Advisory Visit

River Ivel Navigation, Bedfordshire

March 2019

1.0 Key issues

- Many barriers (a sluice, an overspill weir and a lock) were present in the reach visited. They represented barriers to the upstream and downstream movement of fish, consideration should be given to either their removal or measures put in place to aid free movement
- The reach of river above the Horsebridge is impounded by stones immediately downstream of it. Adjustment of the stones could lower upstream water levels, which in turn would increase water velocity initiating bed scour and sediment transfer.
- Recent work by the Environment Agency's FCRM team has reduced the tree stock along the river. A tree management plan should be agreed so that future tree work can retain those important for shading the river and for controlling emergent vegetation growth.
- The river had been subject to the recent removal of in-channel large woody debris for flood risk management purposes. The work has negatively impacted upon the river's ecology in terms of reduced marginal cover and reduced flow diversity. A habitat enhancement scheme could be worked up between the angling club and the Wild Trout Trust to address some of the impacts.
- Removed woody material and wood chippings have been placed on the bank tops and should be relocated.
- The unimpounded reach of river above the failed overspill weir is the most suitable length for wild brown trout (and other fast water fish species such as barbel and dace). The reach could be further improved through the use of simple habitat enhancement measures.
- The lower Ivel Navigation had slower water flow velocity making it less suitable for brown trout. The slower water results in siltation of the reach and excessive in-channel vegetation growth.
- The EA FRCM team should clearly state the objectives of any future maintenance programme for this particular reach. Flood conveyance or attenuation?

2.0 Introduction

This report is the output of a site visit undertaken by Rob Mungovan of the Wild Trout Trust to the Ivel Navigation, Bedfordshire, at the request of Kye Jerrom (Environment Agency Fisheries Technical Specialist). The visit was undertaken on the 5th March 2019. Comments in this report are based on observations on the day of the visit and discussions with Shefford and District Angling Association.

The purpose of the visit was to advise on the suitability of the watercourse for wild brown trout, to consider measures that could be implemented to improve habitat for a range of fish species, and to review the impact of recent Environment Agency (EA) Flood and Coastal Risk Management (FCRM) work.

Normal convention is applied throughout the report with respect to bank identification, i.e. the banks are designated left bank (LB) or right bank (RB) whilst looking downstream.

3.0 Catchment Overview

Table 1 summarises the environmental data collected for the Water Framework Directive (WFD) for the Ivel Navigation. The Navigation is classified as overall 'moderate' ecological status. Parameters that make up this overall classification include 'good' for fish, 'good' for invertebrates, but is 'poor' for phosphate. A Reason For Not Achieving Good (RNAG) is given as 'sewage discharge (continuous)' which will lead to elevated phosphate levels. On the day of the visit the odour of treated sewage effluent could be smelt. Dissolved oxygen and temperature are noted as 'high'.

The reach falls within the Bedfordshire and Cambridgeshire Claylands National Character Area (NCA). The Bedfordshire and Cambridgeshire Claylands is a broad, gently undulating, lowland plateau dissected by shallow river valleys that widen as they approach the Fens NCA. The River Ivel and its tributaries have well drained soils over alluvium and river terrace gravels.

While predominantly an arable landscape, a wide diversity of semi-natural habitats are present in the Bedfordshire and Cambridgeshire Claylands along with a number of internationally important and designated sites. The reach walked was not covered by any statutory nature conservation designations.

	Waterbody details
River	Ivel Navigation
WFD Waterbody Name	Flit and Ivel Navigation d/s of Shefford
Waterbody ID	GB105033037790
Management Catchment	Ouse Upper and Bedford
River Basin District	Anglian
Current Ecological Quality	Overall classification of Moderate for 2016
U/S Grid Ref inspected	TL 14808 39432
D/S Grid Ref inspected	TL 18128 41498
Length of river inspected	~0.9km & 1km

Table 1 Data from https://environment.data.gov.uk/catchment-planning/WaterBody/GB105033037790

