

The Recovery of Tems Beck, Giggleswick (article in the Community News April 2014 by Paul Bradley)

Rising from a series of springs deep in the limestone, and flowing through the heart of the village, Tems Beck is a prominent feature of this ancient parish.

Like many local watercourses, Tems Beck and its tributaries has a long history of modification over time. A large tarn upstream of the village was drained by 1837, and further drainage of the catchment has taken place subsequently. There is also a long history of quarrying and limestone processing, which impacted on water quality until very recently. 10 years ago, Tems Beck through the centre of the village was heavily laden with calcareous silt. This reach of the beck had a very shallow flow during dry spells, and its bed was a pallid and largely unvegetated. The beck's sluggish flow resulted in very high water temperatures in summer, which provided very poor conditions for aquatic life.

Over recent years, residents of Giggleswick might have noticed a change in Tems Beck through the centre of the village. Whilst the beck still occasionally shows turbidity in high flow, the bed of the beck is now much cleaner. In recent summers, there has also been a noticeable increase in aquatic plants.

Some have asked whether this might be a result of fertiliser use in the upper catchment. However, the most abundant species (Stream Water Crowfoot) is characteristic of relatively low nutrient conditions. So any increase in Water Crowfoot in Tems Beck is likely to be a result of improved water quality and decreased siltation. Along with the Water Crowfoot, many will be surprised to hear that Tems Beck supports Atlantic Salmon and Sea Trout, which come up from the sea to spawn, as well as resident Brown Trout, Bullhead and White-clawed Crayfish. Large Eels have also been seen in Tems Beck above the village. The Water Crowfoot is teaming with small fish, and its growth encourages the development of a preferential flow, with well-aerated spawning gravels. Turn over a stone, and you are likely to see a variety of stoneflies and mayflies, which are another good indication of water quality. More obvious wildlife is also evident along Tems Beck. So far this year, Kingfisher, Dipper and Grey Wagtail have all been seen through the centre of the village, and signs of Otter activity have been found as far up as the golf course.

It is perhaps not surprising that Tems Beck has shown such a remarkable recovery. The catchment is fed by a number of clean limestone springs that flow reliably throughout the year, and have washed out much of the legacy of previous quarrying etc. The system does though remain physically modified, and the presence of e.g. mid-stream pillars beneath old bridges continues to inhibit sediment transport and flood passage downstream.

Last winter's flooding in parts of southern England prompted some to ask whether the beck through the centre of the village might need to be "cleaned" of its vegetation? I am no hydrologist, and can offer no informed opinion on this. However, in-stream vegetation should perhaps be considered in the context of the huge volume of silt that has been washed out of the beck over recent years.

A number of laws apply to Tems Beck, including the Wildlife & Countryside Act and the Salmon & Freshwater Fisheries Act. It is very important to be aware that, as with highways, any unauthorised works in Tems Beck would risk prosecution and large fines. Items used to commit offences can also be seized. So any maintenance work in Tems Beck is certainly best left to the authorities. As this is a

non-main river, the relevant authority is North Yorkshire County Council. But even NYCC is not above the law, and would need to consult with the Environment Agency and Natural England to avoid committing an offence.

In 2008, the Giggleswick Conservation Area Appraisal described Tems Beck as, “one of the most distinctive and attractive features in the village street-scene”. The mass of white-flowered Stream Water Crowfoot at this time of year, the clean gravel bed, and the beck’s recovering fish and other wildlife are all features that certainly enhance the centre of the village.

However, biological recovery of the beck is also likely to be associated with changes in its fluvial morphology. The absolute priority, of course, is to ensure that properties in the village do not become at any greater risk of flooding. At the moment, Tems Beck through the centre of the village appears to be recovering to a new post-pollution state, and a deeper preferential channel is developing over time. However, a rare breed of hydrologist, called a “hydrogeomorphologist”, would be needed to assess how the beck is likely to continue to change over time. If the Parish Council can obtain the necessary funding, I would suggest that an Ecohydrological Management Plan would be helpful to consider any future changes to the management of Tems Beck. Residents with properties along the beck should be afforded an opportunity to comment upon any such plan in draft. Many readers will know our long-serving and very knowledgeable EA Fisheries Officer, Neil Handy. For further information, contact the Environment Agency at: enquiries@environment-agency.gov.uk or phone: 03708 506 506. For my part, I have only known Tems Beck for 14 years - much less time than most readers of this publication. I would be very interested to learn more about reader’s own experiences and opinions of Tems Beck in Giggleswick p.bradley@pba-ecology.co.uk

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