



**Advisory Visit**

**River Noe, Derbyshire**

**July 2018**



## 1.0 Introduction

This report is the output of a site visit undertaken by Tim Jacklin of the Wild Trout Trust to the River Noe, Edale, Derbyshire on 10<sup>th</sup> July, 2018. Comments in this report are based on observations on the day of the site visit and discussions with the landowner.

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 Catchment / Fishery Overview

The River Noe is located in north Derbyshire, within the Peak District National Park, close to Ladybower Reservoir. It rises in the Vale of Edale near Kinder Scout and flows south-east to join the River Derwent a short distance downstream of Ladybower Reservoir dam. Angling on much of the river is controlled by Peak Forest Angling Club (PFAC) and the Wild Trout Trust have carried out previous advisory and practical visits to other sections of the river on behalf of the club. This visit was at the request of the adjacent landowner who has recently acquired a property alongside this section of river; this section of river forms part of Beat 11 of PFAC's fishery.

The River Noe is an upland river, running off the shales and sandstones of the Dark Peak. It has good water quality and generally good in-stream habitat, which support healthy stocks of wild brown trout and, in the lower reaches, grayling. This is reflected in the environmental monitoring data collected by the Environment Agency (Table 1).

<b>River</b>	River Noe
<b>Waterbody Name</b>	Noe from Source to Peakshole Water
<b>Waterbody ID</b>	GB104028057890
<b>Management Catchment</b>	Derwent Derbyshire

River Basin District	Humber
Current Ecological Quality	Overall status of <b>Good</b> ecological status
U/S Grid Ref inspected	SK1526786480
D/S Grid Ref inspected	SK1545986540
Length of river inspected	c. 400m

**Table 1 Summary of information on assessment of the quality of this section of the River Noe, as collected by the Environment Agency under the Water Framework Directive legislation (from <http://environment.data.gov.uk/catchment-planning/WaterBody/GB104028057890>).**

An issue that has affected the River Noe and adjacent watercourses is the impact of abstraction and a complex of water transfers associated with the Derwent, Howden (constructed early C20th) and Ladybower (constructed mid C20th) reservoirs. These water transfers between catchments left sections of the both the River Ashop and the River Noe completely dry, a situation that was addressed in the early 2000s through the Environment Agency's National Environment Programme (to address low flows caused by abstraction) and water company's investment cycle (Asset Management Plan, cycle 3, 2000-2005).

The section of the River Noe visited is situated between the Nether Booth reservoir abstraction point (Photo 1, SK1457785838) and the confluence with Jaggars Clough, a tributary of the River Noe (SK1610286254). Water is drawn from the River Noe at Nether Booth into Ladybower reservoir via a tunnel. In the past, the river downstream of this point was often completely dry for prolonged periods. The length of river affected extended downstream to the Jaggars Clough confluence, the latter watercourse having an artificially elevated flow through the release of compensation water.

In 2004, the abstraction licence held by the water company (Severn Trent) was varied to add the time-limited condition that flow within the River Noe shall not be diverted if this results in the flow in the River Noe dropping below 10 MI/d (10,000 cubic metres per day or 0.116 cubic metres per second). So basically there should be a flow of at least 10 MI/d if abstraction is taking place. A similar time-limited condition was added to say that flow within the

River Ashop shall not be diverted if this results in the flow in the River Ashop dropping below 5 MI/d. The compensation flow requirement to the Jaggars Clough was changed to be no less than 10 MI/d and no greater than 17 MI/d. There is an ongoing investigation under AMP6 (Asset Management Plan, cycle 6, 2015 -2020) to see whether the above flows are actually the correct flow requirements for the rivers, or whether some changes to these flows are required (source: Environment Agency, Water Resources).



