

# THE RIVER YARROW & TRIBUTARIES

Advisory Visit Report  
Undertaken on behalf of the Wild Trout Trust

By Ron Holloway MIFM  
7<sup>th</sup> December 2001



Fig.1 –The River Yarrow at Big Lodge Park

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## River Yarrow Visit 7<sup>th</sup> December 2001

This advisory visit was undertaken by Ron Holloway (R H Associates) on behalf of the Wild Trout Trust (WTT) in the company of Mike Callery, Chairman of Friends of the River Yarrow (FRY), Darren Wilson, Fisheries Officer – Environment Agency (EA), John Twinn, Treasurer of FRY and David Massam JP., Committee Member FRY.

The objectives of the FRY are:-

1. To improve wildlife for otters, wolverines etc
2. To improve water quality.
3. To encourage the development of sustainable fish populations which includes resident and migratory salmonids.
4. To further raise the awareness of river issues and identify opportunities for education.

Regular surveys and assessments have been undertaken by the EA from which a draft plan and timescale for implementation of a range of restoration projects has been formulated. These projects range from bankside habitat improvements – i.e. stock fencing and tree planting through to the removal/adjustment of the impassable barriers to fish movement up and down the river system. All these projects will support and complement the ongoing initiatives already in place with the EA's "Sustainable Rivers Project"

The object of this advisory visit will be to study the draft restoration plans and to identify any further issues that a "fresh pair of eyes" may detect, and to corroborate the already drafted action plans.

### **Site One. The Confluence of Yarrow and Blackbrook.**

Water quality is good (see EA report) the substrates as viewed from the bridge are suitable for salmonid spawning and the quality of substrates improve as one progresses further up the Blackbrook. Recent EA surveys (Oct.2001) indicate good survival of 0-1 young of the year trout and some numbers of 1-2 year class. The spawning potential is excellent and the Blackbrook offers good nursery facilities for trout once access is made available by the removal of the weirs downstream.

Recommendation: Protect as is and continue to monitor spawning and young of the year survival.



**Blackbrook – Fig.2**

**Site Two: Ducksbury Weir**

This weir which is situated a few hundred yards downstream of the confluence of the Yarrow and Blackbrook, completely obstructs any upstream movement of fish. This weir creates a “one way street” which allows fish to move downstream only so, therefore, it is suggested that this accounts for the low presence of three, four and five year old plus of adult trout upstream of the weir. Although the Blackbrook affords good spawning facilities and nursery habitat for young of the year, there may be a limiting amount of adult habitat so what spawning activity there is will be undertaken by the two year old resident adults that have managed to grow on in the upper reaches of the brook. After spawning, the kelts would tend to migrate downstream to find deeper water to recover from their first spawning efforts and, in doing so, would inadvertently drop over the Ducksbury weir, doomed never to return to their original habitat!

Recommendations: As Ducksbury Weir now serves no useful purpose and backs up only a negligible volume of water, the total removal of this structure is, therefore, recommended. Such removal may release some accumulated silt held up behind the weir, but if the demolition work was undertaken slowly and systematically during good river flows in February/March, the effects felt should be minimal on the receiving waters downstream. Also, at that time of year the action would not interfere with spawning fish, or even fishermen! The river should soon settle after a few days, following the demolition. The removal of this weir would then allow unimpeded access to the several miles of excellent spawning and nursery habitat upstream for the larger migratory brown trout/seatrout and, hopefully, salmon.

**Site Three:** Birkacre Weir.

This weir, (see Figs. 3 and 4) is also an impassable obstruction for most species of fish. The requirement for maintaining the height of the head of water above this weir which allows water to feed the two ponds (lodges) via a 6" pipe by gravity flows precludes the removal or lowering of this weir. The most realistic option to follow which would allow access for migratory fish to the substantial and excellent fish habitat upstream, would be for a fish pass to be constructed. The geology of the natural substrate below the weir and the construction and geomorphology of the weir itself, precludes contemplating the siting of a fish pass through or over the main weir sill. The one, if not only option, would be to construct a stepped fish pass around the weir on the far side of the weir, through the private property of the neighbour. Besides being the most practical option, this siting of the pass would also protect any running fish from the unwarranted attention of members of the public! The construction of a fish pass through or over the weir sill would attract the attention of passers by on the footpath only a few feet away.

Recommendations: History states that there has been a by-pass channel constructed and used around this weir in recent times which allowed the water take-off mechanisms to supply the ponds to be installed. It has been suggested that some numbers of migratory fish did use this temporary by-pass channel when it was in use and what seatrout have subsequently been observed trying to negotiate the almost impossible part of the weir, are the descendants of those fish which used the bypass channel and made it upstream to the excellent spawning gravels.



