



River Anton – Goodwood Clatford



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

1. Introduction

This report is the output of a Wild Trout Trust advisory visit undertaken on the River Anton in Goodwood Clatford near Andover in Hampshire. This report covers a reach of approximately 1km of the main Anton plus two small side carriers which run through the private grounds Mr and Mrs Augusti Jausas.

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

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 Anton is a headwater chalkstream tributary of the River Test in Hampshire. The river rises from the chalk aquifer to the west and north of Andover, which is a substantial urban conurbation influencing both the quantity and quality of water available downstream. The flow is augmented by the Pillhill Brook which joins the Anton from the west on the southern outskirts of the town. The river flows for a further a further 5km before joining the Test at Fullerton.

A major input of treated sewage effluent servicing the Andover area enters the river about 1 km downstream of the fishery. Unlike much of the lower Anton and Test, the fishery at Goodwood Clatford is not stocked and although some hatchery derived brown trout *Salmo trutta* migrate into the reach, most of the stocks are the result of natural production. In addition to the excellent trout stocks, the river also supports a good head of grayling *Thymallus thymallus*. The presence of such strong populations of wild fish is a reflection of the high quality habitats found on the Anton in this area.

Most of the River Test is designated as a Site of Special Scientific Interest (SSSI). The Anton at Goodwood Clatford does not have protected SSSI status, however, the adjacent wetlands are designated as a Site of Importance for Nature Conservation (SINC). Sites with SINC designations are given extra protection by the local authority through the planning process. Further information about Hampshire SINC sites can be found at:

<http://www3.hants.gov.uk/biodiversity/hampshire/sincs/important-sites-sinc-criteria.htm>

The fishery can be broadly split into three sections. The main river channel, which includes an area of formal garden bordering the residence of Mr and Mrs Jausas, a parallel carrier which runs along the western border of the property and which is largely derelict, having received very little maintenance work in recent years. In addition there is another small carrier that joins the LB of the main channel approximately 200m from the top boundary.



The fishery extends from the ford down to Church lane

2.1 Main River Channel

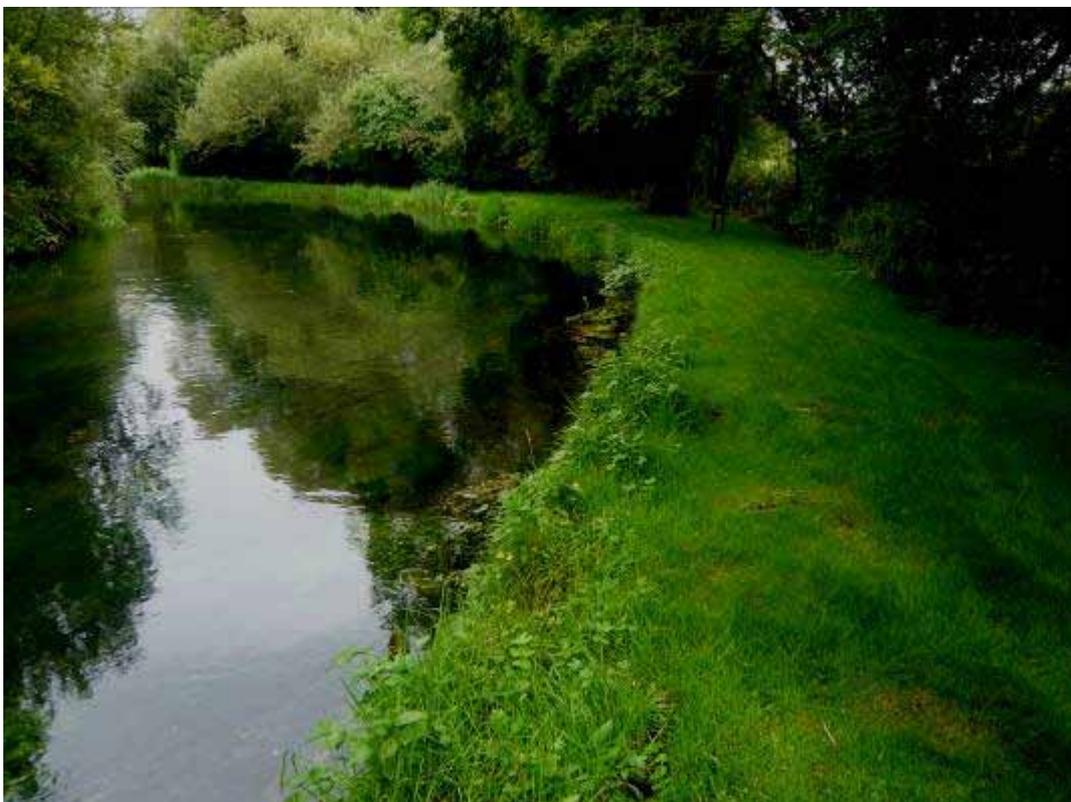
The main river reach commences at the upstream end adjacent to a ford and public footpath. The owners have wisely left both banks unmanaged and allowed the marginal vegetation to fill in areas that would otherwise be very attractive to unwanted visitors. In addition some new planting of native thorn trees has been undertaken to act as a natural barrier against the area where the public regularly visit.

