WILD TROUT TRUST

Advisory Visit Report

River Arrow

River Arrow and Alne Revival

October 2025

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Contents

Key Findings

- General river habitat quality is good along the section of watercourse reviewed due to active gravel supply and river processes.

- Some degradation was seen because of historic river channel engineering for flood defence and milling, which has modified the river in places.

- Habitat was particularly good in the upstream half of the reach, where the river had been given space to develop within wide riparian margins on both banks.

- There are several opportunities to enhance riparian and in river habitats to bring them toward their best where they are currently limited.

- The impact on riverbanks from visitors in the park could be mitigated, while providing opportunity for education about the river and its wildlife.

1. Introduction

The Wild Trout Trust (WTT) was contacted by the River Arrow and Alne Revival group (RAAR) to carry out an advisory visit (AV) on the River Arrow in Alcester, Warwickshire. This was subsequently conducted on the 17th of October 2025.

At the time of the visit, RAAR had recently formed as a Community Interest Company, to provide a local group for helping to preserve watercourses in the Arrow and Alne catchment areas. The group aims to engage communities through practical actions such as river restoration and water quality monitoring, along with accessible creative activities that celebrate the local rivers and their nature.

The aim of the AV was to assess the current condition of the watercourse, recommend any improvements to habitat for the local aquatic ecology and discuss how to make things happen.

The visit was conducted by Ed Noyes, WTT Conservation Officer Midlands and West. Three further advisory visits have been conducted previously by Tim Jacklin from the Wild Trout Trust in recent years, for wider information:

