



**River Rother – Hog Moor, Sheet.**



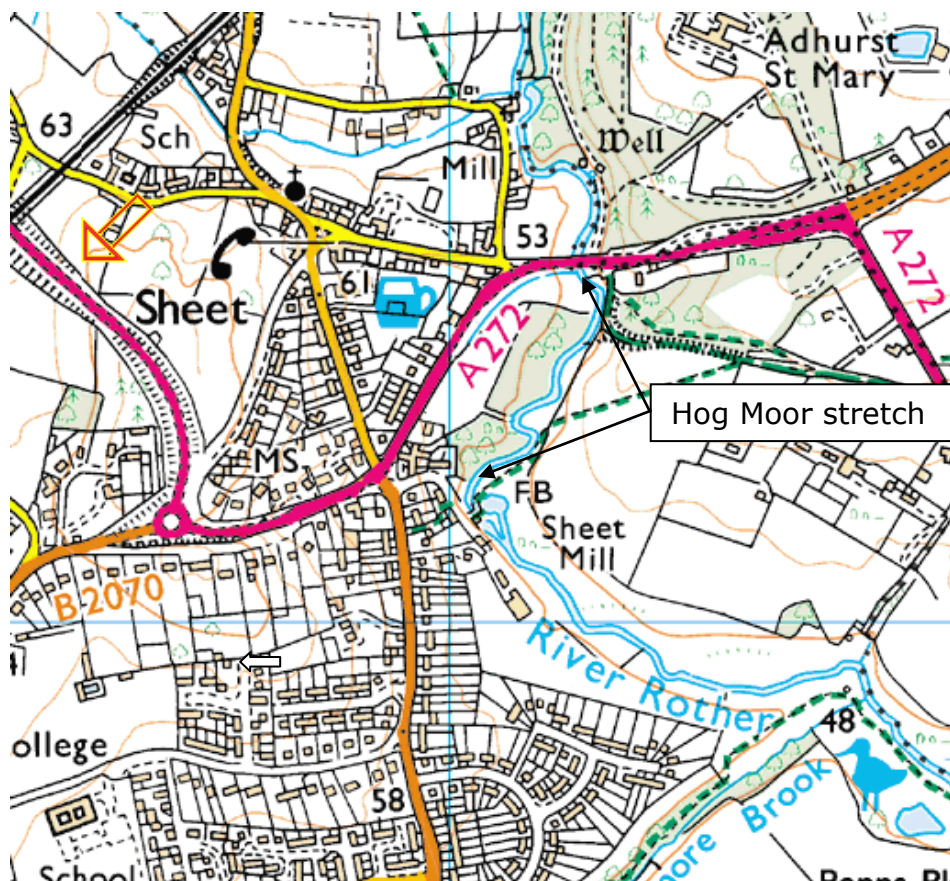
An advisory visit carried out by the Wild Trout Trust – July 2012

## 1. Introduction

This report is the output of a Wild Trout Trust advisory visit undertaken on a 0.5km stretch of single bank on the River Rother at Hogmoor in Sheet, Hampshire (NGR SU761245 to SU760242). This section of river is owned by Mr. and Mrs. Spooner.

The request for the visit was made by the Spooners, who are keen to sympathetically manage their river and to explore opportunities for the development of a wild brown trout (*Salmo trutta*) fishery. Comments in this report are based on observations on the day of the site visit and discussions with the 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.



Site map

## 2. Catchment overview

The Western Rother is the main tributary of the River Arun and rises from the chalk hanger near Hawkley and Emphott and is quickly augmented by a stream rising from deep greensand springs near Longmoor.

Much of the Rother is characterised by a soft sand substrate, a function of the greensand geology. River bed gravels are relatively scarce here. Those that are present tend to be derived from two principle sources and are either from broken outcrops of sandstone, or derived from the small quantities of flint that have washed down from the streams that drain the chalk slopes. Although strong populations of wild brown trout are to be found upstream of Petersfield, generally low densities of both trout and coarse fish are found through the middle reaches where the substrate is quite soft and habitat relatively uniform. Localised sections that possess a firmer substrate and more varied habitat, however, support better fish populations.

