WILD TROUT TRUST

Advisory Visit

Gilling Beck, R. Swale, Gilling West Fly Fishers, April 2021

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Key Findings

- Gilling Beck at Gilling West is situated in a relatively low gradient part of the valley and should be a meandering channel across the broad floodplain.
- However, for intensification of agriculture, it has been realigned and straightened, disconnecting the channel from the floodplain and increasing conveyance, for over 150 years.
- Unsurprisingly then, with the development of Gilling West around Gilling Bridge creating a pinchpoint in the valley, the village has been flooded and inappropriate flood risk alleviation measures instigated (dredging) at the point of impact rather than tackling the wider causal issues.
- Land management, especially leading to the ingress of fine sediment, appears to be the primary ongoing stressor.
- Despite this ecological abuse, the channel d/s of the village retains some key beneficial features for a wild fishery: tree cover and relatively natural riparian herbage, and instream habitat provided by stands of water crowfoot (*Ranunculus* spp.).
- There is considerable potential to expand and enhance these features using relatively cheap and simple techniques.

Index links

Click the relevant section name to link to the content:

1.0 Introduction & rationale

This report is the output of a site visit to two separate reaches of the Gilling Beck (a tributary of the Swale), taken on by the small syndicate, Gilling West Fly Fishers (GWFF; Maps 1 & 2 for an overview). The walkover was undertaken by Prof J Grey of the Wild Trout Trust, accompanied by Ron Wood of GWFF. The rationale was to assess the water for issues and suggest habitat improvements that could be undertaken, primarily to benefit the wild fish community but also the wider ecology of the system.

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

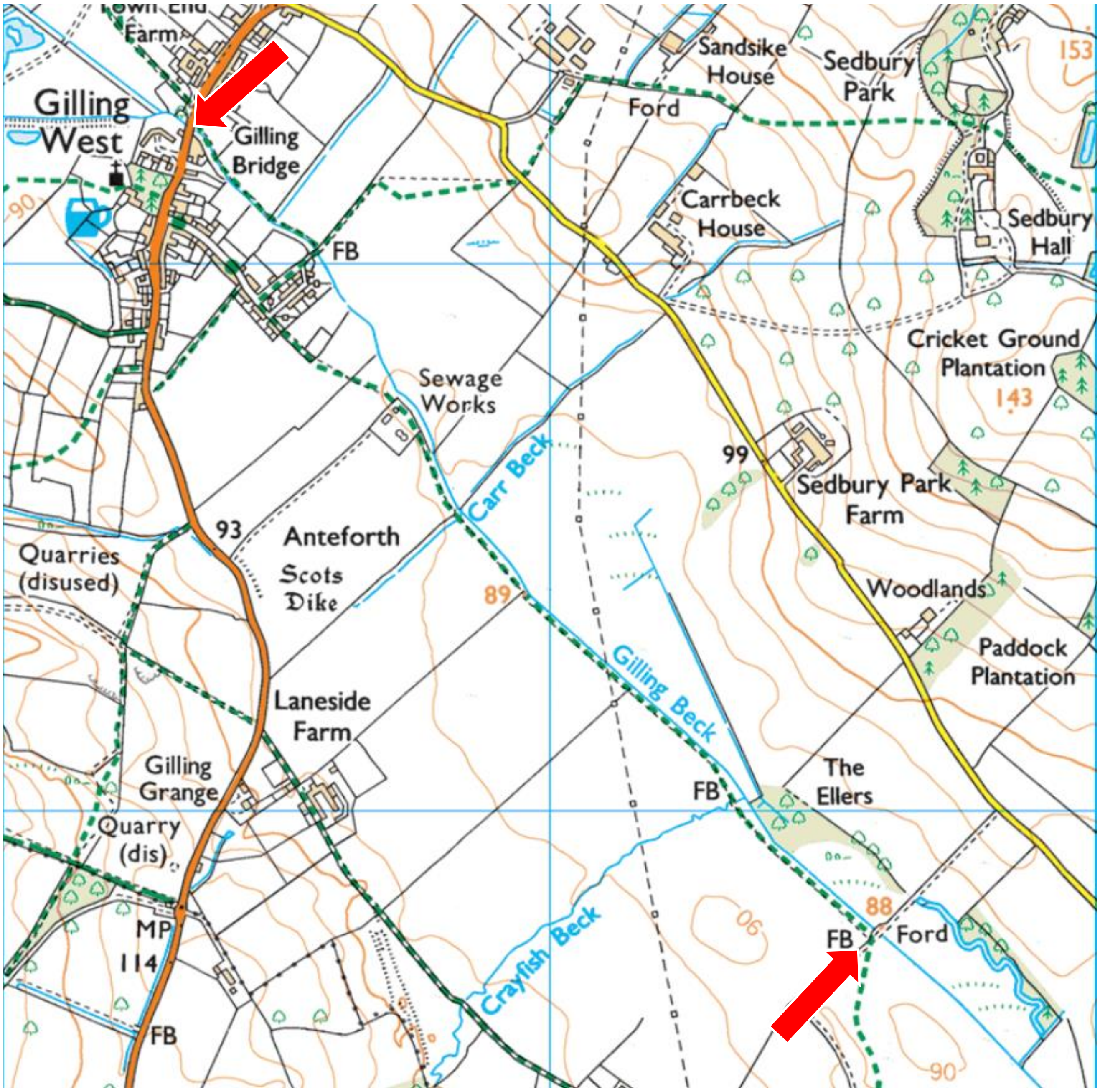
Under the Water Framework Directive (WFD), the GWFF waters fall within one waterbody (GB104027069180; see Table 1). The extent to which the river has been artificially realigned and constrained is evident from aerial photography and mapping: long straight sections to accommodate agriculture, with the majority of minor tributaries straightened into drains and confluences aligned perpendicular to the main channel. Straightening of a channel shortens the distance water travels, thereby increasing the conveyance rate over a steeper gradient and imparting greater power to erode.

