



## **Habitat Advisory Visit**

**The River Wylde, Fisherton de la Mere, Wiltshire**

**On behalf of Mr Rod Sheard**

**7<sup>th</sup> September 2006**



## 1.0 Introduction

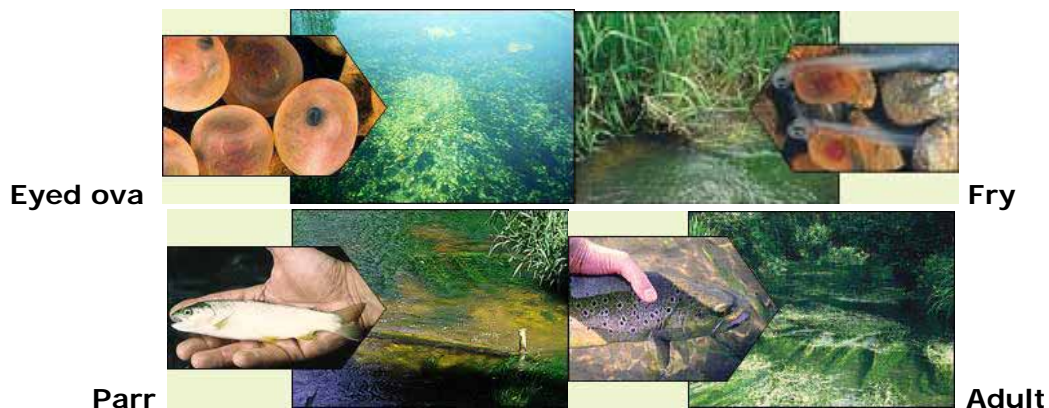
This report is the output of a site visit undertaken by the Wild Trout Trust on the River Wylde, Fisherton de la Mere Norfolk the 7<sup>th</sup> September 2006.

Comments in this report are based on observations on the day of the site visit and discussions with Mr Rod Sheard and Mr Jason Lovering of Five Rivers Environmental Contracting.

Normal convention is applied throughout the report with respect to bank identification, i.e., the banks are designated left hand bank (LHB) or right hand bank (RHB) whilst looking downstream.

## 2.0 Fishery Overview

The River Wylde can be best described as typical example of heavily modified lowland chalk river. Over many decades the river has been subjected to over-zealous flood defence works. Typically this has resulted in a channel that has been straightened, over-widened, and over deepened. In areas where the river has been canalised this has resulted in wide-spread deposition of sands and silts over the original gravel bed (where it remains in tact). In simple terms the river is currently failing to provide the mosaic of habitat types wild trout need to fulfil their 'life-cycle requirements' (Fig 1)



**Fig 1) The wild trout's 'life-cycle' habitat requirements**

Despite these impacts there are remnants of a population of wild trout. During the Wylde visit a handful of trout were spotted in the 2lbs range. These fish indicate there is some, albeit limited spawning activity in the reach.

The problems listed above are not unique to the Wylde and are common to many rivers in Southern England.

Mr Sheard has recently acquired the fishing rights and surrounding land and is very keen to restore the fortunes of this section of famous chalk stream. His aim is to restore the biodiversity and wild trout populations of the river. Recent works to protect banks from accelerated erosion are a first a necessary step in conserving this reach of the river.

Many of the recommendation in this report are detailed in the WTT's new ***Wild Trout Survival Guide*** (WTSG), a copy of which is presented with this report. Relevant sections of the WTSG will be highlighted as footnotes.

### 3.0 – Site Visit and Recommendations

#### 3.1 – Habitat Overview

This reach of river is over-wide, over-deep and has been possibly straightened all of which suggests the channel has been historically dredged for land drainage purposes. There is a significant absence of wet vegetated margins containing fringing plants such sedge, purple loostrife and great willow herb. Fringing vegetation provides cover for trout fry on emergence from spawning gravels This habitat is also particularly important for grey wagtails, reed warblers, southern damselfly and water voles, (which are known to forage along wet vegetated margins).

There is extensive deposition of fine silts and sands and very little in the way of gravel riffle and pool habitat. There is a good growth of in-stream macrophytes such as water crowfoot and starwort. In places there is good tree cover and some of the fallen boughs (Large Woody Debris) has remained in the channel providing useful habitat diversity.

A cattle drink on the RHB is a point source of fine sediment entering the channel. At the top of the reach there is a mill and the river splits into two. The mill race contains gravels which may be suitable for use by spawning trout.