A managed margin for access and angling is maintained on the LB throughout the reach. The RB has been largely left as an unmanaged bank where access is not necessary or desirable. In leaving the RB unmanaged, the fishery owners have created some excellent marginal habitat for fish. This complements much of the in-channel habitat which is mainly shallow glides supporting an abundant

growth of classic chalk stream plants including water crowfoot *ranunculus sp* and starwort *Callitriche stagnalis*.



Far RB left unmanaged with lots of low scrubby cover creating ideal trout holding habitats.



LB managed for access

One area of concern relates to the presence of non native plants. Himalayan balsam (*Impatiens glandulifera*) was observed on the LB near the top end of the fishery. It is a relative of the Busy Lizzie and is known by a wide variety of common names, including Indian balsam, jumping jack and policeman's helmet. It is a tall, robust, annual producing clusters of purplish pink (or rarely white) helmet-shaped flowers. These are followed by seed pods that open explosively when ripe, shooting their seeds up to 7m (22ft) away. Each plant can produce up to 800 seeds. Himalayan balsam tolerates low light levels and, in turn, tends to shade out other vegetation, impoverishing habitats. In the autumn, the plants die back, leaving the banks bare of vegetation and vulnerable to erosion.



Clumps of Himalayan balsam were seen near the top end of the fishery. This is an undesirable plant that can be difficult to control.

Most of the LB was heavily managed. Much of the bank appears to have been made-up or consolidated with imported material, top dressed and sown with grass seed. Although this makes for a pleasant area to walk and fish from it is not conducive to high quality chalkstream habitat. Margins on the whole should be low, soft and supporting a thick fringe of native plants and herbs. The margins or ecotones of any river are a crucially important habitat for a wide range of species, including juvenile trout. Maintaining a shallow margin that gradually gives way to a soft squashy bank not only provides valuable habitat for plants, invertebrates' and fish, but also buffers the harder bank areas from the erosive forces of the river.

Some work has been carried out to try and create a wider fringe of marginal emergent plants by reveting the existing bank with faggot bundles and allowing the adjacent area to colonise with sedge *Carex sp.*



A new soft margin has been created by reveting the margin with faggot bundles. An excellent enhancement

Near the upstream end of the fishery the access gives way to the formal garden of Mr and Mrs Jausas's home. Here the bank has been reveted with toe boarding.

Toe boarding is often used adjacent to formal lawn areas because it is easy to maintain and forms a clean, neat edge. Whilst often attractive to the eye, toe-boarding is a hostile environment for aquatic plants and animals and should only be used sparingly. Toe boarding, even when constructed from expensive hardwoods such as oak usually has a very limited life span. Problems sometimes occur when sediments are eroded away from the inside of the boards leaving the bank to sometimes slump without warning. The hard effect of toe boarding can sometimes be mitigated by staking a pre-planted roll of coir (coconut matting) at the base of the boards. A soft fringe of marginal emergent plants such as sedge or yellow flag iris will make an attractive, as well as biologically useful barrier to the erosive forces of the river and prolong the lifespan of the bank defenses.

