

# Scalby Beck Project

Scalby Beck is part of the Yorkshire River Derwent. Over 100 years ago a man-made channel was cut from the headwaters of the Derwent to Scalby Beck to take flood water as required. Scalby Beck discharges into the North Sea at a point north of Scarborough. As part of the flood relief channel a number of weirs have been built to manage the energy of the floods. These weirs are a barrier to upstream migration for salmon, sea trout, eels and lampreys. A number of years ago the Scalby Beck Angling Club along with the Agency built a small wooden fish pass on one of the lower weirs. This is still in place and has worked well in relieving some of the pressure at a pinch point which is the tidal limit. As this "home-build" fish pass has been seen to work, the Scalby Club are hoping to replicate the initial pass on the next weir upstream. This would involve the club undertaking the

work themselves with the local Trust's support. All the permissions are in place, plans have been approved, drawings passed and the club is ready to go ahead as soon as low flows allow the work to progress. The materials to be used are stainless steel brackets and expanding bolts – the brackets will be used secure oak timbers to the weir creating several boxes for the fish to negotiate. These materials are an improvement on what was first used and so should stand up as well to heavy flows as the original boxes. The original pass is still functioning more than 10 years later (see photograph). The positive thing about these type of materials is if there is a need for maintenance then costs can be kept to a minimal. The Club has offered to share all the plans, method statements, risk assessments and other relevant information with the Trust to enable any other interested parties to undertake similar projects.



## ANGLERS MONITORING INITIATIVE AND BEYOND!

### The AMI Scheme

Nationally launched in 2007 as a Riverfly Partnership leading project, the Anglers Monitoring Initiative involves training volunteer groups to use a simple sampling and recording method to assess the biological quality of rivers. The observations, usually made on a monthly basis, record the presence/absence of eight aquatic invertebrate groups with the results being forwarded to a regional coordinator and delegated Environment Agency officer. In essence, *'the Riverfly Partnership, in collaboration with local organisations, continues to lead the initiative to meet its core aims of working to help protect the water quality of watercourses and conserve their riverfly populations, The Riverfly Partnership is a network of organisations committed to furthering the understanding and conservation of riverfly populations'*.



### The AMI through the East Yorkshire Chalk Rivers Trust

The EYCRT became involved with the AMI at the launch of the scheme and sites in the general area of Driffield were included in the early days. During October 2011 a refresher AMI course was held at Foston Beck chalk stream, near Driffield, where 'experienced' monitors were updated on procedures and identification of specimens to a higher level of recognition. The course tutor was Stuart Crofts, a recognised authority on caddis flies, supported by Joanna Hood, the regional EA biologist.

Additionally to the Anglers Monitoring Initiative, to gain a greater understanding of 'river life', a remote infra red movement-triggered camera was mounted on an old brick footbridge over the Gypsy Race at Boynton for a week at the beginning of August 2011. From some 3500 pictures, many triggered by passing birds, rain, wind, etc., several sequences were notable. The first was the appearance on several occasions of the 'local' kingfisher, not seen by local people since the very

cold conditions of the 2010/2011 winter freeze. Being able to report the photographic sighting of a kingfisher was a pleasant task and shortly afterwards sighting reports from locals started to come through. The second sequence of note was the 'fishing' pattern used by a heron. Apart from a regular pattern of movement around the edge of the stream's deep pool, one picture shows the bird wading into the water and raising its wings. Suggested reasons for this behaviour include the prevention of wetting the wings or to trick minnows into the security of 'overhead vegetation'.

The River Seven at Sinnington is also surveyed by members of the local angling club, through the EYCRT, under the AMI scheme. Here the methodology used by members was updated through an AMI course held in October 2011. The AMI courses, although instructive are also good fun and the sight of keen 'samplers' finding different river organisms in their net, and asking about their finds, makes it all worthwhile. Again, the Sinnington survey goes a step further in that other 'finds' in the catch, such as deer fly larva, bullheads and stone loaches are taken into account and add to gaining more information about the 'living river'.





