ADVISORY VISIT TO THE RIVER GLAZERT, STRATHCLYDE, 10 OCTOBER, 2005

Undertaken on Behalf of the Wild Trout Trust, by Andy Walker, Windrush AEC Ltd for Campsie Angling Club

Frontispiece: River Glazert by Lennoxtown, from site of former Grey Stanes Dam

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1.0 BACKGROUND and OBJECTIVES

Campsie Angling Club requested from the Wild Trout Trust an advisory visit to suggest ways to improve their brown trout fishery on the River Glazert in Strathclyde. The River Glazert is the main headwater of the River Kelvin system, a lower tributary of the River Clyde, which it joins in Glasgow. The members of the club believe that the Glazert is shallower, carries less flow and holds fewer and smaller brown trout than it used to, the decline in brown trout becoming most evident within the last decade. During the same period, there have been steadily improved runs of salmon and sea trout. The increased numbers of migratory fish are believed to be due to improvements at fish ladders further downstream in the River Kelvin and better water quality in the formerly heavily polluted lower River Clyde, helped by declining heavy industry. The Clyde system is enjoying a major resurgence of stocks of salmon and sea trout in its lower half. Major physical barriers continue to prevent their access to the upper reaches of the main stem.

An advisory visit to the River Glazert was undertaken on 10 October 2005, to provide a broad overview of the fishery and try to pinpoint any obvious features of the habitat that might be addressed. Club Treasurer, Lawrence Meechan, acted as guide to the river and explained the background to the enquiry and points of interest.

2.0. THE ADVISORY VISIT

The visit took place during a spell of wet weather with overcast skies, with the river a little higher than normal but not in spate. It was examined in a downstream direction from Haugh Head (Campsie Glen) to below Lennoxtown. Ensuing heavy rain and very dark conditions precluded examination of the lower stretches around Milton of Campsie. However, the major problems associated with the river were believed to be in the upper stretches. Larger pools further down remain popular areas for fishing. A selection of digital photographs shown below provides useful reference points for comments.

In the deciduous tree-lined top stretch which runs close to the A891, the channel was only about three metres lower than the road. The wetted width was about ten metres and the bed comprised mixed boulders, cobbles and gravel (**Plates I & II**). The water was slightly darkly stained in colour, but reasonably clear. Although no trout were seen, there was reasonable cover for larger fish in the deeper water under the bridge and downstream among the boulders, along the bottom edge of a concrete wall on the right bank and in the turbulent section below the ramp beneath the bridge. A short distance down from the bridge, there was a strong smell of sewage coming from a pipe discharging to the river from the right bank (**Plate III**). Sewage fungus on stones downstream from the outlet indicated that the discharge was not simply due to overspill of a septic tank due to rain, but was persistent. However, the gross polluting effect was lost within a few metres and the river appeared to be well-oxygenated and remained clear. Invertebrates were common beneath stones and Lawrence Meechan commented that there appeared to be no shortage of river flies.