**Photo 1 Nether Booth dam and abstraction point.**

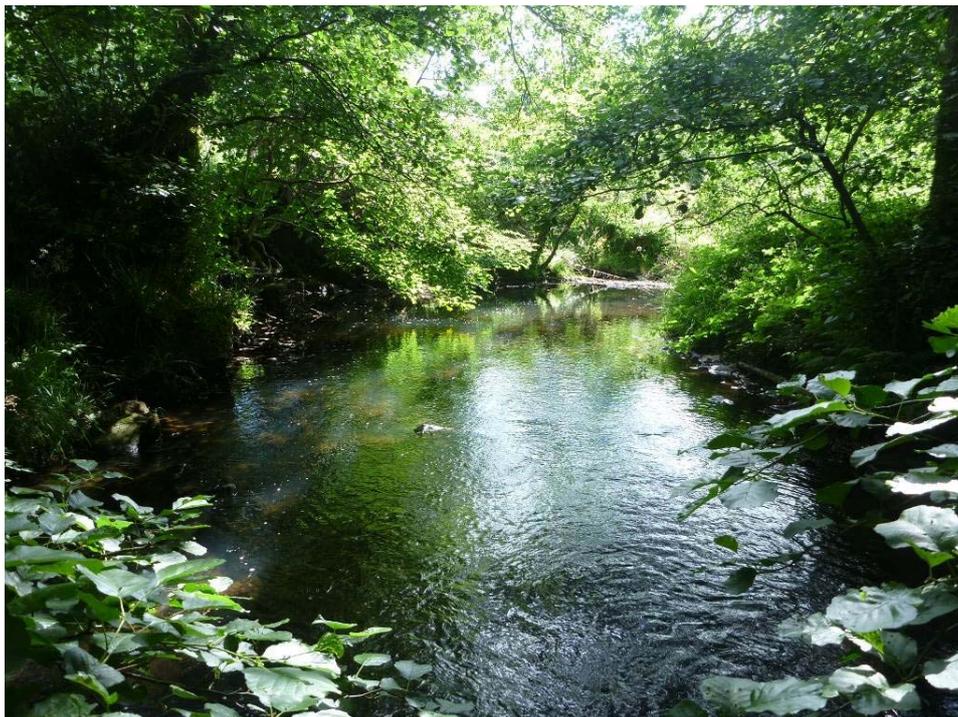
In 2013, the River Noe downstream of Nether Booth was adversely affected by the input of large volumes of fine sediment (silt and sand) during works to de-silt the reservoir above the dam. The works were necessary to restore the operation of the abstraction and the release of compensation water to the river downstream (<http://resources.peakdistrict.gov.uk/ctte/planning/reports/2012/120713Item7-7.pdf>). However, from personal observations of long sections of the river down to the Derwent confluence, inadequate precautions to prevent the silt ingress were taken and the fishery was significantly damaged as a result. It

took four years for the river to transport the excess of fine sediment and for pools to return to their previous depths. To prevent a recurrence of this situation, it was agreed that regular scour valve operation at Nether Booth should take place to release fine sediment at levels closer to those which would naturally occur.

If any problems are observed in the river, such as drying out or pollution (including excessive fine sediment), these should be reported to the Environment Agency by dialling 0800 80 70 60.

### **3.0 Habitat Assessment**

The in-stream habitat observed during the visit was generally very good. The downstream half of the reach has a pool-riffle sequence which provides good habitat for larger trout (in the deeper pools) and good habitat for spawning and juvenile trout in the shallower, gravelly runs (cover picture, Photo 2).



**Photo 2 Variation in depth and flow, good shading and good water quality – all good trout habitat and one was observed in this area.**

The channel in the upstream half of the reach has unfortunately been straightened, probably several decades ago when the road and bridge culvert was constructed. Remnants of what is likely to be the original river channel can be seen on the right bank. Straightening a river channel has a negative impact on the in-stream habitat because it destroys the natural pool-riffle sequence, replacing it with steeper, shallower riffles and glides. The greater gradient of the straightened channel has more energy and tends to transport finer sediment (sand and smaller gravels) through, leaving only larger gravels, cobbles and boulders; this can adversely affect fish recruitment by reducing the availability of suitably-sized spawning gravel. The increased stream energy can also lead to greater erosion of the river banks and down-cutting of the river bed, leading to an incised channel.