# East Yorkshire Chalk Rivers Trust

EAST YORKSHIRE CHALK RIVERS TRUST

Newsletter 6 - July 2012

## OUR CHAIRMAN IS AWARDED INTERNATIONAL FISHERIES SCIENCE PRIZE

A University of Hull professor who has been actively involved in promoting sustainable inland fisheries and conservation all over the world has won the International Fisheries Science Prize.

Professor Ian Cowx, who is Director of the University of Hull International Fisheries Institute, has worked both in the UK, Europe and across the world to raise awareness, conserve fisheries and promote sustainable inland water ecosystems.

Projects have included developing management plans for sustainable fisheries on Lake Victoria, the second largest lake in the world, and assessing the potential impacts of damming on the fisheries of the Mekong River, a major food-source for many people living near the river.

Alongside this, he has trained more than 30 PhD and 300 MSc students from at least 80 countries, ensuring the skills and knowledge he has accumulated over the years is carried forward.

The combination of Professor Cowx's ground-breaking project work with his educational legacy, has led to his receiving the International Fisheries Prize – a sort of lifetime achievement award for scientists in his field.

This prestigious award is only presented once every four years, and is only the second time someone has been recognised with the honour.

Professor Cowx said: "I am overwhelmed by this award. It's a very important and prestigious prize that is only

awarded once every four years, so to receive it is a tremendous honour. I very much see this as not an award for me, but as an award for all the people who have supported me through all these years to allow me to get involved in the work that I do. Hopefully, the projects I have been able to complete will continue to benefit not just the people affected across the world, but also my fellow staff and students at the Hull International Fisheries Institute."



A spokesman for the American Fisheries Society, co-sponsors of the prize with the World Fisheries Congress, said: "Professor Cowx has had an outstanding career of diversified research and support of global conservation of fisheries resources. He has demonstrated a strong conservation ethic by promoting the importance of conserving global freshwater fish communities and fisheries with his involvement in fisheries conservation in multiple developing countries in addition to many projects in the UK and Europe. Professor Cowx's contributions to both fisheries conservation and the advancement of fisheries science on a global scale have earned him the distinction as the recipient of the 2012 International Fisheries Science Prize."

Professor Cowx was presented with his award at the World Fisheries Congress, which was held in Edinburgh in May.

## Dealing with Invasive Non Native Species (INNS)

The Trust has been undertaking surveys along our watercourses to identify and ultimately deal with INNS on our rivers.

Japanese Knotweed is one of these species that has a minor foothold on the Gypsy Race from the wolds to Bridlington town centre.

The Trust has been involved in starting to eradicate this plant. Japanese Knotweed can damage structures as it can grow through brick work and tarmac. It is very difficult to eradicate and can require several treatments.



## Gypsey Race - Disused Gauging Weir

This structure used by the Environment Agency and its predecessors to measure flows in this small stream is no longer required.

The Trust has discovered that the structure and its associated building was 'handed back' to the County Council in the late 1980s.

The Trust is intending to work with the present owners, East Riding of Yorkshire Council, to remove the weir and reform the meandering course of the stream as it was prior to the weir being installed.

The project is at a very early stage in its development and the funding is being sort that will open up several



miles of watercourse to all migrating fish species. When the structure has been removed the old stream course will be reformed and any accumulated silt deposits caused by the weir will be removed.

## Gypsey Race Survey

### Water voles

A survey, primarily for signs of water voles along the Gypsey Race, was conducted on 28<sup>th</sup> July 2011. The Centrica site was not covered as this had already been surveyed and reported in the *Annual Ecological Mitigation Monitoring Strategy 2001*.

Three areas were surveyed for evidence of water vole activity, etc:

- The sedge beds within the Thorpe Hall/ Carr Plantation boundary
- The historical linear lake area in front of Boynton Hall
- Part of the sheep field upstream of Home Farm.

Evidence of water vole residences was found in the sedge beds and the linear lake, with chewed grass and droppings also found at the 'broken' bridge at the bottom of the linear lake. Exposed bankside holes are to be found on the vertical face of a steep bank between the two drain inlets in the Home Farm sheep field and may still be in use. Further upstream a water vole was disturbed and made its escape.