Information on the price and availability of pre planted coir rolls can be found at:
<http://www.agagroup.co.uk/bioengineering/product-coir-rolls>
British Flora are a good source of native wildflowers and aquatic plants:
<http://www.britishflora.co.uk/>



The LB adjacent to the garden is formally reveted with toe boarding. A fringe of marginal emergent plants would protect the bank and provide habitat

Most of the mid channel habitat is “classic chalkstream” with excellent cover provided by numerous beds of crowfoot and starwort. In comparatively shallow glide habitat, the cover afforded by plants is crucial as they consolidate sediments as well as channelling flow through clear gravel runs. This gives adult trout superb holding habitat where they can safely maintain position with minimum effort before intercepting any passing food item. During my inspection the weed growth was excellent but in-channel cover can be severely restricted if for any reason the plants are not flourishing. Poor weed growth has been reported from many areas in the Test and Itchen catchments over the last decade with problems often attributed to too much or too little flow, as well as grazing by large flocks of immature swans. Should the weed not grow as well for any reason, the comparatively wide and shallow channel profile may not provide sufficient cover to hold lots of fish.

To address this potential problem, we need to provide more diversity in the channel profile. One effective way to do this is to use large woody debris (LWD) to help locally scour the river bed, which in turn cleans and sorts river bed gravels. This will not only provide good quality lies, vital in poor weed growth years, but also help to blow gravels into bars and mounds which will then be used for spawning. Although there were some sections that might be used for spawning, much of the bed is flat with laminar flows. Trout usually seek the tail of a pool or a gravel bar to spawn on so creating habitat with a half fallen tree trunk or a pegged down branch is often a simple method of boosting the numbers of fish being produced.



An excellent example of LWD which is acting as a live current deflector

The presence of LWD has been shown to be extremely important in several respects:

- An increase in the variety of flow patterns, depths and localised velocities within the river. This is essential to support the needs of trout at different stages of their life cycle (spawning, parr / juveniles and adult trout)
- Development of in-channel physical habitat diversity, which provides more lies for fish and habitat for insects
- Significant benefits to the control of run-off at the catchment scale. Woody Debris helps regulate the energy of running water by decreasing the velocity. Thus the 'travel time' of water across the catchment is increased.

LWD is a general term referring to all wood naturally occurring in streams including branches, stumps and logs. Almost all LWD in streams is derived from trees located within the riparian corridor. Streams with adequate LWD tend to have greater habitat diversity, a natural meandering shape and greater resistance to high water events. Therefore LWD is an essential component of a healthy stream's ecology and is beneficial by maintaining the diversity of biological communities and physical habitat.

Traditionally many land managers and riparian owners have treated LWD in streams as a nuisance and have removed it. This is often unnecessary and harmful: stream clearance can reduce the amount of organic material necessary to support the aquatic food web, remove vital in-stream habitats that fish will use for shelter and spawning and reduce the level of erosion resistance provided against high flows. In addition LWD improves the stream structure by enhancing the river bed and diverting the stream current in such a way that pools and spawning riffles are likely to develop. A stream with a bed made up of pools and riffles is ideal for plants and insects, as well as for fish species including trout.

2.2 Top Carrier

A small carrier joins the main channel on the LB about 200m from the top boundary. Currently the carrier is quite overgrown and shaded with a substrate of silt and thin gravels. The author is of the opinion that this stream has excellent potential as a trout spawning and nursery habitat. Lying as it does near the head of the fishery, any enhancements that can be carried out to improve productivity within the carrier will bring significant benefits to the fishery as a whole.



The top carrier near to its confluence with the main channel. Potentially a superb spawning and nursery habitat.

A comparatively cheap and simple enhancement would be to create one or two spawning riffles by importing some fresh aggregates (gravel) from a local river

valley source. The bed of the stream is currently dominated by soft silts. Reducing the bed level by pressure jetting the sediments and then importing gravel to raise the bed and create a shallow spawning riffle would enhance the aesthetic appeal as well as the providing a valuable spawning and nursery habitat.

