THE GALSTON ANGLING CLUB

THE BURNAWN TRIBUTARY of THE RIVER IRVINE

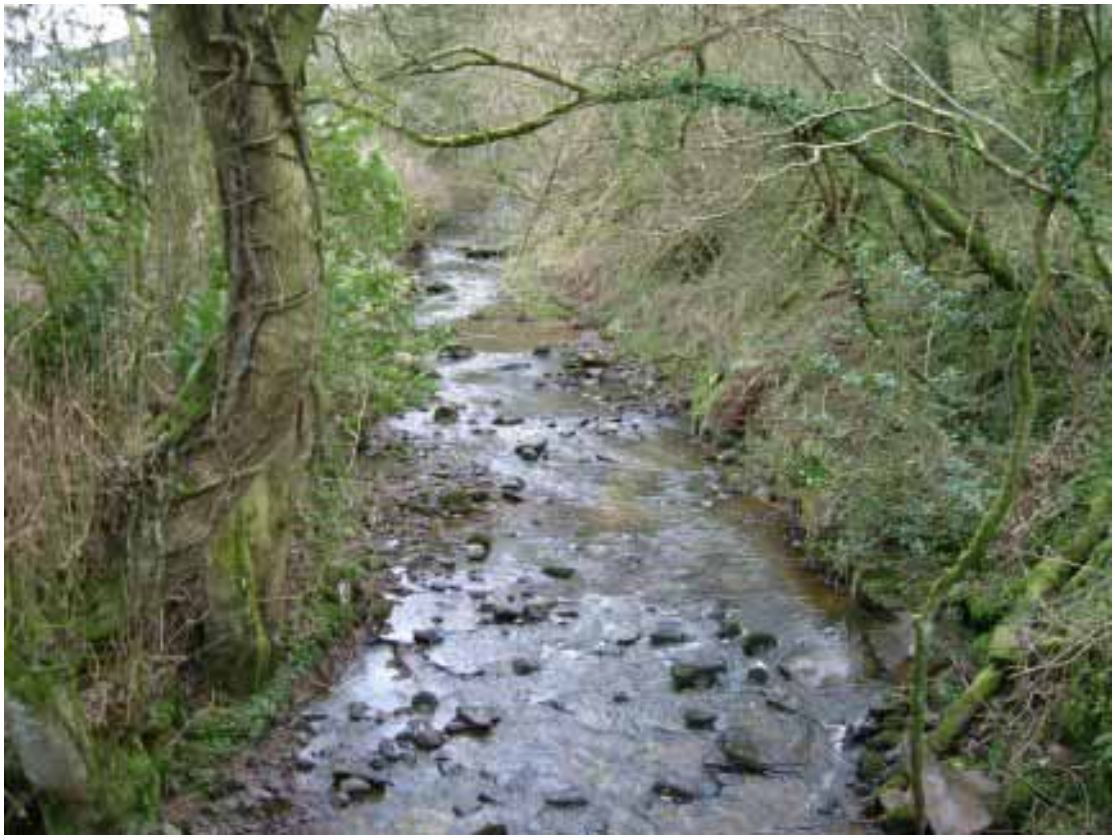
AYRSHIRE

Advisory Visit Report

Undertaken on behalf of the Wild Trout Trust by

Ron Holloway MIFM

19th February 2005



Burnawn Burn, River Irvine, Galston

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The Burnawn Burn

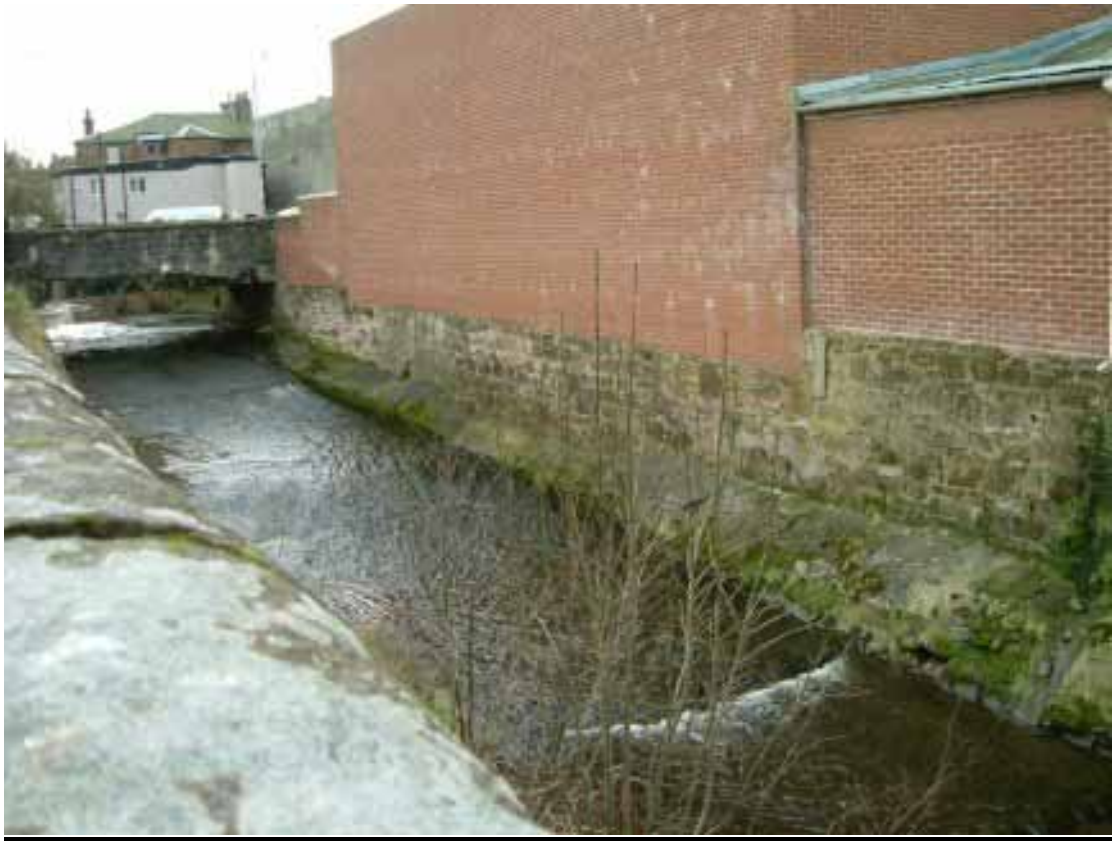
This Advisory Visit was undertaken by Ron Holloway MIFM (RH Associates) in the company of Gary Anderson (Galston A/C committee member) and William Young land owner, farmer and Club member, on the Burnawn Burn a tributary of the River Irvine that joins the River Irvine above the town bridge in the town of Galston, Ayrshire, Scotland.

Objective of Advisory Visit

To look at the Burnawn Burn to pinpoint and identify any obvious limiting factors that may be controlling the reproduction, survival and free passage of salmonids brown trout, sea trout and salmon. To advise and suggest such measures that the Galston AC members themselves should or could undertake that would help to improve the survival of wild stocks of self sustaining brown trout and sea trout and salmon, at all life stages and improve natural salmonid reproduction. This is with a proviso that any work undertaken by the Galston fishing club is compatible with the objectives of the River Irvine Fisheries Association and the Ayrshire Rivers Trust.