Ignoring the recent (2019) change in Chemical Classification which caused all waterbodies to Fail, the Ecological Classification was downgraded from Good to Moderate in 2015 following inclusion of Fish as a parameter. Reasons for not achieving Good Status are primarily diffuse agricultural pollution arising from poor soil management and riparian/in-river activities, and physical modification of the channel for drainage plus barriers to fish passage.

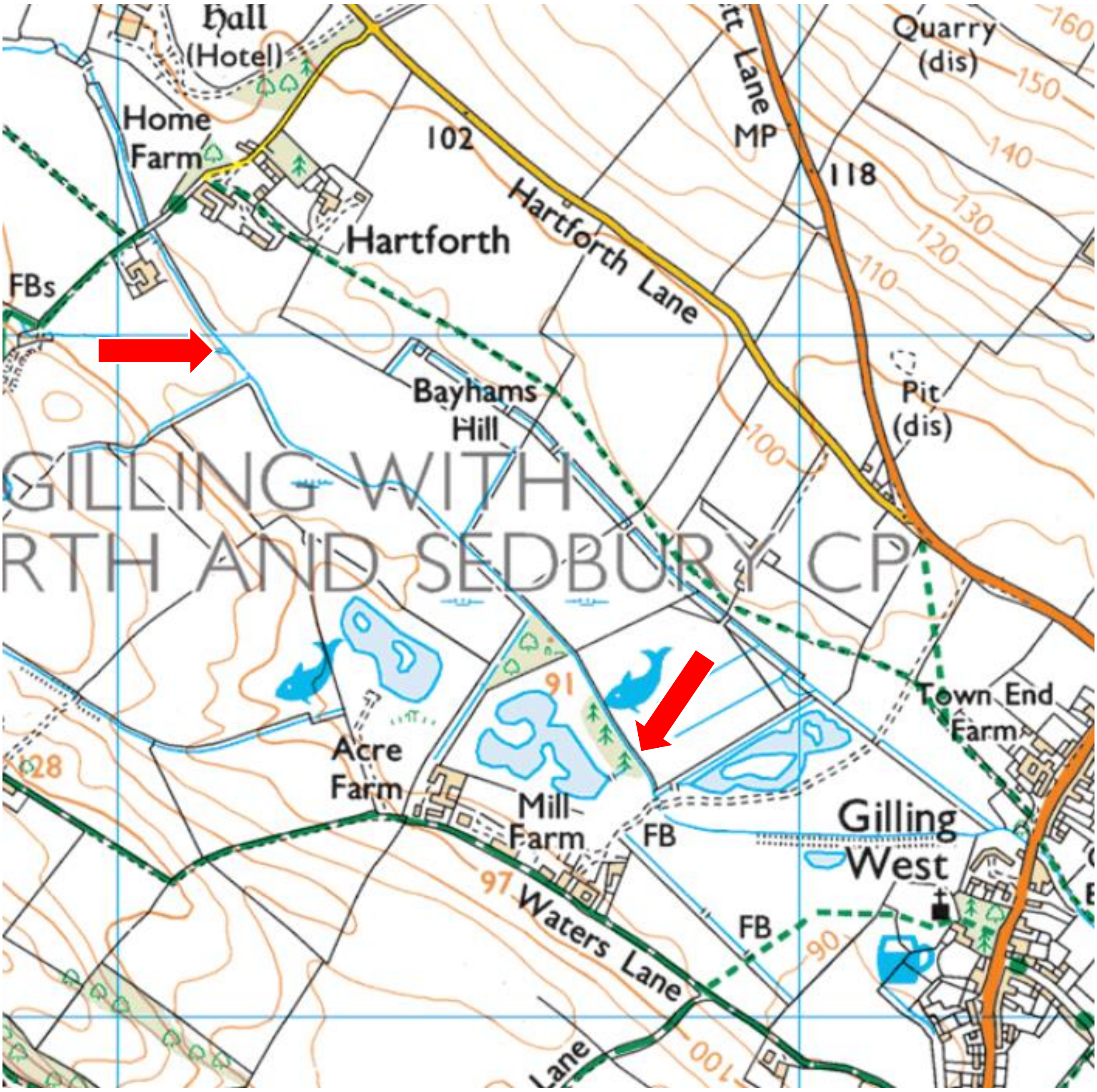
An overview of the waterbody is given in Table 1, overleaf.

