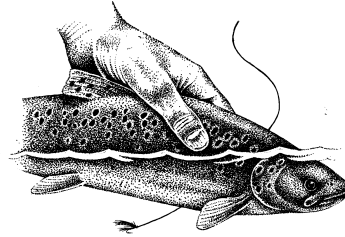


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## Draft report on one day visit to Brampton Bryan, R. Teme

### Summary

1. The River Teme at Brampton Bryan is potentially a lovely river but it is currently adversely affected by agriculture, flood defence works and a distinct lack of fish. Trout could be stocked to improve the performance of the fishery but, in the longer term, habitat improvement for self-sustaining trout, grayling and salmon stocks is recommended.
2. The river bank erosion needs re-assessing with English Nature and the Environment Agency so as to reduce the hard rock revetments and promote the use of living bank protection using willow, alder and Reed canary grass. This will improve the river.
3. Fencing areas of both banks where intense sheep grazing or arable cultivation abuts the river should be promoted under the Countryside Stewardship Scheme or a similar grant-aided scheme. A meeting with English Nature is recommended. Benefits to river habitats from fencing include better water quality, better fish, invertebrate and aquatic plant habitats. Species of conservation importance which should benefit include water crowfoot (*Ranunculus*), salmon, wild brown trout, grayling, bullhead, dipper, otter and a wide range of aquatic invertebrates. A river bank zone of 5 metres or more inside the fence is ideal, the actual width is best discussed with the tenant farmers.
4. Water-jetting silted gravels, if done correctly, should improve trout and salmon spawning success; all sources of soil/silt should be buffered to prevent the silting up of river spawning gravels.
5. Adding lots of extra physical timber cover will improve trout survival, especially from heron predation.

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## Introduction

This one-day visit was made possible by The Wild Trout Trust advisory scheme. The River Teme at Brampton Bryan is a nice Welsh borders freestone stream with good potential for wild trout production. The fishery runs nicely through stretches of gravel/shingle spawning and juvenile trout habitat areas with intermediate sets of glides suitable for maturing and adult trout and a slow, deep pools which will hold big old fish (both trout and grayling). **The upper Teme is highly regarded as a brown trout fishery and both the capital value of the fishery and annual income derived from the fishery can be substantially boosted with good management.**

## Key points noted during river bank walk:

### Bank erosion

Past and current flood defence works have greatly altered the natural river banks, replacing many sections with bare rock revetments. Many trees have been grubbed out and severe erosion is occurring on many bends. Current work just downstream of Walford Lodge is a prime example of a natural bank being completely disturbed. Whilst river bank erosion is a natural process, this river needs careful assessment to establish good future practice which will keep erosion in check whilst supporting good habitats for fish and other wildlife. **It is recommended that, on at least 6 eroding sections, live willow stakes and/or planting of reed canary grass (*Phalaris arundinacea*) is carried out as an experimental test of their ability to withstand winter spates.** It is noticeable that the more stable natural river banks are supported by alder or willow roots or by reed canary grass beds. Note that alder disease may gain a hold on this river section in future years and this would leave many bank areas open to further erosion. A careful eye needs to be kept on this situation with any dead alder trees being replaced with willows to maintain bank protection and fish cover.

The erosion in the side of the upper weir **needs addressing** as the stonework is liable to collapse in the relatively near future.

### Invertebrates / Water Quality

Several large fields adjacent to the river have been ploughed for cereal or potato production and the large areas of bare soil mean that, after heavy rain, large quantities of soil/silt will be washed into the river. This will clog gravels, killing incubating trout and salmon eggs and removing habitat for many invertebrates. During the river walk a single trout redd (nest) and a single probable salmon redd were seen on shingle shallows. **For prolific wild game fish production river gravels need to be relatively silt-free. Careful land use adjacent to the river with grassy buffer zones and sheep fencing is the answer.**

The bed of the river tends to be clogged with silt and the shingle covered with algae - this may indicate enrichment by fertilisers washed into the river. Grassy buffer zones should help to reduce this problem. It is possible that synthetic pyrethroid (SP) sheep dip is getting into the river in small quantities - this can have very severe impacts on invertebrate populations and hence on fish abundance (little food for trout and grayling).

**It is recommended that tenant farmers are made fully aware of the potential for damage to the river through disposal of dip or allowing recently dipped sheep access to the water. The field just upstream of Leintwardine has substantial bank erosion caused by sheep.**

Samples of aquatic invertebrates showed sparse populations of mayfly and stonefly nymphs, caddis larvae, black fly larvae, river limpets and other snails, leeches. Winter invertebrate populations are often sparse but **it was felt that a longer summer visit would be worthwhile so as to sample the river more widely to assess the trout food supply.** The presence of dippers is encouraging, indicating reasonable invertebrate populations.

### Fish stocks

During our walk along the river it appeared that fish stocks are very low. This could be due to a number of factors including:

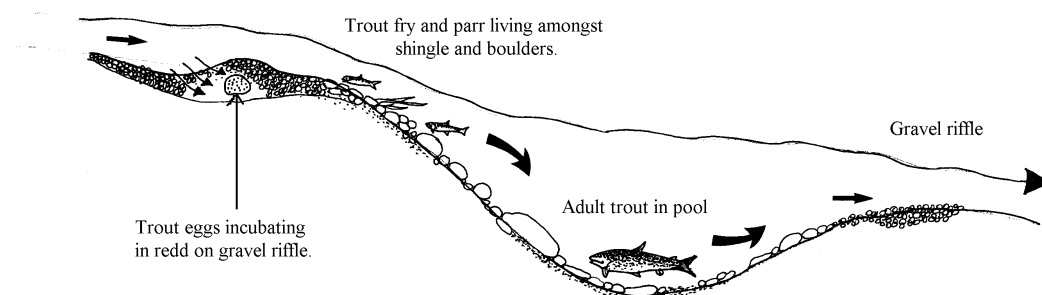
1. Silted spawning gravels and poor production of young trout.
2. Poor invertebrate food supply.
3. Excessive predation, especially during low-flows in late summer by herons.
4. Over-fishing by anglers.