Cycle 2 classifications

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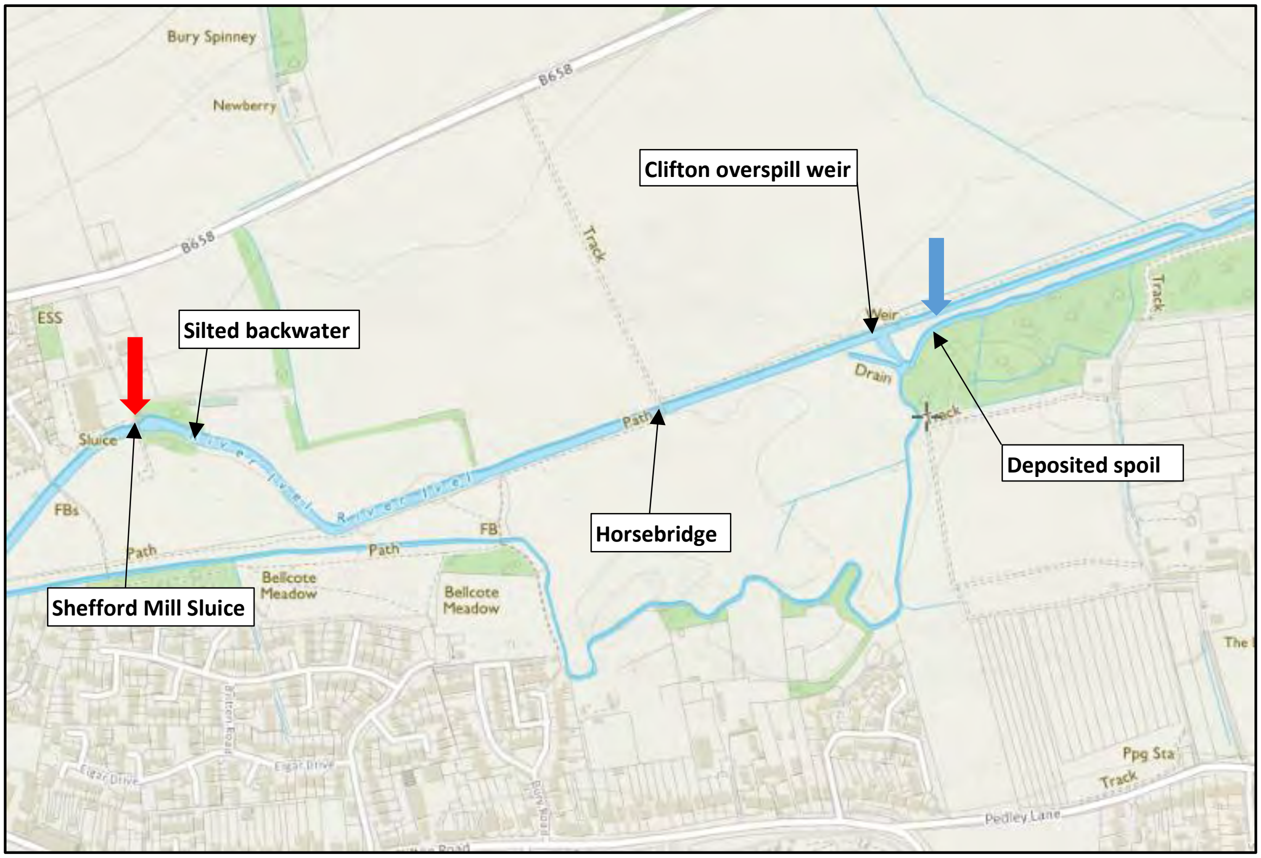
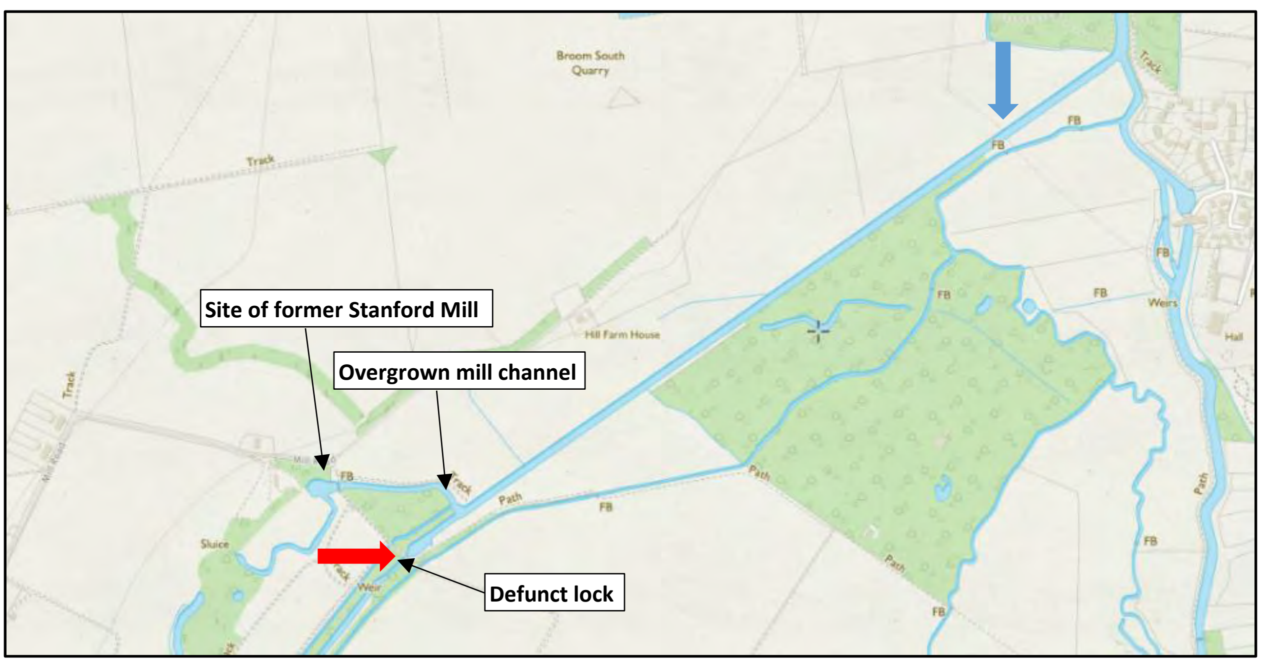
Classification Item	2013	2014	2015	2016
Overall Water Body	Moderate	Moderate	Moderate	Moderate
Ecological	Moderate	Moderate	Moderate	Moderate
Supporting elements (Surface Water)	-	-	Good	Good
Biological quality elements	Moderate	Good	Good	Good
Fish	Good	Good	Good	Good
Invertebrates	Moderate	Good	Good	Good
Hydromorphological Supporting Elements	Supports Good	Supports Good	Supports Good	Supports Good
Hydrological Regime	Supports Good	Supports Good	Supports Good	Supports Good
Physico-chemical quality elements	Moderate	Moderate	Moderate	Moderate
Ammonia (Phys-Chem)	Good	High	High	Good
Dissolved oxygen	High	High	High	High
pH	High	High	High	High
Phosphate	Poor	Poor	Poor	Poor
Temperature	High	High	High	High
Specific pollutants	High	High	-	-
Chemical	Good	Good	Good	Good

