

East Yorkshire Rivers Trust

EAST YORKSHIRE RIVERS TRUST

Newsletter 12 - Sept 2018

LOWTHORPE BECK PROJECT 2017

Skylighting and Re-sectioning

Lowthorpe Beck is a chalk fed stream and part of the River Hull catchment in East Yorkshire. Access to the watercourse along this 800 metre section is made difficult by a railway line and arable cropping up to the river bank. In historical times the watercourse was heavily managed which has resulted in the stream being over-wide and erosion to the friable banks during high flows. The stream over this inaccessible section has become overgrown with willow and alder scrub, much of which has fallen into the stream adding to the erosion especially on the natural bends.

The project aims were to trim back overhanging bushes and trees allowing light to reach the stream bed. The right bank was higher than the adjacent field and resulted in a steep profile on the stream side with little or no natural marginal zone.

This high bank was lowered and some of the material removed to low areas of the adjacent field. This was limited due to much of the material in the bank being gravel and cobbles probably originating from historical dredging operations.

The major part of the work was concentrated on the right bank where most of the tree cover was removed. Trees on the left bank were thinned and the crown lifted allowing more light to enter the watercourse. Scrub and tree branches were moved using a 360 excavator. Material was loaded onto a farm trailer and taken off site to a point where it was sorted into usable material for bank repairs later in the project. All brash was then chipped and left on the stream bank. It has been shown piled chippings are the preferred habitat for grass snakes. Large timber and tree limbs were felled by trained personnel and material used as above.



Individual trees and single specimens were retained and crown lifted

Top right: Large timber and tree limbs were felled by trained personnel and material used

Right middle: Backfilling of the narrowed section using material from the high bank



View of completed section with dappled sunlight with retained shaded areas and fish cover. Note seeded bank recovering

River Seven Habitat Improvement Program

The Seven Angling Club had initially sought advice from the Environment Agency, and subsequently the Wild Trout Trust and the East Yorkshire Rivers Trust (EYRT). Their request was for advice to improve recruitment of native fish populations within the sections of the River Seven that they controlled. Under the Water Framework Directive (WFD) this part of the river is failing good ecological status for self-sustaining native fish species, therefore a project to improve native fish stocks would add value for all parties concerned.

The EYRT suggested using tried and tested techniques from the River Habitat Restoration tool box to address these failings, by introducing 'large woody debris' (LWD) to deflect the flows away from damaged banks and protect these friable sections from further erosion. The Seven, as with other moorland rivers, carries vast quantities of sediment into the Derwent which needs to be addressed at water abstraction points downstream. This 'green engineering' entails using local materials that will provide a diverse flow regime, more in-stream habitat, cover for both adult fish (which may be predated upon), but also refuges for juvenile brown trout and grayling. In turn this habitat will provide a more diverse flow regime that in turn maintains clean, well-aerated gravels necessary for invertebrates and successful fish spawning.

Following on from the initial walk over with the Wild Trout Trust, the EYRT submitted a funding application to the Environment Agency for a Fisheries Improvement Grant. This application for grant funding was successful. An application was made for a 'Flood Risk Permit' which also was subsequently granted. The project site was to start where the river passed under the A170 and continue downstream approaching Sinnington Lodge Farm – a distance of about 1.8 km.

YWS Biodiversity Grant

Due to unforeseen delivery problems on a site at Norton Ings, funded through a YWS grant, it was agreed that the Trust could transfer this funding to a project where all permissions were in place and that could guarantee delivery. This additional funding has therefore enabled the EYRT to build on work already planned under the EA Grant. Specifically, additional numbers of flow deflectors and tree 'kickers' have been installed and small areas have been felled allowing sunlight to reach the river bed.

The Trust intends to continue the removal of tree cover in short sections. This will provide the variation of shade and light that improves the river environment. Some of this work has been completed by EYRT staff to date. However due to ground conditions and riparian agricultural crops this will be completed in autumn, outside the nesting season.

Monitoring

The Seven is one of the EYRT's sites for the Anglers Monitoring Initiative. The effects of the work undertaken will show over the next season or two. Similar work done on Pickering Beck showed a dramatic increase in the invertebrate population. It is believed that allowing more light to reach the river bed will further aquatic macrophytes colonisation, again increasing the numbers of invertebrates and areas of fry cover. A similar project to this was undertaken on the River Rye near Helmsley, which saw a measured increase in the invertebrate population of 60% in 12 months.

Maintenance

The EYRT will advise the angling club on best practice and methods in maintaining the LWD and marginal sections.

Methods

Using the best practice methodology and the in-house expertise, the works to create in-stream habitat commenced in early January 2018. Up to date 11 days using a three-man team have created 32 individual points along the river, from below the A170 to a point just short of Sinnington Lodge. Materials used were sourced on site using LWD (Large Woody Debris) to provide diversity of flow, fish refuges, tackling erosion and increasing habitat for invertebrates.

Further works are planned in co-operation with the Seven Angling Club and the riparian owners to look to improve the self-sustaining native fish populations.

