

THE RIVER ALUN (aka ALYN)

**Advisory Visit Report Undertaken
On behalf of the Wild Trout Trust
By Ron Holloway MIFM
22nd April 2002-04-25**



The River Alun – The Rossett & Gresford Fly Fishing Club

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The Rossett & Gresford Fly Fishing Club

This Advisory Visit was undertaken by Ron Holloway (R H Associates) on behalf of the Wild Trout Trust in the company of Howard Stevens, Chairman of R & G FFC and Max Gooch, Environment Agency (Fisheries.)

Objectives of the Visit:

To look at the waters of the R & G FFC on the River Alun and to pinpoint and identify any limiting factors that are controlling the survival of wild brown trout and to suggest any actions that can be taken to maintain, enhance or restore trout habitat particularly where serious recent flooding has caused considerable damage.

Background:

The R & G FFC have leased the fishing rights from the adjacent landowners for many years, though mainly on a yearly gentlemen's agreement. The reach visited runs upstream from the weir at Llay to the A.483 roadbridge at Gresford (one and a half kilometres). The reach has been stocked annually with 6 to 8" brown trout. A six hundred metre meander was cut off from the river when the A.483 was re-aligned and this was replaced by a straight trapezoidal channel. A serious, 500 year, flood event which occurred during the high rainfalls of Autumn/Winter 2001, caused severe inundation of the flood plain which resulted in heavy damage to river banks which, in places, has changed the morphology of the channel. Many trees were lost and the resultant erosion damage has been severe in places.

In faster flowing areas substrates are of well sorted gravels and small cobble, but there are quite large deposits of silt and fines in the slower area impounded by the weir. Anecdotal evidence of electro-fishing surveys by the E A have shown that from what natural spawning does occur, fry survival is very low. EA survey results were promised but were not available at the time of my visit.

There is a strong possibility of the R & G FFC amalgamating with their neighbouring Club upstream and if this is successful this will add a further one kilometre of fishing. Water quality appears reasonably good as freshwater shrimp (gammarus) and various caddis fly larvae were seen under stones. An outfall from the local sewage treatment works was discharging coloured water into the river which does give cause for

concern for the overall effect of this discharge on the aquatic environment downstream.

There has been some recent river bank reinstatement carried out by the Club and a farmer (riparian owner) where serious bank erosion had occurred during the 2001 floods. Unfortunately, although this work has stabilised the bank the materials used by the farmer, leave a great deal to be desired!

Comments:

From observations of the river, it is my opinion that it has the potential to hold a self sustaining population of trout of all age classes – i.e. swim up fry to adults. However, there are several factors that may be controlling this potential holding capacity:-

1. Swimup fry habitat is excellent as there are sufficient shallow riffles which make favourable habitat, however I fear that what natural spawning does occur is negated by the sediment loading of the river at the critical incubation and alevin stages.



Spawning Area.

2. For fingerling and for the stocking size of trout (8” to 10”) there appears to be little instream/midstream cover other than the few deeper undercut pools and within the impounded waters above the lower weir.
- 3 Anecdotal evidence states that historically the aquatic weed life was quite strong and regular. This being the case, this growth would have provided excellent summer cover for fingerlings and two plus and three plus adult trout in those areas that now provide little or no natural holding habitat.



No Instream cover

4. Although some serious bank erosion did occur in the 2001 flood event which will entail some heavy re-instatement work, the general overall effect of these floods has not dramatically affected the quality of the trout habitat within the river.
5. Tree cover is adequate along most reaches though the one year class growth of alder along the channelised stretch does need attention.



Over treed Channelised Stretch

6. This channelised stretch is virtually characterless and except for an ineffective rock structure, midway, consideration should be given to introducing some instream meanders to provide more diversity of fish habitat

RECOMMENDATIONS:

1A. Swimup Fry Survival.

As and when access to the stretch above is finalised, it is suggested that this new area is used as an experimental site to enable the EA to assess the survival rates of eggs and alevins and swim up fry after in-gravel egg incubation boxes are used to monitor survival in natural river conditions. Not until the suspected controlling factors of the natural survival at these life stages are pinpointed and identified, can any meaningful mitigation work be implemented. During these assessments, it will be necessary, therefore, to continue to stock the R & G FFC waters but it is recommended that no stocking of the upper beat be undertaken during this research work.

