

# Advisory Visit to the River Wampool, Cumbria

Sponsored by the Wild Trout Trust



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## **1. Background**

A section of the river Wampool in Cumbria ( map ref NY500 280 to NY498 316) was visited on 30<sup>th</sup> July 2004 on behalf of the Wild Trout Trust following a request for advice from the River Eden and District Fisheries Association.

The first impression of the Wampool between these points is that it has suffered extensive alteration for drainage schemes. The river has been rendered almost totally featureless and is confined throughout its length in a uniform trapezoid channel. Any instream boulders have been removed and used as revetment. The channel has been lowered to bed rock of old red sandstone in many areas but gravel areas do still exist.

Conversations with the Britton Brothers and local residents indicate that the Wampool was once an excellent producer of Brown trout, Sea trout and Salmon as well as eels, stone loach, and river and sea lampreys. There was little or no anecdotal evidence of other coarse fish species being present. Otter and water-voles are/or have been present.

## **2. Water quality**

Little weed growth was present in the channel, although there was a general covering of green filamentous algae. However, further investigation under this algae covering revealed good numbers of invertebrate species. These included fresh water shrimp and hog lice, limpet and small snails, and caddis larva, cased, net building and free swimming. May fly and stonefly larva where less prolific with only a very few stone clinging nymphs and a few small stonefly nymphs found. Recent E.A. invertebrate study data is included as annex 1 to this report.

PH testing equipment showed high readings of between 8.7 and 9.2. Taken with a dissolved mineral reading of 280 parts per million this points to eutrophication. This may be attributable to a quarry works higher in the catchment or to agricultural run-off. In some cases, farm ditches showed some possible indications of slurry and silage discharge into the stream. One spring feed tributary showed healthy weed growth and invertebrate life for the first 200 metres of its course before it met a farm ditch and became over loaded with algae and duckweed.

Overcoming the problems of non-point source pollution is not straightforward, but where the source can be traced to points such as slurry pits or silage clamps it should be possible to reach solutions with the farmer concerned.

## **3. Invasive alien plant species**

Above the road bridge on the main Carlisle to Workington road the Wampool is split into two streams - one running directly from the Cardwmiere Sand Quarry and the Shawk beck. This top section is over grown and would benefit from pollarding of some of the maturing willows and some management of the riparian zone. Small colonies of Himalayan Balsam should receive attention

before more light penetration is allowed on this section. They will spread and cause further problems as H.B. excludes more under storey growth than any shading by trees. Herbicide treatment of Himalayan balsam adjacent to a watercourse requires due attention to operator licence requirements and LERAPS. The local DEFRA office can advise.



Heavily shaded section of the Wampool.

#### **4. In-stream habitat**

The lack of dynamism within much of the straightened stream has led to poor gravel recruitment, and the riffle and pool structure most appropriate to this type of stream is all but totally absent. Some low level soft engineering might be possible utilising the trunks of the pollarded willow to reintroduce diversity to the channel; the willow would have the added advantage of introducing large woody debris to the channel, some of which may sprout and produce new growth almost immediately.



As long as any instream or bank side feature created is of sufficiently low profile it will only affect the stream at low flows. Therefore implications for flood defence should be minimal. However, re-creating natural features may destabilise the channel and although this would solve problems such as gravel recruitment it is important to bear in mind the consequences for the riparian zone and landowners downstream of the site. Furthermore since all works within 8 metres of a river channel require land drainage consent from the Environment Agency they should be contacted at an early stage if any in-river engineering is planned.

For planning purposes a pool by pool schematic of the river between the map ref points is available with approximate locations of 20 pools that were eradicated in the drainage process. Some of these are in parts of the stream that have been straightened and where located on bends that no longer exist others could be, if not reinstated, improved as habitat for parr+ fish and as potential spawning habitat. In this respect it would clearly be advantageous to increase the riffle and pool configuration that has been lost.

In addition, a number of notch or vortex weirs would create deeper areas and increase the flow and diversity that is required to increase useful adult and juvenile habitat.



## 5. Riparian cover



Good marginal cover



The stream is fenced for much of its length and the riparian vegetation is of high quality. Some transplanting of willow would be beneficial to provide some areas of additional shade. The shallow nature of much of the lower stream will presumably lead to rapid heating in spells of good weather and some shade would be of advantage to juvenile and adult fish alike.