**Photo 3 Straightened section of channel – no pools.**



**Photo 4 Remains of original channel on the right bank.**

The bankside vegetation throughout the reach is good, with plenty of shading from mature trees. The upper temperature limit for trout is in the low twenties Celsius so shade is extremely important in keeping rivers cool, especially ones like the Noe fed by surface water rather than groundwater. Where tree branches reach low over the water, the temptation to trim them back to facilitate casting should be resisted. Low cover over the water is often the difference between an area holding fish or not, particularly in shallower water. Adapting the angling approach to fish around the feature, rather than removing it (and the fish) is the best approach.



**Photo 5 Low cover like this is often the difference between presence and absence of fish, especially in shallower areas.**

Understorey vegetation is also important, providing low cover over the river margins and inputs of terrestrial invertebrates for trout to feed on. Excessive grazing of the river banks reduces these benefits and fencing out livestock from the river is desirable.

Native bankside vegetation can be swamped by non-native invasive plant species such as Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Fallopia japonica*), both of which are present on the River Noe (Photos 6 and 7), although not observed on this reach. Balsam is an annual plant and can be controlled by hand-pulling, or strimming below the first stem node, before it flowers in early summer. Knotweed is persistent and easily propagated from small fragments, so requires a specialist approach. PFAC are undertaking a programme of knotweed control by stem injection of herbicide by qualified contractors. If any knotweed is observed, please contact the fishing club and let them know.

An important component of river habitat is “large woody material” (LWM), fallen trees and branches which lodge in the channel. It performs a range of beneficial functions including cover for fish, promoting scour and depth

variation, grading gravel by size (creating good fish spawning conditions), trapping leaf litter to feed invertebrates (which feed trout) and cumulatively slowing the flow to reduce downstream flood peaks. Therefore, unless the fallen wood poses a direct threat (such as blocking a bridge), the best course of action is to leave it *in situ*.

During the visit, turning stones in the channel revealed the presence of caseless caddis, stoneflies and stone-clinging mayfly species, all of which are indicators of good water quality. The Riverfly Partnership ([www.riverflies.org](http://www.riverflies.org)) can provide guidance and training on how to carry out more structured monitoring of invertebrates as a check on water quality via the Anglers Riverfly Monitoring Initiative.



**Photo 6 Himalayan balsam**



Photo 7 Japanese knotweed

#### 4.0 Recommendations

- Keep an eye on flow levels and the amount of fine sediment in the river. Report any concerns to the Environment Agency and inform the fishing club.
- Restrict livestock from grazing the river banks.
- Maintain the tree cover (shade) and low branches and trailing vegetation as fish cover.
- Retain large woody material in the river channel.
- Keep an eye out for Himalayan balsam (and pull it up) and Japanese knotweed (inform the fishing club).

We have produced a 70 minute DVD called 'Rivers: Working for Wild Trout' which graphically illustrates the challenges of managing river habitat for wild trout, with examples of good and poor habitat and practical demonstrations of habitat improvement. Additional sections of film cover key topics in greater

depth, such as woody debris, enhancing fish stocks and managing invasive species.

The DVD is available to buy for £10.00 from our website shop [www.wildtrout.org/product/rivers-working-wild-trout-dvd-0](http://www.wildtrout.org/product/rivers-working-wild-trout-dvd-0) or by calling the WTT office on 02392 570985.

The WTT website library has a wide range of materials in video and PDF format on habitat management and improvement: [www.wildtrout.org/content/library](http://www.wildtrout.org/content/library)

## **5.0 Acknowledgement**

The WTT would like to thank the Environment Agency for supporting the advisory and practical visit programme in England, through a partnership funded using rod licence income.

## **6.0 Disclaimer**

This report is produced for guidance; 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 guidance made in this report.