



Walkover Report
Honeycrook Burn
(River Tyne Catchment)
21/02/2017



Undertaken by Gareth Pedley, Wild Trout Trust

Key findings

- Major barriers on the Honeycrook Burn fragment habitat and greatly reduce its potential, particularly for migratory fish, but also for resident populations. A weir in the lower reaches (NY 81959 64846), downstream of the highest quality spawning and juvenile habitat should be addressed as a priority. The channel splitting and barrier to fish passage at the disused mine works (NY 82645 65903) is also a major issue. A section of concrete-lined channel (sizeable obstruction) and a smaller weir in Tony's Patch Nature Reserve also reduce fish access and dispersal.
- Many areas of the burn are naturally rugged and may not support the extent of salmonid production expected of a burn this size. However, the restricted access to higher quality areas is certainly reducing the burn's potential further. All of the obstructions highlighted should be addressed if optimal fish access is to be afforded and anywhere near optimal fish populations achieved.
- Dredging in the headwaters of the burn has not only degraded those areas as invertebrate and salmonid spawning and juvenile habitat but also creates a fine sediment issue that impact most (if not all) of the watercourse downstream. This will also be limiting the burn's fish populations.

1.0 Introduction

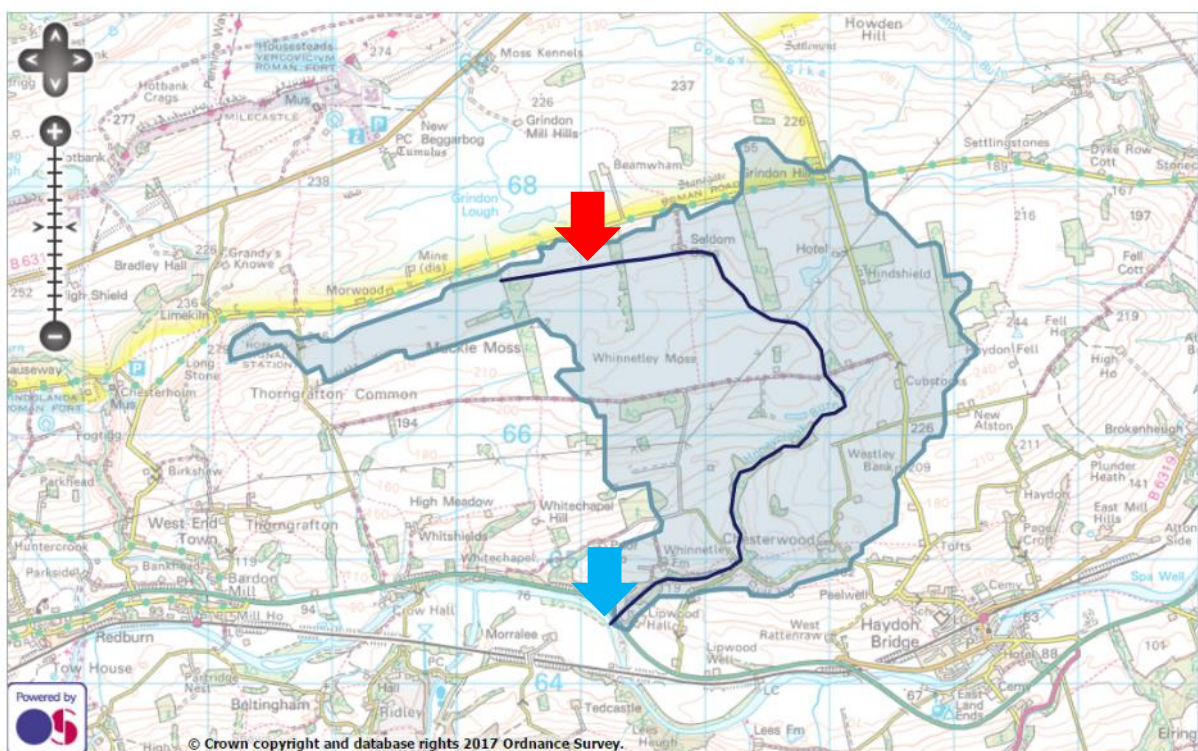
This report is the output of a site visit to the Honeycrook Burn by Gareth Pedley of the Wild Trout Trust (WTT). This work was initiated as part of the Tyne Tributaries Project: a collaboration between the Tyne Riparian Owners Association (TROOA), the Tyne Rivers Trust (TRT) and the Environment Agency (EA). Also present on the walkover were John Wollaston and David Cadwgan (TRT volunteers). The walkover assessment was undertaken from the headwaters of the burn, working downstream to the River Tyne. The report pictorially illustrates the habitat assessment, with captions highlighting the issues in each photo.