Plate I & II: River Glazert below Clachan of Campsie Bridge

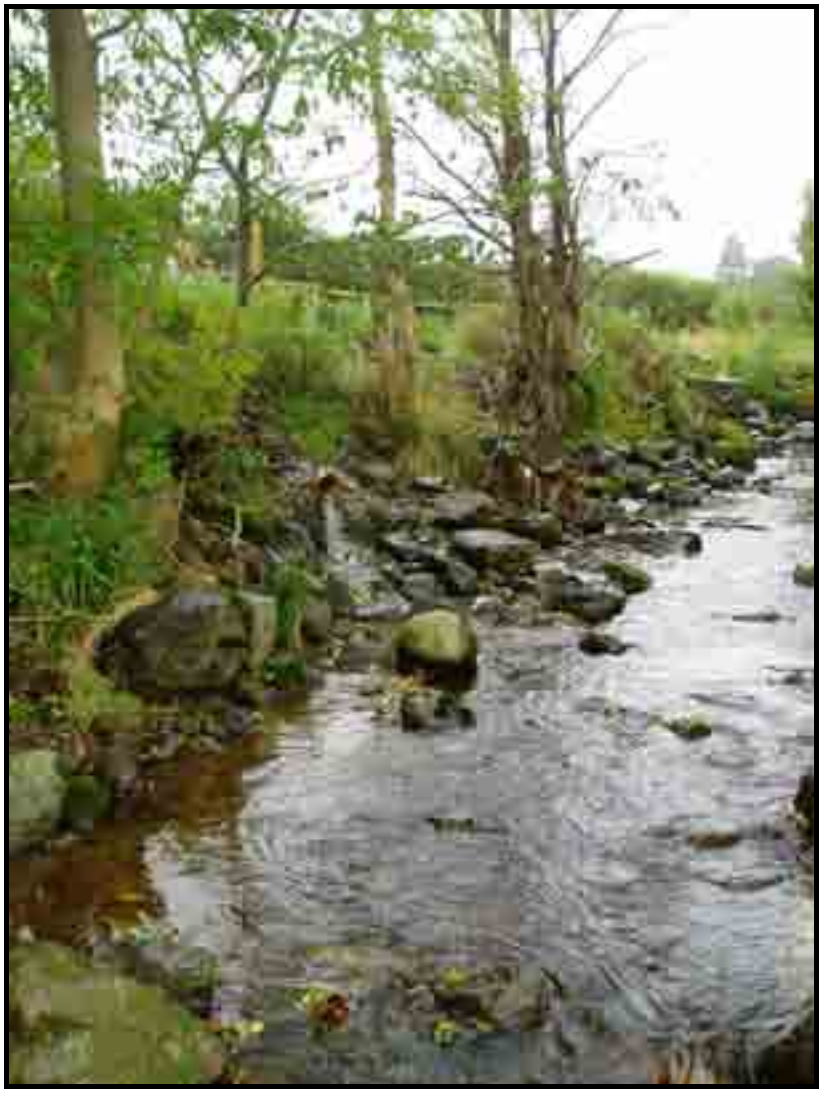

Plate III: There are a number of discharges into the Glazert. This one was smelled of sewage, but the water quality in the river seemed good overall.

Close to the road, part of the left bank had been shored by gabions because of previous spate damage (**Plate IV**). At the same time, the bed was excavated and channelled and, according to Lawrence Meechan this had resulted in a featureless and shallow stretch which used to hold good-sized trout. However, the river bed has now largely repaired itself and the channel beside the gabioned bank is narrow, deeper and more torrential.

Some other stretches were relatively bare and wide, limiting their adult trout holding capacity, but making them more suitable for juvenile production. With the increased stocks of salmon apparent in the Glazert, salmon and sea trout probably spawn in theses upper parts and shallow sections may hold significant densities of fry and parr. No electro-fishing data were available for examination, but the Clyde River Foundation has undertaken a limited amount of electro-fishing of the river and plans a bigger survey in 2006 (pers comm. W. Yeomans).