	Gilling West Fly Fishers	
River	Swale Middle	
Operational Catchment	Swale Ure Nidd and Ouse Upper	
River Basin District	Humber	
Waterbody Name	Skeeby/Holme/Dalton Bk from Source to River Swale	
Waterbody ID	GB104027069180	
Current Ecological Quality	Overall classifcation of **Moderate** in 2019	
GWFF water	Lower beat	Upper beat
U/S NGR inspected	NZ 18326 05215	NZ 17131 06011
D/S NGR inspected	NZ 19597 03780	NZ 17770 05360
Length of river inspected	~2000m	~1000m

Table 1. Overview of the waterbody. Information sourced from:
https://environment.data.gov.uk/catchment-planning/WaterBody/GB104027069180



Map 1. Red arrows denote limits of walkover on the lower beat from Gilling Bridge to the ford at NZ 19597 03780 (~2km).



Map 2. Red arrows denote limits of walkover on the upper beat from NZ 17770 05360 opposite Mill Farm to NZ 17131 06011 at the u/s limit near to Hartforth (~1km).

2.0 Catchment Overview

The mainstem River Swale flows for approximately 110km, with a total length of contributing watercourses >670km. The 1231km^2 catchment is split into upper, mid and lower operational catchments for management, and it is within the Swale Middle that GWFF waters lie.

The upper Swale and a large portion of the mid Swale catchment are underlain by a mix of millstone grit, limestone and sandstone. A north-south band of dolomitised limestone runs parallel to the west of the A1. East of the A1, a band of sandstone conglomerate runs north-south through the eastern edge of the mid catchment and west of the lower catchment. The rest of the lower catchment is underlain by mudstone. Due to the underlying geology, the topsoil generally comprises a high proportion of fine sediments creating light friable soils susceptible to erosion. The combination of relatively permeable bedrock, erodible sandstones, and higher alkalinity limestone contribute to a neutral-alkaline pH which should support a relatively productive watercourse.

The mid and lower sections of the Swale catchment present a mix of agricultural land uses. The natural productivity of the soils is reflected in the area for arable production comprising ~35% of the catchment, whereas improved grasslands for pasture comprise another ~25%. Sheep grazing takes place on most of the low-productivity moorland and permanent grasslands are established in lower-lying areas, where cattle are grazed also.