Normal convention is applied throughout this report with respect to bank identification, i.e. the banks are designated left bank (LB) or right bank (RB) whilst looking downstream. The Ordnance Survey National Grid Reference system is used for identifying any specific locations. Upstream and downstream references are often abbreviated to u/s and d/s, respectively.

Honeycrook Burn Water Framework Directive Waterbody ID
GB103023075550.

Northumbria ▶ Tyne ▶ South Tyne Lower ▶ Honeycrook Burn Catchment (trib of S Tyne)

Honeycrook Burn Catchment (trib of S Tyne)



Overview of the upstream (red arrow) and downstream (blue arrow) limit of the Honeycrook Burn catchment walked (taken from the Environment Agency Catchment Data Explorer).

2.0 Habitat Assessment



Photo DSCN6171. Looking u/s at the u/s limit of the burn inspected. At this point the burn is a small, straight ditch. It is hard to ascertain whether there would have originally been a burn at this point or just a boggy field.



Photo DSCN6172. Looking d/s from the u/s limit. From this point d/s, the valley characteristics suggest there would have been a more defined watercourse here originally, but straightening and dredging have clearly been undertaken historically.



Photo DSCN6174. Although straightened, gravel and cobble substrate, along with aquatic vegetation, does provide areas reasonable quality juvenile salmonid habitat.



Photo DSCN6176. Grazing pressure appears to be relatively low intensity but is sufficient to limit the bankside vegetation to grasses and rushes (e.g. no herbaceous vegetation or tree regeneration).



Photo DSCN6177. A small stone bridge creates a small obstruction but is relatively inconsequential.



Photo DSCN6178. From NY 81914 67483 - NY 82443 66994, major recent dredging has been undertaken, greatly degrading the channel and liberating large volumes of fine sediment into the burn.



Photo DSCN6179. A crossing point (NY 82063 67465), coupled with poaching and guttering from the connecting track, creates another fine sediment input.



Photo DSCN6187. The current, realigned Honeycrook Burn, adjacent to the old but equally dredged and realigned/straightened channel to the left (see Plan 1). Poor land management practice that is still not achieving the desired outcome. Moving the burn to a more elevated location within the valley means that land between there and the lowest point will be wetted by seepage from the channel.



Plan 1. The past (to the right – with the name) and present channel of the upper Honeycrook Burn catchment (Map taken from <http://magic.defra.gov.uk/MagicMap.aspx>).



Photo DSCN6190. At NY 82172 67252, a small pipe culvert creates a minor obstruction to fish movement but could have been prevented by simply using a larger diameter, partially sunken pipe.



Photo DSCN6191. At NY 82318 67116, a more sympathetically installed culvert creates no obstruction. Poaching and bare bank around the culvert, however, creates a fine sediment input.



Photo DSCN6192. Further dredging of the straight channel denudes habitat and creates more fine sediment input that will impact upon habitats d/s.



Photo DSCN6198. A perfect example of the fine sediment smothering the bed and nutrients liberated (as observed by the surface foam) by the dredging work.



Photo DSCN6202. Further d/s, the channel has greater sinuosity but is still clearly realigned from a natural course. Habitat quality is slightly better, with greater potential to support juvenile salmonids and invertebrates but it is very far from optimal.



Photo DSCN6214. Further d/s the channel begins to take on a more natural (although still impacted) character. At NY 82958 66655, a stock exclusion fence demarks the start of an area of sparse woodland and historical mine working. As a result, channel planform, habitat quality (including salmonid) are all improved.



Photo DSCN6221. Although the general habitat quality improves, the substrate quality (undoubtedly impacted by the recent dredging) is poor, limiting its viability for salmonid spawning substrate or invertebrates.