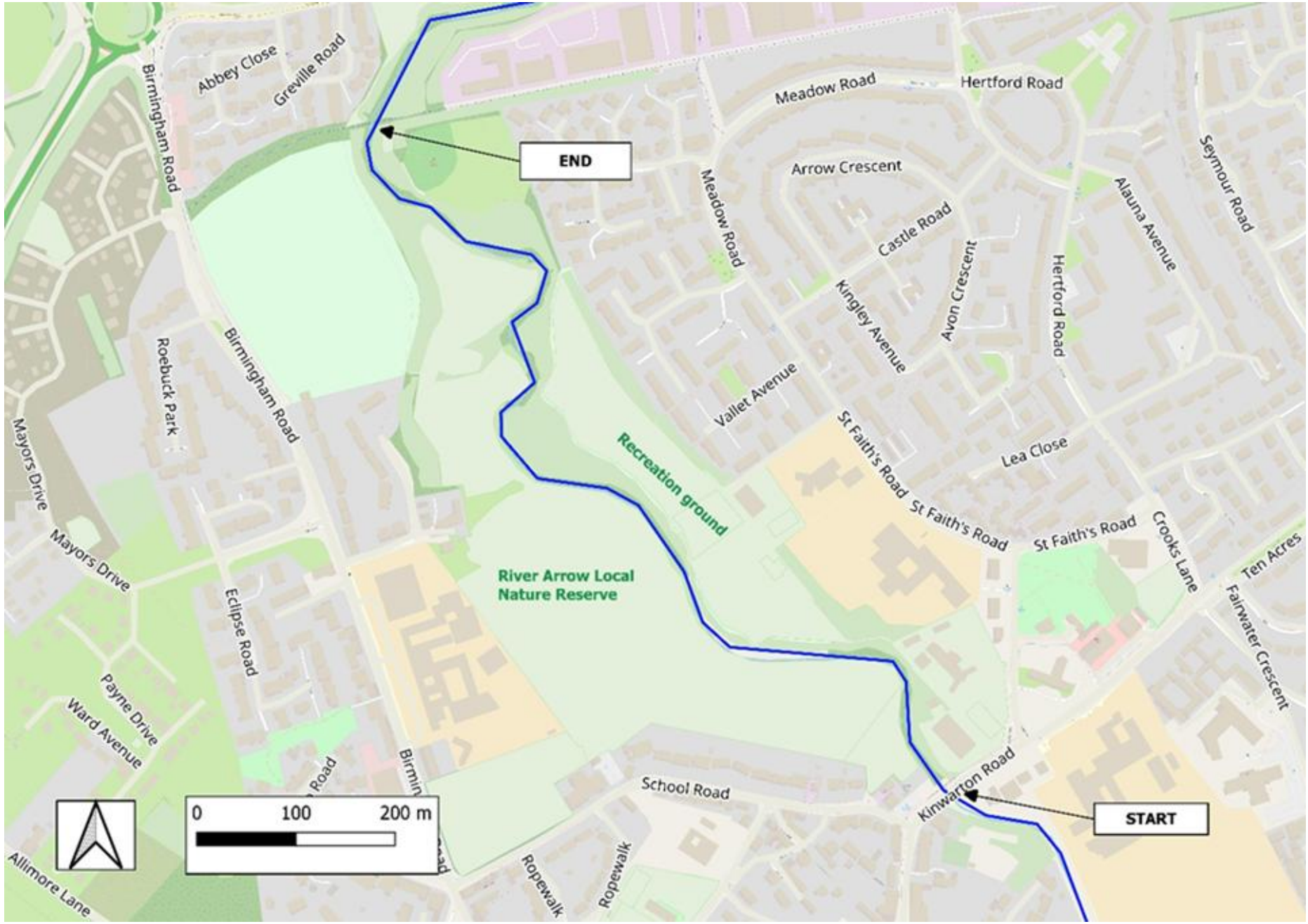
Spernall: Arrow_Spernall_2023.pdf

Coughton: Arrow_Warks_2012.pdf

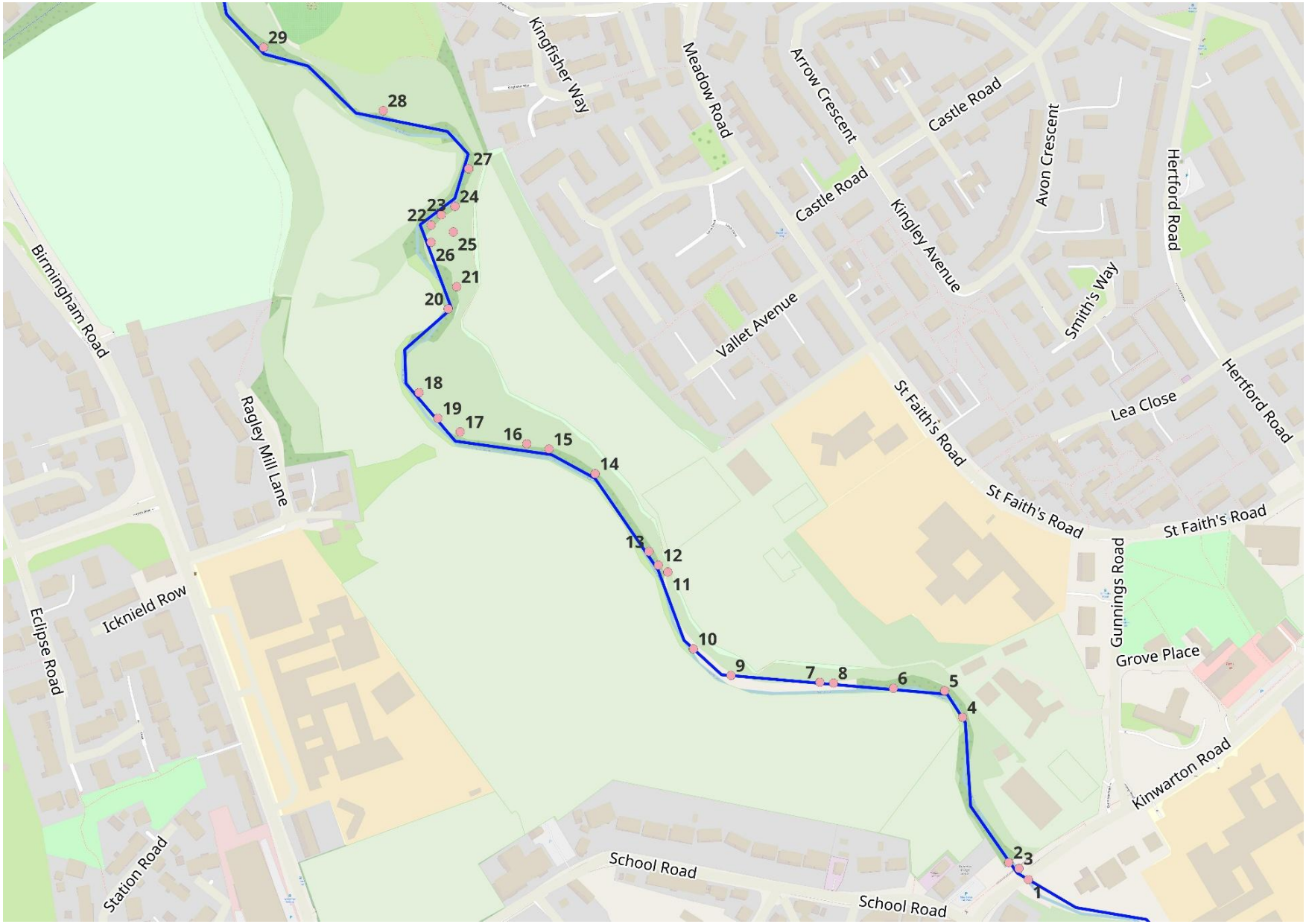
Between Alcester and the A46: Arrow-Alcester-2023.pdf

Specific locations in the report are identified using decimal latitude and longitude (e.g. **56.044896098, -3.16176523829**), which can be pasted straight into online map software to identify locations. Ordnance Survey national grid references may be used in addition elsewhere. Figure references within the text of the report are hyperlinked, so holding Ctrl and left-clicking on them will move to that point within the document.

Standard 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.



Map 1 Location overview of the section of watercourse reviewed in this report.



Map 2 Location of photographs taken in Section 3; Habitat Assessment (printable for reference).

2. Background

Catchment overview.

The River Arrow is one of the major tributaries of the Warwickshire Avon, flowing in a southern direction from its source, just east of Barnt Green, to its confluence with the River Avon at Bidford on Avon. The upper reaches of the Arrow are in Worcestershire, where it passes through the large town of Redditch, the remainder of the watercourse is in Warwickshire. The small town of Alcester sits around the middle of the catchment, where a large tributary enters the Arrow, the River Alne. As such, the catchment is of mixed land use; urban areas influence the river, along with a far greater proportion of rural countryside, comprising mixed arable and livestock farming. In recent decades, large areas of conservation land have been developed along the Arrow, including some in close proximity to the river in Alcester. These include areas immediately upstream of the town managed by Coughton Court and the Heart of England Forest, the River Arrow Nature Reserve managed by Warwickshire Wildlife Trust and greenspace managed by Alcester Town Council in the middle of the town.

The physical geography of the catchment is dominated by underlying mudstone geology, a type of sedimentary rock. This is overlain with widespread deposits of sand and gravel, providing a good potential supply of coarse sediments (gravel) for the river.

The topography of the catchment is comprised of large, rolling hills, giving way to wide floodplain at the bottom of the valley. Gradients remain moderate along the watercourse (roughly 100m fall from source to confluence), allowing for energised river flow and flood waters to dissipate and drain off relatively quickly.

Due to the influence of large, hard-surfaced urban areas in Redditch and possibly due to some rural land use practices elsewhere, river levels can rise and fall quickly following rainfall due to rapid surface water runoff rates, making this a relatively ‘flashy’ river. More information on how the Arrow responds to rainfall can be found at the river level gauge upstream of Alcester, at Studley River Arrow level at Studley - GOV.UK

The combination of widespread mixed rural land use, inputs from urban areas and sewage treatment works influences water quality found in the Arrow. To measure the overall ecological health of the watercourse, water quality and general physical habitat quality, the Environment Agency routinely assesses waterbodies in England using European Water Framework Directive (WFD) protocols. This scores each water body on a

sliding scale from 'Excellent' through to 'Poor', where the lowest scoring denominator generally dictates the final overall score. The objective is for a waterbody to achieve 'Good Ecological Status' (GES). The Arrow is designated Moderate Ecological Status in 2022 (Table 1). The full results and reasons for not achieving GES can be viewed in the Catchment Data Explorer portal, here Arrow - Spernall Hall Fm, Studley to conf R Alne | Catchment Data Explorer | Catchment Data Explorer

Table 1. Waterbody details

River	Arrow
Waterbody Name	**Arrow - Spernall Hall Fm, Studley to conf R Alne Water Body**
Waterbody ID	GB109054043780
Current Ecological Quality	**Moderate** Fish = High; Invertebrates = high; Macrophytes = Moderate; Phys-Chem = Good/ Phosphate = Poor
U/S limit inspected	52.223429 , -1.8762556
D/S limit inspected	52.217382 , -1.8678088
Distance inspected (KM)	C. 1.2km

The Arrow has good potential to support rich and diverse populations of fish, insect, plant and bird life. However, the aquatic ecology elements are shown to vary across years in the Environment Agency assessments. This can be due to water quality issues, water quantity issues (too much or too little) and influences on annual habitat availability. For example, fish surveys are carried out at the Alcester playing fields on a semi-regular basis (once every three years), where the presence of species or abundance of them varies between each sampling event, affecting the overall score for the site. That said, the fish assemblage present is a healthy representation of typical smaller river species, suggesting the habitat, flows and water quality are generally okay. Brown trout, an excellent indicator of catchment and water course health, are periodically present throughout the years of sampling.