Table 2 Data from https://environment.data.gov.uk/catchment-planning/WaterBody/GB105033037790



Map 1 – The upper reach of the Ivel Navigation visited at Shefford. Red arrow is upper limit, blue arrow is downstream limit of visit © Ordnance Survey.



Map 2 – The lower reach of the Ivel Navigation visited, east of Stanford. Red arrow is upper limit, blue arrow is downstream limit of visit © Ordnance Survey.

The Shefford and District Angling Association controls virtually all of the river visited. The club has ~650 members and approximately 9 miles of river. It was reported that most of its membership fish its still waters.

The river has been subject to extensive coarse fish stocking in recent years:

Quantity	Species	Date	Location
10,000	Dace fry	July 2009	Horsebridge
500	Dace	Dec 2012	Horsebridge
500	Chub	Dec 2012	Horsebridge
1,600	Barbel	2012 to 2016	Horsebridge
500	Barbel	Dec 2016	Clifton Rd bridge
500	Barbel	Dec 2016	Shefford North bridge

The stocking of fish favouring faster habitat was a response to the collapse of the Clifton overspill weir which increased water velocity throughout the lower reach of the fishery. No brown trout stocking has taken place. Encouragingly, fish surveys and angling reports have shown a wild brown trout population to be present, with large adult fish caught as well as parr.

Water voles are believed to be absent from the river. However, spraints of otter were observed on rocks beneath the Horsebridge. Otters are known to be widespread in the region, and the discovery of spraints was not surprising. Otters and their habitat also receive full legal protection under the Wildlife and Countryside Act, 1981.

4.0 Habitat Assessment

4.1 Shefford to Clifton Overspill Weir

The visit started downstream of the Shefford Mill Sluice (pic 1). The sluice held back a head of water ~1.8m and is impassable to fish. The presence of a bristle-brush elver pass was noted.

Pic 1 – The Shefford Mill Sluice, a barrier to fish passage.

Downstream of the sluice the channel was ~6m wide. It was not possible to assess the depth. The LB had been revetted with wood and rock rip-rap suggesting that bank erosion was a problem. Sluices and weirs act as sediment traps, especially for coarse material (gravel and cobbles). Reduction in the downstream supply of coarse material can leave the bed diminished in material that would naturally protect it from down-cutting as a result of bed erosion. As a riverbed is eroded bank instability can occur.