**It is recommended that past fishery records are collated and analysed to establish the history of the fishery. Also a small-scale summer fish survey should be carried out to establish how many young trout are being produced. If trout production is very low some stocking with sterile (triploid) trout could be carried out in the short-term to maintain the performance of the fishery.**

A modest amount of **habitat improvement** will greatly boost the potential of the wild trout and grayling fishery.

### Wild trout habitat

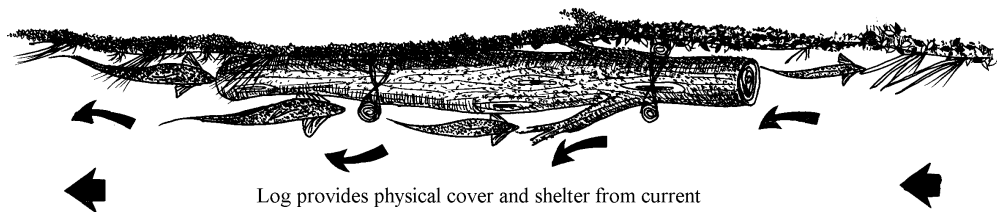
Brown trout need good, clean flows, relatively silt-free gravel for spawning, abundant cover from predators and a nice varied sequence of shallow riffles, weedy glides and deeper pools. The diagram below shows how a short section of good habitat can provide everything a wild trout needs throughout its life cycle:



**The loan of an Environment Agency water-jetter (water pump + lance) should be investigated.** It is now late in the season to jet gravels but next year, in late September, areas of gravel where trout should spawn should be thoroughly cleaned to a depth of around 30cm. Start the operation at the top end of the fishery and chase the silt downstream. Warn your downstream neighbours that some coloured water may come their way - take advice from Environment Agency staff. Split up the work so as not to mobilise too much silt at any one time. Brown trout, grayling, salmon, bullheads, water crowfoot (*Ranunculus*) and a wide range of invertebrates benefit from de-silted gravel shallows (riffles).

Trout parr (fish of up to a year's age) need relatively shallow water with cover from weed beds, boulders or deadwood (logs) staked securely along the margins. The cover serves to offer fish hiding places from predators such as herons and, also, to break up the habitat so that more territories can be fitted into the available space. Logs pinned close to the bank should have a 6inch gap left underneath them.

Trout using dead wood cover feature - staked close to well vegetated bank.

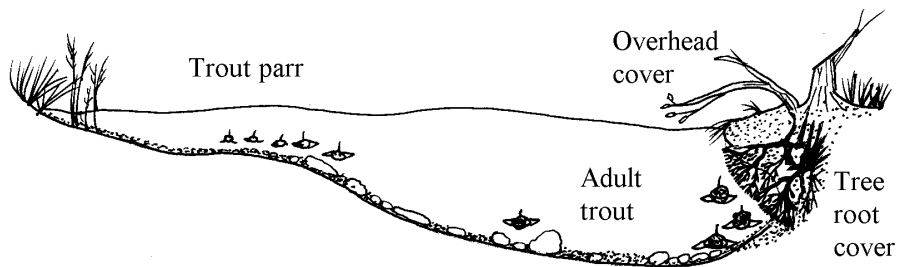


Pools on bends with banks held together by willow or alder trees are favoured sanctuaries for adult trout. These pools provide key habitat requirements for the fish, namely:

1. Adequate depth (the pool is on the outside of the bend and probably has a deepened section and under-cut bank).
2. The current speed in the pool is not excessive (fish can lie there comfortably without burning up too much energy and drifting food is brought in on the current).
3. The willow provides excellent overhead protective cover - this is vital for wild brown trout to take up residence in numbers.

The pool sketched on the next page shows where fish will lie in the pool. Note that the grubbing out of trees during flood defence work removes this vital habitat.

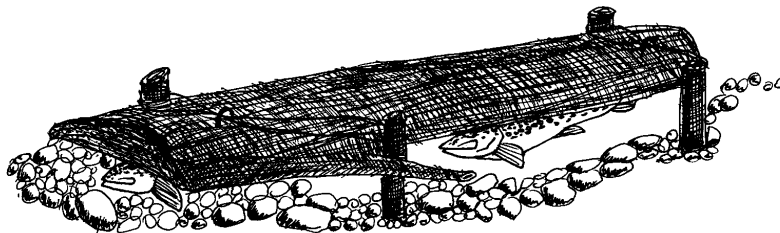
Trout use of a well covered pool



**Good habitat management seeks to extend the amount of this sort of habitat available within the fishery.**

Most of the fishery lacks fish cover in the form of deadwood and there is great scope to add cover along many suitable stretches, using timber boards or small logs.

Half log cover board staked to river bed



safe cover is provided for two adult trout

The boards / logs will not rot as long as they remain submerged.

**I recommend staking securely some logs and small cover boards along the margins of glides and pools to provide year-round cover from heron predation.**

Future help

**Dr Nick Giles & Associates are able to help with any or all of the above recommendations.**