The Rother supports a strong population of migratory sea trout which run the lower and middle river and tend to spawn in small tributaries. Access all the way to Petersfield is extremely difficult due to the numerous weirs and milling structures which block and delay upstream migration.

Water quality is generally good, particularly above Petersfield. Occasional pollution incidents have been reported in the area, with a serious pollution occurring a few years ago on the Tillmore Brook, which enters the Rother a short distance downstream of the Hog Moor reach.

The river suffers periodically from low flows, and the intensive nature of the agricultural land use downstream of Petersfield can put enormous pressure on the river. Large quantities of water are removed for spray irrigation and in recent years a move towards salad crop production has led to concerns over increased siltation derived from finely tilled soils in the flood plain and surrounding valley slopes. The huge quantities of fine sediment finding their way into the Rother are thought to be compounded by intensive rainfall events regularly experienced during the last decade.

The Rother (Waterbody ID 107041012840) has been assessed as being in 'moderate status' under the Water Framework Directive although the river is known to be both over abstracted and over licensed for abstraction under the EA's Catchment Abstraction Management Plan. The middle and lower Rother are failing WFD targets for siltation pressures and impoverished fish communities. The WFD assessment process for the upper Rother does not reflect the fact that the local trout population is performing well.

### Western Rother (Upstream Petersfield)

Waterbody ID	GB107041012840
Waterbody Name	Western Rother (Upstream Petersfield)

Management Catchment	Arun and Western Streams
River Basin District	South East
Typology Description	Low, Small, Siliceous
Hydromorphological Status	Not Designated A/HMWB
Current Ecological Quality	Moderate Status
Current Chemical Quality	Does Not Require Assessment
2015 Predicted Ecological Quality	Moderate Status
2015 Predicted Chemical Quality	Does Not Require Assessment
Overall Risk	At Risk
Protected Area	Yes
Number of Measures Listed (waterbody level only)	2

[Summary of Water Framework Directive information for the River Rother](#)

### **3. Fishery overview**

The Rother at Hog Moor has not been actively managed as a fishery. Some ad hoc angling has taken place in the past and occasionally from the left bank. The Rother is actively managed and used as a fly fishery on sections both above and below Sheet at Adhurst and at Wenham Manor respectively. Both sections have a history of trout stocking; however, the number of wild fish present within the reach above the Tilmore Brook Confluence is known to be so prolific that trout stocking, in our opinion, would be unnecessary and potentially damaging to the resident wild stock.

The owners have no specific desire to derive direct income from the Rother but would like to explore options for some low key access for wild trout fly fishing to complement the development of an adjacent field for camping. There is demand for small-stream fly fishing and opportunities for wild brown trout river fishing within easy reach of the capital are very limited. Options for developing the recreational fishery are discussed in more detail in the conclusions and recommendations section of this report.

### **4. Habitat assessment**

The River Rother at Hog Moor supports a diverse range of in-channel habitat that is ideal for all life stages of brown trout. The channel here is blessed with a comparatively steep gradient, which has promoted a series of classic pools, riffles and glides, especially on the top half of the fishery.



A wide shallow riffle on near the upper half of the beat. A superb spawning and nursery site for brown trout

The lower half of the beat is impacted by the impounding effect of the weir at Sheet Mill, which is located just downstream of the bottom boundary. This structure has the effect of backing up the flow and slowing the water velocities. This has resulted in significant sand deposition, particularly where the channel is wide, or on the inside of any bend.

The Sheet Mill was not inspected as part of this walk-over survey but it is worth exploring if there are any options for lowering the height of this impoundment. If accomplished, this change could radically improve habitat quality on the lower section of the Hog Moor reach by allowing water to flow much faster, reducing the amount of sediment deposited and, in some areas, helping to scour away sediment and expose valuable river bed gravels.