A lack of appropriate buffering in the riparian zone, ie a protected interface between the agriculture and the river to intercept diffuse pollutants such as sediment and nutrients, was noted in the Catchment Plan (2014) and as already stated, a primary reason for not achieving Good Status under WFD.

Earliest mapping of the river clearly showed extensive straightening before the 1850s (Map 3).

Map 3. From the Ordnance Survey of 1848, Gilling Beck and its various tributaries had already been realigned and straightened to promote agriculture (highlighted by white lines). A small section of the original dynamic and meandering channel was still visible then but already bypassed (white rectangle). Reproduced with the permission of the National Library of Scotland.

3.0 Habitat Assessment

3.1 Lower beats

The lower beats were assessed primarily from the RB. The d/s limit was a ford and bridge structure, a complex arrangement of inappropriately sized culvert pipes running through a concrete fillet of the ford (Fig 1). Immediately d/s of the ford, a clear span bridge had been installed, presumably for when the ford was impassable under higher flows. The ford presents a considerable obstacle to fish passage and sediment transport, impounding a reach u/s for ~50m. Several of the culvert pipes were blocked completely or partially by debris, thereby increasing the velocity of water through the remainder and routing more water over the top; obviously, this issue will be an ongoing maintenance problem. The jetting flow within the pipes would be too strong for the majority of the time even for a powerful salmonid to overcome via burst-speed and hence impassable via that route. The perched nature of the ford, a headloss of ~50cm, is a further issue for fish passage. Weaker swimming species would be unable to ascend. Salmonids could theoretically leap that height but the thin skim of water across the ford provides insufficient depth for onward passage for the majority of the time. There were no such issues associated with the clear-span bridge and it would be worth exploring options for removal of the ford.

There was a notable contrast between the channel substrate u/s & d/s of the ford. U/s, in the impounded reach, the cobble and gravel was smothered with a layer of finer silt, whereas d/s where flows had been accelerated and focused, there were ramps of clean and sorted gravel (arranged into discrete bands of similar size / density; see Fig 1 inset). This indicated the potential of the beck for spawning substrate and higher quality macroinvertebrate habitat if the functionality could be restored elsewhere. Small habitat gains immediately d/s of the weir were outweighed by the homogenisation of habitat u/s.

The straightened and consistently proportioned nature of the channel, effectively trapezoidal, meant the substrate was generally unsorted u/s. Two elements introduced some much-needed physical structure against which the flow could work and hence create habitat diversity: riparian (bankside) trees - many of which were growing from the toe of the bank, and instream macrophyte growth – primarily *Ranunculus* (water crowfoot); see Figs 2&3.

Fig 1. The ford at NZ 19597 03780 marks the d/s limit of GWFF water. It was a complex structure comprising multiple parallel culvert pipes of inappropriate diameter (~0.5m) in a concrete fillet. Several of the pipes were blocked and clearly had been for some time, and all the remainder had debris partially blocking the u/s side contributing to the impounded reach which extended for ~50m u/s. A considerable barrier to fish passage and sediment transport, especially considering the clear span bridge adjacent. Insert highlights where flow energy was concentrated, the gravel could be kept clear of fines.

Jetting flow through the pipes (which were also slightly perched above the water level d/s) would be impassable for most fish species for most of the time. Similarly, the skim of fluming flow across the concrete fillet would be too shallow.

Trees are incredibly important for watercourses (summarised here: Trout Grow on Trees). Overhanging branches offer shade (increasingly important with climate change) and overhead cover, providing security to fish; trailing or submerged branches are even better. They also provide feeding and shelter for a host of terrestrial invertebrates that may drop into the water and provide extra food, as well as resting areas for many of the emergent aquatic invertebrates. Leaf litter in autumn is an extremely important food and shelter resource for aquatic invertebrates if it is retained within the channel. Gilling Beck was predominantly lined with alder on the lower reaches; this species provides particularly nutritious leaf litter favoured by macroinvertebrates because the trees harbour bacteria in root nodules which can fix atmospheric nitrogen, thereby increasing palatability.

Fig 2. A slower, deeper glide, typical of the straightened reach at the u/s end of the impounded reach created by the ford (Fig 1). Valuable instream cover was created by dense stands of *Ranunculus* (water crowfoot) but low or trailing overhead cover from tree branches or indeed large woody material retained within channel was scarce.