The water vole survey is to be continued in the near future for the rest of

the Boynton Hall and Home Farm sheep fields, also Willow Garth SSSI and the lower end of Carr Plantation.

### Bird nest boxes

Substantially constructed bird nest boxes were positioned under the Boynton Hall cricket field, 'broken' bridge and on two trees in the field. The remaining boxes are stored for erecting in the near future.

### Other species

Within Carr Plantation signs of otter presence were observed. In soft mud at the sides of the Gypsey Race channel footprints were recognised by Jon Traill as



**Otter run, Carr Plantation.**

## Gypsey Race – Centrica River improvement project.

Volunteers from Yorkshire Wildlife Trust and EYCRT undertook a tree planting programme on the banks of Gypsey Race as part of a habitat improvement project on this small chalk stream.



**YWT tree planting project.**

belonging to an otter and a spraint was found on a nearby fallen tree. The spraint contained the remains of a small mammal.

In the sheep field an egret kept company with both herons and crows. A perch for the resident kingfisher was quickly constructed by Alan Mullinger beside a riverside pool containing plenty of kingfisher 'size' prey!

*David Croft* – EYCRT

*Alan Mullinger* – EYCRT

*Jon Traill* – Conservation Project Manager (small mammals) Yorkshire Wildlife Trust and EYCRT



**Thorpe Hall sedge bed.**



**Installing a different design nest box on a tree.**



**Installing a nest box designed for wagtails (and dippers).**



**Feeding perch for kingfishers.**

## Millenium Green Project

This project aimed at protecting the bank of a pond called the Keld that is adjacent to the Millennium Field. Over many years the bank had been damaged and eroded by waterfowl.

The pond was also overgrown with willow and becoming silted and shallow.

The aim of this project was to create several deep scrapes and coppice the willows growing in the pond margins.

The margin of the Keld was repaired by using the willow material and the new bank was infilled with the soil from the scrape areas.

Much of this speciality work was made possible by a local contractor. Mike Dee was able to create the scrapes in the pond and level the material after it had been moved to the Keld site. Working in very limited access between trees, he was able to undertake the part of the project that was initially going to be a very labour intensive operation.



## PICKERING BECK CHANNEL RESTORATION

Pickering Beck is fed from the North Yorkshire Moors. It follows a meandering course alongside the North Yorkshire Moors Railway as it approaches the town of Pickering from the north.

Part of this course is within a SSSI and the boundaries of the North York Moors National Park.

The soft sand substrate is easily carried into the lower tributaries and causes siltation of gravel spawning areas in the rivers Rye, Costa and Derwent.



*A felled alder being prepared for anchoring to its original tree stump.*

The aims of the project are to use large woody debris (LWD) and coarse woody debris (CWD) to stabilise the bed of the stream. This will also provide much needed habitat for small fish and invertebrates.

The majority of the river runs through a deeply-wooded valley creating very deep shade and limiting the diversity of the stream. It is proposed to remove small sections of the dense canopy to allow daylight to the stream bed and enhance



*Typical scour and deposition on this stream. Note tree canopy.*

the biodiversity of this wild trout fishery.

The Trust are working with the Environment Agency and NYMNP to enhance the Agency's 'Slowing the Flow' project.

This project is aimed at protecting the town of Pickering from flood flows by using the landscape in this valley to retain high water on the land.

The Trust has been working with the Pickering Fishery Association and the Wild Trout Trust to develop a strategy for management of this stream. The land and stream are part of the Duchy of Lancaster's estate. The Trust is working with the land agent, the Pickering Fishery Association and the WTT to identify and address areas of bank erosion and siltation.

We have partnered this group in a training day to demonstrate the use of LWD to create in-stream habitat and further enhance the above project.



*A group of anglers, EYCRT members and lecturers from a local fishery management college course were involved in a training day in partnership with the WTT. The site was used to advise on the use of LWD and CWD as a tool to enhance the in-stream habitat.*



*To protect the soft ground loggers were used to move heavy logs to the sites where they will be used in the stream.*

# RIVER DERWENT PROJECTS

## Improvement of straightened upper Derwent

The Yorkshire River Derwent has been the victim over many years of physical modification to address land drainage and flood defence issues. This has had numerous knock-on effects and land use has changed over the years. Lack of connectivity to the Vale of Pickering flood plain, land shrinkage and a two-tier drainage system. In turn this has had a negative effect on the ecology and biodiversity of the heavily-modified River Derwent. The banks of the river and river bed have been managed to a uniformed profile resulting in damaging effects to both aquatic and riparian habitat. This is reflected in the characterisation of the water body under the Water Framework Directive as being "poor".

