



Advisory Visit
River Perry, Shropshire
June 2019



1.0 Introduction

This report is the output of a site visit undertaken by Tim Jacklin of the Wild Trout Trust to the River Perry at Yeaton Pevere Estate, Shropshire, on 10th June 2019. Comments in this report are based on observations during the site visit and discussions with Jack Cooper of Balfours, the agent for the owners of the fishery.

Normal convention is applied with respect to bank identification, i.e. left bank (LB) or right bank (RB) whilst looking downstream. Upstream and downstream references are often abbreviated to u/s and d/s, respectively, for convenience. The Ordnance Survey National Grid Reference system is used for identifying specific locations.

2.0 Catchment / Fishery Overview

This section of the River Perry was the subject of a previous Wild Trout Trust advisory visit in March 2009 and the report of that visit contains background information on the catchment and fishery at Yeaton Pevere (<https://www.wildtrout.org/assets/reports/Perry2009.pdf>).

The section of river inspected falls within the Water Framework Directive waterbody: *Perry - conf Tetchill Bk to conf R Severn* (Table 1). This waterbody is currently classified as *moderate* status overall (on a scale of *high, good, moderate, poor* and *fail*), based on a number of measured parameters including plant, algae, invertebrate and fish populations, along with physical and chemical measures. Fish and invertebrates are rated as *moderate* and *high* respectively, whilst plants and algae (macrophytes and phytobenthos) are *moderate*, probably reflecting the *moderate* and *poor* ratings for dissolved oxygen and phosphate respectively.

River	River Perry
Waterbody Name	Perry - conf Tetchill Bk to conf R Severn
Waterbody ID	GB109054050030
Management	Severn Middle Shropshire > Perry, Roden & Tern North Shropshire

Catchment	
River Basin District	Severn
Current Ecological Quality	Overall status of Moderate ecological status sustained through two assessment cycles from 2009 - 2016
U/S Grid Ref inspected	SJ4254419447
D/S Grid Ref inspected	SJ4408417602
Length of river inspected	~3500m in total

Table 1 Summary of Water Framework Directive information for the waterbody within which the Yeaton Pevereay fishery is located (<https://environment.data.gov.uk/catchment-planning/WaterBody/GB109054050030>).

3.0 Habitat Assessment

The previous visit to this section of river in 2009 took place in late March and it was interesting to see the river this time in summer. The key findings from the 2009 visit are listed below (in italics) along with additional comments from the current visit.

Generally the in-stream habitat on this section of the River Perry is very good. There is a natural meandering course and a pool-riffle sequence, with deep lateral scour pools located on bends and shallower, faster water downstream. This creates a variety of water depths and flow velocities within the channel, suitable for a range of river fish species and life-stages, from juvenile to adult. This is still the case in 2019 (Photo 1), although some sections of the reach show signs of historical straightening, for example downstream of Yeaton (Photo 2). The habitat in artificially straightened sections tends to lack diversity, having a uniform depth and width. The installation of flow deflectors made from large woody material is recommended in these areas to create bed scour and introduce more varied flow and depth profiles.



Photo 1 Good river habitat provided by a meandering plan-form, variety of depths, dappled shade and a healthy riparian zone.



Photo 2 A more uniform section of the river which has probably been straightened in the past. Good marginal habitat and cover are present, but the channel would benefit from some woody material to promote bed scour and depth variation.

The shallow, faster, gravel-bottomed sections of water (riffles) are where most river fish species choose to spawn, including trout and salmon. Loose, un-compacted gravel containing a low proportion of fine (<2 mm) sediments is very important for the survival of incubating trout and salmon eggs and alevins, which spend several weeks buried in gravel nests (redds) cut into the gravel by the adult female fish. The riffle areas on this part of the Perry contained a high proportion of fine sediment and were compacted; this is very likely to compromise the survival of trout and salmon eggs and alevins and represents a bottleneck in the lifecycle of these fish. The problem of fine sediment and compacted gravels remains. In 2009 the recommendation was to carry out gravel jetting as a temporary fix, but there are problems with this approach including identifying the specific areas where fish will choose to spawn. Additionally, fine sediment inputs could occur soon after gravel jetting, rapidly undoing the benefits. A better approach is to introduce flow deflectors made from large woody material to create localised scour and well-sorted gravel which will remain free of fine sediment and allow fish a range of options for preferred spawning areas (Photo 3).



Photo 3 Introducing woody structures to riffles and pool tails where gravel is present will create localised scour to winnow out fine sediment and improve spawning conditions. In this example, the tree indicated could be hinged over.

