

1. Introduction

This preliminary report has been produced by Robert Wellard and Julian Moles (AFAS) on behalf of the Wild Trout Trust (WTT) and at the request of proprietors Messrs Chris Kirby and Nick Hart.

Information provided in the report is relative to a site visit carried out on the 8th October 2002.

The brief provided, requested identification of key areas in need of habitat enhancement and improvement as part of ongoing management of the 'River Exe' beat as a wild trout fishery.

2. Background

The 'River Exe' fishery is located inside the Exmoor National Park area in the upper reaches of the main River Exe immediately downstream of Exford. The fishery is divided into two beats with each beat being approximately 500m long and 5m wide. (NGR – SS 856 383 to 858 377)

Surrounding land use consists mostly of extensive cattle and sheep grazing and so impacts from surrounding land use would appear to be minimal.

A public footpath extends along the whole length of the upper beat.

The fishery is currently supporting a self-sustaining population of brown trout *Salmo trutta* with 'late runs' of Atlantic salmon *Salmo salar* as well as other fish species. In 1998 Environment Agency historic electric fishing surveys of the nearby Allcombe Water (SiteNo 33 NGR – SS 848 387) recorded densities of salmon fry 7.11/ 100m², salmon parr 18.20/ 100m², trout fry 1.97/ 100m² and trout parr 27.59 / 100m².

Fishing is managed by Mr Nick Hart and is generally fished once or twice per week throughout the season (15th March – 30th September).

A right to fishing is held on the left bank only.

Our visit coincided with unusually low flows for the time of year (below average rainfall for September) resulting several bars of suitable spawning gravel being exposed in a number of areas.

3. Enhancement Opportunities

The fishery has seen only limited management during the past 10 yrs. The riverbanks have been fenced throughout, with stock being excluded in almost all areas. However, fenced-off areas are relatively small (1-2m or less) and provide only minimal buffering and wildlife habitat.

Both stretches would benefit from in-stream and riparian habitat improvement.

Upper Beat

There were a number of issues identified within the upper section of the fishery including:

- Riverbank erosion caused by public access.
- Tunnelling of the tree canopy and over-shading.
- Reduced streambed complexity in canalised and slow flowing shallow areas.
- Degraded habitats associated with invasive plant species.

Insert Picture 1 - Upper Section – Public Footpath

- **Bank erosion and public access.**

This section is popular with visitors to the Exford area of Exmoor and, as there is free access to walk along the riverbank, there is an associated but limited amount of damage to riverbank habitat. In one area the wing walls of a land drain outfall are completely exposed.

Insert Picture 2 – Over-shading – Upper Section

- **Over-shading.**

There are many areas along the river that require some reduction in tree cover. Shading has both advantages and disadvantages and so a careful compromise is required.

River bank trees support their own ecosystem, stabilise the river bank with their root structure, provide dappled shade and cover for invertebrates and fish alike and, in smaller streams, assist in maintaining a cool water temperature. However, they can also cast excessive shade and inhibit the growth of other types of vegetation.

On the first stretch of river there is a varied selection of naturally seeded trees including Alder, Ash, Willow, Hawthorn, Spindle Berry and Rowan. These need some thinning, however they do not present a substantial problem. The main causes of over-shading are the four large Beech trees that cast colossal areas of shade, causing some areas to be

almost devoid of riverbank vegetation. A degree of associated bank erosion is now evident. Sycamore is another shade forming tree that is causing some problems.

It is important to note that large Beech trees form an associated landmark on Exmoor. Their removal would not be beneficial or required. However the removal of some of the lower limbs would have a marked effect to the amount of light reaching the riverbank. Coppicing the Alder, Sycamore, Ash and Willow would increase the amount of light and, as the new stools grow, provide new habitat and cover. Coppicing however needs to be an ongoing operation to keep trees at different stages of growth.

There is also some planted species in areas along the river, including, hybrid Poplar, Horse Chestnut, Field Maple and Turkey Oak.

Lower Beat

Insert Picture 3 – Panoramic View of Beat

A public footpath overlooks the Lower beat but there is no access to the riverbank.

This section of the river was also fenced approximately 10 years ago and in most places the riverbank has been protected from encroaching livestock. However, the extent of habitat retained is limited to less than 2metres in most places.

In some areas over shading is a problem although not to the degree seen on the upper beat.

In most areas the riverbanks are stable with pools and riffles occurring in natural sequence. There are four areas of eroded riverbank that give rise for concern as well as two areas of over-widened channel with reduced flows and increased sedimentation.

Insert Picture 4 – Exposed Tree Roots

Insert Picture 5 – Fallen Tree

Whilst the owner should be commended for introducing fencing to almost all of the fishery, in places the application has not provided sufficient riparian margin for a stable bank profile to become established. In the worst areas the fencing has sheered the riverbank and, over time and during spate events, caused the banks to slump into the river....

