



Wild Trout Trust Habitat Advisory visit
to the River Annalee, Co. Cavan, Eire.
Undertaken on behalf Cavan Anglers'
Club, by Vaughan Lewis, Windrush
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1.0 Introduction



This report is the output of a site visit undertaken on 18 April 2011 by Vaughan Lewis, Windrush AEC Ltd to the River Annalee, Co.Cavan. The visit was undertaken on behalf of the Wild Trout Trust (WTT) for Cavan Anglers' Club (CAC). CAC control the fishing rights on some 6 km of the River Annalee between Ballynallon Bridge and Drumaraw.

Comments in the report are based on observations on the day of the site visit, and discussions with members of the club. Throughout the report, normal convention is followed with respect to bank identification i.e. banks are designated Left Bank (LB) or Right Bank (RB) whilst looking downstream.

2.0 Habitat description

The River Annalee flows from Lough Sillan in County Cavan to Butlersbridge to the west, from where it joins the River Erne at a complex of lakes near to the village. The river's two main tributary streams are the Bunnoe and Laragh.

The clubs stretch of the Annalee splits into two broad habitat types. The first comprises sections with a good gradient, a well defined pool and riffle regime, and a substrate dominated by gravel/cobble/boulder habitat. In short, excellent general habitat for trout. The remaining (larger) percentage of the river is dominated by slow, deep sections, more suitable for adult trout and coarse fish.

Within the sections of good habitat, there were adequate lengths of spawning, juvenile and adult habitat. However, there were also sections of fairly uniform water of between 15cm- 40cm in depth, that although possessing a gravel/cobble dominated substrate, had little variation in the bed profile, and lacked instream and marginal cover.



Section of excellent habitat on the Annalee

There were several species of submerged weeds present including opposite leaf pondweed, water crowfoot, milfoil, curly leaved pond weed and willow moss.

The river was generally rather incised, either naturally or because of past drainage activity. As a consequence, there was limited hydrological connectivity between the river and the surrounding meadows. These fields were generally heavily grazed by cattle, with some areas of bank quite badly damaged where there were no fences to prevent access to stock.

Otters are known to be present at the site, and are occasionally seen by club members. The alien American mink are regularly seen, with the club operating a number of live traps very successfully in a bid to reduce numbers of this species locally.

3.0 Fish stocks

The Annalee is a well known trout fishery, with excellent catches of brown trout regularly reported. No stocking of trout is undertaken in the river.

Brown trout recruitment in the river appears to remain good. On the day of the site visit, numbers of trout were observed in the river with their size ranging from 10cm to 20+ cm. In addition, large numbers of trout were seen rising in all reaches that had good habitat. Catch and release angling matches are held from time to time on the river. During a recent match, approximately 20 anglers caught a total of 450 trout of more than 20cm in length. This emphasises both the excellent recruitment in sections of the river, and also the wonderful angling opportunities that it offers.

Historically, the river had a good run of Atlantic salmon, although the introduction of hydro-electric generation on the Erne system effectively stopped the migration of most of the species. In addition to trout and salmon, the river has a good stock of mixed coarse fish, with pike a popular species with winter anglers. Of the smaller species, minnow, stickleback and bullhead are all understood to be present. At least 3 individuals of the increasingly rare and protected brook lamprey were observed spawning on a shallow gravel run on the day of the advisory visit. Fish could be seen moving gravel to create a 'redd'.

4.0 Water quality and macroinvertebrate populations

The river has generally good water quality, although there have been serious pollutions in the past, including a discharge of agricultural slurry around 20 years ago that resulted in a significant fish mortality. The chronic impact of agriculturally derived enrichment was clear from the growth of diatoms and filamentous algae on much of the river bed. Poor agricultural practices were also very evident at isolated locations along the reach (see photo below)



Overgrazed land and slurry run-off (right of shot) in a field above an Annalee tributary stream

Fly life in the river is good, with excellent mayfly, olive and sedge hatches seen in season. A simple examination of the macroinvertebrate fauna was undertaken by examination under the stones on the river bed. There was a very high density of flattened stone-clinging Ephemeroptera nymphs present, along with large numbers of cased caddis and freshwater water shrimp. Collectively, this was one of the best macroinvertebrate fauna seen by the author in a long time, re-affirming the generally good water quality in the river.