**Straight ,steep, silted and shallow....**



**Some Good tree / macrophyte cover – note silt entering river from cattle drink**



**Woody Debris in the channel**

### 3.2.2 – Recommendations

**It is a legal requirement that all the works to the river require written Environment Agency consent prior to undertaking any works, either in-channel or within 8 metres of the bank.**

Local EA Fisheries and Development Control staff and Natural England Conservation Officers should be contacted at the earliest opportunity to discuss any recommendations arising from this report the syndicate may wish to pursue.

The stream is over-wide (approx 10m). In over-wide sections a new bank line should be created using brushwood faggots staked along the LHB<sup>1</sup>. At various points it is also recommended that flows be 'pinched' by installing paired and single faggot deflectors to allow the river to scour pool habitat<sup>2</sup>. Chalk should be used as a backfill for these features that will facilitate rapid colonisation of marginal plants.

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<sup>1</sup> See WTSG page 42

<sup>2</sup> See WTSG page 44

The new bank should be set no more than 10cm above summer water level to allow the development of emergent wetland plants such as sedge, water forget-me-not, brooklime, yellow flag-iris and water mint, etc. Consideration should be given to transplanting well-established emergent vegetation from adjacent areas to facilitate the colonisation process. A density of four plants per square metre should achieve rapid results.

Woody debris<sup>3</sup> in rivers can provide habitat for a variety of animals. Brown trout numbers increase significantly with the presence of woody debris along the banks and in the river as they provide refuge and cover. They may offer lies for otters or perches for kingfishers. Woody debris in the river may also create pools and riffles in sections of the river that would otherwise have a dearth of aquatic habitats. They also retain leaf litter and act as an energy reservoir for the river section.

Fallen timber can be used to create flow deflectors. Deflectors need to be; 1) keyed into the bank to avoid localised erosion and; 2) staked and wired to the bed of the river to avoid being washed-away. During winter flows the deflectors will scour out pools and naturally sort and clean gravels suitable for trout spawning. As a very rough guide deflectors should be set at approximately 30 degrees to the bank with a length of between 40-50% of channel width, or staked in mid channel as paired submerged upstream facing logs. Deflectors key in from the bank should be just at summer water level. Scour pools have been shown to be very important habitat for all life stages of brown trout. Deflectors could be particularly useful if placed in silted riffle areas.

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<sup>3</sup> See WTSG page 39



**Installation of new bank using faggots and chalk backfill on the River Wensum, Norfolk**



**Introduction of single u/s 'natural' deflectors (single, near bank and triangular' far bank) on the Wylle in Wiltshire formed a chicané, sending flow from one bank to another. Note set just above summer water levels.**





**Installation of these upstream facing 'paired logs' has created valuable mid-channel pool habitat.**

The cattle drink needs urgent attention. All fine material should be scrapped back and replaced with layer of rounded flints approximately 20cm deep. This will allow cattle access to safe clean drinking water, whilst not allowing the ingress of silt into the river.



**Restoration of cattle drink with fencing to allow safe, clean access for cattle.**

It is also recommended that spawning shallows, or riffles as they are known, are introduced in this section. At several locations there are rises in bed level indicating past locations of riffles before being dredged from the channel. At these locations gravels (well mixed 5-40mm size range) to a depth of at least 20cm should be placed into the channel<sup>4</sup>. On the LHB d/s of each riffle a backwater channel could be introduced into the water meadow. This habitat will be particularly important for emerging trout fry and parr, bullhead, lamprey and water vole.



