



River Meon – Midlington Farm, Droxford



An advisory visit carried out by the Wild Trout Trust – March 2009

1. Introduction

This report is the output of a Wild Trout Trust advisory visit undertaken on the River Meon at Midlington Farm, Droxford in Hampshire. The advisory visit was undertaken at the request of Mr. Howard Taylor who leases the fishing rights from the owner Mr. Danny Bower. The flood plain within Mr Bower's ownership has just gone into a High Level Stewardship agreement. In December 2008 the river and floodplain were the subject of a site visit and subsequent report written by Dr Nigel Holmes to provide recommendations for a rehabilitation strategy with specific options for restoration. Many of the options put forward in Dr Holmes's report will benefit wild trout *Salmo trutta* stocks if implemented. Mr Bower and Mr Taylor are both keen to ensure that any proposed enhancements specifically designed to improve flood plain habitat will also derive benefit for the fishery.

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. Catchment overview

The River Meon rises from the Hampshire chalk aquifer near the village of East Meon and flows south for approximately 37km before entering the sea at Hill Head. The river enjoys a steep gradient for a chalk river, falling approximately 120m from source to sea. The river flows over deposits of Lower Chalk which is less permeable than the Upper Chalk geology predominantly found in the rest of the East Hampshire. As a result the Meon tends to have a greater flow range compared to other southern chalk streams.

For much of its length the river displays the classic chalk stream characteristics of clear water, low soft margins and an abundance of in-channel macrophytes dominated by water crowfoot (*Ranunculus aquatilis*), starwort (*Callitriche stagnalis*) and water moss (*Fontinalis antipyretica*). As with most chalk rivers the channel is heavily modified and in-channel habitats are heavily influenced by the numerous structures and milling impoundments found throughout its length.

Fishery surveys of the Meon conducted by the Environment Agency (EA) have concluded that the river Meon is "a productive brown trout river". The Meon is also noted for a strong run of sea trout although they are rarely targeted by anglers on this system. Sea trout are known to run upstream of Droxford during wet years and the EA have plans to improve access for migratory fish on this system which may see more fish utilising the Midlington beat in the future.

3. Fishery overview

The River Meon at Midlington is currently used and predominantly managed as a wild trout fishery. Some stocking has taken place in recent years but the general consensus is that the fishery can produce good numbers of wild fish and provide a challenging but high quality fly-fishing experience without the need to augment the stock. The management is particularly keen to focus on ways of

further improving the wild stock through a programme of targeted habitat enhancement and sensitive maintenance regimes.

4. Habitat assessment.

The fishery at Midlington can be broadly divided into two distinctive beats. The top beat is very open with a wide, mainly shallow channel. It is thought that this section has the most potential for habitat restoration. The bottom beat, running down from the Cuts Arch Bridge to the bottom boundary supports a much more diverse channel form and consequently is believed to support the best habitat for trout. This section is also considered to be the most productive part of the fishery for angling.

4.1 Top beat.

The top beat starts where the river emerges from a wooded and largely unmanaged section of river at the head of the fishery. The river soon changes character, with much of this top beat gently meandering through an open meadow with very little marginal cover. The channel in places is comparatively wide and shallow with the margins largely devoid of any valuable emergent plants or chalkstream herbs. At some stage it would appear that the margins have been damaged by excessive cattle poaching and have not been able to recover even though the density of grazing cattle has been reduced of late.



Top boundary of the fishery. The wide shallow channel is potentially a good spawning and nursery area and ideally located at the head of the fishery.



A good section just below the top boundary where the channel is slightly pinched before becoming wider, more open and comparatively shallow.



Wide, open channel on the top beat with evidence of margin damage on both banks associated with cattle poaching

In the report produced by Dr Holmes, under the section headed Existing Character, he makes the comment "In essence, the channel has some conservation interest but is too wide and shallow to realise its full potential unless there is some simple intervention." This assessment is also valid as far as

trout populations are concerned. Currently this section has good potential for trout spawning and nursery habitat but chronically lacks diversity in terms of channel width and depth. This seriously hinders the adult holding capacity of the reach and will restrict the beat from reaching its full potential as a fishery. The creation of a more varied channel planform and bed topography, coupled with some extra marginal cover would provide habitat for all life stages of trout and certainly would improve the adult holding potential of the reach.

As the river winds its way towards the road bridge it is evident that the channel has been diverted in the past to maintain a head of water for an old water meadow system. Some of the old structures are still visible. As a perched channel, the margins are vulnerable to erosion and a bank breach has allowed water to loop down into the bottom of the meadow before rejoining the main channel.

This newly formed channel has the potential to provide some excellent spawning and nursery habitat with the provision of some in-channel cover. Some intervention will be required to stabilise the breach and limit the amount of flow entering the new channel. An alternative is to let the breach run its course and allow the river to eventually find its way to the bottom of the valley. This scenario will in all probability be unacceptable to landowners, particularly to the property currently backing onto the main channel a short distance downstream of the breach.



