

Wild Trout Trust

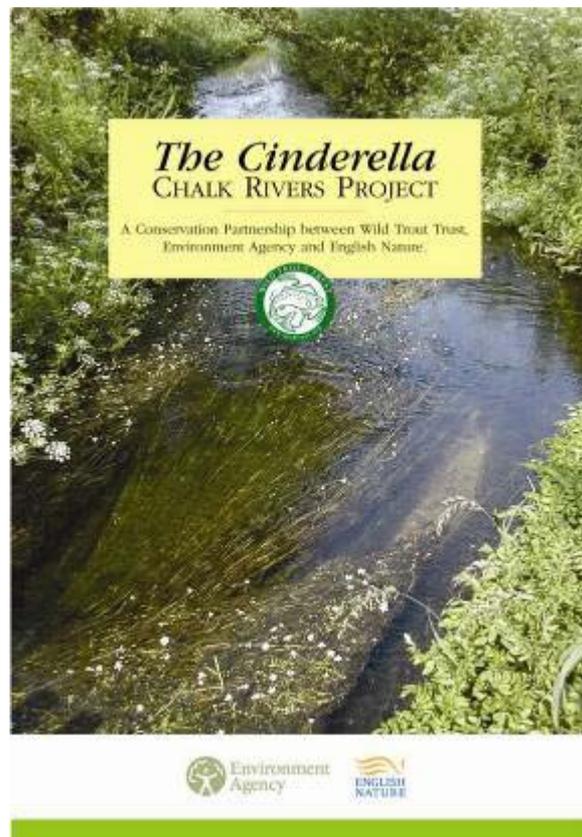
Advisory Visit

Water Forlorns – Driffield – East Yorkshire

26th September 2007



Sponsored By



Non-technical summary

1.0 Introduction

This report is the output of a site visit undertaken by Simon Johnson of the Wild Trout Trust at Water Forlorns which runs through Driffield Town Centre. The stream forms part of the Hull Catchment.

Comments in this report are based on observations on the day of the site visit and discussions with Mr Alan Mullinger of the East Yorkshire Chalk Rivers Trust.

Normal convention is applied throughout the report with respect to bank identification, i.e., the banks are designated left hand bank (LHB) or right hand bank (RHB) whilst looking downstream.

2.0 – Chalk Rivers

The name Driffield is synonymous with the famous chalkstream known as the 'Beck'. For over 150 years fishing clubs such as Driffield Anglers and the West Beck Preservation Society have tended and conserved these waters and their famous trout. Many of the worlds most accomplished anglers have made the pilgrimage to Driffield area to fish for it's famous trout. Brown trout are not confined to just the Driffield / West Beck but are also present in the myriad of smaller chalk streams throughout the local area. These include Elmswell Beck, Foston Beck, Southburn Beck, Eastburn Beck Nafferton Beck, Skerne Beck and the watercourse which is the focus of this report, the Water Forlorns.

Chalk Rivers are a unique and irreplaceable part of our heritage and the landscape of Britain. They are very important for wildlife, and many are world-famous for their fly-fishing. Their present appearance and character reflects a long history of human intervention from urban development, agriculture, industry and fisheries.

Today these most English of rivers are in a fragile state. They are under threat from water abstraction, urban and infrastructure development, effluent discharges, land drainage and flood defences.

Despite ever increasing threats, there is optimism for the future: more local people are becoming involved in protecting and enhancing their chalk rivers.

There are 161 chalk rivers in England and East Yorkshire has 17 of them. To date, much attention has focused on a small number of 'high-profile;' rivers in the southern counties such as the Test, Avon, Itchen and Wylfe.

Under the umbrella of the Cinderella Chalk Rivers Project The Wild Trout Trust is working in partnership with local conservation charity, The East

Yorkshire Chalk Rivers Trust (EYCRT) to develop a series of conservation projects throughout the East Riding of Yorkshire. The aims of EYCRT are threefold;

- To protect this important habitat by working with others to enhance the conservation status.
- To educate and assist in developing projects to achieve improvements in habitat.
- Support and fund scientific surveys on the streams to identify problem areas.

This project aims to initiate partnership projects aimed at improving the conservation status of the less well known, but equally important chalk rivers, which have been termed 'The Cinderella's'.

The aims and objectives of this project are supported by the UK Biodiversity Action Plan Steering Group. Its report, 'The State of England's Chalk Rivers, sets out this vision:

"Chalk rivers should be protected or restored to a quality which sustains the high conservation value of their wildlife, healthy water supplies, recreation opportunities and their place in the character and cultural history of the landscape".

Water Crowfoot



3.0 – Rivers and their contribution to urban life

In urban areas rivers can provide important natural refuges and corridors between adjacent green spaces, both for people and wildlife. These river corridors are not only critical for maintaining the diversity and abundance of urban wildlife populations, but they also provide a place for people to connect with nature and escape from an urban environment which can otherwise be stark and impersonal.

Helping our rivers to return, in parts, to nature will provide a real opportunity for town dwellers to re-establish a lost relationship with the natural world and improve the quality of their lives.

