



## River Uck – Constantia Manor



An advisory visit carried out by the Wild Trout Trust – November 2008

## 1. Introduction

This report is the output of a Wild Trout Trust advisory visit undertaken on the River Uck at Constantia Manor. The Uck is a major tributary of the River Ouse in East Sussex.

This report was carried out at the request of the fishery owner, Mr John Lewin. Mr Lewin has a considerable interest in enhancing the nature conservation value of the entire farm and is also a keen angler. Mr Lewin is aware that the Uck supports a run of migratory sea trout *Salmo trutta* and he is keen to ensure that the river is managed in a manner that is sympathetic to fish stocks in general.

The comments and recommendations made in this report are based on the observations of the Trust's Conservation Officer, Andy Thomas and discussions with Mr Lewin.

Throughout the report, normal convention is followed with respect to bank identification i.e. banks are designated Left Bank (LB) or Right Bank (RB) whilst looking downstream.

## 2. Description of the river.

The River Uck is considered to be the major tributary of the Sussex Ouse system. The tributaries of the upper Ouse catchment are mainly small forest streams cutting deep sided valleys through wooded countryside. These drain High Weald areas of forest and heathland over a geology of soft sandstones and clays. Though often small and shallow, they are quick to respond to rainfall events. Some of the middle tributaries are similar, while others are characteristic of lowland streams; flowing more slowly over clays and alluvium. Two of the lower tributaries, the Bevern and Northend Streams are notable in that they are derived from springs rising in the chalk of the South Downs, continuing their journey over greensand and clay in their lower sections.

A useful source of information on the Ouse and its tributaries can be found on the Sussex Ouse Conservation Society website which can be found at:

<http://www.sussex-ouse.org.uk/river/index.htm>

As the major tributary, the Uck supports a very similar fish fauna to the main river with mixed stocks of coarse fish dominant in the areas where the low river gradient and pool/glide habitats favour fish like chub, roach, perch and pike. The river is also known to hold populations of fish normally associated with still water environments such as carp, tench and bream. Along with several of the other Ouse tributaries, the Uck also supports an important stock of sea trout (many of which are of exceptional average size). Ouse sea trout (along with those of the neighbouring River Adur) can run exceptionally late in the year, with fresh run fish often entering the river after the rod fishing season has finished at the end of October.

The Uck at Constantia Manor is heavily influenced by two major impounding structures. The downstream structure is located just downstream of Mr Lewin's bottom boundary and it was not possible to get access to inspect the structure on the day of the visit. It is understood that this structure is owned by the Environment Agency and is actively used to gauge river flows on the Uck system. It is believed that this weir is of the "crump" design, which are often not considered to be very effective at facilitating free migration of fish. This is particularly so for some of the smaller specimens and those species with weaker swimming speeds such as the cyprinids.

The Uck is located in a deeply cut channel and known to be extremely flashy and prone to high in-channel water velocities following heavy rainfall events. It is highly likely that small fish will be displaced downstream and will find it a challenge to migrate back. Sea trout are known to be able to migrate past this structure but presumably this will only be on the back of a substantial spate when the head loss of the structure is lowered by rising tail water levels.



**Bottom Section of River under the impounding influence of the gauging weir**

As well as having an impact on migration, the impounding nature of the structure creates a backing up effect which has resulted in a complete lack of any significant habitat diversity. Some variations in channel width and depth are apparent but in the main the bottom half of the fishery is extremely uniform,

consisting of mainly deep glide habitat over what appears to be a predominantly silt bed. This type of habitat is usually favoured by slow water cyprinid species and is not a conducive habitat for flow loving species and particularly not for brown or sea trout.

One major concern surrounds the presence of the non native plant Himalayan balsam *Impatiens glandulifera* which was present throughout this reach at moderate levels. This non-native plant is undesirable because its suppression of other ground vegetation, coupled with its winter die back combine to leave extensive areas of bare bank, contributing to excessive erosion.

The control Himalayan balsam can be achieved by physical or chemical means, although this may not be acceptable at Constantia Manor which I believe is run as an organic farm:

### Physical Control

The main method of control, and usually the most appropriate, is pulling or cutting plants before they flower and set seed (usually in June or July). Working parties are the best means of doing this.

Limited grazing access appears to be controlling balsam in some sections of the fishery. This could be continued, but needs to be carefully controlled and balanced with preventing overgrazing of desirable species, damage to coppice re-growth or damage to river banks. Access in late spring or early summer before the balsam has flowered would be ideal. In areas inaccessible to livestock, physical or chemical control is recommended.

### Chemical Control

Before using weedkillers alongside waterways it is necessary to contact the Environment Agency and obtain their written consent via form WQM1 ([www.environment-agency.gov.uk/subjects/conservation/840870/840941/](http://www.environment-agency.gov.uk/subjects/conservation/840870/840941/)). It can also advise on suitably qualified contractors.

Himalayan balsam can be controlled with a weedkiller based on glyphosate, such as Roundup. Glyphosate is a non-selective, systemic weedkiller that is applied to the foliage. It is inactivated on contact with the soil, so there is no risk of damage to the roots of nearby plants, but care must be taken that the spray doesn't drift onto their foliage. Glyphosate is most effective when weed growth is vigorous. This usually occurs at flowering stage but before die-back begins; with most weeds, this is not earlier than mid-summer.