The root masses of alder (and willow spp.) often line the toe of the bank and extend into the channel, offering fantastic refugia from spate flow and predation. Deflected flow often creates scour around and under roots creating hidey-holes for larger fish. Despite the amount of tree cover along the banks, there was scant evidence of woody material within the channel aside from a few small willow limbs that had been laid flat and parallel to the bank (Fig 3). Such structure should be retained; clearly counter to some of the bankside management in the past as there was evidence of limbs and trunks having been cut back. Removal of such material robs the beck of the tools to function naturally. Indeed, one of the recommendations is to replicate natural tree fall to increase fish-holding capacity within the channel.

Fig 3. An example where the formerly trapezoidal and consistently proportioned channel has been modified by structure: a willow limb on the LB has laid naturally into the channel margin, pinching the flow toward the root ball of a mature alder on the RB which has created a deeper scour pool. Finer sediment flowing in from a small channel on the RB has been colonised by butterbur, adding to the pinchpoint.

Many trees at the edge of the channel were multi-stemmed, hinting at historic coppicing, and these provide opportunities for habitat improvements by laying (hinging) or felling (creating a tree-kicker) one trunk into the channel while retaining an anchor point to the bank (see Recommendations). Site selection is key to ensure benefits such as flow and predation refugia or flow diversity are realised.

The friable, sandy nature of the catchment soils was evident on both banks, especially where former becks had been converted to and maintained as drains (Fig 4). Fine sediment ingress from such works (a primary reason identified for not achieving good ecological status) was evident at all the confluences. Constant supply of finer sediments clogs the interstices between gravels and cobbles, reducing the viability of that larger substrate as fish spawning and high-quality macroinvertebrate habitat. Reduction of the channel to a consistent trapezoid again robs the beck of the energy to sort sediments and results in a homogenous 'cake-mix' rather than a heterogenous mosaic; physical diversity begets biological diversity.

Fig 4. Fine sediment ingress was all too obvious. Drainage ditch 'maintenance' on the LB at NZ 19378 04031 had left exposed soil graded to the beck bank; a plume of fine sediment was evident along the toe of the LB d/s on Gilling Beck.

Crayfish Beck entered the main channel from the RB and had also been straightened (Fig 5). However, compared to some of the other 'drains', it appeared to retain limited functionality because of a riparian buffer and colonisation within the channel by butterbur, helping to focus flows and clean up the gravel. It is entirely possible that trout may use these smaller, seemingly inconsequential tributaries for spawning, with fry dropping d/s into the main channel as flow recedes during spring and summer.

Where the canopy was more open or absent, the water crowfoot took on greater importance in terms of creating habitat diversity (eg Figs 6&7). This plant is known as an ecosystem engineer; its presence modifies the physical and chemical nature of the habitat around it and hence creates niches for biota. Substantial, dense stands of water crowfoot force water around the plant, increasing the velocity of water over the surrounding gravels and helping to maintain them free from silt. Indeed, that silt tends to be accumulated within the water crowfoot stand and in its lee d/s, thereby providing a rooting and nutrient medium for the plant to 'move' into. Stands provide refugia from predation and flow, help to keep water cool, and increase the surface area for epiphytic algae, food for grazing invertebrates. Furthermore, the fronds of water crowfoot are favoured by Simuliidae larvae which attach to the plant and filter-feed tiny particles from the water column. Small but occurring at huge densities, these insects can be a very important food source for fish.

Fig 5. The confluence of Crayfish Beck at NZ 19335 04022 presented no physical issues for fish passage although there was a clear desire line to the water from the footpath indicating potential disturbance. U/s, the beck had been heavily straightened (see Map 3) but had good tree cover, and good gravel deposits sculpted by butterbur colonisation.

Fig 6. More positive natural features combatting the uniformity of the straightened channel: upper – low, bushy cover from willow creating pool habitat beneath; and lower – water crowfoot stands in a riffle, maintaining cleaner gravel in the faster flows between and around the plant.