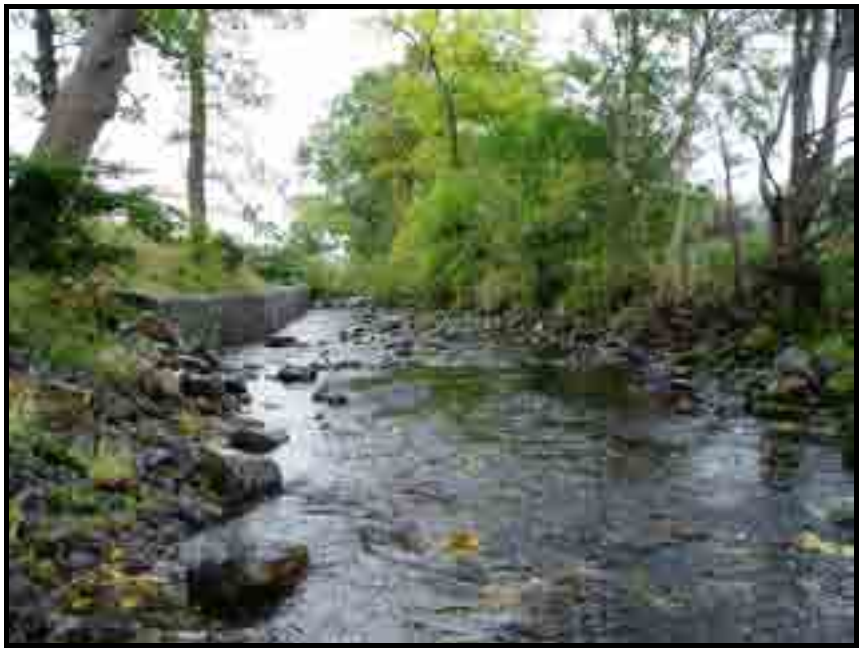

Plate IV: Gabioned stretch close to the A891

Further downstream, some stretches flowing through dense woods were quite dark, bearing in mind the gloomy overhead conditions at the time of the visit. On the other hand, the banks were well-vegetated, indicating that light still gets through the canopy to lower levels, although greater light penetration probably would be beneficial to trout production and fishing. Some pruning and lopping could be undertaken, providing necessary permissions are obtained and safety guidelines adopted. This work would require permission from riparian owners and necessitate application for planning consent. At an early stage of proposing work on the trees, and to ask about funding options, it would be advisable to contact your local authority Environmental Services. They may also provide contact details for the Biodiversity Co-ordinator for your local Biodiversity Partnership, since the management of woodland involves a wide range of ecological interest groups. It may be easier to attract funding in partnership with these.

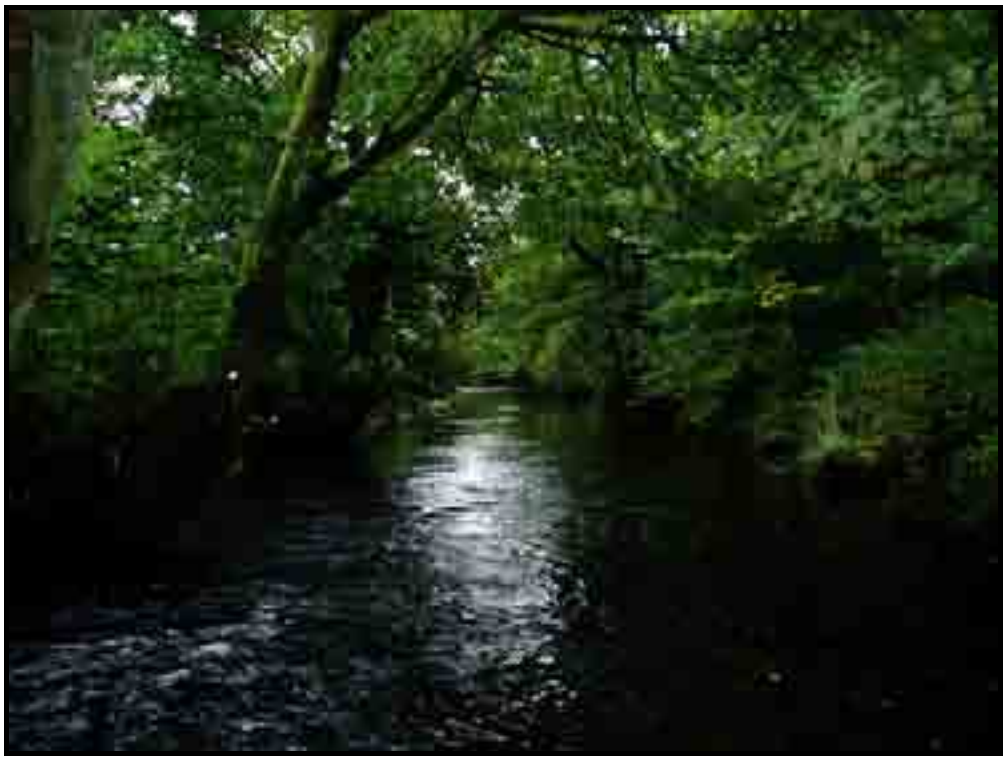

Plate V: Dark section with dense overhead canopy.