Photo DSCN6225. At NY 82976 66482, the Haresby Lonning (road) crosses the burn, where the burn is piped through two relatively small diameter pipes. While this is far from ideal, the pipes are partially sunken and fish passage at low and medium flows is unlikely to be a major problem. Fluming of high flows may cause some obstruction.



Photo DSCN6226. Although historically straightened d/s of the lonning, the channel is recovering some of its natural sinuosity, with bankside trees improving its diversity, despite being only a short distance u/s of a now defunct dam that would have originally impounded flows. Grazing also resumes d/s of the lonning.



Photo DSCN6239. Further d/s from the old dam site a natural bedrock waterfall/cascade naturally inhibits fish passage (NY 83083 66180). From this point d/s the valley becomes more gorge-like and the channel steeper.



Photo DSCN6249. At NY 82990 66176, the burn enters a wooded section and the impact of the steeper gradient can be seen in the character of the burn.



Photo DSCN6247. A track crossing at NY 82894 66096 creates another fine sediment input to the burn, with the track/wheel ruts channelling surface water and fine sediment runoff.



Plan 1. Within the wood, more obvious past mine workings create a major impact upon the burn. In addition to straightening/realignment the flow has historically been split between two channels: The main, straight, cobble-lined surface channel and a parallel (partially underground) channel which is fed off through the LB via a bricked culvert. Due to degradation of the channels, the majority of the flow now passes via the underground channel.



Photo DSCN6254. The offtake at NY 82645 65903, where the historical main channel (blue arrow) loses the majority of its flow to the side channel (green arrow). Neither the original main channel (concrete lined and steep) nor the current main flow channel (underground) could provide adequate fish passage. Major work is required at this site but, owing to the dilapidated nature of the structures and space available, significant improvements are likely to be easily possible.



Photo DSCN6265. Looking u/s at the point eh two channels re-join (NY 82553 65846).



Photo DSCN6272. A short distance d/s of the mine workings (NY 82477 65812) un-vegetated mounds were observed that appeared to have recently deposited. This is, however, impossible as mature saplings prevent vehicular access, suggesting that they are old mounds of potentially contaminated material that cannot be effectively colonised by vegetation. High flows may well be sufficient to wash off any shallow rooted vegetation that tries to establish.



Photo DSCN6276. The valley opens slightly d/s and the channel gradient decreases, providing improved resident and juvenile salmonid habitat.



Photo DSCN6279. A small tributary entering the burn at NY 82280 65708 shows signs of increased fine sediment input that limit its value as invertebrate and salmonid habitat.



Photo DSCN. A small weir within Tony's Patch Nature Reserve (NY 82239 65641) poses an unnecessary and significant obstacle to fish passage. A small structure like this could be easily removed by a group of volunteers, to reinstate habitat quality and connectivity.



Photo DSCN6285. Natural woody material input within the nature reserve is helping to develop valuable habitat diversity.



Photo DSCN6303. Grazing is undertaken in the two fields between the nature reserve wood and the next road crossing d/s (NY 82222 65425 – NY 82290 64956). Correspondingly, the riparian habitat quality decreases and bank erosion increases.



Photo DSCN6318. Although some woody material clearly accumulates against the relatively clear-span road bridge (some concrete footings), the blockage did not appear to be a major fish passage issue.



Photo DSCN6325. The burn enters a woodland d/s of the bridge and, for a short distance (NY 82229 64946 and NY 82165 64898) flows within a concrete reinforced channel, with the shallow, uniform flow creating an un-natural impediment to fish passage. The purpose of the lined channel was unclear. At the d/s end, the channel has become undercut and appears to be disintegrating, which is naturalising the channel but also creates a step which further inhibits fish passage.



Photo DSCN6329. The habitat d/s of the concrete channel improves considerably, becoming far more natural.



Photo DSCN6331. A small area of livestock access creates a fine sediment input by a footpath crossing (NY 82054 64891), but the area generally provides good habitat with areas of potential spawning substrate.



Photo DSCN6339. Further d/s, the valley becomes steeper and bedrocky. A stone weir built on top of a natural bedrock outcrop to supply a water wheel creates an impassable barrier in most flows (NY 81959 64846). This could easily be removed to return fish passability at the site to a natural state.