In addition to the points made above, weirs present a number of problems to fish and river managers namely:

- Habitat fragmentation and isolation of fish populations.
- Increasing vulnerability to pollution and predation (as fish cannot overcome a weir to recolonise or escape a predator when herded against a structure).
- Increased water temperature and associated fluctuations in dissolved oxygen of the ponded water behind a weir.
- An increased local flood risk as they impound flow.
- A management liability.

Wherever possible, the first approach should be to remove a weir in order to reinstate natural river processes, which in turn will govern the development of riverine habitats.

The river had gently sloping banks (pic 2) with marginal vegetation dominated by the invasive non-native Himalayan balsam and nettles. At the water's edge there were extensive deposits of sand which had not been consolidated by vegetation and were considered to be mobile. The adjacent landuse was amenity grassland (RB) and fallow land (LB). At the edge of the amenity grassland was a large pile of grass cuttings. The leachate from the cuttings had the potential to enter the water. The pile should be located away from the river. Between the river and the grass pile was a heavily silted backwater (pic 3). The backwater appeared to receive drainage from the amenity land.

Pic 2 – The Ivel Navigation downstream of the Shefford Mill Sluice. Extensive margins of fine sediment (mainly sand) were present.


Pic 3 – This silted-up inlet could be desilted to form a backwater to benefit coarse fish. Note the large pile of grass cuttings which should be moved.

The river contained stands of branched bur reed (pic 4) which had not been scoured from the river by winter flow. The presence of bur reed mid-channel is indicative of a high sediment load and an inability of the river to scour fine material from the bed. Bur reed can often dominate artificial channels and rivers that have been dredged. Extensive bur reed growth can often give the appearance of a river choked by vegetation. But in reality, the plant dies-back following frosts and does not impede winter flow. However, bur reed can impact on the summer conveyance of channels. Therefore, sustainable measures that work to reduce the channel's suitability for the plant (such as increasing water velocity and bed scour) will bring about a better long-term control of bur reed resulting in increased flood conveyance through the reach.

Pic 4 – The channel contained stands of branched bur reed which were reported to be very dense come mid-summer. The winter flow has not cleansed them from the channel.

Alder and willow were the dominant riparian trees. Many trees had been subject to recent work by the EA's FCRM team, this had resulted in the majority of trailing branches being removed from water level. It is not known whether the branches were collecting flood debris, or were holding back any water, but given the relatively small size of branches removed (pics 5 & 6) the capacity to hold back *any* flood water is very doubtful. By lifting the lower canopy of the trees, but retaining high cover, the tree work has encouraged a tree-tunnel to establish along the river. That approach it not going to be beneficial to the river in the long-term as it will limit marginal growth which aids bank stability, provides cover and reduces opportunities for large woody material (LWM) to fall into the river.

The presence of LWM is extremely important in a river. It increases the available surface area on to which a biofilm (algae, bacteria and other microbes) can grow. In turn, the biofilm is a source of food for invertebrates, thus increasing the total biomass that a river can support. LWM also provides underwater cover, offering protection for fish against high flows, otters or fish-eating birds.

LWM is also a key element in kick-starting riverine processes. LWM, such as fallen trees, may increase scour resulting in pools. As sediments are transported downstream, they will be deposited according to flow. This may enable the development of riffles (shallow, gravel-rich runs with broken surface water) which are extremely important as spawning and potentially juvenile trout areas. Furthermore, the sorting of bedload material will encourage the marginal deposition of fine sediment or may enable it to be deposited upon the floodplain when out-of-channel flow is experienced.

Trailing branches are particularly important as overhead cover for a wide range of fish, especially brown trout, creating small areas of shelter and increasing the available number of lies within a river. The branches also present opportunities for invertebrates to fall into the channel where they become food for fish. Branches that extend into the water may provide a means for some aquatic invertebrates to emerge from the river and to return beneath the water to lay their eggs. Coarse fish such as perch and roach will spawn on trailing branches and underwater roots, especially willows.

Pic 5 – Riparian alder trees with their lower branches removed (red circles).

Pic 6 – Riparian sycamore, willow and alder trees with their lower branches removed (red circles).

One significant dog slide was noted as an input of fine sediment to the river. Additional dog slides were noted near to bridges where river access was possible.

A relatively short length of the riparian footpath had been stabilised using willow spiling but the willows had been left to grow large. The recent tree work had coppiced the re-growth (which was good). An interesting observation from the spiling was that scaffold posts had been used to weave the willow around. This is not the usual approach but may have been necessary if the underlying strata was very hard (which should be bourne in mind if proposing habitat enhancement which relies on stakes being driven into the bed).