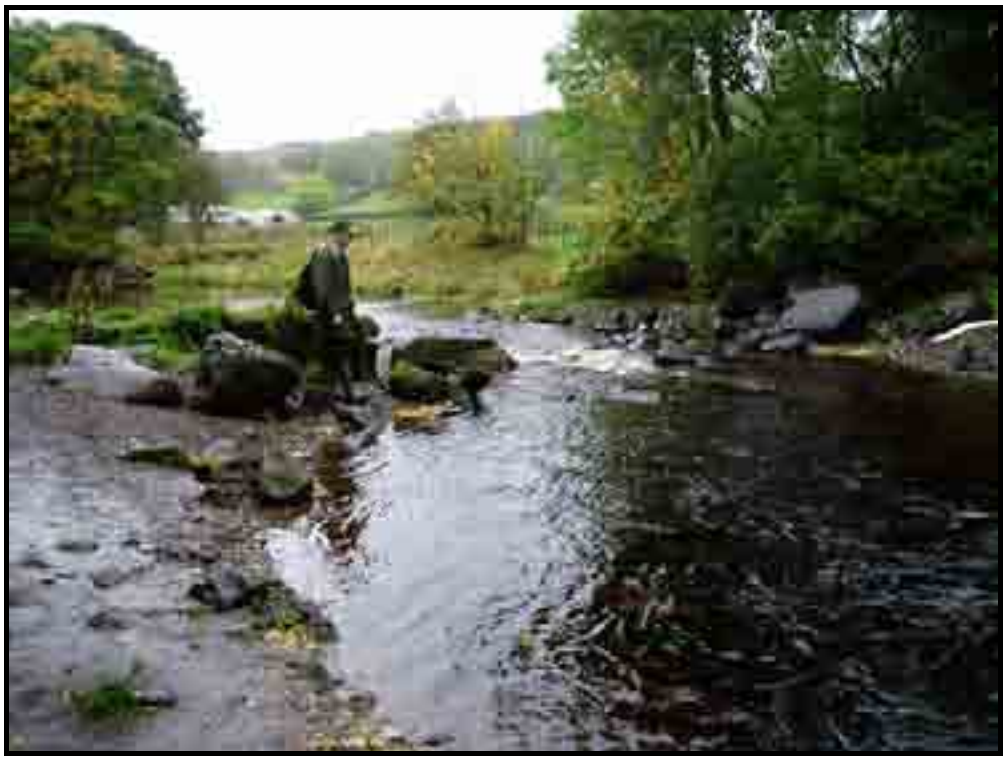

Plate VI: Grey Stanes pool

A major feature was the site of the Grey Stanes Dam (**Plate VI** and **Frontispiece**), the lade from which used to supply water to a large nail factory. A deep pool above the dam used to hold large trout. According to Mr Meechan, attempts by club members on two occasions to reconstruct a smaller barrier using boulders were resisted by a local farmer who dismantled their efforts for unknown reasons. Presumably, the last attempt at damming was this year because the banks were still muddy rather than grassed, as if the pool had just been drained.

Not far downstream from the dam site, we reached a polluted stream which entered on the right bank below a large farm. The burn was rusty coloured and choked with iron bacteria, or other material (**Plate VII**). However, here too there was little indication of an effect on the river except close to the point of discharge. Also, a pipe entering from the old Lennox Castle Sewage Plant, only one filter bed of which seemed to be operating, was discharging apparently clear water. (**Plate VIII**).