Along more open sections u/s of Crayfish Beck, while the LB remained reasonably buffered from intensive agriculture, the RB was more pressured (Fig 7). The arable field boundaries were <2m from the bank top in places which might have been sufficient if it were not for the popular footpath squashed between the two. Footfall was causing visible detriment to the flora via disturbance and soil compaction, effectively halving the already small buffer zone, and the stability of the banks was deteriorating. Indeed, it was one of the few reaches where there was notable erosion.

Fig 7. Straightened sections with a reasonably natural and ample 'buffer' zone from the intensive agriculture on the LB. Less cover and space was given on the RB, although it was appreciated that the native grass and herb cover would grow to >1m. More troublesome was the proximity of the field boundary squashing the footpath to the very top of the RB. There was notable erosion of the RB exacerbated by the compaction of the bank and the lack of buffer.

The condition of the riparian zone would be improved by allowing more space for the flora to flourish, otherwise the banks will continue to fail and productive land lost. Augmented planting of some shrubby tree species (hawthorn, blackthorn, hazel etc) would increase the resilience of the bank via roots binding the soils together, diversify the community and provide further pollinator and leaf litter resource, as well as shade from the southwest side of the channel.

From the d/s edge of the village and through to Gilling Bridge, virtually all habitat had been destroyed by dredging, removal of tree cover and uniform embankments maintained at a relatively short sward of grass to allegedly alleviate flood risk (Figs 8&9). Creation of an over-capacity channel to deal with extreme flood events is evidently self-defeating in such an environment. The channel was inexorably filling up with gravel and cobble that had been transported d/s by the beck to fill the void created. On top of those, under low flows with insufficient energy to transport the finer silts and sands, there was a deep smothering of 'mud' – a barren reach of the beck reduced to a deeper sluggish glide with limited food resource and virtually no cover. One small shoal of grayling was visible at a slight pinch in the channel where a hollow in the bed had been sculpted.

Far more effective solutions to alleviating flood risk might have been allowing the river to access all the original arches on the bridge, preventing development within the immediate floodplain, and actually allowing for some peak-flow reconnection with the floodplain (here and further upstream). A two-stage channel which maintains more natural proportions and hence functionality under low flows but has sufficient capacity to accommodate greater volumes during spate flow would be a far better solution. Certainly, there was adequate space on the LB under the footpath to lower the bank and set the flood bunding back further into the floodplain.

Fig 8. Complete destruction of any habitat features from dredging of the channel within the village environs, and maintenance of predominantly grass along the artificially reprofiled bank. The 'over-capacity' channel, deep, sluggish and canal-like, was simply infilling with silt and the bed was smothered.

Fig 9. Views d/s & u/s of Gilling Bridge (NZ 18326 05215) of the dredged, trapezoidal channel and the deposits of fine sediment building up in the lee of the buttresses. It was noted that further arches originally built into the bridge had been blocked presumably to allow for development. Reduction of capacity at this man-made pinchpoint clearly increases likelihood of flooding.

3.2 Upper beats

The majority of the upper beats were accessed from either in-channel or the RB. At the d/s limit, the GWFF lease only applied to the LB and unfortunately the owner on the RB had very recently reprofiled a considerable length of the bank and removed the majority of trees and riparian vegetation (Fig 10). There appeared to be no mitigation for fine sediment release directly to the beck and as a consequence the bed was smothered. Furthermore, low cover had also been removed from the LB. Such works should require permission from the relevant flood authority, in this case North Yorkshire County Council as it is just u/s of the transition from main watercourse (where the Environment Agency has jurisdiction) to ordinary watercourse.

The stripping out of all available cover and any structure that might have introduced physical diversity via flow rate, scouring and deposition had severely reduced the carrying capacity of fish for that reach. It has also increased conveyance of water through this reach and potentially increased flood risk at the village d/s. If the landowner intends to maintain the bank in an ecologically depauperate state, it may be possible to improve the in-channel habitat by translocation of water crowfoot from nearby and hence introduce the benefits of its ecosystem engineering.

The straightened nature of the channel u/s exhibited many of the issues previously identified d/s. In general, the space afforded for riparian buffer strips was narrower, and in some places had been intentionally breached to allow water (and any associated fine sediments) to drain off the fields (Fig 11). Tree cover and especially low overhanging branches were more prevalent, but woody material retained within channel was still lacking. The mature specimens growing from the toe of the bank provided much needed physical diversity in terms of trailing roots (Fig 12). Water crowfoot was scarce, and this did not appear to be a function of shade, so it may be worth experimenting with some translocations to see if it can be (re)established and help try and relocate and sort some of the finer substrates.