5.0 Recommendation for future management

- In order to protect the brown trout stocks of the river, a general presumption of catch and release should be adopted.
- The club should seek to reduce the impact of diffuse and point source pollution from agriculture by working with landowners and by the use of agri-environment incentives (see <http://www.teagasc.ie/environment/REPS/REPS.asp> and <http://www.agriculture.gov.ie/>)
- Typical issues that should be addressed include the location of slurry pits, and silage clamps, overgrazing of riverside fields, run-off along pathways/farm tracks and the application of excessive fertilisers on fields draining to the Annalee. Further information is provided in the WTT Upland Rivers Habitat Manual available as a PDF www.wildtrout.org This is not an easy problem to tackle but with some determination, farmers can be engaged to tackle these issues, particularly if suitable financial incentives can be identified.
- Fencing of the river bank, either seasonally or permanently is vital to reduce the damaging impact of the large numbers of cattle present. There is also a need to provide a clean water supply once fencing has been erected, probably by the construction of well-designed cattle drinking areas. Fencing should ideally be erected at least 5m from the river in order to create a well vegetated buffer strip capable of reducing erosion and minimising run-off from the adjacent fields. Densely vegetated buffer strips of this type will also benefit other key species including otter, hence increasing its general value to wildlife interests.



Well designed cattle drinking area

- With the exception of the introduction of Large Woody Debris (see below) for cover, there is little practical instream work that can be undertaken on the slow, deep sections of the river. The club should regard these are areas where larger adult brown trout can live in conjunction with coarse fish, and from where they will migrate annually to spawn in the sections of better trout habitat.
- In contrast, there are a number of very simple enhancements that can be undertaken in the areas of shallower water that will greatly benefit trout, particularly the juvenile life stage. ‘Cutting and hinging’ trees is an easy operation that will provide increased marginal cover, help scouring of the river bed, provide food for shredding invertebrates and help retain damaging fine sediment. Careful selection of suitable trees should be carried out, ideally adjacent to areas of shallow, gravel bedded water where the benefits will be greatest. Cut through two thirds of the trunk and then push it into the water. Anchor using reinforcing bar driven into the bed through pre-drilled holes (Care! Check for buried services first) and cable laid wire around/through the trunk to the section of rooted trunk remaining on the bank. An additional benefit of selectively felling trees is that shade will be reduced locally, increasing the growth of plants and their protection of the bank from erosion. More details are provided in the WTT Upland Rivers Habitat Manual



Cut, hinged and wire anchored LWD

Bundles of smaller logs/brushwood can be securely pinned to the banks of the streams where erosion has taken place. They not only help to protect the bank (particularly willow that will re-grow into the bank, helping to form a protective living mattress) but provide dense and valuable cover for juvenile trout.

- Increased amounts of cover and bed variation can also be provided by the use of stone deflectors. These comprise of a series of large boulders arranged into a rough upstream facing 'D' shape in the channel. In combination, they increase water velocity creating scour and cleaning fine sediment away from potential spawning gravel.
- Approximately 200m downstream of Balinacargy Bridge, a small spring fed channel entered the LB of the Annalee. This had been dredged in the past, apparently to provide anchorage for eel boats that used to work the river. Introducing 10-40mm gravel into around 40m of the channel upstream of its confluence with the main river would increase the potential for successful trout spawning here.
- Consideration was given to the restoration of two redundant mill channel as spawning/nursery streams. However, restoration of these is not recommended as an option, due to concerns regarding the negative impact of the division of water flow on the quality of habitat within the main river, and the potential cost of any works. Concentration on improvements to the habitat within the existing main river channel is believed to provide the best opportunity for enhancement of the trout stock.
- It is vital that any works planned are done in conjunction with both the Inland Fisheries Ireland (IFI) and the Office of Public Works (OPW). The WTT have worked with both organisations on a partnership basis on a number of projects in Ireland and would be happy to do so on the River Annalee. It may be possible for WTT to undertake a Practical Visit to the Annalee to demonstrate some of the techniques outlined in this report. In addition, the Wild Trout Trust provide a number of ways of helps club with their fund raising for projects. These include the 'Rods for Conservation' scheme where a Hardy or Sage rod at cost to CAC to be raffled. Advisory visit bursaries may also be available from the Trust up to a value of £1,500 (or Euro equivalent); these are aimed at helping clubs secure matched funding for project work. For more information see www.wildtrout.org/index.php?option=com_content&task=view&id=157&Itemid=157. Further details can be obtained from projects@wildtrout.org
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