3. Habitat Assessment

The visit was conducted following several months of very dry weather. As a result, the river level in the Arrow at the time was low. This was beneficial for seeing many of the river channel features, but comments have also tried to keep in mind levels can rise and fall relatively quickly – and how that relates to river processes and habitat for the aquatic ecology as levels and flows change.

Habitat was generally good – excellent in places – along the reach assessed. The walkover started downstream at Gunning's Bridge, following the river upstream to the footbridge just north of Alcester Playing fields, before following the channel back down through Arrow Nature Reserve on the right-hand bank.

At Gunning's Bridge, the area is modified by various human interactions (Photo 1 and Photo 2), the bridge piers and footings, rip-rap revetment, steep modified banks with heavily managed vegetation and water overflow pipes. There is a fisherman's access point and 'peg' on the left-hand bank and a camera installed on a pole for keeping an eye on debris build up on the road bridge following floods. Despite this activity, the Arrow shows its first glimpse of potential for good quality river habitat features to form, complimented by a healthy gravel supply (Photo 3).

Photo 1 Looking off the footbridge down to the central arch of Gunning's Bridge. Rip-rap (large, quarried stone) has been placed at the toe of the bridge piers. This isn't natural but not completely problematic at this location if required, providing some larger structure for a range of aquatic invertebrates to utilise as refuge habitat, along with some of the smaller fish species present.

Photo 2 Looking upstream from the bridges, this shallow glide habitat had a clean gravel bottom and was populated by a large shoal of chub, attracted by the very beneficial over-hanging and draping tree branches off both banks upstream.

Photo 3 The left-hand bank upstream of the bridge has recently had trees cleared and the timber taken away. Material produced from activities like this could be used for river habitat work in the immediate area. For example, the trunks could be processed and used to form some step risers in the bank to help provide safe access to the gravelly beach. This is a great location for publicly

visible activities such as riverfly sampling to happen, to help build interest in the river amongst the local community. The brash from the trimmed branches could equally be used in places for habitat works (see later in the report) or placed in the erosion hole created by the pipe discharging into the river on the right of this picture, to help slow the erosion down.

Following the river upstream involved by-passing a ~200m section of modified river channel, where the Arrow has been deepened and straightened historically. It is uncertain when this may have occurred, as the aerial view of maps as far back as the early 19th century show the same large meander in the river in this section – perhaps maintained by the bridge structure controlling river movements post-modification, by acting as a bed-check.

There are several key issues associated with over-deepened and straightened river channels. In essence, the river has had its natural form and function removed and is relatively barren and hostile for aquatic life, where it would otherwise be shaped by the dynamic, natural processes of erosion and deposition into a variety of valuable habitats (Figure 1 to Figure 3). In the Arrow, the gravel available for erosion and supply to the channel from the surrounding landscape makes these processes an important agent of in-channel habitat formation, where deposition of gravel across the channel, or to one side, creates shallower, faster areas of water and erosion can maintain deeper and slower areas. This change in river bed morphology works in feedback with the volume of flow to create diverse areas of habitat for a wide diversity of aquatic species; each evolved to exploit different areas – or niches – in the river, either as a general species requirement (e.g. a certain insect species needs faster flow velocities, another slower flow) or a critical part of their life cycle i.e. fish spawning areas versus what a fish fry may need (shallower areas of steadily flowing water over clean gravel bed vs shallow areas of slow flow with vegetation to hide in from predators).

Over deepening and straightening of the channel by dredging forces the riverbed to a level well below the surrounding floodplain – disconnecting it and preventing it from spilling elevated flows and rising river levels out to these areas as it naturally should during floods. This containing of flood water speeds flow velocities up and increases river power, making conditions that are difficult for aquatic life to exist in and rushing floodwater downstream at a rapid rate to potentially cause flood issues elsewhere. Issues with accelerated erosion can occur du to un-naturally confined flows, too.

The key themes here (repeated throughout the report) are that healthy rivers are ‘wiggly’, eroding deeper ‘pools’ into the outside of the bends and depositing the eroded gravels either on the inside of bends (side bar)

or across the channel to form a ‘riffle’. The ratio of bank height to average low water level will be naturally higher above the outside of bends as the river cuts into the bank. A gentler transition into the water would usually occur on the inside of bends, where flood waters can naturally spill into the surrounding landscape, or floodplain. Dig this out by dredging the channel into a deep U shape and all these diverse channel habitat features, the foundation of thriving river ecosystems, are lost to a monoculture of habitat and flow!

Photo 4 The river channel, sunk well below the surrounding landscape, following historic moidfications. A lack of channel habitat features result, and flood waters will be contained between the high banks, unable to dissapate to the floodplain.

Photo 5 The public footpath to the recreation field, adjacent to the river, but perched well above it, highlighing the steepness of banks.

Photo 6 Another example of the modified channel. River habitat is poor, with unanturally high banks (52.218644 , -1.8692894). It could be possible to install woody structure along the margins of the channel through these sections, to provide better habitat for invertebrate and fish life at low flows. Greater resilience to flood water conditions could also be achieved by creating refuge habitat through channel 'roughness' which dissipates the energy of flood water around the boundaries of the channel.