2A. In the areas which offer little instream/midstream cover, the random placement of single and groups of large rocks and stones would help to break up the water

surface and provide better cover, holding and feeding lies for the trout. The placement of these rocks to be set 4 to 6” out of water at summer mean base flow. These rocks will then be submerged during the higher levels of winter and would utilise the flow energy at that time to scour the river bed of sediments.

3A As the presence of rununculus was once common, it is suggested that a programme of replanting with plants taken from within the river catchment is undertaken. Ideally, rununculus requires good, constant, fast flowing water, so should be planted into the head or tail of a riffle, ensuring that the plant will always be submerged and have access to good sunlight. Small hessian sandbags can be used as “planting pots” for rununculus. Place gravel, approx.3”, into the sack, place rootball in the sack onto the gravel, put more gravel around the stems and allow stems to protrude from top of sack (fold back sack if too long) and loosely tie the top. Dig a hole in the river bed at required site and lay in the sack flat, with stems trailing downstream. Lightly cover the sack with gravel until only the stems are visible. The hessian sack will readily biodegrade and, by that time, the plant should have taken root. If placed in the right position, with constant good water conditions, expect 75% to take. If time allows, in the autumn, cut the trailing tresses of rununculus back to within 6” of the roots. Doing this will reduce the chances of the plant being torn from the river bed during high winter flows.

4A Where bank re-instatement is contemplated be sure to use natural materials which are on site – i.e. logs from fallen trees and stone and cobble from the river margins, or larger rocks which may be available from the nearby quarry. Avoid at all costs the use of manmade materials unless these can be fully covered by natural materials. Whenever bankwork is completed, it is essential to plant up as soon as possible with naturally occurring bankside vegetation which will help to stabilise the new bank which must then be fenced off to protect from grazing animals (See Picture “No Instream Cover”)

5A Where the river is completely shaded, serious consideration should be given to instigating a systematic pollarding programme of the mature trees to allow more sunlight into the river. For example, the new channelised stretch needs attention very soon, as all the marginal, self seeded trees, are single stemmed and, if left, will totally shade the entire stretch. These single stem trees need pollarding, which will remove top weight, thus reducing toppling during gales. Once pollarded the trees will sprout from the base and provide a more stable growth, whilst allowing light into the river

but still stabilising the river bank with stronger root growth. When pollarding, take note of the direction of the sun in summer and aim for 60% light and 40% shade.

6A Still in the channelised stretch, to instil more character and improve habitat, it is recommended that an alternating series of triangular rock deflectors be constructed to nudge the flow of the river from side to side – (See picture with drawing).



Triangular Deflectors

Where the old stone structure is still visible, it would be useful to construct a pair of triangular deflectors, one each side of the river, and the action of this would scour a deep pool just downstream. Placement and construction of this is critical – the rocks should be so placed that the points of the triangle are 6” out of the water at summer mean base flow level and, ideally, the construction should gently slope up from this point to the river bank. This construction will ensure that when submerged at high flows, the current is still directed away from the river bank, thus reducing the possibility of bank erosion.

There are several areas along the whole river which could benefit from the construction of some of these triangular deflectors and, possibly, one or two double

sets as described above. It is suggested you consult with Max Gooch as to the siting of these structures.

General Comments:

There is a great deal which can be done and it is recommended that all the planned work be set down and a five year plan formulated. This will then be split up into “yearly achievable projects”. It is essential from the outset to consult with the Environment Agency (Max Gooch) and English Nature (EN) and to heed their advice and guidance before presenting these plans to the relative landowners or, when the time is ripe to seek for further funding assistance. Max will be able to advise on the placement and necessity of stock fencing and will assist and guide you through all the problems associated with consents and the dealing with land drainage etc. The suggested assessments/research on the spawning survival of trout as described, is essential as it will, we hope, positively identify the limiting factors in the life cycle of the brown trout. With the result of this research along with the ongoing plans to maintain, enhance and restore the trout habitat within the whole stretch, will not only benefit club members, but also improve habitat for many of the other natural species of the flora and fauna of the Alun Catchment.

Finally, it is suggested that all future tenancy agreements with landowners should be agreed in writing and the leases to be negotiated for several years.