Right: Manufacture of 'cover logs'. Sycamore is felled, split and drilled. Image shows logs with pins inserted ready to be fixed to river bed.



Tree 'kicker' being drilled to take a rebar pin securing it in place. The tree brash is winched to the river bank and pinned in place



Tree 'kicker' following a short period of high water. Debris caught in small branches and sediment around the base of the branches



Forked sycamore, cabled and pinned covering an eroded bank



THE CASCADE REPORT – 2018

1. The Cascade programme for Ampleforth College (funded by Fishmongers Hall) is intended to impart knowledge of freshwater invertebrates and their environment to a number of volunteer college students, who in turn are to pass on their learning to Junior School groups in an organised and safe environment.

Developing a suitable programme for the students (and teaching staff) was in the hands of the EYRT members who have taken on the task. To make it viable (and interesting) the Ampleforth programme was developed on the Riverfly Partnership ARMI model with extended monitoring to follow at a later date. Both the Riverfly Partnership and EA had shown an interest in the programme and it was agreed for monitoring results to be sent to them via Dave Southall (area ARMI Co-ordinator) and to a given contact at the EA in York.

The first group of students (2016/2017) were excellent, on the whole keen and methodical. The second group (2017/2018) are totally different in character and response – of the group one student takes the initiative on the riverside visits, another takes on the role of separating the specimens for counting but is easily distracted. These two students seem to be the only ones showing an interest to date! The cause for this very casual approach might be seen to stem from the College side – on a number of occasions students have arrived improperly dressed for the conditions and have yet to be seen with pencils and paper for recording. On the number of occasions

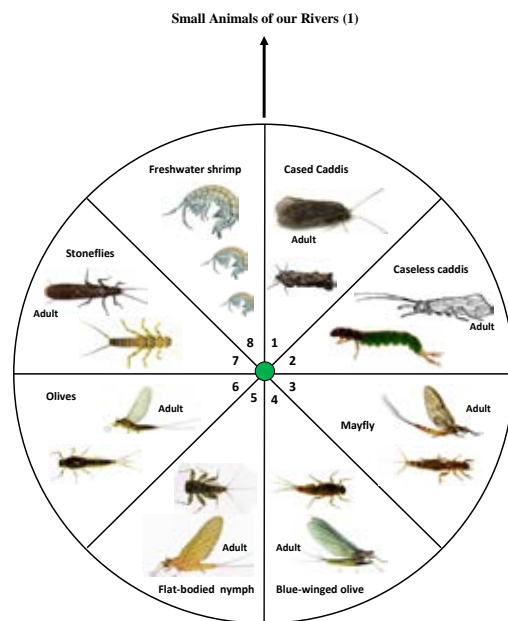
that Ampleforth have attended the chosen sampling sites to do (some) monitoring without the EYRT members in attendance they have not produced any results, except to say they have been down to the river – although granted on some of these occasions the river conditions were unsuitable for sampling. Any sampling results have, to date, been recorded by the EYRT members when visiting. The dates for the riverside visits are provided by Ampleforth to fit in around the students' external examinations programme. That the EYRT side of the Cascade programme is planned and attended to is shown by any results verified by the (EYRT) attending members, but the 2018 programme to date is very lack lustre when viewed from college involvement!

2. Following a successful primary school visit (organised by Dr Oliver Beveridge, Ampleforth the teaching staff member i/c for Cascade) at the college teaching laboratory where the 2017/2017 students excelled themselves, we (EYRT) have been asked to 'help out' with two school visits in the near future. In the meantime John Shannon, through his contact with a teacher at a CoFE primary school in Escrick, had arranged a practical river invertebrate identification session in early 2018 which was a total success. The session was modelled on that of the previous school visit to Ampleforth. The Escrick School children, aged around eight years, were excellent and approached the subject with intelligence

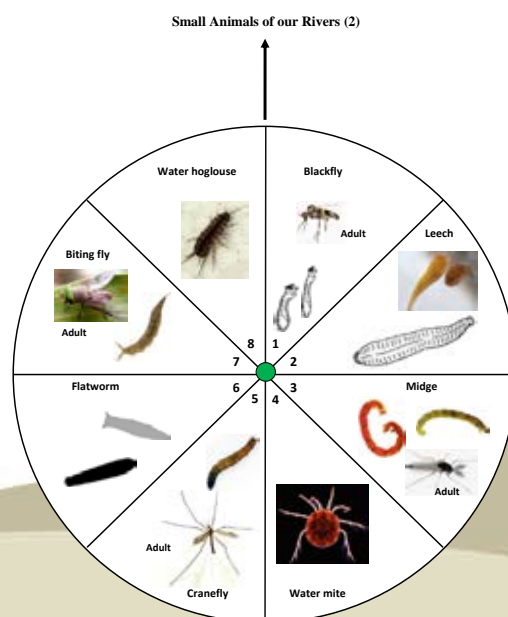
and enthusiasm. They even cleaned up at the end of the session without being asked!