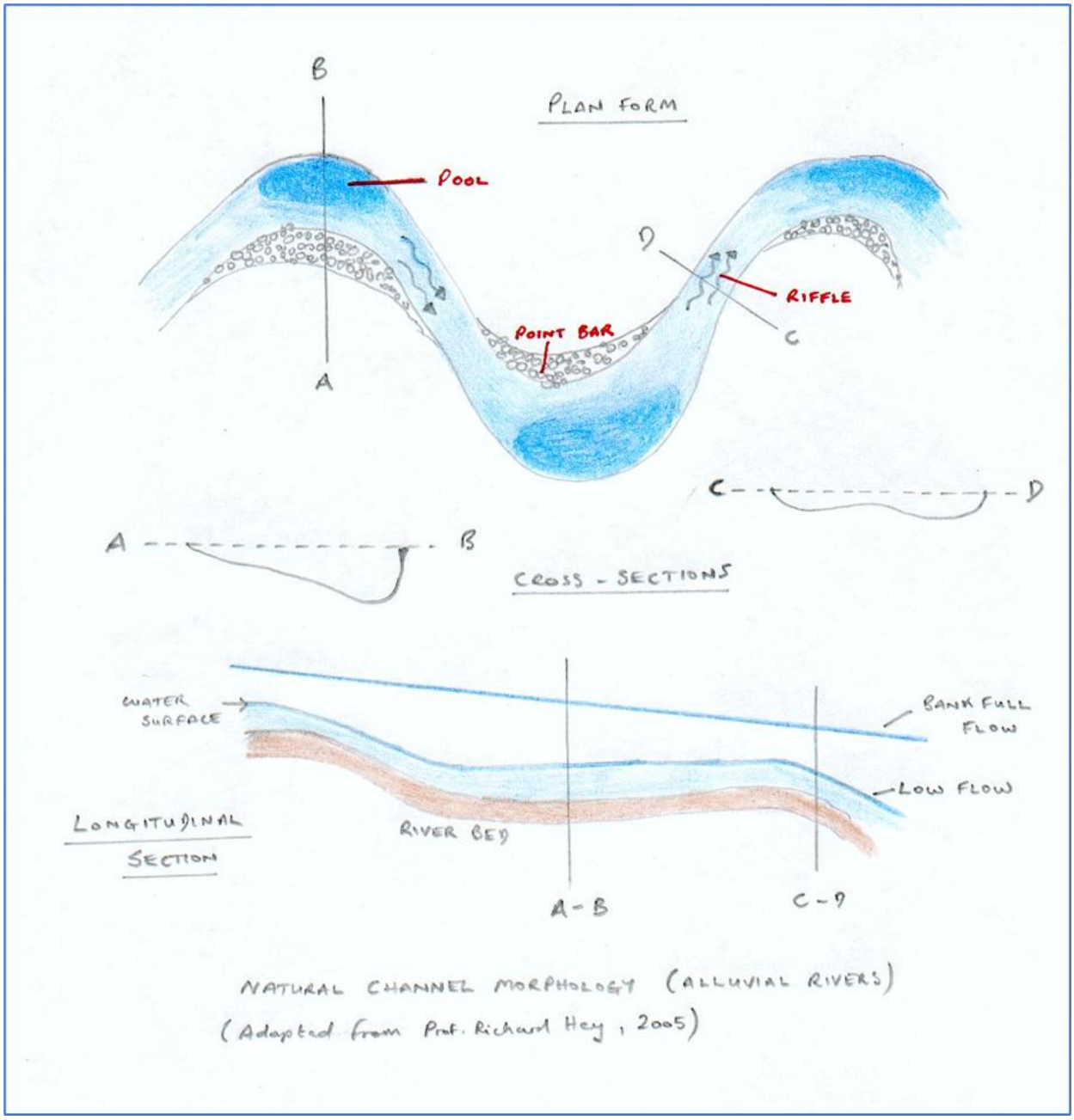


Figure 1. An infographic showing the natural dynamics of a river as it meanders, erodes and deposits material, changing in shape, gradient, depth and flow speeds.

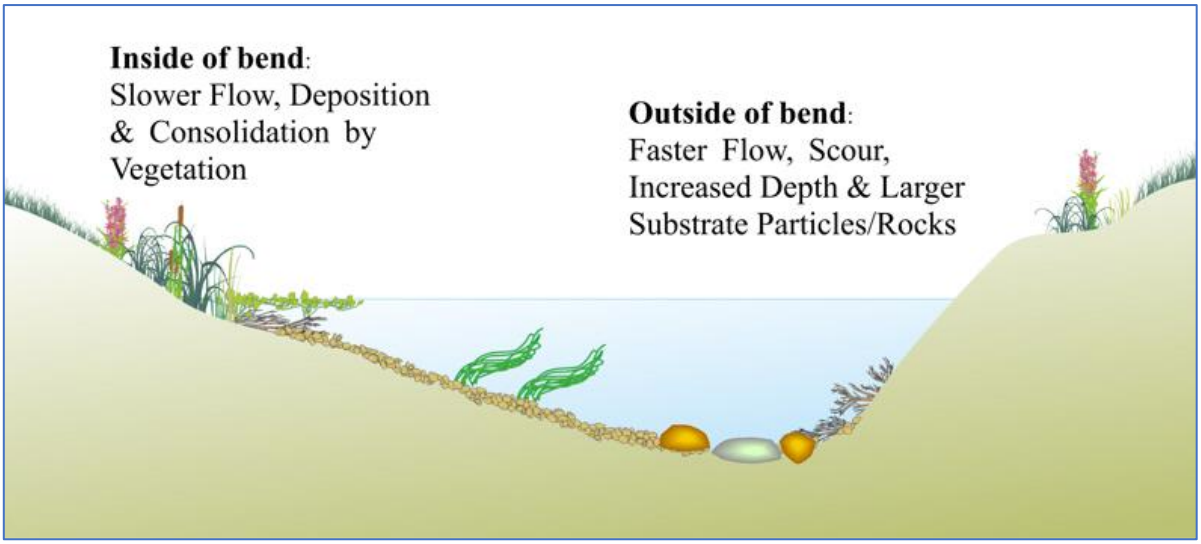


Figure 2 A cross section of a natural meander, highlighting the 'tick' shape of the channel – shallower on the inside, deeper on the outside.