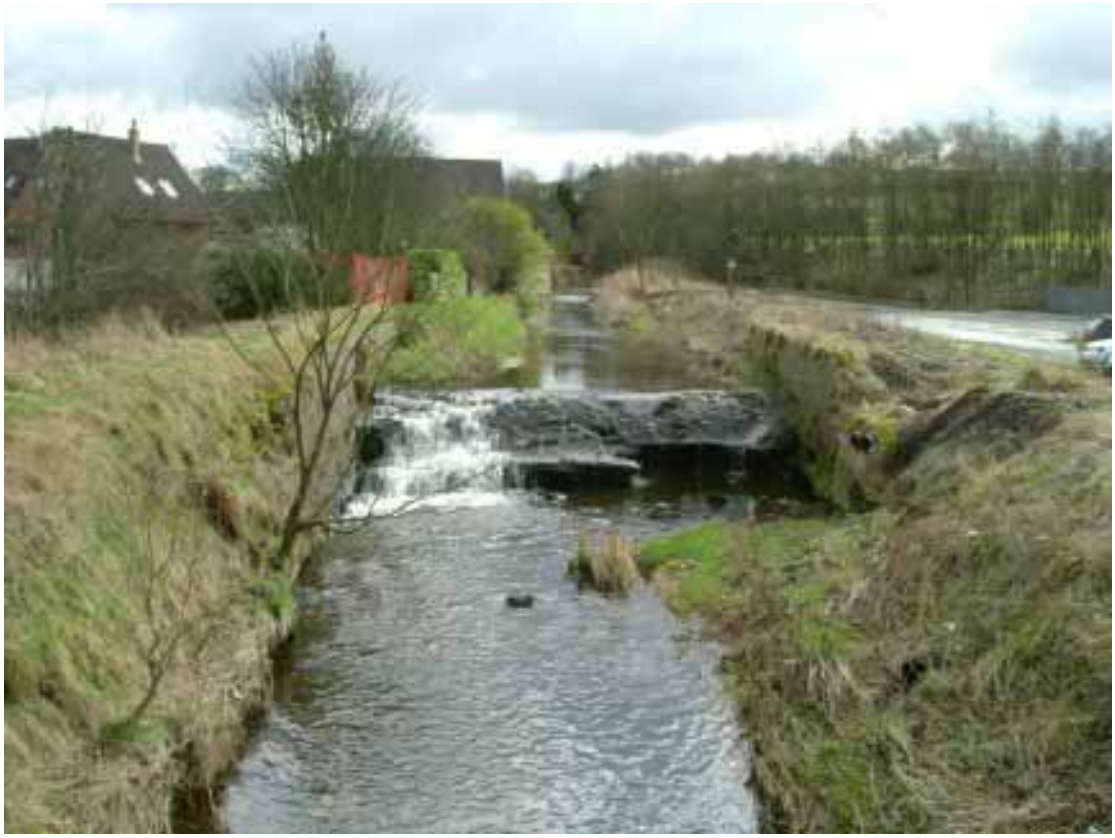
Background

Prior to the heavy industrialisation of the catchment the River Irvine and its tributaries was historically a very prolific migratory salmonid river fishery with a good resident population of brown trout. (Anecdotal evidence received on the day). Similar to other rivers along the Ayrshire coast the Irvine is now best described as a recovering river system. It is recovering from the effects of the poorly controlled land use practices within the catchment and the polluting discharges from various forms of industry and agriculture. With the reduction and demise of many of these detrimental influences the river is now trying very hard to heal itself naturally. There are still areas of concern that indicate that water quality may at times not be up to consent standards and it is suggested that this may be one of the main controlling factors limiting good annual year class survival of trout, sea trout and salmon at least in the main stem of the Irvine.