3. By extending the period of the programme from one year to the present we have more information on how the programme has progressed, or not. Should the visit to Fishmongers Hall in autumn of 2018, as suggested, take place we will be in a position to give a more detailed report to Dr Eleanor Adamson, the Project Officer for Cascade.

Dave Croft and John Shannon



Two different types of identification guides for use with Riverfly Partnership specimen trays



Introducing school children to the small animals of the river for the first time

PACIFIC PINK SALMON CONCERNS IN UK

More reports of Pacific pink salmon, being captured by rod and net in the UK, are being received. Since 2015 when the instances started to be noticed, it is believed that well over 300 pink salmon have been captured in the North East. Pink salmon are the smallest and most abundant of the five Pacific salmon species and are a non-native salmon species within the North Atlantic area. Non-native species have the potential to disturb the natural balance of the existing environment and introduce new parasites and diseases to our native fish populations. To protect the UK's native salmonid species, the Environment Agency are monitoring the situation and require the help of both salmon netsmen and anglers to report any pink salmon that they capture.

Significant numbers of pink salmon, also known as Humpback salmon, have been stocked in northern Russia and the Kola Peninsula from the 1950s until 2003 to develop a commercial net fishery. The species has now established self-sustaining populations in a number of rivers in Russia, Finland and northern Norway. The Agency believe that this is the likely origin of the pink salmon recently caught in the UK and Ireland.

Unlike Atlantic salmon, pink salmon have a two-year life cycle and generally spawn during the late summer months in late August and early September. Spawning is reported to take place in the lower reaches of rivers with the eggs laid in river gravel. The eggs hatch in the late spring and the juveniles rapidly 'smolt' and migrate to sea without feeding in freshwater. All adult pink salmon die after spawning. Due to their two year life cycle, the progeny will be derived from distinct 'odd' or 'even' years, with the Russian/Norwegian fish being odd-year stocks. It is therefore likely, that these fish will appear in significant numbers again in 2019.

Pink salmon identification

As with Atlantic salmon and sea trout, Pacific pink salmon change their colouration and body shape when they enter rivers and become sexually mature. In the ocean feeding phase or following recent river entry, pink salmon are very silvery in colouration and can resemble fresh sea trout which has led to recent mis-identification. The most reliable feature to identify a pink salmon are the large black spots on the tail and adipose fins (Figure 1) with a black gum line and tongue. They also do not have teeth on their tongue.

What to do if you capture a pink salmon

If you are confident that you have caught a pink salmon it should be dispatched and retained. Please do **not** return it to the river. If you are unsure about the identification, please call the Agency on their hotline number (0800 80 70 60) and retain the fish alive in a keepnet. Otherwise, you should release it.

Please report your capture, including details of where you caught it and, if possible, a photograph of the fish, to Jonathan Shelley by email: jonathan.shelley@environment-agency.gov.uk or by post to: Brampton Fisheries Laboratory, Brampton, Peterborough, Bromholme Lane, PE28 4NE.

If possible, please make the whole fish available to the Agency for inspection and further analysis. Otherwise, a sample of the scales would be very helpful for their research.

Figure 1



Damselfs & Dragonflies

During the late spring and into summer our waterways and wetlands come alive with an airborne assault from one of our most ancient creatures. Fossilised remains show that dragonflies have existed for over 250 million years.

The three groups most common to people are dragonfly, damselfly and demoiselle, with the dragonflies broken down into sub-groups known as hawkers, chasers and darters. They have amazing aerial abilities, with their four large wings able to take them up to 40mph with ease.

Damselflies and demoiselles are smaller relatives of the dragonflies and all feed on insects, with differing tactics employed to catch their prey. The large hawk dragonflies patrol an area catching prey on the wing, whilst the smaller darters perch on a plant stem and dash out to snatch prey that strays too close (hence the name darter).

In mid- to late-summer, males and females literally pair up, with the male clasped to the female for mating. Eggs are deposited below the waterline, with some species laying eggs directly onto

Egg laying damselflies – photographed by John Trill



plants and others depositing their eggs into the muddy margins. Once hatched the larvae spend their time as underwater aquatic nymphs and are equally adept at hunting. Some of the larger larvae can catch tadpoles and even small fish. Taking more than a year to mature, the larvae live in ponds and pools, with the slender damselfly nymphs preferring pond weeds, whilst the stouter and larger dragonfly nymphs spending time in the muddy depths. Once mature the nymphs metamorphose into adults, climbing free from the water with the harder outer skin drying and splitting open for the flying adult to emerge.

There are over 50 species regularly seen in the UK and this number is increasing year on year as warmer climate brings southerly species further north. Of the damselflies the most numerous and likely to be seen on our lowland rivers and wetlands are the common blue and blue tailed, with the two demoiselle species – the banded and beautiful also seen. The dragonfly species offer a wider range of sightings with the common and ruddy darters, broad bodied and four spotted chasers and brown and southern hawkers regularly seen.