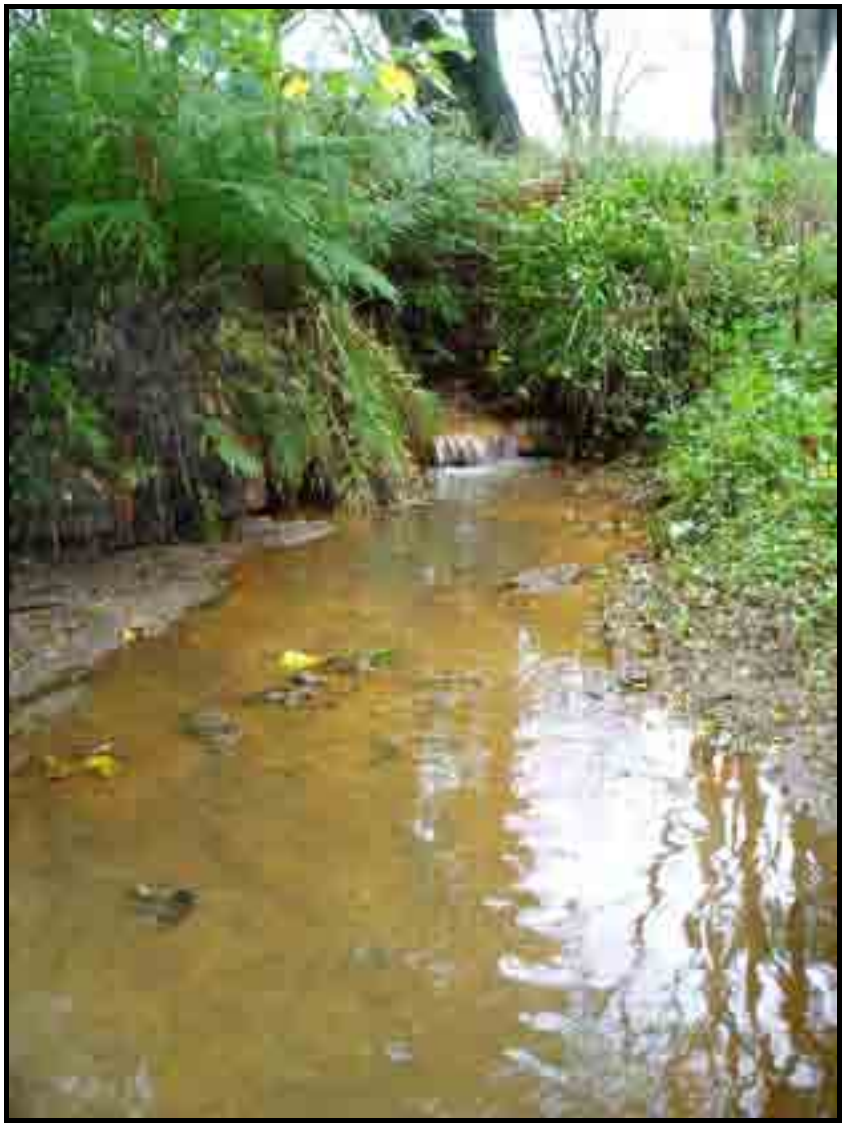

Plate VII: Polluted water from a farm stream

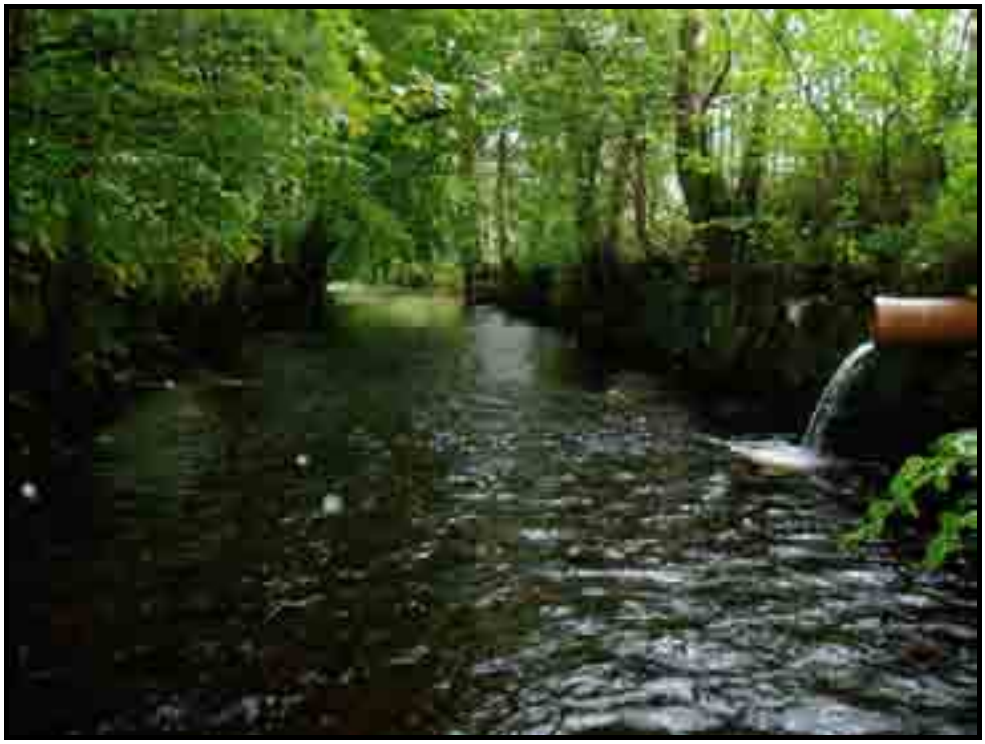

Plate VIII: Cleaner discharge from Lennox Castle Sewage Works

The old nail works that used to be supplied by the lade from Grey Stanes Dam left a legacy of very acid soils and up to 15 years ago the effluent from this area and the river for some distance downstream from this site was stained reddish/orange, yet it still contained good trout at that time (pers.comm. L. Meechan). Now the river is less stained, but the Club believes that the trout fishing has deteriorated.