**Fig. 3. – Birkacre Weir**



**Fig. 4 - Suggested new route.**

It is suggested that permanent fish pass is designed and constructed along the same historic bypass channel which was previously used by the engineers. Careful consideration to the design and incidence, size and depth of the steps of the pass has to be made, allowing for suitable standing waves in each step to assist fish to propel themselves up the pass.

**Site Four:** The Banks of the Yarrow from Eccleston Bridge downstream to Croston Weir –See Fig.5.

Although there are one or two major erosion points along this reach, the general structural condition of the river bank is good. Where erosion is occurring, the suitable use of willow spiling is suggested along with some reprofiling of the steep banks which would then allow for replanting with indigenous tree species and native occurring bankside vegetation. This will naturally stabilise the vulnerable soft banks. To complete the protection of this stretch suitable stock fencing along the whole length is intended, but allowance should be made to leave suitable and acceptable stock watering access for livestock.



**Fig. 5 - Erosion**

**Site Five: Sydbrook**

This tributary brook provides excellent habitat for many species of fish and wildlife and offers good spawning areas for salmonids upstream. Bankside vegetation is good though a few indigenous trees, alder, hawthorn or willow for example, could be planted along the banks through the open fields, and also fenced where there is a threat of overgrazing by stock.

**Site Six: Croston Weir.**

For some years, it was thought that Croston weir presented an insurmountable obstruction to all species of fish seeking to attain the ever improving aquatic habitat upstream of this obstruction. It has, however, been accurately documented that migratory salmonids (seatrout) have been observed and counted either scaling the sloping weir face or at times when flows are suitable, actually clearing the weir completely (using the Fosbury Flop technique I believe!) However, it has been noted that it was predominantly small seatrout who have been most successful in this feat. This poses the question whether the weir is actually selecting mainly for these agile young seatrout and precluding the older and larger adults from reaching the upstream quality spawning areas.

Recommendations: It is suggested that serious consideration be given to installing a fish pass around (preferably) or through or over this weir. The ideal option would be to construct a shallow three step pass around the weir on the mill side. The alternative is to construct a denil pass through the centre of the weir which would be more difficult and more expensive to construct.

Experience gained from a very similar situation regarding another impassable weir on another river, albeit not in the UK but in Canada (the Ganaraska River) was where a weir was perceived to be completely obstructing migratory trout access upstream, but this weir was subsequently reduced in height which allowed some fish to negotiate the obstacle. However closer observation noted a large build up of many large ripe female trout behind the weir, particularly late in the year that were unable to ascend the obstacle after the main run of smaller fish had already negotiated the weir. The decision was then taken to reduce the height of the weir, thus allowing these large “egg factory” hen fish easy access upstream. The success of this operation was illustrated by the subsequent photographic records from an accurate fish counter on another fish pass further upstream that suddenly started to record for the first time,

large numbers of late run big mature hen fish. Therefore, it is suggested that although the Croston Weir allows small migratory trout access at certain flow conditions, the construction of a suitable fish pass that allows for ALL sizes of fish at ALL states of the river flows, easy access upstream, is strongly recommended.



**Fig. 6 – Croston Weir**



**Fig. 7 – Croston Weir**

**General Comments:**

The fascinating historical background of the River Yarrow and its catchment and its more recent changes of mans' land use activities since the demise of the Industrial Revolution, are plainly reflected in the river and tributary stream of the Yarrow Catchment. It is unlikely that during the heavy industrial times that there were many, or even any species of fish capable of surviving in the main stem of the Yarrow. The water quality of the Yarrow has since continued to improve at an astonishing rate and this has been aided by the implementation of “clean up” legislation (EA) and aided and assisted by natures' own incredible powers of self healing. The Yarrow continues to improve and this improvement is, and will be, aided by the successful implementation of the restoration plans of the Friends of the River Yarrow, in partnership with the EA., English Nature, Wild Trout Trust, and the Lancashire C.C. It is suggested that English Nature be invited to join this partnership for their excellent advice and guidance and possible funding support.

Finally, I ask if it would be of advantage to FRY if they would consider applying for charitable status which may encourage further support from the local community and industry, besides the possible advantages on tax refunds on donations etc.

**Suggested order of priority for implementation:**

1. Birkacre Weir
2. Ducksbury Weir
3. Croston Weir
4. Bankworks and fencing.

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