The majority of the banks are fenced and have a generous margin between cultivated land and the river. The protection afforded by these strips alongside the river has allowed excellent marginal habitat to develop, providing good habitat for fish (in the form of trees, shrubs and overhanging vegetation), largely stable banks with little erosion, and good habitat for wildlife, including otter and kingfisher. It is important that the marginal fringe of vegetation is retained when creating access for angling, and preferably access and egress points are created, between which the river is fished by wading. The management of the riverside habitat at Yeaton Pevereley is exemplary and continues to provide the abovementioned benefits (Photo 4), along with excellent habitat for riverflies to complete their lifecycle (e.g. shaggy vegetation where mayflies can moult before mating and egg-laying). There is a short section of the river on the LHB which is in different ownership and has reduced quality marginal habitat due to livestock access (Photo 5). Access for angling from the bank (rather than by wading) was discussed – the management of the riverbank for this can reduce habitat quality because of the desire to remove obstacles to casting, with knock-on impacts upon the amount of cover for fish or shading for the river. The

negative impacts can be minimised by restricting bank fishing access to certain beats and to only one bank (usually the RHB to favour right-handed casting). Strimming a path back from the river's edge and leaving a shaggy vegetated margin is also good practice.



Photo 4 A wide margin between the field and river, along with light-touch management for angling access provides excellent riparian habitat along the majority of the fishery.



Photo 5 Livestock access on the LHB reduces the habitat quality by grazing off marginal plants, leading to a wider and shallower channel with reduced cover for fish. Ideally this section should be managed in a similar way to the rest of the fishery.

*There is abundant growth of water crowfoot (*Ranunculus* sp.) in the faster, less shaded sections of the river. This provides excellent habitat (cover) for trout and salmon, particularly the juveniles (parr) in shallower parts of the river. It is also an important habitat for invertebrates including the nymphs of upwinged flies which are important to the angler, such as olives (*Baetis* spp.) and blue-winged olives (*Serratella ignita*). It is understood that the growth of aquatic weed can be prolific in summer, probably because of nutrient enrichment of the river.*

The full extent of aquatic weed growth was evident during this visit, with prolific stands of water crowfoot present in less-shaded areas (Photo 6); the crowfoot was coming into flower, which is approaching the point it reaches its maximum biomass during the year. The annual weed cut (by hand) was being carried out at the time of the visit, later in the year than the usual timing of April/early May. Weed cutting in spring and summer tends to stimulate the growth of water crowfoot leading to a higher overall biomass than in streams that are left uncut in the long term. Cutting weed in the autumn tends to suppress growth the following spring but can have negative

consequences for the fishery by removing over-winter cover for fish and invertebrates; for this reason, the best approach is probably to continue with the annual spring cut. More detailed guidance on weed management is provided in the WTT Chalkstream Habitat Manual (https://www.wildtrout.org/assets/files/library/Manage_Riparian.pdf).

Shading of the river channel plays an important role in regulating weed growth and the difference in the amount of submerged weed between open reaches and those with tree shading is easy to see. In the longer term, establishing trees and bushes on the southern bank in the more open reaches will provide a natural brake on weed growth.



Photo 6 Prolific growth of water crowfoot in an open section of the river (upstream of the EA gauging station). Establishing more tree shade on the southern bank in areas such as this may reduce the need for weed cutting in the longer term.

There are one or two examples of large woody debris (LWD) within the river channel.

Not many examples of large woody material (fallen trees, branches) were observed during the visit. As noted above, these structures help to naturally engineer good habitat through localised scour, as well as providing good

cover and habitat niches for invertebrates upon which trout feed. It is recommended that naturally occurring tree falls are left *in situ* unless there is an overriding need to remove them. There are numerous opportunities to introduce such structures throughout the fishery, where suitable trees occur along the river bank (Photo 7).



Photo 7 Opportunities for introducing large woody structures.

*The invasive plant, Himalayan balsam (*Impatiens glandulifera*) was noted on some sections of the river.*

Little evidence of Himalayan balsam was seen during the visit, which is encouraging. It is good practice to keep an eye out for this plant and to hand-pull it before it flowers and spreads seed; this is easily done when it is present at a low level, but a major task if it becomes established. A stand of Japanese knotweed (*Fallopia japonica*) was observed on the RHB upstream of Fitz Farm Mill; this invasive, non-native plant should be controlled to prevent its spread. It must not be strimmed or flailed as it can propagate from small fragments.

There were no barriers to fish migration noted during the visit, apart from the EA flow gauging weir at Yeaton, although this has been fitted with baffles to improve fish passage across the structure and appeared to be passable to

trout of all sizes at the time of the visit. A small sewage works discharges to the river about halfway along the fishery from the RHB. There have been no reported problems with water quality from the discharge; invertebrate monitoring (Riverfly Partnership) could be carried out here to keep a watching brief.