SEPA's River Classification (2004 data) indicates that the River Glazert in the 1.5 km stretch above the nail works site is B quality overall, or "Fair" (see http://www.sepa.org.uk/rqc/). Water quality in the burn flowing through the nail works site is recorded as grade D overall, which is "seriously polluted." The river continues as grade B overall through Milton of Campsie. Clearly there are issues of pollution of the Glazert that may need to be discussed with SEPA for their specialist advice. For detailed comments, contact Dr Calum McPhail, Environmental Quality Manager, SEPA South West Region, 5 Redwood Cres., Peel Park, East Kilbride, G74 5PP (direct dial 01355 574251; e-mail Calum.McPhail@sepa.org.uk).

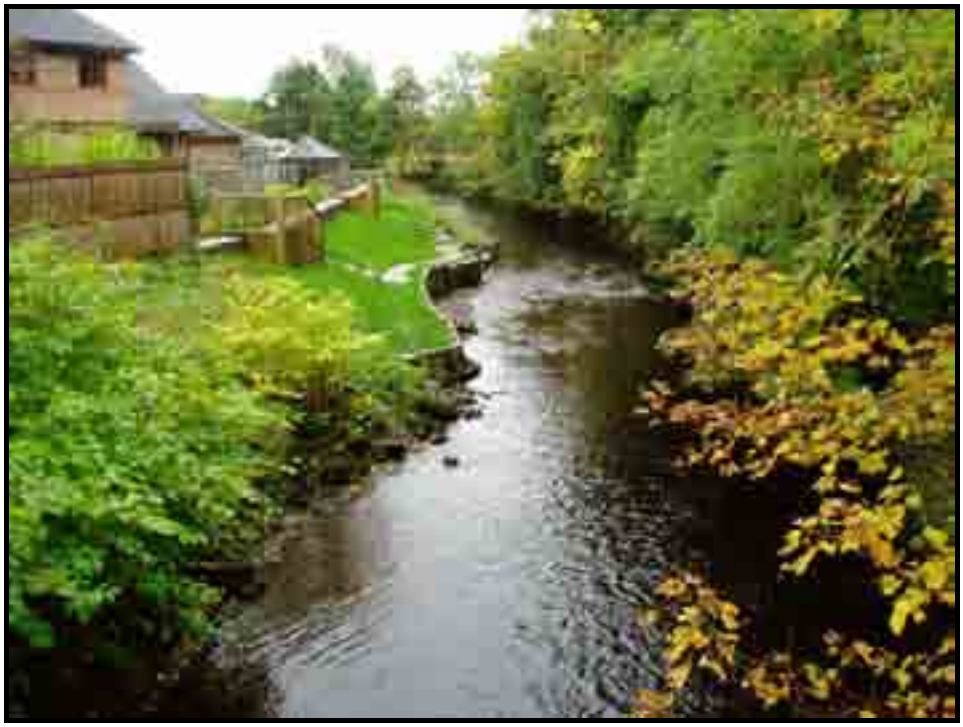

Plate IX: Housing development on left bank

A hotel and housing development by Glazert Bank includes a flood defence embankment and, further downstream, there is an associated garden feature leading down to the river (**Plate IX**). This work has been carried out without apparent damage to the fishery and is aesthetically pleasing..

3.0. COMMENTS

In general, although severe spates occur from time to time, most of the banks of the Glazert seem well-consolidated and there is relatively little erosion. The angling club is more concerned about lack of flow, believing that ambient levels are much lower than they used to be. A large springwater bottling plant, situated at Lennoxtown, draws its supplies from the overlooking Campsie hills. It has been suggested that the plant is drawing down the water table and affecting the flow in the river, especially at times of drought. However, rainfall data available nationally indicate changing patterns of weather that could account for the differences noticed locally in the Glazert. For detailed comment on these issues, the Campsie Angling Club should contact SEPA for advice.

There may have been significant changes to the physical structure and even the water chemistry of the upper River Glazert that have affected the brown trout stocks and fishery. SEPA also ought to be able to comment on these matters. The water chemistry is believed to be better than it used to be, but there has been at least one unattributed fish kill within recent years. If Campsie Angling Club members see evidence of fish mortalities, they should contact SEPA immediately, and obtain water samples for later examination. If a point source appears to be the cause, samples should be collected in clean containers above and below that point. Photographic evidence also would help to confirm the source. Immediate action is required because pollution incidences tend to be episodic and may not be maintained for long enough

for officials to reach the scene. SEPA should also be asked to comment on any chronic pollution of the Glazert and, if so, what actions are being taken to address this.