The proposed project is to invest in a trial length of the straightened river, approximately 1½ km and address the lack of morphology. This will involve using the reports provided by Dr Malcolm Newson and Chris Bowles to use recognised river mending techniques and green engineering methods to benefit the geomorphology of the river.

The project will ensure that all interested parties have the opportunities to feed into the overall management plan.

It is proposed that the recommendations of the report are carried out over a full calendar year. We will monitor the effects on both the WFD failures as well as any land drainage and flood defence issues. If, after the first year, all parties are agreeable, it is then suggested that the 1½ km trial site be rolled out up and downstream along the straightened River Derwent and River Hertford.



Continual pre and post monitoring will be an integral part of the project, sharing information with all parties to ensure complete understanding and mutual support. The trial length will employ many different types of 'natural engineering' – woody bundles, flow deflectors, woody debris and pre-planted coir rolls. All will be inserted by hand so if there are any issues that cause a detrimental effect they can easily and cheaply be moved or removed.

## River Derwent Update

Towards the end of 2011 The Trust has received support funding from the Environment Agency and Natural England to employ a project officer. The project officer will focus on the delivery of the Restoration Plan for the River Derwent SSSI/SAC which stretches from Ryemouth, upstream of Malton and Norton, down to the confluence with the River Ouse at Barmby Barrage. In these early stages of the project the project officer has been gathering information of the other projects and partners within the catchment and making links where appropriate. A brief update is below but please do look at our website for updates as we develop projects to action the Restoration Plan.

## Controlling invasive alien plant species on the Derwent

This spring the Trust is coordinating the control of Giant Hogweed in the Derwent catchment. This species can out-compete other species reducing the biodiversity of the river banks and, when it dies back in late summer, leaves bare erodible banks exacerbating the sedimentation inputs into the river. Liaising with landowners and farmers along the Derwent, Giant Hogweed and Japanese Knotweed is being mapped between Malton and Stamford Bridge. Whilst the high river levels during April and early May delayed the initial surveys we are on track for continuing the control programme of the species in partnership with the Environment Agency and Natural England.



## Reducing soil erosion and controlling sediment inputs to the river channel

The Trust is working closely with Natural England and the Environment Agency to coordinate Capital Grant Scheme applications and Higher Level Stewardship agreements with the actions of the Derwent Restoration Plan. Willing farmers have already committed to implementing measures to decrease sediment input in to the river channel through increasing the width of buffer strips along the river edge and considering alternative stock watering facilities. The Trust is also liaising with partners upstream of the SAC area, along the Derwent and the Rye, recognising that a catchment approach is required to tackle this issue.



## HELP NEEDED

If anyone spots Giant Hogweed or Japanese Knotweed within the Derwent catchment (in particular near the watercourses) our Derwent Restoration Plan Officer would appreciate the information with as detailed a location and description as possible. If you would like to take it one step further and volunteer to carry out a survey there are many public footpaths that create

pleasant walks. All help would be greatly appreciated!

N.B. Please be careful if surveying or walking on public footpaths where Giant Hogweed is present. Touching the plants can cause painful blistering and severe skin irritation as the hairs contain poisonous sap.

## Habitat enhancement and floodplain connectivity

The Restoration Plan identifies the need to investigate the function of the embankments along the Yorkshire Derwent. The project is in the early stages of identifying suitable sites for investigation. Projects developed at these sites would be used as pilot 'demonstration' projects that deliver on multiple objectives of the Restoration Plan.

## More Information

If you are interested in the project, would like to know more, or simply get involved, please contact our Yorkshire Derwent Restoration Plan Officer who would be keen to discuss the project further with you. Contact details are [sarah@eastyorkshirechalkrivertrust.org.uk](mailto:sarah@eastyorkshirechalkrivertrust.org.uk) or 07887 722961.