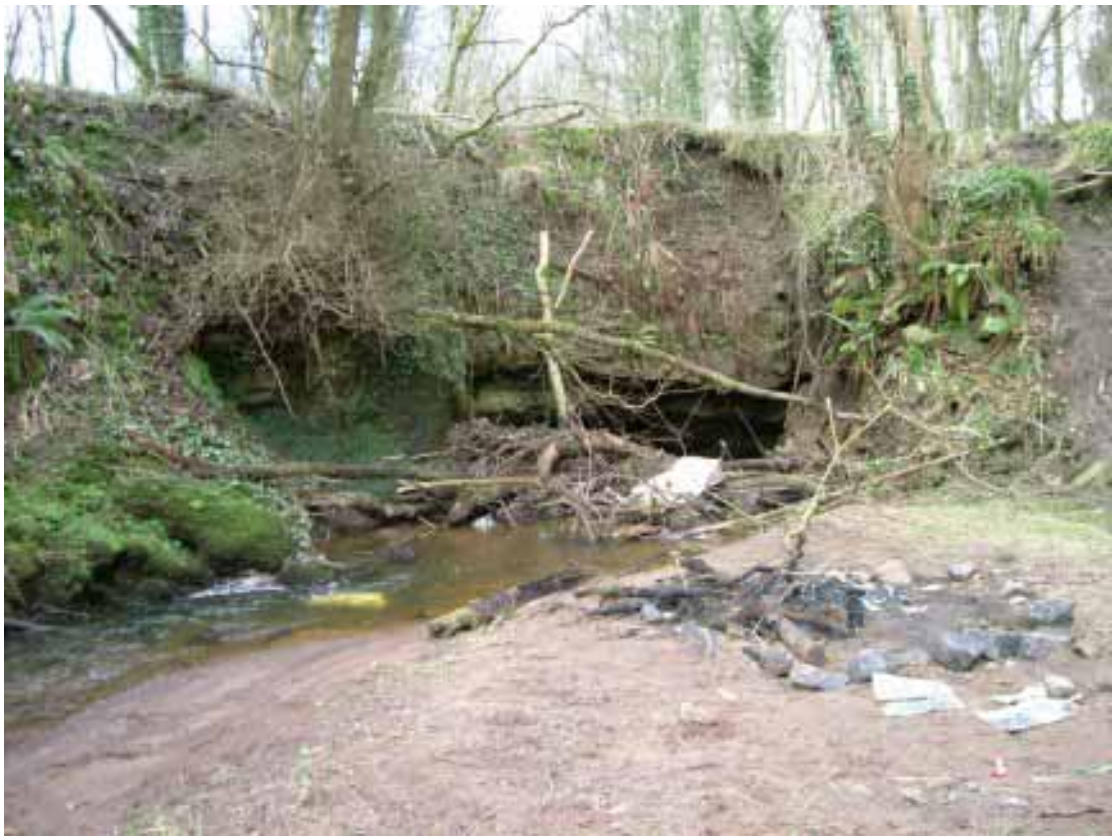
Picture 1. Burnawn Burn at confluence with main river in Galston town.

Here the concrete river bed is set at an angle that restricts the passage upstream of fish at mean base flow level and below, although with two foot or more of flow fish do ascend this obstacle with comparative ease (anecdotal evidence). However there are plans for a fish pass to be installed at this site in the near future, which will enable migratory fish to ascend more easily at a wider range of flow regimes..