Another factor that may well be implicated in the apparent decline of larger resident trout is the return to the river of salmon and sea trout. A consequent increase in migratory tendency among the young trout would be expected due to increased egg deposition levels and competition among the parr for space and food. This could be exacerbated by an increasing inherited tendency for the young trout to migrate seawards. The stock composition would change from relatively low numbers of large resident trout to one with a lot of salmon and trout parr and only a few resident individuals. In effect, the river becomes a nursery for migratory fish. In this new situation, maximisation of the proportion of resident brown trout would require improvement in the availability of cover for larger fish. However, there is no guarantee that the numbers of takeable trout will increase to former levels.

There are important practical considerations for any attempts to increase the amount of cover for trout, not least of which is a shortage of finance. Campsie Angling Club has a small membership, 50 – 60 members and juniors, many of whom now fish more frequently in stillwaters than in rivers. In addition, there are potential legal problems for any works that may interfere with the free passage of migratory fish. Matters affecting migratory fish should be taken up with Dr Willie Yeomans of the Clyde Rivers Trust, with whom the Club already has contact (e-mail wyeom001@udcf.gla.ac.uk). Also, with regard to any bankside or in-river work, from 1 April 2006, it will be a legal requirement to register with and probably obtain a licence from SEPA, under the terms of the Water Environment (Controlled Activities) (Scotland) Regulations 2005. For obtain further information and perhaps to comment, the club should obtain SEPA's "*Levels of Authorisation for Controlled Activities*" and "*Consultation on the Water Environment Charging Scheme 2006,*" available by direct application, or through the SEPA website: (www.sepa.org.uk/consultation/index.htm).

In addition to some tree pruning and lopping (discussed earlier), in order to open up some of the channel to more light, practical measures that might be undertaken by the Club could include the strategic redeployment of boulders to increase habitat diversity by scouring greater depth for holding larger trout. SEPA will need to consider whether this would require a licence. Certainly, any importation of new boulders, or placement of boulder steps, or croys, to increase the depth of existing pools, would need to be licensed. Woody debris is vital for additional shelter for trout and should be retained in the river as far as possible, but any attempts to add to the amount that arrives there naturally could raise concern over possible blockages for migratory fish or increased risk of flooding.

A key source of information is "*Managing River Habitats for Fisheries - a guide to best practice*" (undated), prepared by Prof Chris Soulsby of the Department of Geography and Environment, University of Aberdeen and published by SEPA in partnership with Fisheries Research Services Freshwater Laboratory, the Fisheries Branch of the Scottish Executive Environment and Rural Affairs Department and Scottish Natural Heritage. This guide is available from SEPA and from the Fisheries Laboratory at Pitlochry. For further practical information on the siting and construction of shallow weirs, current deflectors and sheltering habitat for trout,

consult the Wild Trout Trust publication *"A Wild Trout Trust Guide to Improving Trout Streams"* (supplied).

For other practical details and examples, consult the Wild Trout Trust website (http://www.wildtrout.org/). Previous advisory visit reports by the various WTT consultants in various parts of Britain can then be reviewed and relevant parts downloaded. Club members will be aware that some of the legal requirements and most of the agencies that need to be consulted for any river management schemes are different in Scotland from England and Wales. Dr Yeomans will be able to advise the Club about the situation in the Clyde catchment.

Any measures intended to improve the holding capacity and numbers of brown trout in the River Glazert should be outlined in a time-structured Management Plan, supported by photographs and drawings. The Management Plan would then be available to show to SEPA, planners and any other relevant authorities, or to local farmers or riparian owners whose ground may be affected. *Ad hoc* schemes are likely now to be illegal. Increasingly, Management Plans are drawn up by Fisheries Boards, Trusts and Foundations so that they can prioritise and schedule works on river catchments. It is likely that there is one for the Clyde catchment, in which case the Club should consult Dr Yeomans to obtain a copy. Included in any Plan constructed by the Club should be the electro-fishing survey intended to be carried out by the Clyde River Foundation in 2006. This survey should provide base-line information from which to monitor any further developments in fish composition.