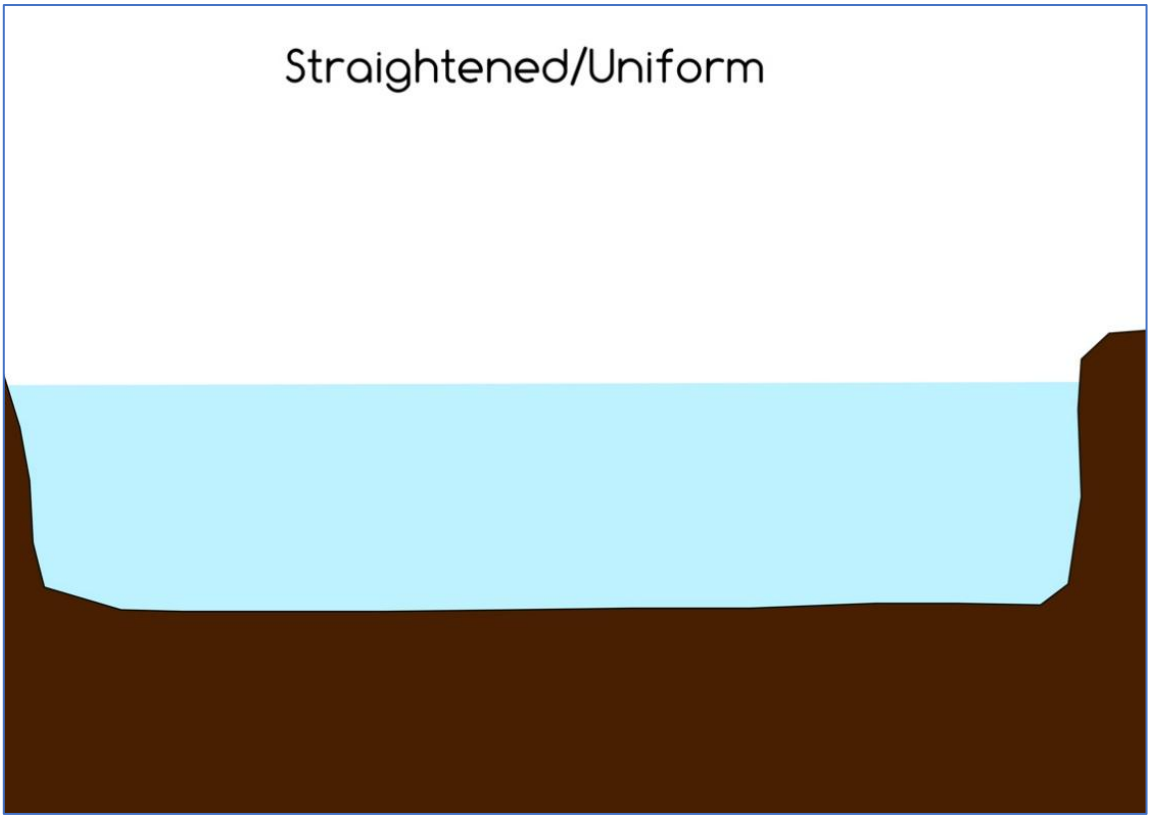


Figure 3 By contrast, the cross section of a modified and dredged channel is featureless, and devoid of the depth and flow diversity required to drive a bidiverse aquatic ecosystem.

Once a 'framework' of river habitat is formed by natural river processes, this can be strongly enhanced by the addition of biological habitat features, which supports even greater biodiversity.

Biological habitat features include the presence and interaction of woody material generated by bankside trees in the channel and along its edges, natural vegetation growth in the river channel (aquatic plants or 'macrophytes') and a range of vegetation growth in the river margins and riparian zone (the land immediately along the riverbanks). If native flora can flourish, it then provides key additional structural habitat to support a wide range of fish, insects, birds and mammals which use the plants, shrubs and trees as habitat required to complete their life cycles. Woody material in the river channel can be a major driver of river processes, as the river interacts with the wood to kick-start additional areas of coarse sediment erosion and deposition, and beneficial flow diversity.

Moving further upstream, the river channel started to change, as the impacts of the channel modification lessened, and the land along the left-hand bank opened out into the amenity grasslands of the recreational playing fields, with a wooded fringe along the river's edge.

Some dynamic river habitat was seen, which would provide many opportunities for a range of aquatic species (Photo 8), both due to the physical shape of the channel, diversity in flow types and interaction of organic materials.

Photo 7 Deposition of gravel has created a lovely riffle here (shallow, fast water), onto which a willow limb has fallen. 'Messy' habitat features created by tangles of branches and sticks creates superb habitat for a host of animal life; invertebrates will find feeding opportunities and refuge, and these areas provide critical refuge cover for young fish, especially juvenile trout. The structure also

creates beneficial flow diversity. A shallow glide (smooth flow, calf deep or less) with bankside branches and vegetation provides is excellent fish 'cover', an essential refuge area from predators such as kingfishers, herons and cormorants.

Photo 8 At the tail of the riffle, the response feature we would expect in a dynamic, gravel supplied river system; the water has eroded the bed of the river into the far RHB to create deeper, slower water in a deep glide and pool sequence (slow flow, greater than knee deep). Different aquatic species or life stages will find home here in this diversity of habitat. The submerged, trailing tree roots against the far RH bank provides some of the most desirable habit for adult trout and chub, along with multiple invertebrate species that will graze or attach on the tangle of root fibres. The shallower water adjacent the near LH bank will be populated by many insects such as shrimp, mayfly and caddis fly, plus minnow, chub, dace, roach and barbel fry. A happy place for kingfishers!

A little further upstream, the history of channel modification starts to degrade the habitat available again, where the river is straight, over deepened and disconnected from the surrounding flood plain (Photo 9). The flow diversity is lost, and the speed of flow (velocity) reduces, resulting in a long, uniform pool lacking the variable habitat required to drive aquatic biodiversity.

It may be that the level of the lowered bed is now too low, meaning that the remaining riffle downstream is now holding water back in the pool, in conjunction with the low water levels and flows.

All that said, some deep and slow pool habitat with areas of fine silt on the riverbed is critical for certain species, such as the large mayfly species (*Ephemera danica)*, and provides safe places for veteran chub, barbel, pike, perch, roach and trout to find refuge and feeding. Midge species will proliferate here, too, a key food resource for young fish, but also all bats that are drawn to feeding along freshwater corridors and many birds. Pools can also offer areas of refuge from flood waters for fish species, too. Some pool habitat, is therefore natural and beneficial within a reach of river as a relative proportion, it is just when it dominates as a majority due to previous river engineering it becomes a problem. Encouraging encroachment of marginal emergent water plants, addition of large woody material along the margins, and regeneration of bankside trees and trailing vegetation will all enhance the ecological potential of pools such as this one and assist natural channel recovery.