## Fish Passage

The Restoration Plan highlights the need to address in-channel structures that impede fish passage. The issues surrounding each structure within the SAC area are unique to each and the Trust is actively engaging in the discussions of how to improve these barriers on a case-by-case basis. As results come out of the investigations we will then actively engage in the development and delivery of suitable projects. Please keep an eye on the EYCRT website for updates on these investigations.



**Salmon attempting to jump Nunnington Weir on the River Rye.**



**Kirkham Weir on the Yorkshire Derwent.**

### Project officer Sarah Woodcock

Growing up in North Yorkshire I developed an enjoyment of the outdoors and interest in natural history which led me to study for an undergraduate degree in Zoology. I then studied for a part-time MSc in Ecology and Management of the Natural Environment whilst working as a Countryside Ranger managing riverine and heathland sites for a Local Authority. I worked in London for regional and national conservation charities for eight years, most recently as the Conservation Programmes Manager for London Wildlife Trust.

My work at London Wildlife Trust encompassed the development of the River Crane Living Landscape in liaison



with the Crane Valley Partnership. I represented the partnership at a strategic level, e.g. in the development of the Colne & Crane Area Framework for the All London Green Grid, and delivered practical river restoration projects incorporating bank

naturalisation, in-channel flow improvement measures and BAP habitat creation. This project work was complemented by coordinating riparian land management through linking grazing initiatives and Higher Level Stewardship schemes on sites throughout the catchment.

I am excited about this opportunity to work for EYCRT and look forward to starting to deliver projects on the Yorkshire Derwent in the near future.

## Focus on Barmby Barrage

Barmby Barrage is owned by the Environment Agency and consists of two vertical lifting gates set in a concrete structure, and a lock to allow boat passage upstream.

The structure is operated for several purposes:

- To prevent water from the tidal River Ouse entering the lower River Derwent;
- To ensure that water is deep enough for abstraction to take place at the strategically important Loftsme Bridge Water Treatment Works, and;
- To keep water levels high enough for boats to pass upstream. This is required to comply with Clause 13 of the Barmby Tidal Barrage Order, which requires boat access to be provided.

The Environment Agency implemented a navigation lock trial to confirm if the operation of the lock gates could be modified to effectively allow passage of lamprey upstream from the tidal Yorkshire Ouse into the River Derwent.

The Environment Agency's report on the navigation lock trial in November/December 2011 has now been completed. The lock gates were manually opened when conditions were suitable for lamprey migration upstream and an acoustic camera used to monitor fish movements.

Images of adult lamprey moving upstream through the lock were recorded along with images of large fish judged to be migratory salmonids. Images of what were judged to be larval and pre-adult stages of lamprey and eels were captured on the camera moving downstream. The largest upstream movement of lamprey occurred just after the lock gates were open, on a neap tide, when river flows were increasing in the Derwent and Ouse.

Of interest is the recorded increase in the number of salmon redds upstream in the River Rye at Nunnington with 30 being recorded by EYCRT trustee John Shannon in autumn 2011.

The Navigation Lock Trial is to be continued this year targeted on knowledge gaps including the passage of migratory salmonids.




**Right: Barmby barrage navigation lock trial (EA, 2011).**

# Studying the grayling population in the River Seven

A small team of Sinnington Angling Club members are involving themselves with an important study of the health and numbers of grayling in their club waters, by supplying scales of caught fish to Dr Ryan Taylor (University of Hull & Grayling Research Trust) for assessment. Each team member has been supplied with a 'scales' kit for removing three scales from each fish, with details including the length and weight of fish, to Dave Croft of the EYCRT who is heading the SAC team. The scales are easily removed from the fish and the missing ones will quickly regenerate; the fish are handled gently and each is carefully returned to the water.

The project also has the interest of the Grayling Society, the Environment Agency and the East Yorkshire Chalk Rivers Trust.