WTT vision for the stream does not simply confined to wild trout but also mayfly, water voles, kingfishers and perhaps even otters becoming a part of town life.



A forgotten river?

4.0 Wild brown trout

The wild brown trout is a living symbol of clean, bright waters in a healthy landscape. It is also widely threatened.

In helping wild trout to survive, the Wild Trout Trust is helping a vast range other life near rivers and lakes - plants, insects, birds and small mammals - to survive, as well.

Britain has only one native species of trout – the brown trout, *Salmo trutta*. It can only thrive in clean, well-oxygenated rivers and lakes. It is as symbolic of bright waters as the kingfisher and the otter, as synonymous with an unspoiled landscape as the skylark and the wild rose.

Pollution, increasing abstraction and destruction of its habitat have long been driving the fish from its former, widespread strongholds. Today, too often – even in the remote places – only remnant populations cling on.

Pollution and abstraction are both long-term problems requiring long-term solutions. Improvements to habitat – the physical environment in which the fish lives, feeds and attempts to breed – can give benefits to the fish today. Other benefits accrue to the wild flowers, insects, birds and animals that live on the surrounding land. It is this practical, widely-beneficial, here-and-now habitat work that the Wild Trout Trust was founded to promote.



Salmo trutta

The Wild Trout Trust (WTT) is a registered charity. It is the only national body dedicated to the protection and survival of this iconic fish species, a living – and too often dying – indicator of the health of the landscape around us.

The WTT was founded as the Wild Trout Society in 1997 and achieved charitable status in 1999. In the few years since, the WTT has established an enviable reputation in the wider conservation field.

The trust is a favoured partner of the Environment Agency and Natural England, both of which fund some of the trust's key conservation projects. In addition, the trust works with the Wildlife Trusts, the National Trust, the Game Conservancy Trust, the Association of River Trusts and the Loughs Agency in Ireland. It has a respected voice in other forums.

4.0 – Site description and Issues

The stream as it runs through Driffield has been extensively modified, widened and engineered. This has resulted in the majority of stream being dominated by steep-sided brick /concrete banks with numerous culverts. As such the stream is an artificial environment with very little remaining in the way of natural features such as vegetated margins, gravel shallows and even riverside trees.

Added to this depths within the channel are uniform with very little variation in depth and width. However there remain good areas of gravel thorough out the reach which appear to be able to support a small but vulnerable population of wild trout.

Water Forlorns lacks the habitat complexity required to sustain a healthy population of wild trout and a whole host of related species to fulfil their life cycle requirements.



The wild trout's 'life-cycle' habitat requirements

- Eyed Ova – Silt free, oxygenated gravel
- Fry – Bankside fringing vegetation (cover)
- Parr – Diverse in-stream habitat (feeding / territory)
- Adult – Deeper pool habitat (cover from predators)

In many places bankside and emerging vegetation in the form of grasses, sedges and herbs is almost totally absent from the stream banks of the river. This growth provides vital overhead cover for wild trout and a whole myriad of other species including birds (e.g. grey wagtails & kingfishers), mammals (e.g. otter & water vole) and invertebrates (e.g. dragonflies & damselflies).

The 'in-river' plant community is impoverished with only lesser water parsnip being present. Typically the chalk rivers of the East Riding contain starwort and water crowfoot. Both these plants provide habitat diversity, a source of cover and invertebrates.



Water Crowfoot



Starwort

Trees and shrubs are absent from all but the North End Park reach. Trees are a very important component of the ecology of rivers and streams. They provide bank stability (roots) and shade and cover for fish, birds and mammals, including bats. Typical species associated with chalk rivers are Willow and Alder.

The river runs through a series of culverts and has a series of high fences and walls. Ironically it is some of these culverts that provide some of the only available cover for trout. The above has had the net effect of disconnecting the community from a valuable green space in the heart of the town.



Putting it all together – clean gravels, trees, bankside and in-river plants
An example of near perfect chalk stream habitat (albeit a rural one)



Behind the Cattle Market – Straight, overwide channel with little variation in depth
Not so perfect chalk stream habitat!



Below Cattle Market car park (wide / shallow / manmade banks and no vegetation)



Three wild trout next to the Bridge Street GP's Surgery



A wild trout in the centre of Driffield (Providence Place)



Laundry Lane: Note development of marginal vegetation on RHB and culvert in background.



A pair of wild trout using the Bridge Street culvert for cover.

5.0 Recommendations

Water Forlons has considerable potential to be turned into a wildlife corridor that would deliver conservation gains in the centre of Drifffield. By adopting 'low-tech' soft engineering techniques considerable improvements could be made to both the aesthetic and ecological status of the watercourse.

It is suggested that the edges of the river be 'greened-up' by creating new bankside margins. This could be achieved by installing a single row of hazel 'faggots' staked to the riverbed to create a low level shelf. An alternative method would be to weave a low level hazel spilling between chestnut cleft stakes. The line of the faggots / spilling can be manipulated to introduce a more natural meandering appearance. The new low level shelf should be set no more than 10cm above mean summer levels to maintain channel capacity. This would create a sinuous low flow channel that allows the river to overtop the narrowed channel in the rare event of elevated levels caused by winter floods.