It is unrealistic and undesirable to manipulate the channel to mobilise all of the settled fine sediment. Much of this material is stable and naturally deposited on the inside lanes of bends, or trapped behind woody debris. Settled sediments can provide good habitat for a range of other important river species, including eel (*Anguilla Anguilla*) and brook lamprey (*Lampetra planeri*) as well as specialised burrowing invertebrates such as the larval mayfly (*Ephemera danica*). Maintaining good quality habitat for aquatic invertebrates is an essential component for supporting a good quality trout fishery.

As well as maintaining some areas of settled sediment for burrowing insects, retaining both coarse and large woody debris within the channel helps to provide essential habitat and a primary source of food for shredding invertebrates such as shrimp (*Gammarus pulex*) and a variety of caddis species. Submerged woody material is also essential in helping to shape and scour sediments and gravels

and sort the bed material so that it is available for a wide range of species and uses. Large woody debris (LWD) such as fallen tree trunks or root bolls, is usually responsible for forming pool habitat. When a tree falls, or leans over, the river scours the bed material below to form a deeper pool, creating an ideal residence for adult trout. The gravels scoured from the bed are then deposited downstream of the pool as an upward sloping ramp. These areas are used by trout for spawning in the winter, where they cut their nest (or red) in the loose gravel bed. Further downstream of the pool, there is often an area of very shallow broken riffle and these areas are favoured by juvenile trout as they can hide from bigger fish which otherwise might eat them. Larger fish prefer deeper water as they are vulnerable themselves to predation when they venture into shallow water. Coarse woody debris, brushwood or brash, trailing annual plants, or low scrubby cover spilling into the water margins are all extremely valuable on these shallow runs as they protect juvenile fish from predation by herons and egrets. Larger cobbles or pieces of LWD that settle onto shallow sections also provide refuge for fish of a range of sizes dependant on water depth and velocity.

The retention of woody material within the channel is therefore essential and must be balanced with any need for maintaining access for angling. Fortunately, the Rother at Hog Moor is blessed with lots of in-channel woody material. If the woody material is situated in an area where it renders fishing impossible then it can simply be moved and secured so that there is room to cast a fly but essentially still be retained nearby as a bolt hole for the fish.



Sand deposited on the bed of the impounded lower section. A poor habitat for trout but potentially valuable for other species. Note the shaft of light promoting some limited weed growth.

Mature trees and shrubs lined the bank of the river for almost all of the reach. On the positive side, this has a number of advantages: the shade has a cooling effect on the water in periods of low flow in the summer; insects drop from the trees to augment the food supply in the river; tree roots and trailing vegetation protect fish from predators and the root systems stabilise the banks and prevent excessive erosion.

Where direct sunlight was penetrating the channel there were beds of water crowfoot (*Ranunculus* spp.) especially where the flow was brisk and the river bed stable. Starwort (*Callitriche* spp.) was also present growing in areas of lower flow velocity over softer river bed material. Both plants provide excellent cover for trout and are important habitats for a range of aquatic invertebrates. Species such as water crowfoot need plenty of sunlight, and these plants are hosts to many of the invertebrates that trout and other fish will feed upon. A mix of 50:50 direct sunlight and shade is a good ratio to aim for.

The Rother at Hog Moor is slightly over shaded and some tree work to open areas of dappled light would be beneficial to the river as a whole. Alder trees when coppiced survive well and will re-grow as a multi stemmed tree. Coppicing out the occasional clump of mature trees creates a varied structure to the tree canopy and avoids issues associated with large numbers of mature trees collapsing at the same time following severe weather. When choosing any trees to coppice, it is advisable to concentrate on thinning trees casting more shade from the southern bank.



Heavily shaded channel would benefit from some tree work.

When carrying out tree work, bear in mind that rotational coppicing over a 5 or 7 year period is the best approach. Large-scale works in one year will promote rapid re-growth and create a management problem a few years down the line. Small scale and selective tree work to allow light to fall onto shallow glides and riffles will promote the growth of in-channel plants. Leaving the shade over deep pools will allow trout to feel secure and keep water cool in hot summers.



A fallen willow promoting river bed scour. Retaining the root wad and removing the outer half of the fallen tree will retain the valuable flow deflector and associated cover but will provide fishable access for the angler.

