Advisory Visit

Dick Brook, Worcestershire

January 2012

1.0 Introduction

This report is the output of a site visit undertaken by Tim Jacklin of the Wild Trout Trust to the Dick Brook, near Dunley, Worcestershire, on 24th January, 2012. Comments in this report are based on observations on the day of the site visit and discussions with Tony Bostock of the Severn Rivers Trust.

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 Catchment / Fishery Overview

The Dick Brook is a small tributary of the River Severn, joining the latter on from the west between Stourport and Holt Fleet. The 1.8-km section of the brook visited was upstream and downstream of the A451, about 1 km south-west of Dunley (upstream limit grid reference SO7770769005, downstream SO7822967355).

This section of the Dick Brook has been in the fishing passport scheme run by the Severn Rivers Trust for a short period (end of the 2011 season). There has been one angling report submitted which indicated a good catch of trout.

Information on the Dick Brook with respect to the Water Framework Directive is given in the table below.

Waterbody ID	GB109054044210
Waterbody Name	Dick Bk - source to conf R Severn
Management Catchment	Worcestershire Middle Severn
River Basin District	Severn
Typology Description	Low, Small, Calcareous
Hydromorphological Status	Not Designated Artificial / Heavily Modified Waterbody

Current Ecological Quality	Good Status
Current Chemical Quality	Does Not Require Assessment
2015 Predicted Ecological Quality	Good Status
2015 Predicted Chemical Quality	Does Not Require Assessment
Overall Risk	At Risk
Protected Area	Yes

3.0 Habitat Assessment

Upstream of the A451 the brook has generally good habitat, with a natural pool-riffle sequence and plentiful woody debris structures which provide cover for fish and river crossing points for terrestrial wildlife (Photos 1-3). The brook runs over sandstone geology in a naturally steep-sided, incised channel. Part of this section runs through a sandstone gorge alongside a pond perched on the valley side (left bank).

Land use immediately adjacent to the brook is deciduous woodland meaning the channel is shaded (an advantage in keeping water temperatures down in hot weather, but also preventing understorey vegetation development which binds fine sediments). A combination of the shading and the sandstone geology means there is a relatively high proportion of fine sediment present in the river bed substrate; this is not ideal for trout spawning success but the good geomorphology and woody debris features offset this disadvantage. A number of trout redds were observed at the tails of pools within this section (Photo 4).

Stone turning revealed a good diversity of invertebrates including Heptagenid mayflies, Baetidae (olives) and *Gammarus* shrimp, indicating good water quality.

Photo 1 Typical section upstream of A451

Photo 2 Slower, deeper pools are also present and woody debris structures providing excellent habitat

Photo 3 Retention of woody debris provides superb in-stream habitat for fish and invertebrates

Photo 4 A superb combination of habitats for wild trout: gravel at the tail of a pool (where trout have already spawned, indicated by the light patches) and the close proximity of woody debris providing cover for both spawning adult and juvenile trout

Downstream of the A451 the good habitat continues, with pool-riffle sequence and deep holes bordered by tree roots (Photo 5). Adjacent land use is woodland and pasture, with the former comprising a poplar plantation, giving way to coniferous forestry on the left bank. On the right bank there is pasture but with a generous fenced margin alongside the river; Himalayan balsam is present here (Photo 6). There is one point at a field gateway where the concentration of animal footfall is causing excessive poaching of the ground and run-off of fine sediment to the brook (Photo 7).

A bedrock outcrop creates two low bed-level checks (like low weirs) about halfway along this section (Photo 8), then downstream of this point the brook becomes slow, wide and canal-like (Photo 9). This is because of the impoundment of the brook behind a huge weir (approximately 5-metre head difference) at Priors Mill (SO7826167403). There is a channel around the weir on the right bank (dry at the time of the visit) to take higher flows. The mill (converted to private residence) is on the left bank and discussion with the owner revealed there is an automatic water level-controlled sluice incorporated into the weir structure (Photo 10). The presence of such a large structure is obviously a barrier to fish migration and it is surprising that the Dick Brook is currently classified as good ecological status because of this.

In contrast to upstream of the A451, no evidence of trout spawning was seen in this section apart from one trout redd downstream of the large weir, close to the minor road bridge.

Photo 5 Deep pools and tree roots – great adult trout habitat

Photo 6 Land use – wooded LHB and pasture on the RHB with a fenced margin, but with lots of Himalayan balsam

Photo 7 Area close to the brook heavily poached by livestock

Photo 8 Outcrops of natural bedrock

Photo 9 Slow, wide and canal-like: the effects of the weir impoundment

Photo 10 The weir at Priors Mill, with automatic sluice (left of centre) and dry overspill channel (left of picture)

4.0 Recommendations

Dick Brook appears to have a reasonably good population of brown trout, as shown by the catch reported under the angling passport scheme and the spawning redds observed during this visit. In-stream habitat is generally good with spawning, juvenile and adult habitat all well represented, particularly upstream and immediately downstream of the A451 bridge. However, for a significant proportion of the downstream part of the section visited, the in-stream habitat was adversely affected by the impoundment of the watercourse behind Priors Mill weir.

This weir has a very large head difference across it and is undoubtedly a total barrier to upstream movement of fish such as trout, coarse fish and lamprey; it will also significantly impede juvenile eel migration. It is recommended that options to improve fish passage across this structure are investigated and if possible the reduction of the impounding effect upstream. Creating a permanent flow in the overspill channel on the RHB may be an option at this site. The Environment Agency should be consulted to check if this site has been looked at previously with respect to improving fish passage and to determine its priority in relation to other barriers.

Further recommendations:

- Tackle the bank poaching problem shown in Photo 7. Re-aligning the riverside fence or re-locating the gateway between the fields could be options to discuss with the land owner / manager.
- Maintain the current fenced buffer zone between the river and fields.
- Address the non-native, invasive Himalayan balsam problem, preferably within the context of a catchment-wide control program.
- Influence the manager of the riverside woodland plantations to replace the poplar plantation adjacent to the brook (downstream of A451) with native, deciduous woodland. Keep coniferous forestry well away from the watercourse, as is currently the case.
- Continue the current hands-off approach to management of in-stream woody debris. If it falls in – leave it there!

Please note it is a legal requirement that all the works to the river require written Environment Agency (EA) consent prior to undertaking any works, either in-channel or within 8 metres of the bank.

5.0 Acknowledgement

The Wild Trout Trust would like to thank the Environment Agency for the support which made this visit possible.

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.