rib,  
Undertaken on behalf of the Wild Trout  
Trust, by Vaughan Lewis, Windrush  
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## **1.0 Introduction**

This report forms the output of a site visit undertaken to the Upp Hall fishery, on the River Rib near Puckeridge, Herts. on 15 September 2004.

Information for the report was gathered during the site visit. Additional information was provided by syndicate member Pat Roberts. Throughout the report, normal convention is followed, with banks identified as RB (right bank) and LB (left bank) when facing downstream.

## **2.0 Description of fishery**

The River Rib is a small, Hertfordshire chalk river. Rising north of Buntingford it flows in a southerly direction before joining the Rive Lee at Hertford.

The Upp Hall fishery runs in a southerly direction from Ford Bridge downstream to the outskirts of Puckeridge. The fishery is controlled by a small syndicate, of between 10-15 members.

The river reach upstream of the bridge in the centre of the fishery was subject to an Environment Agency enhancement some 8 years ago. This involved the removal of a set of large, impounding sluices, with an associated reduction in upstream water level of over 1.5m. The channel was then narrowed using faggot bundles and lined with imported gravel.



**Free flowing section of the Rib upstream of central bridge**

The restored channel had a wetted width of between 2m and 4m and a relatively steep gradient. It had become significantly more free-flowing as a consequence of the sluice removal, with lengths of exposed gravel and submerged vegetation including water forget-me-not *Myosotis scorpioides*, water parsnip *Berula erecta* and water crowfoot *Ranunculus spp.* present. The marginal fringe had good growths of fool's cress *Apium nodiflorum*, branched bur-reed *Sparganium erectum*, reed canary grass *Phalaris arundinacea*, and Himalayan Balsam *Impatiens glandulifera*.

Despite the restoration scheme, the bed of the river remained relatively unsorted, with little variation in bed profile, and limited availability of adult brown trout habitat.

Downstream of the central bridge, the channel was well fringed with marginal vegetation, with a strong growth of water crowfoot in places. Much of this was covered with a mixture of epiphytic algae and silt, causing localised die back of the crowfoot.



### **Typical section of channel downstream of the central bridge**

The RB was heavily fringed with deciduous trees and shrubs, providing cover for adult fish. Some of the alder *Alnus glutinosa* trees had clear evidence of *Phytophthora* infection, with die back of the crown evident in some individual trees.

At some locations the growth of riparian trees was dense enough to cause shading of the banks, reducing growth of instream and marginal vegetation.

Small stands of giant hogweed *Heracleum mantegazzianum* were present.



The presence of a raised bank profile on the LB was clear evidence of past dredging of the channel. As a result of the dredging, the channel was significantly incised with reduced hydrological connectivity with the flood plain.

The downstream reach had adequate lengths of deeper holding water for adult fish, and cover for juvenile trout. However, there was limited availability of suitably sized, clean gravel for spawning trout.

A small, heavily silted pond was present in the LB field towards the lower end of the fishery. This was connected to the river via short inflow and outflow channels and was originally excavated as a recreational rainbow trout fishery.



### **Floodplain pond connected to river**

However, a dense growth of both filamentous algae and broad-leaved pondweed *Potamogeton natans* over most of the pond's area, a heavy accumulation of silt and cormorant predation had resulted in the closure of the fishery.

### **3.0 Fish Stocks**

Good numbers of wild brown trout were seen during the site visit, particularly in the reach upstream of the middle bridge. In addition to this wild recruiting stock of fish, the syndicate introduces some 50 fish >30cm in length annually.

The Up Hall fishery contains significant numbers of the non-native Signal crayfish *Pacifastacus leniusculus*, with their burrows evident in places throughout the reach.