[New channel forming via a bank breach from the perched channel.](#)

At the time of the visit the river was flowing strongly after the above average winter rainfall. As a result, there was an excellent growth of water crowfoot

Ranunculus aquatilis throughout the reach which will provide some good cover for juvenile trout in particular.



Good weed cover, strong flows and a decent gradient provide some good habitat for juvenile trout. Some deeper holding pools and a low scruffy margin on the LB would greatly enhance its ability to hold adult fish as well.

4.2 Bottom Beat

In contrast to much of the top beat, the section below Cuts Arch Bridge is much more varied in terms of channel depth and width. Both banks are blessed with an array of mature trees, shrubs, and low scrubby cover that give plenty of cover for trout from the significant numbers of cormorant, heron and egret that are regularly seen throughout the reach.

The presence of large pieces of woody debris (LWD) and large root systems from mature trees have undoubtedly helped to push the river substrate around. This has enabled a nice varied depth profile to develop, so important for creating the pool and riffle habitat needed for holding adult fish, spawning and the retention of juveniles. There is evidence from the raised RB that the river has been dredged at some stage but fortunately the bed appears to have recovered, regrading itself with the help of a narrow channel with regular large root systems which kick the flows from side to side. An unforeseen advantage of this previous

work may well have been to create a bank undesirable for cattle to poach, with the net result that a valuable margin of scrub has developed on the toe of the bank, providing some excellent habitat for trout.



A piece of LWD that could be easily winched further into the channel to promote some local bed scour. A good margin for juveniles



Evidence of past dredging on the RB. Not a classic chalk stream bank but it has enabled a margin of scrub to develop and provide cover for trout.



Good habitat for adult and juvenile trout



A bird proof refuge. Adult trout will feel comfortable in spots like this



More LWD within the channel. Great habitat and a rare site on a Hampshire chalkstream



Another good holding spot for adult trout

Despite the previous dredging work the bottom section appears to be in very good order, thanks mainly to the relaxed approach to marginal tree and shrub maintenance. There were numerous examples of good holding, spawning and juvenile habitat. Further improvements could be made by utilising some of the existing LWD that is to be found in the locality and securing it onto some of the shallow riffle habitat to improve the quality of the spawning gravels.

5. Conclusions

The majority of the lower beat at Midlington is in great shape and only requires the odd tweak to help it reach its full potential. The section currently enjoys a nice mosaic of dappled light and shade and has a channel form that is conducive for all life stages of trout.

The middle 400m or so of the top beat undoubtedly requires attention. Here the channel is far too wide and shallow and affords very little cover for trout. In a low flow year when weed growth is poor this section would be very shallow and only provide very limited habitat for a few juvenile trout. The River Meon Project report undertaken by Dr. Holmes has identified this section as being ripe for enhancement and there is no doubt that some improvement to habitat is desperately needed.

The prescription put forward by Dr Holmes is to restrict cattle access for 5 years by erecting a temporary fence, planting some willow trees and creating some deeper pools using a machine to dig gravel from the centre of the channel and side cast it to create some marginal berms.

The conclusion from this report is that the fencing is an essential element of any habitat improvement initiative on this section. Restricting access to cattle will allow the margin to recover and gradually encroach, pinching the channel and promoting enhanced habitat quality through increased water velocities. Purpose-built drinking areas adjacent to the river can be provided or alternatively the installation of pasture pumps could be employed where beef cattle can access drinking water through a self-activated pump that does not compromise the river margin habitat.

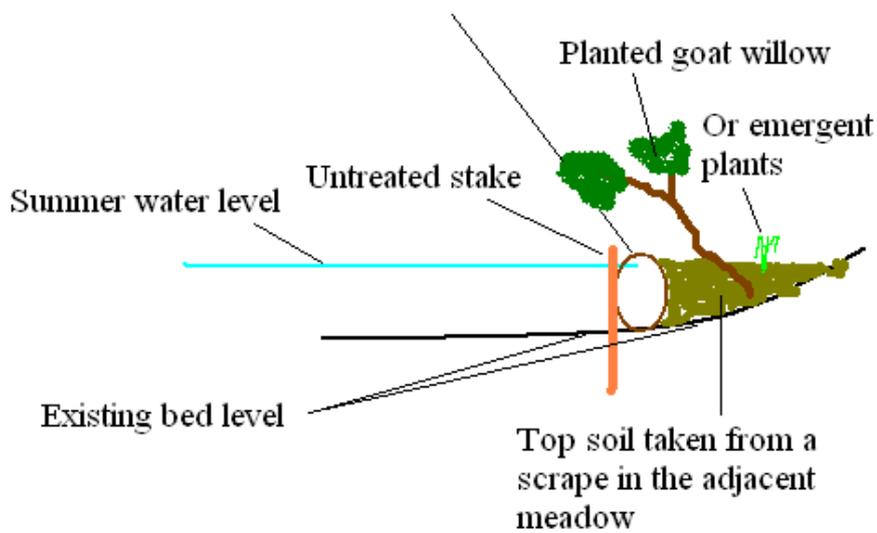
The idea of creating some marginal berms, or shelves to locally pinch the channel and blow the water through some deeper pools would provide improved holding habitat for adult trout. Creating pools by digging gravel from the centre of the channel can be risky because it can leave deep silt filled holes in times of low flow. An alternative approach is to revet the outline of some new marginal shelves with faggot bundles (diagram 1) or tree trunks and peg them in and backfill with material won from the meadow. Digging some very shallow scrapes next to the river where material can be won will also promote some new wet meadow habitat, ideal for wading birds. The newly formed low soft margin can be planted with willow, sedge or reed or allowed to develop naturally. The machine can be used to gently loosen bed material at the bottom of the run and some pegged down LWD can be imported to promote the necessary scour which will help blow out the bed material and form a sustainable pool habitat (diagram 2). This method is more likely to look natural and function properly over a wide range of flow scenarios.