Photo DSCN6345. Although the narrow, steep-sided nature of the valley limits the formation of pools and the retention of potential spawning substrate, the habitat provided should be capable of supporting small, juvenile salmonids.



Photo DSCN6364. Being clear-span and located on bedrock, the A69 road bridge poses no significant additional issue for fish passage into the burn. As with many of the Tyne tributaries, it is naturally challenging.

3.0 Recommendations

Issue	Proposed action	Photos	Priority (1-3)
Channel straightening/realignment from source to Joicey's Shaft disused mine. Greatest potential improvement from NY 82055 67471 - NY 82960 66661 (larger watercourse within wider floodplain).	Investigate river restoration to relocate burn to the low point of the valley, thereby improving land drainage without the requirement for regular dredging. This will also greatly improve in-channel habitat and prevent the influx of fine sediment during dredging episodes.	DSCN6178, DSCN6187 & DSCN6192	<u>1</u>
Fine sediment input/crossing point (NY 82063 67465).	Farm advisory visit to discuss options for gutters/soakaways and installation of hard standing around problem areas.	DSCN6179	2

Obstruction to fish passage at small pipe culvert (NY 82172 67252).	Ideally replace with a larger diameter, partially sunken pipe. This is currently a low priority owing to the poor habitat available. The issue would also be rectified if river restoration is undertaken.	DSCN6190	3
Livestock access d/s of Haresby Lonning (NY 82976 66482 - NY 82990 66176).	Install buffer fencing.	DSCN6226	2
Track crossing and fine sediment input (NY 82894 66096).	Farm advice/install gutters that divert track runoff away to rough ground.	DSCN6247	3
Loss of the majority of the burn underground and very poor fish passage (impassable except in very high flows) which fragments the catchment (NY 82645 65903 - NY 82553 65846).	Further investigation is required but breaking out the underground channel to permanently adopt that route (semi-natural d/s of the underground section) would be the minimal input solution. (further restoration of that channel would also be beneficial). Simply reinstating the main channel would not provide adequate fish passage.	Plan 1, DSCN6254 & DSCN6265	1
Elevated fine sediment within tributary (NY 82280 65708).	Investigate possible sources u/s. Relatively low priority owing to small size.	DSCN6279	3
Small weir within Tony's Patch Nature Reserve (NY 82239 65641) which impedes fish passage.	Remove weir to reinstate sediment transport and fish passage. A quick and easy win, possible with volunteers.	DSCN6284	1
Grazing without buffer fence – reduced vegetation and increased bank erosion (NY 82222 65425 – NY 82290 64956).	Install buffer fencing. An area of reasonable quality channel would be improved.	DSCN6303	2
Concrete/stone-lined channel with poor fish passage (NY 82229 64946 and NY 82165 64898).	Investigate purpose of reinforcement and, if possible, break out the bed to allow a natural channel to develop.	DSCN6325	1

Weir on top of bedrock outcrop, significantly impeding fish passage (NY 81959 64846)	Remove weir. Possible to undertake with skilled/able volunteers.	DSCN6339	1
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4.0 Further assistance

The Tyne Tributaries Walkovers were initiated to identify the range and location of issues impacting upon selected underperforming watercourses within the River Tyne catchment. The accompanying reports highlight potential solutions to the issues encountered and provide the supporting evidence for future projects and funding bids.

Further to the walkover reports, the WTT can undertake specific Project Proposals for the more complex issues highlighted, detailing exactly what is required and how the work can be undertaken. Project Proposals then often form the supporting documentation for any EPR applications and consents that may be required.

The WTT website library has a wide range of free materials in video and PDF format on habitat management and improvement:

www.wildtrout.org/content/index

We have also 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 <http://www.wildtrout.org/product/rivers-working-wild-trout-dvd-0> or by calling the WTT office on 02392 570985.

5.0 Acknowledgement

The Wild Trout Trust would like to thank the Environment Agency for supporting the Tyne Tributaries Project through their Fisheries Improvement Programme (funded through rod licence income), and the Tyne Rivers Trust for their support with the work, for obtaining permissions and for organising volunteer assistance where required. We would also like to thank the Tyne Riparian Owners and Occupiers Association for initiating

the project and the volunteers that assisted with the walkovers for providing their time.

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.