The non-native plant Himalayan balsam *Impatiens glandulifera* 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 of Himalayan balsam can be achieved by physical or chemical means:

#### Physical Control

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

Grazing access appears to work in some areas. 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. It is recommended to only use 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 rendered inactive on contact with the soil or water, so there is no risk of damage to the roots of nearby plants or plants in the water, 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.



Himalayan balsam flower. Easy to hand pull prior to setting seed pods.



Himalayan balsam can rapidly shade out other native plants leaving banks vulnerable to winter erosion.

## 5. Fishery potential

The Rother at Hog Moor would be of interest to any wild trout enthusiast. Currently the river would present a real challenge to even the most experienced fly fisherman; however, with a little light tree work and repositioning of in-channel woody debris the river would be perfectly fishable, even for a comparative beginner. The river would not be able to sustain intense angling pressure but good quality sport could be expected for any competent fly fisherman provided that the river is not over fished. The reach is a little too short to provide a full day's sport for one rod but it is perfectly viable for a half days sport for one rod, or perhaps a pair of anglers for a short evening session. Angling should ideally be restricted to two or three days a week, with access controlled via a simple pre-booking scheme. The fishery is potentially a valuable asset that would complement opportunities for camping.

The fishing would need to be strictly controlled and although some bait fishing tactics might be acceptable on rare occasions, particularly for children who may not be able to wade or fly fish, the trout fishing would be best protected if the method was restricted to fly only on a "catch-and-release" basis. This is perfectly acceptable to most modern trout anglers, who enjoy the challenge of catching a wild fish on the fly and are not necessarily interested in turning their catch into a meal. With fly fishing and catch-and-release tactics the fishery can sustain regular visits. Bait fishing (e.g. with worms) has the major disadvantage that trout tend to swallow the bait and become deeply hooked, leading to high rates of mortality post-capture, even where catch-and-release fishing is intended.

It might be useful to make contact with a local guide/instructor so that opportunities for providing tuition for the novice fly fisherman are also available. There are associations for angling guides/instructors e.g. <http://www.aapgai.co.uk> or <http://www.gameanglinginstructors.co.uk>.

Fly fishing for brown trout can commence from 3<sup>rd</sup> April, with the season ending on the 30<sup>th</sup> October. Anglers would need to be in possession of a valid Environment Agency rod licence (available on-line, or from a local post office) but the responsibility for complying with angling legislation is with the angler and not with the fishery owner. It is however helpful if the fishery owner is aware of the local byelaws and can provide at least some information. Further information about the local EA byelaws is available via the EA website.

## **6. Conclusions**

In summary, the Rother at Hog Moor is a delightful stretch of good quality trout stream. It supports a full range of habitat for all life stages of brown trout but with scope for further improvements.

Little intervention is necessary, other than management of the balance of light and shade through some sympathetic tree work. Some in-channel and marginal trimming is necessary to facilitate fly fishing but provided the fishing is marketed as "wild" fishing for "wild trout" most rods will appreciate the relatively unmanaged environment. Excessive clearance of the in-channel and marginal cover will result in an exodus of the majority of your local trout population.

Exploring opportunities to enhance the lower reach by reducing the height of the impoundment at Sheet Mill should be explored.

Access for angling should be via wading and limited to fly fishing for a maximum of two rods at any one time. Ideally, the fishery should be rested for at least three or four days a week. Access for angling together with a camping opportunity may well be an attractive package.

## **7. Recommendations**

- Explore with your neighbours any opportunity for reducing the height of the impoundment at Sheet Mill.
- Carry out some coppicing of alders, especially adjacent to shallow riffle and glide habitat. Use woody material won from tree work to secure into the channel to improve enhanced habitat. Further information on all aspects of river management can be found in various WTT publications at [www.wiltrout.org](http://www.wiltrout.org)
- Continue with efforts to eradicate Himalayan balsam.
- Carry out some trial angling sessions to gain useful feedback on fishery performance
- Maintain a tight control on angling access and fishing methods and ensure the river is not fished too often.

## Acknowledgement

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

## Disclaimer

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