Photo 9 Pool habitats can be beneficial, as long as it is in the mix with other habitat types up and downstream, such as riffles and glides, to form part of a wider mosaic. The habitat is reasonable here, with bramble overhanging the water on the far side to provide valuable cover for fish and protect the artificially high and steep banks during winter floods. The encroachment of trailing vegetation on the near LH bank is equally valuable for providing cover to aquatic species. Rich, rank riparian shrub and plant growth is providing extremely good riverside habitat for a huge array of invertebrates and birds, too.

Within the length of river adjacent to the playing field, examples of bank degradation that would be susceptible to 'accelerated' erosion were seen, such as the example in Photo 10. Where desire paths have been created

by the public and dogs for reaching the river, areas of bare ground have been left where vegetation has been damaged and then not re-established. When river levels rise, the speed of water and energy in the river flow will generally increase, giving it more capability for eroding areas of poorly consolidated bare earth on the riverbank.

The two key issues with this are physical damage to the bank, which can change the river's ability to function naturally due to degraded channel shape, and the addition of fine soil particles to the watercourse. The gravel present in the Arrow is excellent habitat for aquatic life for several reasons, but the biggest benefit is created by having gaps between each of the individual stones. This allows oxygenated water to flow through the gravel and remain cool or at a more stable temperature than the river above. This provides habitat to a huge number of aquatic insects that will live in amongst the gaps, and essential substrate for many stream fish species that lay their eggs in the gravel. If elevated volumes of soils and fine sediments enter the river channel and deposit on the gravels, it can block the gaps between the gravels and smothers them, suffocating any invertebrates, fish eggs or fry that are in there. This can then lead to reduced numbers of those species which are dependent on the gravel for habitat.

Photo 10 One example of several areas of bare ground created by desire paths. Consider directing access away from specific problematic spots like this to more suitable locations, allowing vegetation to re-establish that naturally protects the bank. This could be achieved through creation of woven fences or installation of

pinned brush-wood (brash) piles on the bank top – and perhaps some educational signage around the issue.

A large outfall pipe was observed adjacent to the recreation field, (Photo 11). It is assumed that this is 'just' conveying surface water runoff from roads in the wider area, given location and size. Even so, given the cocktail of undesirable inputs that can enter drains from residential areas, such as car-washing suds, pollutants from roads and misconnections from properties (wastewater), these direct pathways into the river are not good. They also hugely increase the rate at which water enters the river channel from the hard surfaces in the local town, helping to rapidly elevate levels and flows following rainfall, that aquatic life struggles to cope with.

Given the space available in the adjacent recreation field, and alternative large areas of open green space (around 52.220925 , -1.8730230), it may be possible that a 'Sustainable Drainage System' (SuDS) could be created here to slow the rate at which water enter the river channel and improve the water quality – see recommendations. These consist of a series of wetland pools, that will also help increase biodiversity here. Water quality monitoring immediately up and downstream of these potential point sources of pollutants can help establish how much of an issue they present, too.

Photo 11 Concrete structure containing the outfall pipe (52.219485 , -1.8716143).

Photo 12 Despite being at the end of a drought period, the overflow pipe was still wet and slightly running, suggesting regular discharges of water through it from somewhere….

Photo 13 The section of watercourse adjacent to the overflow pipe was again modified with limited habitat features. Pinning large woody material or installing root plates from alternating bank sides would help narrow the low flow channel. This will create flow diversity at lower river levels and provide physical structure for aquatic wildlife, also scouring the bed and aiding further river habitat development during floods.

Upstream of the play area in the recreation field, the river channel becomes far more dynamic and feature rich – likely as a result of the riparian area widening right out to give the river space to develop in a fantastic buffer of mature deciduous woodland (Photo 14 to Photo 28). However, there were a couple of significant areas of degradation seen in this next section, too, discussed below.

Photo 14 An excellent side bar of gravel forming, as a natural process of the river depositing gravel eroded from the catchment floodplains. This is starting to force a meander (wiggle), with the inside of this formed by the gently sloping bar which allows rising river levels to gently dissipate over during floods. The opposite effect on the LH bank is erosion, nicely regulated by mature bankside vegetation on what will eventually be the outside of the bend, providing deeper water for a variety of aquatic species. The pinching of the channel by the bar reinvigorates flow, energising it for some distance downstream of this picture.

Photo 15 The area between the footpath and the river is much wider now, potentially allowing a very good quality habitat corridor to develop. However, this location at 52.220189 , -1.8728127 has also become attractive as a makeshift bike track. The damage to the woodland and the riverbank here may lead to some significant issues with mass failure of the bank during floods, potentially creating large areas of erosion which will affect the river's ability to form quality habitat dynamics (in an overwide channel) and provide large inputs of fine sediment to the watercourse.

Photo 16 The magnitude of the biking damage can be seen here. Winter floods are likely to have a significant impact on this area due to a lack of woodland vegetation that should be protecting the banks and volume of bank material already lost.

Upstream of the bike track damage, the woodland area on the LH bank becomes significantly wider (52.220504 , -1.8738213). It fills the gap between the recreation fields and the inside of a large meander in the river. Coupled with the Arrow Local Nature Reserve on the opposite bank, this has given the river the required space to evolve natural dynamics and develop some excellent channel features. These include a nice mix of large pools, riffles and glides. The vegetation along each bank is a high-quality mix of mature woodland and areas where shrubs and plants have strongly established on open areas left behind by the river, as the channel has migrated in the floodplain. In certain places, the subsequent interaction between the river and the vegetation is providing very high-quality opportunities for a range of aquatic life, for example in Photo 17.

In other locations, there were still opportunities to enhance the habitat (Photo 19). Primarily these were opportunities to add some additional large woody material to the channel to enhance the river processes starting to take place. There is plenty of material available for river work, immediately adjacent to the locations given proximity of standing timber. Where already existing, access to the gravel bars was discussed during the visit, as the spaces next to the river can give the public specific locations to access the watercourse for quality encounters with nature and green space, while leaving plenty of adjacent riparian habitat undisturbed, if managed properly. Ideas included formalising steps to avoid erosion and having interpretation boards back at the entrance to the paths into the riparian woodland (Photo 25 and Photo 26).

Photo 17 'Shaggy' riparian habitat interacting with the pool here provides excellent habitat for adult fish, particularly.

Photo 18 A diversity of open channel and more heavily shaded sections were seen upstream of the pool around 52.220688 , -1.8742719 . This provides a beneficial mix of light and shade to the channel, including areas for marginal plants to develop and refuge from intense sunlight and heat under the canopy. It also ensures that there is a future supply of woody material to the channel.