Berms should be consolidated by backfilling with a mixture of woody brash, chalk and soil, which will be planted-up with a variety of pot grown plants typically found in the more rural areas of chalk rivers.



A



B



C



D



E

Photographs of faggot / spilling & low level berm creation in River Avon, Salisbury

- A –Over-wide & shallow Stream, B- Hazel weaving (edge of low-level berm),
C – New Bank prior to backfilling by volunteers from Friends Provident (River Festival)
D – Recently completed scheme a few months on, E – one year on, colonised with wetland plants

Beds of water crowfoot are absent from the stream. They are a characteristic feature of chalk streams. Plants should be collected from elsewhere in the catchment and secured to the bed of the river by 'snowshoes'. The 'shoes' are pre-made from inter-woven pliable hazel twigs and are attached to the riverbed by stakes. Once firmly in place, crowfoot cuttings are woven amongst the twigs and gravel. As flow passes through the planted snowshoes, the combination of the inter-woven twigs and slightly raised gravel mounding provides added turbulence to stimulate strong root growth. This in turn provides cover for trout and invertebrates and creates variation in depth and current. The snowshoes should be placed into the stream to create a 'patchwork' type effect



An example of transplanted 'snowshoe' crowfoot

6.0 – What next? – Making it all happen

This report makes a series of recommendations that will improve both the landscape, biodiversity and status of the wild trout of Water Folorns. The project will also connect the community back to it's 'lost river' by creating a valuable wildlife corridor running through the heart of the town. There is also considerable opportunity for community involvement through the East Yorkshire Chalk Rivers Trust.

This AV report represents phase 1 of a potential 4 phase package of WTT assistance, via the ***Cinderella Chalk Rivers Project***. At this point it is worth discussing restoration plans with the EYCRT before requesting Phase 2, a worked-up WTT project proposal. However before this happens it is strongly recommended that contact be made with the Fisheries/ Biodiversity and Development Control functions of the local Environment Agency to arrange a 'pre-application meeting'. Pre-application meetings are extremely useful to help scope out design work and to take into consideration any issues that could affect proposed works. Local Natural England staff should also be invited to any pre-application meetings to cover any protected species and habitats issues.

The worked-up proposal should provide all the necessary information for the completion of a land drainage consent application (if the reach is EA Main River). This legal consent from the Environment Agency must be obtained in writing before works can commence. Consents can take up to two months to process.

It is proposed that the WTT, or its representative, attends the pre-application meeting before commencing a detailed project specification / proposal

On successful completion of phase two of the project an application can be made (Phase 3), for seed-corn funding to kick-start the project. Typically this is between £1000-2000.

Physical works could be yet further kick-started with the assistance of a WTT 'Practical Visit' (PV) (Phase 4). The WTT will fund the cost of labour (two man team) and materials. Recipient clubs will be expected to cover travel and accommodation expenses of the advisers. The use of specialist plant will be by separate negotiation.

WTT's 'wet-work team' will demonstrate the techniques that are appropriate to the site.

- Tree management (coppice, pollard, sky-lighting)
- Tree Planting
- Stream Narrowing (Faggots, Coir Rolls, Spilling, Islands)
- Flow Deflectors
- Introduction of spawning substrate

Note: Recipients of the programme must have received a WTT AV and have obtained the appropriate consents from the Environment Agency, Natural England, etc, prior to arrangements being made to undertake the PV.

Applications for all the above should be made via projects@wildtrout.org

There is considerable scope for the community to be involved in this project. The Practical Visit could be run alongside a community river day whereby the public and local groups (scouts, etc..) could get involved with helping to restore habitat, take part in pond-dipping type activities for bugs and grubs, children's activities, etc. This could even be run as an adopt a river scheme or even linked to an innovative extension of the Driffield in Bloom initiative.

WTT has organised events of this type with Dorset Wildlife Trust (Frome & Allen) and the Environment Agency in Winchester (Nunns Stream).



A junior 'Wild Art' competition (WTT Open Day)



Winchester residents involved on the Nunns Stream (Chalk backfill for low-level berms)



A recent WTT open /community river conservation day on the Dorset Frome



Restoring rivers is good for the environment and your wellbeing!

Lastly, planning application /s have been submitted for a major retail and residential development on the old the Cattle Market site. It is vital that planning authorities consider the impacts that any such proposals would have on nationally rare chalk river habitat and the wildlife that depends on it. There are considerable opportunities for the proposals outlined in this report to be incorporated into development plans. This would enhance the stream and create an aesthetically pleasing green space for both residents, shoppers and workers to enjoy. Coupled with this a picnic / interpretation area could be created for the public enjoy an 'urban' chalk river their own backyard. New and existing business could adopt the stream by helping to sponsor / co-ordinate conservation activities in partnership with WTT and EYCRT.

7.0 Disclaimer

This report is produced for guidance only and should not be used as a substitute for full professional advice. Accordingly, no liability or responsibility for any loss or damage can be accepted by the Wild Trout Trust as a result of any other person, company or organisation acting, or refraining from acting, upon comments made in this report.