Towards the u/s limit, the LB was completely open to grazed pasture which introduced a different suite of pressures: grazing and trampling reducing the plant community and hence rooting diversity, further reducing resilience of the bank and any fringing cover. It would be beneficial to exclude livestock and provide alternative drinking to allow the (re)development of a native herbage and tree fringe.

Fig 10. At NZ 17770 05360, the d/s limit of the upper beat, the landowner on the RB had taken it upon themselves to reprofile ~120m of bank and remove all the trees, plus remove low cover from the LB. There was no evidence of mitigation procedures to trap fine sediment which was smothering the entire bed, and this was probably unsanctioned work. North Yorkshire County Council would be the relevant authority.

Fig 11. Further u/s, alder cover along the majority of the channel was reasonable and there was a bare minimum of buffer zone comprising native riparian flora. However, this had been deliberately breached at various locations to drain standing water from the adjacent fields (insert), thereby introducing fine sediment directly to the channel and is a clear breach of the Farming Rules for Water.

Fig 12. Mature specimens of alder, sycamore and ash again provided the majority of physical habitat features within the straightened reaches, either as low and/or trailing branches or root balls and trailing roots within the channel. These should be retained at all costs. Note the smothering of the uniform bed with fine sediment.

Fig 13. Toward the u/s limit, the LB was given over to pasture and the sward closely grazed, thereby removing any trailing cover along the bank and any chance of self-set regeneration of trees.

4.0 Recommendations

The character of the Swale and its tributaries has been shaped strongly by the natural topography of the catchment and land management practices, both historic and ongoing. Drainage of the land was the key pressure on the Gilling Beck channel, leading to it being straightened and constrained. With changing rainfall patterns, this has led to rapid conveyance and excessive erosion resulting in a relative paucity of features.

4.1 Slowing the flow

This is a bit of a catchphrase at present but clearly applicable on rivers like the Swale and its tributaries. Obviously, there is a considerable area of catchment u/s of the GWFF waters and well outside a direct sphere of influence but support for organisations like the Yorkshire Dales Rivers Trust that is instigating work to reduce conveyance, plant trees, tackle INNS etc, across the catchment is worthwhile. It would be worth engaging with the YDRT to explore avenues for mutual benefit.

Within the GWFF waters, engagement with some of the landowners, either directly or perhaps brokered via YDRT, to discuss small changes in management will also bring mutual benefits. For example, excluding livestock from within riparian buffer strips will reduce erosion of the banks and increase resilience, and will allow for natural regeneration of trees. There are numerous funding streams available to help with the cost of flood-spec livestock exclusion fencing because of the environmental and flood risk benefits accrued.

4.2 Channel & riparian habitat

To combat the overarching 'straightness' of the channel, there is a desperate need to introduce some physical structure for the water to work against and around. It was notable throughout the walkover that despite relatively good cover of trees immediately adjacent to the channel, Gilling Beck suffered the typical Dales malaise of 'one-tree-deep-only'. In other words, there was only a thin fringe of relatively mature trees and very little variability in canopy age or much evidence of natural regeneration. Retention of larger wood in the channel was relatively scarce (eg Fig 3), despite a rich potential supply from the previously coppiced alders. Wood fall and associated habitat can be simulated by hinging pliant species (eg willow) or felling and tethering trunks (tree-kickers) back to the their living stump or adjacent trunks (Fig 14).

Fig 14. Upper panel: goat willow hinged to provide low, trailing cover. Lower panel: a tree-kicker, the trunk felled and cabled back to its stump as a living anchor point. Both of these examples were carried out on the R Washburn (Wharfe tributary), a larger and flashier spate river compared to Gilling Beck.