Photo 19 The glide at the top of the pool around 52.220439 , -1.8741646 would benefit from narrowing during low flow periods, to maintain beneficial pace of

flow. The emergent vegetation on the LHB should narrow the channel naturally over time, but it is likely the level of shade from surrounding trees has prevented this. The red line shows where fine sediments have settled, showing the likely extent encroachment could potentially happen to (where the river wants to self-narrow to). Utilising some of the adjacent willow or removing a few limbs from trees to increase the amount of light to the channel will also provide material for installing woody material between the red line and the bank. This will help with accumulation of organic materials, narrow the channel and help establishment of the emergent vegetation – see recommendations.

Photo 20 Excellent pool habitat at (52.221083 , -1.8737955) with messy root systems and branches defending the outside of the bend. These will attract the largest chub and trout in the area to take up residency!

Photo 21 Only occasional patches of Himalayan balsam were seen, such as this one at 52.221365 , -1.8739994. RAAR has done an excellent job of knocking balsam back throughout Alcester and will divert activities to this patch at a suitable time in the near future.

Photo 22 Some very good quality river and riparian habitat was seen where the river had been given plenty of space, such as the section along 52.221786 , -1.8737848. A mixture of habitats here, from mature woodland, brambles draping over the RHB face and layer of plants and shrubs on the LHB will be stabilising river processes to hugely benefit aquatic life, while providing great habitat transitions and corridors for rich biodiversity generally along the river.

Photo 23 More good quality pool and riffle habitat seen here, interacting with the wide riparian area, with spawning opportunities for chub, barbel and trout. The leaf litter input will provide an excellent resource for a range of aquatic insects, too.

Photo 24 Natural river process – erosion into the outside of the bend and deposition of the gravel bar on the inside of the bend. The resulting channel shapes drive excellent flow diversity through this location, that can support increased aquatic biodiversity.

Photo 25 (52.220478 , -1.8739564) A regularly used pathway has been created down to the river here, another location to consider directing the public to specific access points, to protect riparian habitats in the wider area.

Photo 26 Precise access to the gravel beach at 52.221484 , -1.8740989 has allowed thick vegetation to develop, rather than get trampled, to provide protection to the bank, flood benefits (holding water back) and fantastic riparian habitats.

Photo 27 This over hanging trunk and undercut root system provides high quality habitat for fish, especially large trout! Located just downstream of a riffle from which invertebrates will drift and form a steady food supply, the overhead cover provided by the tree gives essential refuge cover fish seek out and require.

Photo 28 Another pool that is slightly lacking in in-channel or marginal cover; heeling over some willow and pinning it would open the canopy up here to allow some emergent vegetation to develop, and give messy structure in the marginal areas for invertebrates, young fish and flood refugia for all aquatic life.

At ther top of the stretch, just downstream of the footbridge, a weir was seen at 52.222854 , -1.8760303. It looks like this weir was an old 'bed check' structure for helping stabilise the channel (prevent lateral movements) for the bridge upstream. It was also very likely used for holding back a head of water to feed the historic mill leat channels in the Arrow Local Nature Reserve meadows (removed in the 1960s). While not a huge issue, no weir is natural in a river, this one should be assessed for redundancy and impact on the watercourse and explore whether it can be removed. Weirs can create a physical barrier in the river, preventing movement of habitat forming coarse sediments downstream, or blocking fish from moving freely up and down the river as they must at various life stages (Figure 4). This weir isn't a major barrier for fish movements, due to the notch against the right-hand bank, which will allow fish through, but still constitutes an unnecessary manmade obsruction and should be removed if at all possible.

Photo 29 The weir at the top of the reach that was reviewed on the day. Note the notch with streaming flow against the near (right hand) bank.

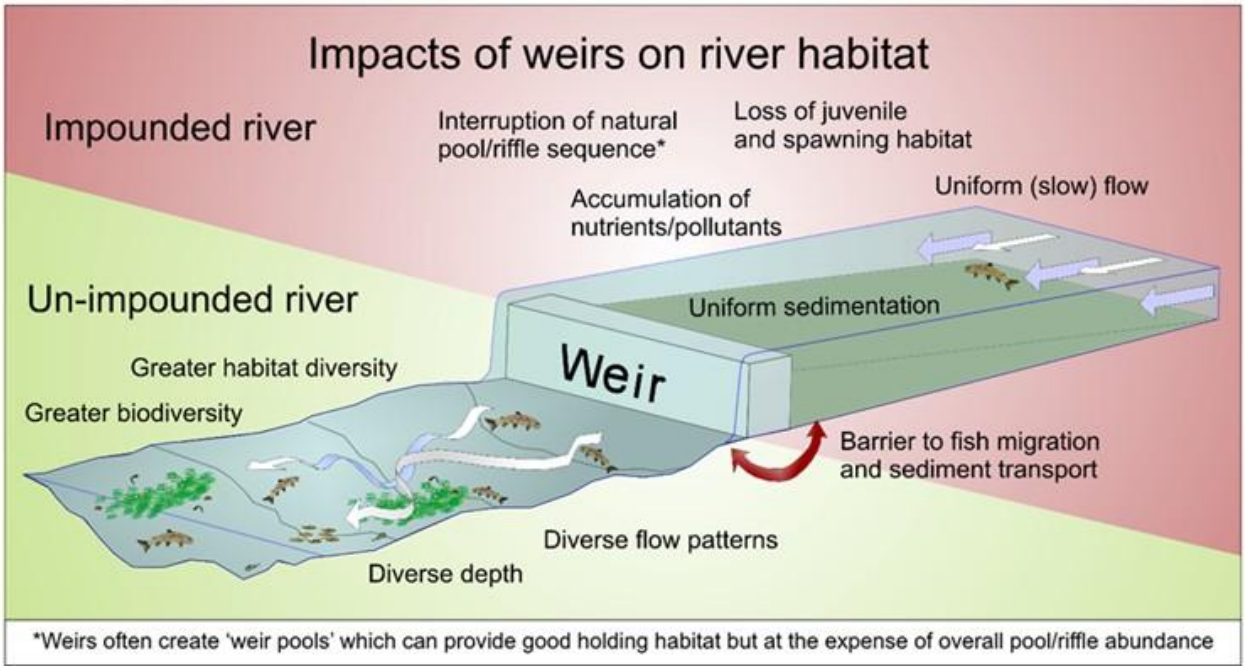


Figure 4 A diagram highlighting the impact weirs will have on river ecosystems.