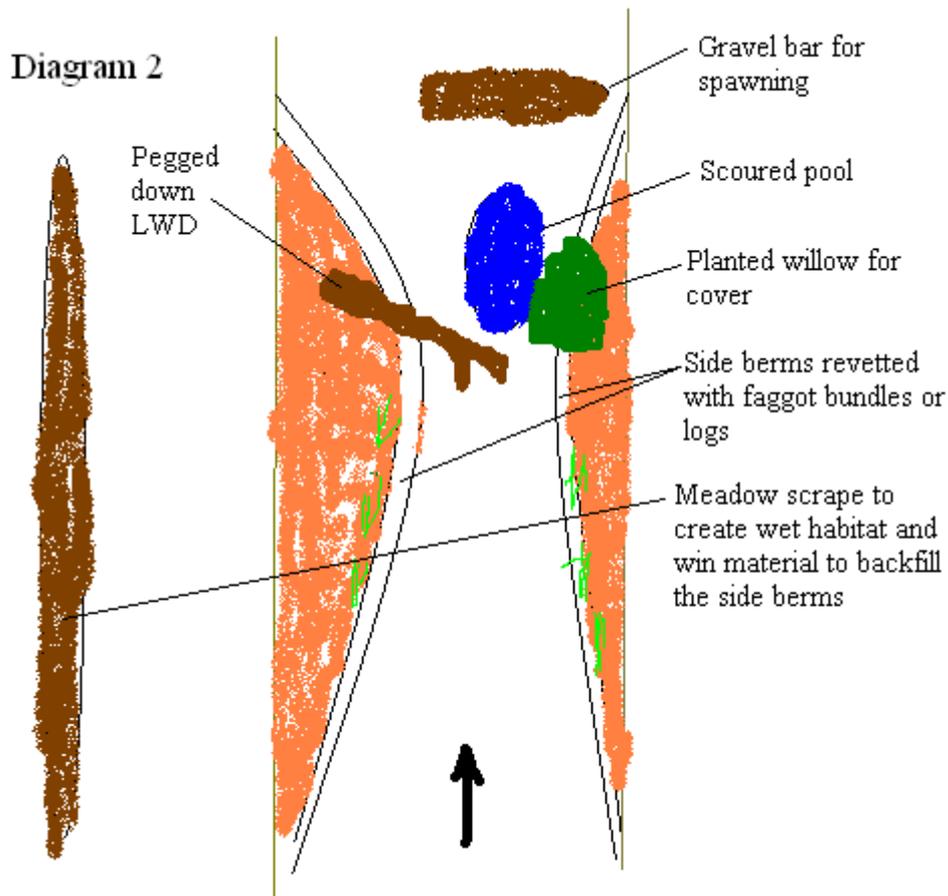


Pasture pump in operation adjacent to the River Test

Diagram 1

300mm (approx) diameter faggot with top level set at 100mm-150mm above normal summer water level





In narrowing the channel in three or four locations there will be scope for utilising the extra velocities to create scour pools and improved holding habitats for adult trout and other fish species. A combination of narrowing and the use of LWD will often provide fish with an ideal lie as well as additional cover from predators. Extra depth in a few locations will also help to make the section more resilient against the adverse effects of low flow conditions, providing vital pools when water levels shrink during prolonged drought periods.

This project could be an ideal candidate for project funding via a partnership between the WTT and the Meon Partnership.

Work to stabilise the bank adjacent to the current bank breach should be undertaken before next winter's high flow period.

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.

6. Recommendations

- Improve the spawning potential of the bottom reach by strategically pegging down LWD onto selected shallow gravelly sections.
- Follow the recommendations in Dr Holmes report where he suggests erecting temporary fencing on the top beat for a five-year period.
- In the middle section of the top beat create three or four locally pinched sections with associated pool habitat. These areas should be at least 90m apart.
- Undertake a programme of tree planting with willow or goat willow *Salix caprea*
- Locate a source of LWD and peg sections onto the wide shallow section at the top of the beat to promote improved spawning habitat
- Stabilise the bank breach by defending the bank with some large imported flints

6. 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 in partnership with the Meon Partnership in order to enhance and improve both in-channel and marginal habitats on the top beat.

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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