Any activity like this requires careful planning and consent from landowner and the relevant authority (in this case, the Environment Agency for work on the lower beats, and NYCC for the upper beats) but can be achieved relatively easily and cheaply. Appropriate areas where this type of habitat improvement might be attempted would be within the upper 50% of the upper beats and the lower 75% of the lower beats. Working with previously coppiced, multi-stemmed trees is advantageous as the felling of one or two trunks does not alter significantly the aesthetic or shading function; indeed, if the configuration of remaining trunks allows, the felled trunk may simply be lodged / wedged into position and retained by opposing forces without need for cabling. The anchor point can also be protected by trunks on the u/s side. Coppicing tends to induce vigorous regrowth at the stump which again helps to diversify the canopy structure, create more low cover over the water and different niches for terrestrial invertebrates.

Tree cover along the riparian zone could be augmented and diversified using species like grey or goat willow, alder, hawthorn, blackthorn, hazel and bird cherry. These all provide palatable leaf litter and good resources for pollinators, as well as dense refugia and feeding for a wide range of invertebrates. There are numerous schemes by which tree plugs or bare root saplings can be obtained for planting along rivers to mitigate for climate change – contact either WTT or YDRT.

Water crowfoot cover on the lower beats was extensive and could feasibly provide a donor source for trialling introduction to the upper beats. A technique successfully applied on the Aire has been to:

- Identify a source stand and remove a portion (0.5-1kg) of root mass together with gravel/silt and short shoots from the d/s end (so as not to induce erosive force at the u/s end); more than one portion can be removed from a donor stand dependent upon area.
- Cut a hessian sandbag in half across the long axis to form two bags (jute string can be used to bunch an open end to form the second bag).
- Place the crowfoot ball into a bag and ensure the shoots are sticking out of the bag. Again, jute string can be used to bunch the opening loosely around the shoots. At this stage, root length is more important than shoot length. Indeed shoots that are too longs will induce too much resistance to the water and stress the roots.
- Identify the recipient site – similar flow / depth / sunlight characteristics to the donor site.
- Dig a shallow hole to accommodate the hessian bag and place a flat stone (if available) on top or a wooden peg on the u/s side to secure.

The hessian is permeable allowing the water to circulate to a certain extent and the roots to penetrate the substrate. Both the jute and the hessian will decompose over time after the plant has well established. As indicated in the report, it is not clear exactly why water crowfoot is so extensive d/s and yet relatively sparse u/s of Gilling West. Carrying out a relatively cheap and easy trial like this with, for example, 30 bags arranged in 3 groups of 10 in likely locations, can quickly (re)establish water crowfoot stands.

4.3 Pollution

Diffuse pollution sources from silt / soil ingress were apparent from almost all tributaries (drains) and from field boundaries where ad hoc channels had been cut to drain standing water. It is in the landowner's best interest to keep the soil on their land rather than lose it to the beck. Any particularly problematic sites might be best dealt with via a farm advisory visit with respect to Farming Rules for Water, and these can be arranged via the Dales to Vales River Network. Any works introducing fine sediment pollution to the beck should be reported via the Environment Agency National Incident Reporting Service (**0800 80 70 60**) – ideally, be prepared with a National Grid Reference which can be pinpointed using https://gridreferencefinder.com/ or similar.

There appeared to be no undue issues with the outfall from the local sewage treatment works.

4.4 Fish passage

The ford at the d/s limit has contributed to the fragmentation of the fish community along Skeeby / Gilling Beck, and as there is a bridge adjacent to facilitate crossing, should be considered for removal. It would be worth contacting the local EA fisheries officer and possibly YDRT to investigate removal.

5.0 Making it Happen

The WTT may be able to offer further assistance:

- WTT Project Proposal
    - Further to this report, the WTT can devise a more detailed project proposal report. This would usually detail the next steps to take and highlight specific areas for work, with the report forming part of a flood defence consent application.

- WTT Practical Visit
    - Where recipients are in need of assistance to carry out the kind of improvements highlighted in an advisory visit report, there is the possibility of WTT staff conducting a practical visit. This would consist of 1-3 days' work, with a WTT Conservation Officer teaming up with interested parties to demonstrate the habitat enhancement methods described above. The recipient would be asked to contribute reasonable travel and subsistence costs of the WTT Officer. This service is in high demand and so may not always be possible.
- WTT Fundraising advice
    - Help and advice on how to raise funds for habitat improvement work can be found on the WTT website - www.wildtrout.org/content/project-funding

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

http://www.wildtrout.org/content/index

6.0 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.

7.0 Disclaimer