4.0 Recommendations

- Retain naturally occurring fallen woody material within the channel wherever possible.
- Introduce in-stream woody structures in uniform, shallow straights and in areas where gravel occurs (Photo 8 and Photo 9). Areas most likely to benefit would be between the EA gauging weir and the sewage works (Beat B) and the upper part of Beat C (above Fitz Mill Farm).



Photo 8 A log flow deflector creating flow variation and scour.



Photo 9 Partially cutting and laying a live tree to create in-stream structure.

- Establish trees on the southern bank in areas where aquatic weed growth is very prolific, in order to provide more shading in the long term.
- Review weed cutting practice with reference to the WTT guide here https://www.wildtrout.org/assets/files/library/Manage_Riparian.pdf. Continuing the annual spring cut probably strikes the best compromise between river ecology and fishing access, but a trial of different weed-cutting regimes on different sections of the river could be considered. For example, leaving a section uncut for several seasons may see a natural reduction in weed biomass. Cautious and limited (in extent) autumn cutting could be trialled in particularly densely weeded areas to see if this controlled growth the following spring; note however the potential negative impacts on over-winter cover – this should not be a blanket policy of autumn cutting, but very selectively targeted. Marginal vegetation (emergents like reeds, rushes, etc.) should not be cut back.
- Take steps to prevent the spread of Japanese knotweed from the stand observed at Fitz Mill Farm. Do not use any method of cutting that

could spread small fragments of the plant. Licensed herbicide application by a qualified operator is recommended. Guidance is available here: www.gov.uk/guidance/prevent-japanese-knotweed-from-spreading

- Review the trout stocking policy of the fishery. Presently, triploid brown trout of 7 – 9" are stocked at a rate of 250 – 300 per annum. Many angling organisations have reduced or ceased stocking and seen no material change to their catches and often an improvement in numbers and sizes of fish caught; case studies are available on the WTT website here www.wildtrout.org/content/trout-stocking.

In order to assess the performance of the fishery and the contribution of stocking to catches, accurate catch return information is required. Currently, catch return information is lacking for Yeaton Peverey fishery and it is highly recommended that this is introduced. As a minimum, the information that should be recorded is the date of the visit; number of trout caught (and whether retained or returned); number of other species caught. Additional information that could be recorded includes hours fished; sizes of fish caught; method used; river/weather conditions. If stock fish are supplied with an identifying mark (e.g. a blue dye spot, or fin clip), this can also be recorded on the catch return.

- Consider taking part in the Anglers' Riverfly Monitoring Initiative instigated by the Riverfly Partnership. This will enable volunteers to monitor water quality in the river and provide an early warning of pollution and a deterrent to potential polluters. Details of sampling strategies and training days can be obtained from the Riverfly website at www.riverflies.org . Contact Ben Fitch ben@riverflies.org for further details.

Please note it is a legal requirement that works to the river require prior written consent from the Environment Agency (EA).

5.0 Making it Happen

There may be opportunities to develop and implement some of the recommendations in partnership with organisations such as Severn Rivers Trust and Shropshire Wildlife Trust (joint hosts of the Middle Severn

Catchment Partnership, www.shropshirewildlifetrust.org.uk/rivers/catchment-based-approach) and the Environment Agency and it is recommended that this report is shared with them.

Further assistance from the Wild Trout Trust is available in the form of:

- Helping obtain the necessary consents from the Environment Agency for carrying out in-stream works.
- A practical visit, which involves a visit from a WTT Conservation Officer to demonstrate the techniques described. This enables recipients to obtain on-the-ground training regarding the appropriate use of conservation techniques and materials, including Health & Safety, equipment. This will then give projects the strongest possible start leading to successful completion of aims and objectives. Recipients will be expected to cover travel expenses of the WTT attendees.

The WTT website library has a wide range of free materials in video and PDF format on habitat management and improvement:

www.wildtrout.org/content/library

The Wild Trout Trust has also produced a 70-minute DVD called 'Rivers: Working for Wild Trout' which graphically illustrates the challenges of managing river habitat for wild trout, with examples of good and poor habitat and practical demonstrations of habitat improvement. Additional sections of film cover key topics in greater depth, such as woody debris, enhancing fish stocks and managing invasive species.

The DVD is available to buy for £10.00 from our website shop <http://www.wildtrout.org/product/rivers-working-wild-trout-dvd-0> or by calling the WTT office on 02392 570985.

6.0 Acknowledgement

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7.0 Disclaimer

This report is produced for guidance; no liability or responsibility for any loss or damage can be accepted by the Wild Trout Trust as a result of any other

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