It may take a couple of seasons to obtain good control due to the germination of more weed seedlings.



**Extensive beds of Himalayan balsam starting to die back. The steep banks make any form of control very difficult**

The in-channel habitats start to become more interesting further upstream when after about 1km the impounding influence of the gauging weir is lost. Here the river is faster, and channel width and depth much more diverse. On some sections where the channel has naturally pinched, an exposed gravel substrate was observed, which in turn supported beds of water crowfoot *Ranunculus sp.*

In these areas of pool, riffle, glide habitat there was also extensive marginal tree cover and it is quite likely that these reaches are occasionally utilised by migrating sea trout prior to their end of season spawning migration. Habitats like this are also desirable for flow loving cyprinids such as chub, dace and barbel.

No riparian maintenance is undertaken other than on some selected areas to facilitate wheelchair access so that Mr Lewin is able to fish. In lowering the bank to create access in several places it is likely that the areas modified will be valuable holding areas for fish during spate conditions. Any opportunities for the river to flow out of channel and reduce velocities during spates will help to retain fish stocks within the reach.



Low goat willow – great cover for fish



"Pinched" channel promoting good habitat for flow loving fish species



Good habitat with low adjacent berm created for access but contributing to the habitat quality

At the top boundary of the fishery there is another weir. It is unclear as to why this structure was constructed but just downstream on the LB a small tributary joins the main river. This stream is on Mr Lewin's neighbour's property. It may well be advantageous to explore the option of enhancing this small tributary as a spawning and juvenile habitat for trout. These small side streams are often favoured by sea trout as spawning sites in preference to main river locations. If it were to be utilised by migratory fish as a spawning habitat then the section immediately downstream of the weir would become a very attractive holding area for adults waiting for the late autumn spawning period.



Small side stream enters just below the top weir

### 3. Conclusions

The River Uck at Constantia Manor is an interesting fishery supporting a varied mix of both resident and migratory fish species. The top half of the fishery is severely impacted by the weir just below the downstream boundary which drowns out the natural river gradient and leaves much of the river resembling a slow flowing canal. The top half of the fishery is much more interesting with the channel providing a varied array of habitat types.

Although migratory sea trout undoubtedly pass through this section of river on route to spawning locations, the scope for enhancing the fishery for trout is very limited. Some fish may already be utilising the small side stream near the top of the fishery. An inspection of this stream during the spawning season may reveal evidence of spawning fish. Boosting the production of this side stream may be a possible way of enhancing angling opportunities on the main channel below.

Much of the channel was shaded by high level trees. Promoting low level cover by encouraging the establishment of scrubby goat willows will provide good fish holding areas where they will be afforded some protection against avian predators.

The shallow scrapes taken from the bank to promote access could be even more valuable as a refuge for fish in times of high flow. Any progress towards reconnecting the river with its flood plain will benefit fish populations.

**It is a legal requirement that some works to the river may require written Environment Agency consent prior to undertaking any works, either in-channel or within 8 metres of the bank. Any modifications to hard defences will require a land drainage consent on any river designated as "main river". Advice can be obtained from the Development Control Officer.**

### 4. Recommendations

- Open up a discussion with the Environment Agency over the operation and use of the weir below the property. If the structure is not "fish friendly" then ask the EA to look at modifying the structure to facilitate better access for migratory fish.
- Request that the Environment Agency look at alternative methods of flow gauging including the possible lowering or complete removal of the weir.
- Embark on a programme of tree management and tree planting. Remove some of the high level trees and branches to promote dappled light reaching the channel. Promote low cover through the planting of goat willow which will improve the productivity and holding capacity of the reach as a whole.

- Make attempts to tackle the problems associated with Himalayan balsam.
- Open up a dialogue with your neighbour regarding the small tributary at the top end of the fishery. Enhancement may not be required but options should be evaluated.
- Consider the possibility of further reducing the bank height in places and allowing the river to spill out during spate conditions. It is recommended that a discussion with the Environment Agency is had over options for enhancement and possible partnership projects.

## **5. Making it happen**

There is the possibility that the WTT could help to start an enhancement programme. Physical enhancement works could be kick-started with the assistance of a WTT 'Practical Visit' (PV). PV's typically comprise a 1-3 day visit where an approved WTT 'Wet-Work' experts will complete a demonstration plot on the site to be restored. This will enable project leaders and teams to obtain on the ground training regarding the appropriate use of conservation techniques and materials, including Health & Safety equipment and requirements. This will then give projects the strongest possible start leading to successful completion of aims and objectives.

The WTT can fund the cost of labour (two/ three man team) and materials (max £1800). Recipients will be expected to cover travel and accommodation expenses of the contractor.

Alternatively the Trust may be able to help in the development of possible project plans for the creation of new spawning and nursery habitats.

There is currently a big demand for practical assistance and the WTT has to prioritise exactly where it can deploy its limited resources. The Trust is always available to provide free advice and help to clubs, syndicates and landowners through guidance and linking them up with others that have had experience in improving trout fisheries.

## **Acknowledgement**

The WTT would like to thank the Environment Agency for supporting the advisory and practical visit programmes.

## **Disclaimer**

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