Advisory Visit Report
By Ian Lindsay

Folly Brook October 04

In the course of the year I look at many rain-fed rivers throughout the south and west and it is rare to come across so potentially good adult and juvenile brown trout habitat. The river has clearly benefited under past management, but some further sympathetic coppicing together with fencing of particular fields seems likely to provide further benefits to the productivity of the stream.

Here is a report summarising the main points.

An important upper tributary of The Shropshire Clun, The Folly Brook is a typical high gradient rain fed upland stream providing a range of adult and juvenile brown trout habitats. Unusually for a stream of its size and for reasons of historic management and adjacent land use, the brook retains some relatively very good wild trout habitat and, in places, well established bank side cover. As a result, channel profiles are generally narrow and fairly deep with moderate silt loads and low levels of adjacent farm livestock access.

Locally in some places over shading and stock access are having a significant impact on the river and remedial action would be desirable in respect of improvement of fish and general wildlife habitat.

Perhaps the most significant feature of the stream is that whilst containing occasional areas of cobble/shale bedrock substrate, there are good amounts of pebble/gravel substrate of a size which is suitable for trout spawning. This is likely to make the Folly Brook an important spawning tributary for larger trout migrating from the main Clun and it is anticipated that against a background of current relatively good habitat and abundance of spawning gravels juvenile densities might be fairly high.

From description, the stream appears to be relatively free from pollution and an inspection revealed a high diversity of aquatic inverts. In addition it appears that native Cray fish may still be resident within the section and other potentially significant biodiversity action plan species include ranunculus and brook lamprey.

Thus against this background the Folly Brook is likely to be important as an interesting wild trout fishery in its own right, an important wildlife site and is an important area for juvenile recruitment for the Clun system as a whole. Together these suggest that maintenance and improvement of the current quality of river habitat would satisfy a range of objectives and enhance eligibility for grant assistance under current and future agri-environment schemes.

The Fishery has only a very limited fishing history, and as a result little information appears to be available on the current resident fish stock. From electro-fishing surveys of similar brooks it would be reasonable to expect good numbers of ½ and ¾ lb fish particularly within the many corner pools and deeper sections of this diverse meandering stream. Currently however other than by the most deft hand the river is in most parts rendered unfishable by the current extent of tree growth and overhanging branches. This issue is likely to be largely addressed by the suggested coppice management which in places might be modified to further protect the back cast. Thus it would be desirable following suggested improvements to undertake a higher fishing effort, particularly where this could be done on a catch and release basis.

Suggested Management

Bank Side Trees / Coppice Management

Throughout much of the upper half of the fishery marginal bank side habitats are generally good with draping perennial cover extending to the waters edge. As discussed this provides an accurate measure of good habitat where the extent of over shading and stock access is in satisfactory balance with the maintenance of good river habitat. Within this section, a further indicator of good habitat and optimal bank side tree cover is the occasional presence of ranunculus. Current this is very limited to a few straggly strands. This provides every indication of good recovery where sufficient bank side illumination can be created. Ranunculus is very important, not only as direct cover for juvenile fish but also for the significant and diverse invertebrate populations which it supports. It is also a bio-diversity action plan species in its own right.

Within this upper section, only a few isolated areas showed impacts of excessive shading or stock access. Typically these were shown to contain bare, friable soil banks with little or no marginal plants and showing distinct widening of the channel. Thus in those sites identified where signs of bank erosion and depletion of cover is present, consider targeting ongoing coppice management to these areas. As discussed, in order to achieve the greatest short term impact on river habitat and the longer term objectives of achieving a rotationally managed structurally diverse river habitat, it is generally better to concentrate efforts within a relatively small area. Thus in year one, consider undertaking relatively heavily coppicing on one or more 30 – 50 metre sections. Thereafter in subsequent years continue similar 'compartments' on other parts of the river. In this way, the greatest structural diversity will be achieved with least impact on landscape and a further advantage of working on relatively small sites is that it may be possible to undertake this by felling less than 5 cubic metres of timber per calendar quarter; being the limit for the requirement of a felling licence.

With regard to stock access on the upper part of the river, particularly where the river runs within the ESA agreement, it appears that the stocking densities are entirely compatible with the maintenance of good river habitat. Assuming there are no change in stocking density's there would seem to be no real justification for stock fencing on this part of the river.

Spawning Gravels

Both in respect of the fishery itself and its contribution to the main river Clun the extent of small gravel substrates within the stream may be very important for juvenile recruitment. The diverse pool riffle provides a relatively large number of potential spawning sites which were identified. Whilst generally the river appears to support only limited silt loads, from place to place there did appear to be potentially significant levels of compaction of the spawning areas to the point that spawning by smaller fish might be inhibited. As discussed there might therefore be some value and interest to roughly forking these sites during October to loosen the substrate as a possible means of enhancing wild trout spawning and egg survival in the stream.

Lower Section

Contrasting with the Upper Section of the Fishery, a large proportion of the Lower area suffers from fairly significant issues of stock access and severe over shading by bank side trees. Typically the river is wider with friable banks, widespread poaching by farm stock with resulting ingress of silt. Generally within this area a programme of extensive rotational coppice management and stock fencing would be of great benefit to the general quality of the river habitat. As discussed it also seems likely that such work would also be eligible for funding under existing ESA or future higher entry level schemes. Within these areas locally 60-70% canopy removal would be desirable to allow sufficient illumination to for the re-establishment of marginal and bank side cover and in stream macrophites. In respect of landscape considerations, it would appear that relatively heavy thinning / coppicing could be carried out on at least one bank, particularly where the river lies adjacent to woodland. As discussed the erection of extensive bank side fencing may have aesthetic considerations here but the current stocking densities within adjacent fields and the requirements to protect coppice re-growth would suggest stock fencing would be necessary along all of these sections.

Revetments / Erosion

Ultimately, the long term cure for the stabilisation and prevention of erosion rests with coppice management and the restoration of a healthy vigorous marginal and bank side cover. In the meantime, however, a number of sites showed high levels of local erosion. Some of these appeared to result from fallen trees and trapped logs and it is likely that the removal of the obstruction itself would quickly alleviate the problem. Nevertheless restoration of the bank profile can be quickly and effectively assisted by the use of soft revetments, as discussed, these simple structures consist, at its simplest, of a bush or sufficient brash to be packed into the site, wired securely to a fixed point and if necessary, retained behind a line of posts. Within a relatively short space of time these structures trap significant debris and silt to allow re-growth of marginal and bank side cover and re-instate the bank to its natural position.

Current Deflectors

As discussed on streams of this sort with extensive pool riffle sequence and frequent meanders, the use of current deflectors to improve channel diversity is not normally required, however in the middle section of the river which has been historically canalised there is one potential site where an upstream "V" weir structure may have some benefit in providing additional adult cover and spawning habitat. The construction was discussed in some detail and this will require the careful placement of two alder logs approximately 8-10 inches in diameter into the bank and embedded into the channel with the top of the logs approximately at average summer level. A gap of 2 – 2 ½ feet should be maintained at the apex of the vee with the logs firmly embedded into the channel and retained by either angle iron or stout wooden posts. The effect of the structures is to effectively create a deeper hole within the vee and this will provide improved adult habitat. As discussed, in the event that the stream is classified as "main river", the construction of these structures will require land drainage consent from the EA.