Constructed riffles should ideally be no less than 20m in length, with longer lengths increasing the feature's value as a spawning and nursery zone, although on such a small carrier a riffle of half this length will still be a useful addition.

The riffle should comprise of a depth of at least 30cm of spawning gravel (mixed 15-40mm diameter gravel) with a sub-layer of larger cobbles.

Other considerations include obtaining the necessary consents from the relevant authorities. They should be able to confirm whether this type of work requires consent under the land drainage legislation. It is my understanding that the carrier is not classified as a "Main River Water Course" and therefore not subject to land drainage consent. For these reasons and the general complexity of riffle installation, it is recommended that assistance be sought from the WTT, Environment Agency or a reputable fisheries consultant at the planning stage.

2.3 Back Carrier

A small carrier leaves the river just below the ford and runs down the western boundary of the property. At the top end of the carrier the RB flows along the back boundary of several properties before entering a totally unmanaged area where the channel is largely choked with willow scrub.



Back carrier with heavy growth of willow scrub

It is thought that this area lies within the SINC boundary and any plans to undertake works here should be shared with the Hampshire County Council. The channel is completely blocked over a substantial length and would benefit from some sensitive tree maintenance, but not large scale clearance.

The initial objective is to re-establish some open areas and allow sunlight into sections of the channel. This will enable in river plants such as crowfoot and starwort to re-establish, and so support more fly life and trout. Once the channel has been opened up, it will be easier to identify if any further work is required.

There are also some large willows which are in need of pollarding before the tree completely splits

It was noted while inspecting the area between the main channel and the carrier that an area was being used to store composted grass cuttings. The liquor that is derived from cut grass or composting piles is known to be very polluting. When allowed to leach into a watercourse has the capacity to significantly reduce dissolved oxygen levels and impact both fish and insect life. It is therefore recommended that the compost area be moved well away from the bank of the river or carrier.



Area of grass cuttings stored too close to the river

3.0 Conclusions

The main river section of the Anton in the ownership of Mr and Mrs Jausas is a fine example of a classic chalkstream trout fishery, supporting a good population of wild trout. There is no need or requirement to augment the current wild population with any introduced hatchery derived fish.

Further improvements to spawning and nursery habitats through the enhancement of the adjacent carrier coupled with the creation of improved lies on the main channel through the sensitive use of LWD will further increase its ability to hold wild trout, grayling and fly life as well as other wildlife.

The back channel requires some serious tree works to re-establish some channel form, allow some much needed dappled light to reach the channel and preserve some of the large crack willows that are in danger of falling over.

Some thought needs to be given to the future management and maintenance of the bank on the LB of the main channel. Establishing a soft natural margin will reduce the requirement for expensive maintenance and create marginal habitats suitable for juvenile fish as well as enhancing fly life.

4.0 Recommendations

- Carry out some sensitive tree management on the back carrier to re-establish the channel form and allow more light penetration. Material gained from the work can be used within the channel to consolidate banks and promote local scour.
- Use LWD to promote local scour on the wide shallow sections of main river channel.
- Consider introducing imported river gravels to create enhanced spawning opportunities in the small carrier at the head of the fishery.
- Move the compost heap at least 10 metres away from any river bank.
- Retain the low scrubby marginal cover. This is particularly important in the winter months. Autumn strimming of marginal dead annuals is often undertaken, resulting in damage to juvenile trout habitat.
- Consider enhancing the existing hard bank defences (toe-boards) through the introduction of a soft toe (such as coir rolls) capable of supporting marginal emergent plants.
- Control Himalayan balsam. This can be achieved by physical or chemical means:

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).

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/). The EA 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 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 the river bank will require a land drainage consent on any river designated as "main river". Advice can be obtained from the Development Control department from your local EA office.

5. Making it happen

The WTT could help to start a programme to carry out these recommendations.. Physical enhancement works could be 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. We will give you training regarding the appropriate use of conservation techniques and materials, including Health & Safety equipment and requirements. This will then give you the strongest possible start to carrying out the rest of the project.

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.

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 WTT.

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