4. Recommendations

- Establish a plan for public access points. Multiple locations to manage desire paths and allow vegetation to reestablish, for example, creating safe steps like those in **Error! Reference source not found.** at specific points. Ideas would include limiting access to certain points with formalised steps. This could be achieved using locally available material and creating woven 'living' or 'dead' hedging across certain problematic desire paths. A good exercise for volunteers!
- Investigate the potential to break out the overflow pipe that runs under the recreation field and install a series sustainable drainage pools (**Error! Reference source not found.** and Figure 7). It may be the current concrete casing for the pipe outfall, or feeding into the pipe currently under the footpath could be incorporated to avoid erosion issues or loss of access along the footpath. There is a very large open field just upstream (Figure 8) that would mitigate for any open greenspace lost by creating the SuDS e.g. not to limit opportunities for local residents, such as for playing ball games.
- Prevent biking activities from degrading the riparian woodland immediately adjacent to the watercourse. Consider where this could be relocated, to provide alternative access while protecting the river from inputs of fine sediment and bank by erosion caused floods.

Some signage or local education could help prevent the issue

- Look to install a selection of large woody material (e.g. hinged willow, pinned woody material and lodged woody material)in areas lacking cover or to assist river processes (deposition of material on insides of bends and edges of pools) and diversify flows elsewhere (Figure 9). A walkover and mapping exercise of where each individual issue is and where exact materials for use are (tied in with a wider bankside tree management plan) will be helpful.
- Assess the weir at the top of the section visited and identify opportunities to improve fish passage or remove the structure.
- Continue to work with key local stakeholders to bring them on the journey and gain their support. It will be critical to engage Warwickshire Wildlife Trust and the local Council as land management agents on both banks.
- Continue to build local resident's interest and volunteer base for making things happen, especially through habitat work, riverfly monitoring, balsam bashing and other volunteer activities.
- Touch base with Wild Trout Trust's Trout in the Town initiative wherever possible! Trout in the Town | Wild Trout Trust
- Continue to build wider interest with catchment stakeholders such as the Environment Agency and Severn Trent Water who will have higher strategic focus on environment improvement projects. They will also have funding opportunities available for work. The Warwickshire Avon CaBA group is a good place to meet people Warwickshire Avon - CaBA
- Keep up the enthusiasm and great work!

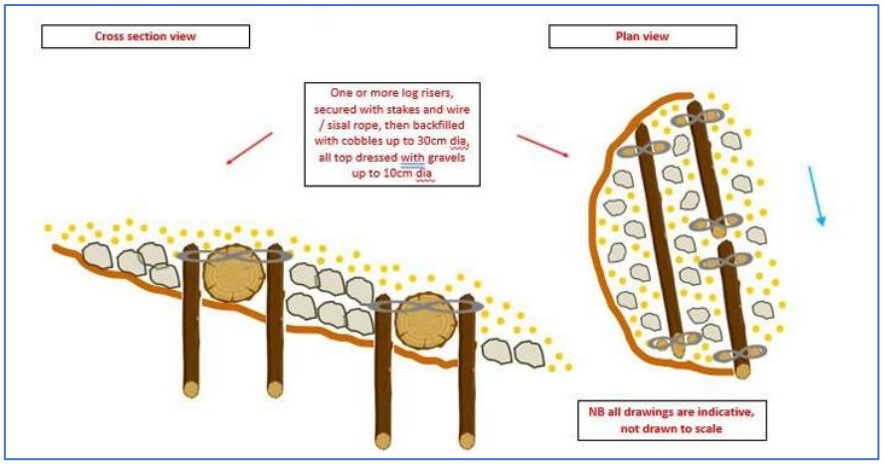


Figure 5 Outline design for improving access at specific points down to the river for the public, aiming to draw footfall away from other locations and allow vegetation to re-establish.

Figure 6 The open greenspace between the river and the Eric Payne Community Centre provides an option for breaking the surface water drain pipe out to create a series of wetland 'SuDS' pools – for example in Figure 5, below;

Figure 7 Indicative visualisation of wetland features the surface water pipe could be put through to clean water quality up before entering the river and boosting biodiversity.

Figure 8 The large green space upstream of where the SuDS could go in – plenty of space for ball games and picnics still!

Figure 9 Indicative example of how locally available woody material could be added to marginal areas to create beneficial channel capacity and habitat.

5. Further assistance

The WTT may be able to offer further assistance such as:

- WTT Practical Visit
    - Where recipients require assistance to carry out the improvements highlighted in an advisory report, there may be the possibility of WTT staff conducting a practical visit. This would consist of 1-3 days' work, with a WTT Conservation Officer(s) teaming up with interested parties to demonstrate habitat enhancement methods (e.g. pinned woody material, willow planting, willow laying, etc.). Please contact your local WTT Conservation Officer for further information.
- WTT Project Proposal
    - Where AV recipients require a more substantial restoration project developed, involving larger capital delivery and exterior funding, WTT may be able to develop recommendations from this document into outline proposals, indicative costs and designs to take forward for funding. Often this can be in collaboration with other catchment conservation partners, such as Environment Agency, Rivers Trusts and

Wildlife Trusts.

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

https://www.wildtrout.org/content/wtt-publications

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 populations and managing invasive species.

The DVD is available to buy for £10.00 from our website shop www.wildtrout.org/shop/products/rivers-working-for-wild-trout-dvdhttp://www.wildtrout.org/shop/products/rivers-working-for-wild-trout-dvd or by calling the WTT office on 02392 570985.

An important source of income which helps to fund the WTT's work is our Annual Spring Auction. The auction is our biggest fundraising event and includes fishing days, tackle, books, art and more. Many of our AV and PV recipients subsequently help us with auction lots each year, and we're very grateful for this extra support. To donate a lot, please contact Christina via office@wildtrout.org.

6. Acknowledgements

The WTT would like to thank the Environment Agency for supporting our advisory and practical visit work in England.

7. 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.

Legal permissions must be sought before commencing work on site. These are not limited to landowner permissions but will also involve regulatory authorities such as the Environment Agency, local Council – and any other relevant bodies or stakeholders. Alongside permissions, risk assessment and adhering to health and safety legislation and guidance is also an essential component of interventions or activities in and around your fishery.