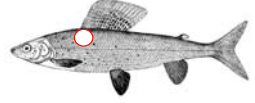




**SINNINGTON ANGLING CLUB**  
Grayling Project 2012

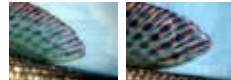
**Gathering data**

- Three scales taken from the shoulder region of the fish (all sizes caught).

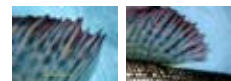


- Slide tweezers under a scale in the shoulder region (marked above) and gently pull. Put all three scales in one envelope and record details (3 below).
- Record the date caught, length of fish, weight (optional) and sex (optional); date is important!

Female



Male



- The EA Brown Trout & Grayling Anglers Log Book has been included with the scale kits.

## River Bank Revetment at Kings Mill

After many years of planning a decision has finally been made to repair the bank of Driffield Beck near Kings Mill.

The riverbank has been eroding at an alarming rate over many years. More recently this has accelerated to a point where the public footpath is in danger of being washed into the river.

The East Yorkshire Chalk Rivers Trust together with the Driffield Town Council has secured funding to repair the bank which will safeguard its future use as a footpath between Kings Mill and Driffield bypass.

The bank will be repaired by using 'green engineering' techniques. This involves the use of live willow to establish a natural growing river bank that should need little or no maintenance.

Most of the work will be labour intensive and will be undertaken by volunteers and Trust members.

A hydraulic machine will be used on site to undertake all heavy lifting and soil back filling.

To facilitate safe working on the site and in the interest of public safety, the footpath will be closed for the duration of the repairs.



**On completion of the spiling work a coir geotextile was used to retain any soil particles from being washed into the river.**



**Erosion along the footpath.**



**An hydraulic long reach machine with a mounted cutter lifting the willow material onto the site.**



**Submerged log pinned to river bed.**



**Limb recovered from a willow acting as current deflector.**

## Wansford Bridge to Snakeholme 2012

This 1½ km section of the West Beck has been identified as being over wide, has compacted gravels, silt beds, lack of in-stream flow diversity and cover for invertebrates, fish and mammals. Although the site has some vertical banks that are stable and provide habitat for Kingfishers other sections need support from erosion at times of high flows.

The proposals are that a wide range of 'green engineering' techniques are used to improve the overall biodiversity of the proposed project site.

- Remove encroaching glyceria margin and establish a diverse plant community to benefit nectar insects and provide a seed bank at the top of this project site.
- A stone groyne installed in the late '80s will be removed. The stones will be used as revetment along with willow material on a piled bend where existing piles have been exposed.
- Large woody debris on site will be placed into the channel and secured.
- Some unstable bankside trees and bushes will be hinged and secured into the channel to create cover for mammals and fish and increase flow diversity.
- Several large willows on site are in danger of being lost through wind damage. The trees will be surveyed and where necessary, the timber will be used as flow deflectors along the



**A photo showing a section at the lower end of the site where a large silted margin had encroached into the channel causing a massive erosion problem to the bank on the left of the frame.**

project site.

- Create a secondary channel at one side of a wide glyceria margin. This will change the flow regime and help protect an adjacent friable bank from further damage.

It was originally planned to create a secondary channel into the right of the frame in an attempt to encourage the river to flow around the outside of the bend and prevent further settlement of sediment. As the channel creation started it became apparent that the material was too friable to stand as an island. It was agreed that all the sediment would be removed and the banks stabilised by using willow material gained from the tree thinning.



**Left: Large woody debris (LWD) was inserted into the new bank line to enhance flow diversity. The logs were securely pinned to the river bed. Right: Removal of the stone weir was undertaken and the stones and silt have been placed behind the nearby bank revetment. The new line of the bank was marked by pressing in posts where the willow spiling will be woven.**



**Removal of dangerous limbs from a riverside tree. These limbs were used as in-channel habitat and securely pinned to the riverbed. Small coarse material from these limbs was used to protect the 'toe' of vertical banks and provide habitat for voles, fry and kingfishers.**

Several large bushes were hinged into the channel and secured to the bank. This will create in stream cover for fish fry and invertebrates, and nesting sites for water fowl.



**Once filled, the friable soil was protected by using a coir geotextile. The area will be allowed to recolonise with natural plant species.**