Insert Picture 6 – Slumping / Fallen Fence

Insert Picture 7 – Slumping/ Fallen Fence

Insert Picture 8 – Slumped Bank

The effect has largely increased channel width, exposed soils to the erosive forces of winter spates and reduced effective stock management and exclusion. Stock had already gained access at one point.

Subsequently there is a loss of amenity value where access both from pool to pool and up and down steep-sided banks becomes a problem.

Management Recommendations

Precautionary Approach to Management of Riverbank and In-Stream habitat.

- Whilst the Environment Agency has produced historic electric fishing records for the area of Allcombe Water U/s Exford, there is no historic data held for this specific site. Observations and catches indicate that there is already a healthy population of wild Exmoor brown trout present.
- As there is already a healthy population of wild brown trout we believe that any habitat improvements need to reflect a careful and staged process of intervention.
- We believe the best approach would be to carry out habitat enhancement works on the lower of the two beats whilst the Upstream beat remains undisturbed. This will, as well as providing a managed control for improvements, provide an area of sanctuary for any disturbed populations. It will also provide immediate improvement to the most impacted area of the fishery.
- Anglers catch returns and general observations should provide sufficient evidence of improvements over time and should form the basis for any further stages of development.
- Listed below are a number of recommended management practices that should be implemented at the earliest opportunity.

Important note

We would strongly recommend that the Environment Agency and Local Authority be consulted prior to the commencement of any works in the river and/ or riparian margin.

Tree Canopy (Lower Beat)

- The reduction of some of the tree cover will enhance the riverbank habitat and potentially increase both wildlife and fish populations. This will require an experienced team of chainsaw operators with knowledge of riverbank coppicing. Felled limbs should be removed from the river with a JCB. (Removing limbs from a river with a tractor and winch may cause further damage to river banks)
- The Tree Protection Officer from the local planning authority will need to be notified, as there could be Tree Preservation Orders on some of the trees, although this unlikely.
- Consultation with other riparian owners would also be a sensible course of action.
- Coppicing should be carried out over a rolling period of five years to stagger coppice re-growth.

- The removal of trees requires that the timing be dovetailed into re-fencing the riverbank with a new river/field margin (see below).
- The amount of timber allowed to be felled under the Forestry Commission rules for Felling Licences, is five cubic meters per quarter (if not sold) that loosely relates to five tonnes. If the coppicing were carried out over a rolling program of three years the probability is that a Felling Licence would not be required as the quantity cut every 3 months would be below this amount. The local area Forester from the Forestry Commission would give advice. If a larger operation could be envisaged then a licence would be required. This could be submitted under a more comprehensive Management Plan.

Fencing & Riparian Margin

- There is no doubt that the fence erected 10 yrs ago has in many ways protected the resident wild trout populations and other flora and fauna from the effects of cattle encroachment and spate events. However, it is our opinion that the fence should, where possible, be taken down and a new fence be erected that accommodates a significantly increased buffer and riparian margin of 5 - 10 metres.
- We believe that in most areas, along with other remedial measures, this would very quickly improve the riverbank profile and initiate a natural process of bankside growth

that will in-turn reduce stream width and speed up flows in channels that are currently over-widened.

Eroded & Slumping Riverbank.

- It will be necessary to carry out soft riverbank revetment in a number of areas. Some areas are worse than others and so a variety of techniques may be required that satisfy long-term stability, habitat, and current peak flow requirements. AFAS would be happy to advise and/ or supervise where required.

In-Stream Works

- Most areas do not require intervention. Fencing and coppicing regeneration processes should see a greatly improved in-stream habitat as vegetation restricts, narrows and speeds up flows. However, due to its location (Associated high rainfall of Exmoor) and geology (Clay with flints over extensive upland farmland), a degree of sedimentation is to be expected in some areas.
- Two canalised areas, one in each of the two beats, are currently providing only limited streambed diversity and would benefit from additional in-stream habitat improvement in the form of boulder placements and/ or a timber 'V' Notch Weir.
- The boulders would potentially:

Provide overhead cover for trout.

Increase potential feeding lies and pocket areas of abundant food drift.

Encourage scouring that relocates sediments downstream and improves invertebrate habitat.

Maintain a natural appearance.

Improve fishing.

- The 'V' Notch Weir if position correctly, potentially:

Increase scouring of those areas that are heavily silted.

Provide an improved environment to that currently available.

Provide additional fishing opportunities in an area currently under utilised.

We would recommend an experienced contractor be used to carry out this phase.

Further information can be obtained from the Wild Trout Trust "Guide To Improving Trout Streams (copies available £10 + £2 P+P from WTT Office).

Time-scale

- We recommend that works should start at the earliest opportunity and that catch returns should form the basis of a 3yr appraisal.
- A meeting with the Area Environment Agency Projects Officer should be held as soon as possible. Information in this report should form the basis of further discussions.
- The effects of the remedial habitat enhancement works carried out on the Lower beat should include a photographic record both before during and after completion.

NOTES.....