Picture 3 Redundant weir

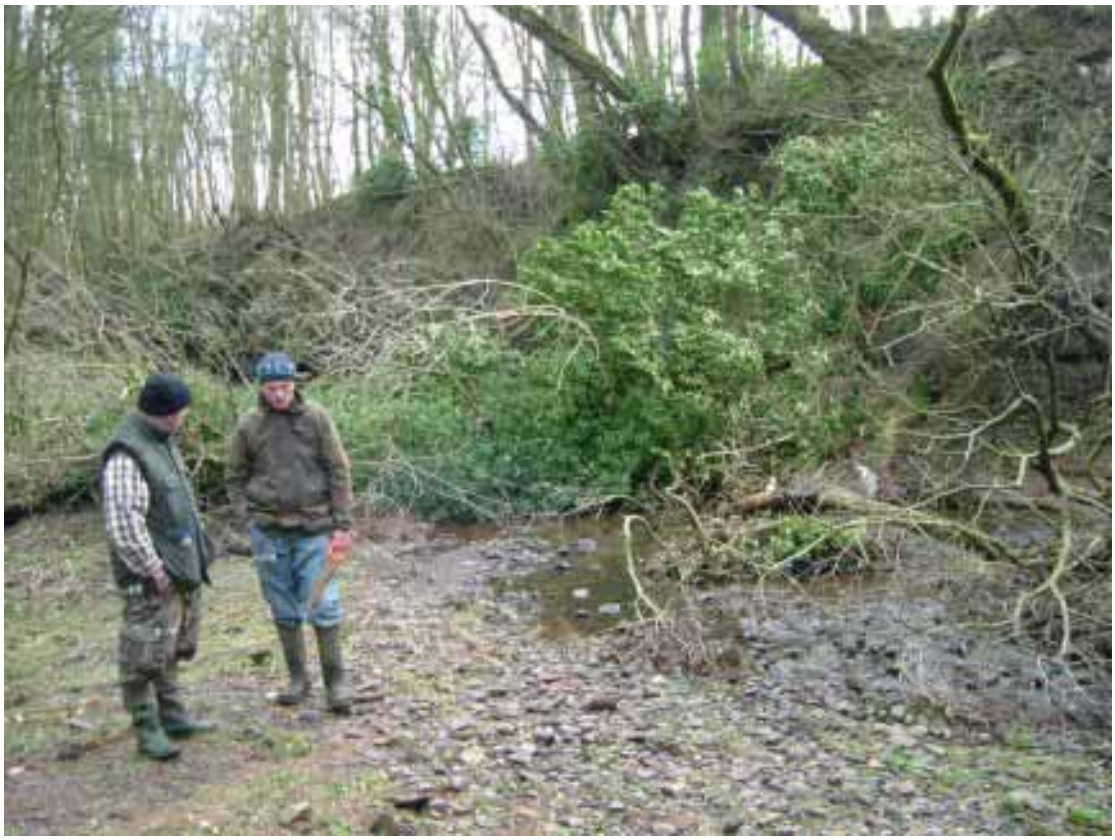
This man made concrete and rock weir will restrict the passage of migratory fish at most flow levels except in spate conditions. To aid flood prevention in the locality and to allow better access for migratory fish in less than spate conditions to pass upstream it is suggested that this weir is either removed completely or at the minimum reduced in height by 50%. Whatever flood prevention work is planned for this stretch it is essential for ecological reasons for fish and wild life that provisions are made within the plans for any construction work, that allow for sufficient natural regeneration of bank side vegetation to occur.



Picture 4 Wood and plastic debris dams

Above the town the burn runs through more natural woodlands and mans influences are less severe however there are many large woody debris dams that have built up over the years and in some places have altered the flow channels of the burn. These debris dams need to be removed to allow a free passage of fish to the higher regions of the burn. Remove wood and burn or stack away from the stream edge to grow in and rot away. It is unnecessary to remove all wood debris from the water course as woody debris does contribute much to the ecology of the burn. Just take out any accumulations that are affecting the flows, obstructing upstream fish movement or threatening to alter channel flows that may increase erosion of the burns natural banks.

Although the tree cover along the burn is heavy at this stage only old and rotten trees or any tree that is about to topple into or over the burn should be felled. Light is essential for a healthy burn to support good insect life so where ever possible reduce the tree canopy when ever the opportunity arises. Ideally a ratio of 40% canopy cover and 60% open to sunlight is perfect but in this instance tree cover is not the priority at this stage.



Picture 5 Fallen trees across the burn in need of clearing

All trees that fall during gales or just fall over for no apparent reason as in above picture should be removed as soon as possible. If left they act as a filter for all forms of flood debris and soon collect sufficient rubbish to create a dam that deflects the flows and could restructure the original natural burn channel profile.

Conclusions

The Burnawn Burn has in my opinion great potential to become a substantial contributor of wild young of the year stocks of brown trout to the River Irvine. However further researches may be needed to determine the burns potential for producing salmon smolts or sea trout smolts. The advisory visit could not identify on the day any obvious limiting factors that are controlling the natural reproduction of brown trout or sea trout or salmon once the brood stocks had negotiated the town stretch of burn. Where mans influences have constructed several obstacles that may impair the free passage of fish up to the more natural conditions of the upper reaches of the burn then consideration should be given to removing these obstacles or mitigate their effects on the burn.