**A recently created backwater channel and riffle on the River Wensum cSAC**

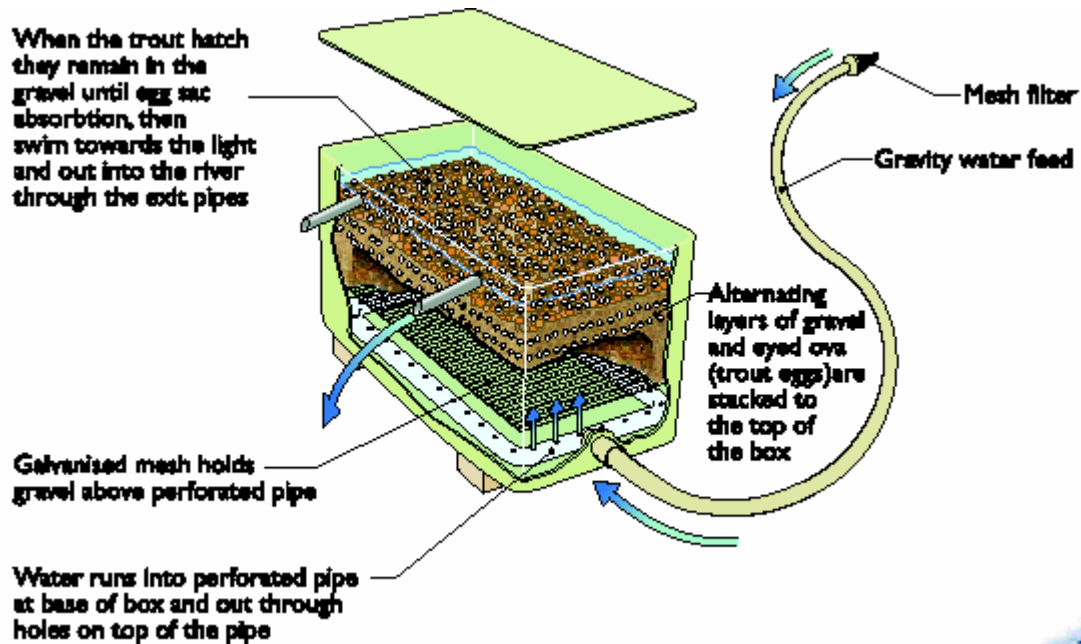
The use of deep substrate incubation boxes<sup>5</sup> on the Wylfe could potentially be a useful short to medium term measure to address the apparent spawning habitat 'bottleneck'. These are gravel filled boxes, approximately 60cm in each dimension that are filled with suitably sized gravel and seeded 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. It is vital however that good quality marginal habitat is established prior to deployment of the box to allow emerging fry to seek cover and develop into parr.

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<sup>4</sup> See WTSG page 40-41

Section 30 Consent, under the Salmon & Freshwater Fisheries Act, 1975, is required from the Environment Agency prior to the introduction, of fish, fry or ova into inland waters. A good head of water is required to get water to feed through the boxes.



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A potential location for the deep substrate box would be at the mill sluice at the top of the reach which would facilitate the downstream migration of fry / parr.

#### 4.0 – What next? – Making it all happen!

This report makes a series of recommendations that will improve both the biodiversity and status of the wild trout populations in the river. Recommendations are ambitious but would bring about wide-ranging improvements on this section of famous chalk river.

This report represents phase 1 of a potential 4 phase package of WTT assistance. At this point it is worth discussing restoration plans with suitably qualified contractor to get ball park figure project costs, before requesting Phase 2, a worked-up WTT project proposal. However before this happens it strongly recommended that contact be made with the Fisheries/ Biodiversity and Development Control functions of the local Environment Agency to arrange a 'pre-application meeting'. Pre-application meetings are extremely useful to help scope out design work and to take into consideration any issues that could affect proposed works. At this point local Natural England staff should be invited to any pre-application meetings.

The worked-up proposal should provide all the necessary information for the completion of a land drainage consent application. This legal consent from the Environment Agency must be obtained in writing before works can commence. Consents can take up to two months to process.

It is proposed that the WTT, or its representative, attends the pre-application meeting before commencing a detailed project specification / proposal

On successful completion of phase two of the project an application can be made (Phase three), for seed-corn funding to kick start the project. Typically this is between £1000-2000.

Physical works could be yet further 'kick-started' with the assistance of a WTT 'Practical Visit' (PV) (Phase 4). The WTT will fund the cost of labour (two man team) and materials. Recipients will be expected to cover travel and accommodation expenses of the contractor. The use of specialist plant will be by separate negotiation.

Wet-work consultants will demonstrate one or more of the following techniques that are appropriate to the site.

- Tree management (coppice, pollard, sky-lighting)
- Tree Planting
- Fencing (Installation & Repair)
- Stream Narrowing (Faggots, Coir Rolls, Spilling)
- Flow Deflectors
- Introduction of spawning substrate
- Gravel Jetting
- Introduction / Management of Woody Debris

*Note: Recipients of the programme must have received a WTT AV and have obtained the appropriate consents from the Environment Agency, English Nature, SEPA, CCW, Rivers Agency, etc, prior to arrangements being made to undertake the PV.*

Applications for all the above should be made via [projects@wildtrout.org](mailto:projects@wildtrout.org)

## **6.0 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 the Wild Trout Trust as a result of any other person, company or organisation acting, or refraining from acting, upon comments made in this report.