## 4.0 Recommendations

- Upstream of the central bridge, the river was in generally excellent physical condition. There were however a few sections that were overshadowed. These would benefit from a programme of rotational coppicing to increase light penetration.
- The bed of the river was poorly sorted in this upstream reach, with limited variation in bed profile restricting the availability of adult habitat and the quality of the spawning gravel present. In order to address this, it is recommended that a significant amount of Large Woody Debris is introduced in the form of tree trunks and larger limbs arising from the coppicing work suggested above. Trunks should be pinned into the channel facing upstream at an angle of around 30° in order to create scour and sort the substrate without significantly increasing the risk of bank erosion.
- Downstream of the central bridge, an opportunity exists to cut and screen the raised spoil ridge on the LB. This would create a significant volume of gravel that could be re-introduced to the river, as well as increasing the hydrological linkage between the river and its floodplain. However, this is a significant undertaking that should not be considered without further detailed advice, probably from the Environment Agency.
- Where the channel was wider, existing stands of mid-river emergent vegetation could be stabilised using faggot bundles and wooden stakes in order to create small, semi-stable island features. Small amounts of imported gravel (diameter 20-40mm) could be introduced in the runs between these islands, creating sections of valuable trout spawning and juvenile habitat.
- The quality of this and other gravel in the fishery could be improved by establishing a regime of cleaning spawning areas each September. 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 presence of Himalayan Balsam and Giant Hogweed is undesirable. Both are classified as alien invasive weed species. In the case of Giant Hogweed, its undesirable status is reinforced by the fact that the sap from the plant can cause severe skin burns in the presence of sunlight. These blisters may persist for up to 6 years. Great care must thus be taken to avoid contact with the plant, particularly during any planned control.

Current Environment Agency guidelines for the control of Giant Hogweed<sup>1</sup> suggest that chemical control using glyphosate is the most effective treatment for the species. Spraying should be undertaken in early spring and may need to be continued throughout the summer.

With respect to Himalayan Balsam, chemical control with 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.

However, it should be noted that both species can re-colonise a site by transport of seeds or plant material from upstream colonies. It is thus better if control is attempted on a catchment basis, working from the upstream limit of the river system.

Note that the use of glyphosate or any other herbicide on or near water requires the consent in writing of the Environment Agency.

- It had been suggested that the outlet and inlet streams to the pond could provide sections of valuable spawning habitat if suitably modified. This course of action is not endorsed. In order to create sufficient flow along the channels, a significant volume of water would need to be abstracted from the river into the pond, thus depriving valuable flow from some 200m of the river. In addition, the increased throughput of water would increase the rate of siltation of both the inlet/outlet channels and the pond, leading to considerable management difficulties over time.
- As with the upstream reach, there were sections of the channel where overshadowing was restricting the growth of vegetation. Rotational coppicing would be beneficial at these locations.
- Careful cutting of the submerged weed could be used to train flow in order to scour gravel. The timing of the cutting of water crowfoot is critical, with cutting during spring and early summer encouraging more growth. In contrast, cutting after flowering and natural senescence has a tendency to reduce vegetative growth in the succeeding year.
- The emergent vegetation can also be managed in order to maintain sections of open, free flowing channel throughout the fishery. Manual cutting using a scythe is an effective method of control. In addition, the use of glyphosate can be considered (see above).
- The number of hatchery reared fish introduced each season is very small. Given the known impacts of stock fish on wild brown trout, it is recommended that no stocking is undertaken for a single season. Angler catches should be monitored for the succeeding season and compared with past seasons. It may be that this comparison indicates that stocking is not normally required in order to provide acceptable catches.
- The presence of signal crayfish in the fishery is undesirable. They damage banks by burrowing, whilst also significantly impacting on populations of invertebrates and weed. Their numbers can be controlled by the regular use of cage traps. The crayfish are a potentially valuable food resource, that may be sold to defray the cost of the traps and effort expended in trapping. Note that a written consent is required from the Environment Agency for crayfish trapping.
- It should be noted that no work should be undertaken to the bed of the channel or its banks within 8m of the channel without the consent of the Environment Agency under the Land Drainage legislation. As the instream work recommended in this

report is simple and of a generic nature, it is recommended that discussions are opened with the Environment Agency regarding the provision of a broad Land Drainage consent. This might, for instance, state that consent is granted for a total of say, 30 tree groynes between locations X and Y, rather than a specific and more detailed consent requiring the location of each groyne to be accurately shown on large scale maps.

## **5.0 References**

1. Guidance for the control of invasive weeds in or near fresh water **Environment Agency, 2003**