However that is not to say there are no other controlling factors to worry about!. Observations indicate clearly that there are, once the brood stocks arrive in the upper reaches, sufficient deeper holding pools for adults to use and adequate spawning gravels for egg laying. There appears to be sufficient cover for swim up fry and for parr and fingerling stages . The holding capacity for older resident trout however is sparse and although there are some deep pools these are well dispersed and will only hold a few permanent resident fish of catchable sizes.

It is suggested that water quality and food availability may be the limiting factors that are controlling survival of YOTY (young of the year) in the upper reaches of this burn. To answer these questions it is suggested that SEPA are contacted and are asked to undertake water quality research on the burn that would show if the water quality is such that at times it may well be below the standard required to sustain a healthy fish and insect population. This research to be followed up with studies undertaken to quantify and identify the present macro invertebrate (insect) population within the burn. Finally a before and after electro fishing study of the burn in June/July time to quantify the survival rates of the young of the year. Once this information is available it can then be shown more accurately what the actual potential for natural reproduction of salmonids really is within this burn and what can or should be done to improve the natural production. Prior to all this it will helpful to monitor the actual numbers of spawning fish entering the burn and numbers of redds constructed by trout and salmon. In the interim the Galston Club should carry on with its program of cleaning up the burn top to bottom. Finally on this burn there are areas in the upper reaches where livestock grazing access has caused serious damage to the stream banks stability. Fencing off where necessary is required allowing for suitable drinking spaces for live stock. Negotiations with the farmer would be the first move in resolving this problem.

General Observations, Comments and Suggestions

If any long term sustainable restoration work is to be successful on the River Irvine that benefits the whole river, its fish and the anglers who fish the system, the entire river catchment has to viewed by all as one single ecological unit and managed as one single system. It is unsustainable if there are, as there appears to be at this time, several or many single individual initiatives to improve the fishery. No matter how well intentioned, these initiatives may not be as successful as all the individual clubs

and riparian owners getting together to formulate and implement with guidance and expertise from qualified agencies, one workable long term restoration and improvement program. Only by working together for the whole river system and treating it as one complete unit will any real progress be made in the protection, restoration and improvement of the quality of the river and its tributaries and all the fish that live within the system.

This can be illustrated by the fact that any work done in the headwaters will affect the river downstream and also any work done down stream can have serious affects on the river upstream. So only by working together under the right guidance all work will be co-ordinated to benefit the whole system. There is nothing to prevent individuals or clubs doing work off their own bat but as long as it is under the guidance of a management organisation.

It is understood that there is in place an organisation **"The River Irvine Angling Improvement Association"** however it is understood (hearsay) that this organisation may be moribund. This organisation however would be the ideal platform from which a program of work could be formulated under the right guidance. This program would identify and prioritise all the limiting factors that are controlling the natural productivity of the salmonid populations within the whole system. With this vital information and the scientific support of such agencies as the Ayrshire River Trust and SEPA et al, it would then be possible to set down an ongoing progressive program. A program that addresses the problems in the right way at the right time which benefits the fishery as a whole. Further more with the right people leading the committee and with the right scientific advice and guidance, access to sources of funding to undertake the necessary work would become easier to obtain. Experience working with other similar degraded river systems teaches that only by all parties working amicably together in such a manner will any real progress be made in a situation that now seems to exists on the River Irvine.

It is strongly suggested that serious thought be given to forming or reforming an active organisation that has these objectives in mind.

Addendum

It is understood that there are plans for substantial investments to be made in constructing flood defence structures at the lower reaches of this burn. The plans for these structures were not to hand on the visit and which may subsequently have some

further influence on the salmonid movements up and down this burn and therefore these plans have not been taken into consideration within this report.

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