The vast majority of cut wood had been chipped. All chipping piles were at the top of bank, with many piles spilling down into the channel (pic 7). That is not acceptable. All chipping piles should have been sited well-back from the river so their leachate presents no risk to water quality, and so the material is not at any risk of being swept into the river during high flows.

Pic 7 – Chippings should not be allowed to spill down the bank.

Moving downstream, the pattern of branch lopping continued but was intensified by the occurrence of marginal willows which were pulled out from the river (roots and all). This approach is destructive to river habitat, offers little in the way of flood alleviation and removes maturing trees which in time would have cast shade over the river, thus aiding the control of excessive in-channel growth.

Where the channel was more open to light, it was choked by emergent branched bur reed. A careful balance needs to be struck between retaining riparian shade to control excessive plant growth and cover that creates extensive, and degrading, shade.

Stands of common reed were observed (pic 8 & 9). Common reed has the ability to significantly encroach into slow-flowing rivers. It will continue to colonise more of the slow-flowing reach if scouring flow is not present and there is no shade to check its spread.

Pic 8 – Willow roots removed from the channel alongside fringing common reed. With the loss of the willow the reed will colonise more open water habitat.

It was reported that the river contained a significant population of American signal crayfish. Whilst no extensive bank failure was observed, it was noted that the RB was becoming steeper due to its partial shading and lack of fringing vegetation which would have trapped sediment (pic 9). The cut woody material could have been used to sensitively reinforce the RB but due to material being chipped that opportunity has been lost.

Pic 9 – The RB has become undercut with the situation reported to be made worse by extensive signal crayfish burrows (not seen). The opposite bank is stable due to a gentle grade from land to water aided by common reed.

At the Horsebridge there was a change of gradient (pic 10). The change had been brought about by the collapse of the Clifton overspill weir in November 2008. The reduced downstream water level resulted in the energising of the entire reach up to the bridge. Levels above the bridge are still impounded by stone rubble (pic 11) resultant from a former bridge having been demolished and left in the river. Redistribution of the stones would bring about a lowering of the upstream water level, which would increase water velocity, thus initiating bed scour and promoting sediment transfer. This simple action would increase the river's ability to scour bur reed from the channel and to potentially form ecologically important riverine features such as gravel shoals and riffles. Rearrangement of the stones would also allow the flow energy to be directed further down-channel rather than being dissipated immediately below the bridge.

Pic 10 – The reach is effectively divided in two; the upper reach is still impounded above the Horsebridge but downstream it flows more freely due to the failed overspill weir.

Pic 11 – The reach above the overspill weir still retains the feel of a drain or navigation.

The reach above the bridge contrasted strongly with the reach below. The river downstream of the bridge was narrower at ~4m and had a depth ~0.5m. Most importantly due to the lower water level the river had become more energised with exposed gravels and evidence of sediment transfer and bedload sorting. The presence of low-growing riparian willows had enabled the river to naturally narrow itself, which in turn led to further increased velocity and flow diversity. Sadly, the removal of some of those willows has now compromised the river's ability to restore itself.

A technique favoured by the Wild Trout Trust for delivering instant woody cover at water level is tree-hinging. Trees (large or small) are cut to produce an effect similar to hedge laying. Some species such as willow and hazel respond particularly well. Laying retains a living hinge that secures the cut stem to the tree stump so structural strength is retained. With the tree-top laid at water level, it provides excellent over-head cover, flow deflection and, if beneath the surface, a potential spawning substrate for coarse fish. Unfortunately, many of the trees that would have been suitable for hinging have been removed, and others have been sided-up and crown-lifted reducing the number of side branches that would provide cover at, and below, water level. However, some suitable trees still remain (pic 12).

Pic 12 – A number of single trees have been retained at the toe of bank, these trees could be used for tree-hinging.

The flow rate remained rapid for a length of ~240m with a clean gravel bed, flow diversity and plants of water crowfoot (pic 12). Water crowfoot is important for retaining a head of water, increasing in-channel cover, providing shade, and a spawning substrate for many coarse fish species. The plant is typical of clean swift-flowing rivers. This reach looked particularly suitable for wild brown trout. Trout require habitat diversity for feeding, spawning and nursery areas, in addition to good water quality. Trout will spawn on well-sorted gravels (particularly in the range 15-40mm).

Pic 13 – The river flowed swiftly with a clean gravel and cobble bed exposed.

Disturbing the bed by foot revealed the coarse sediment to be relatively loose yet it contained a high sand content. It is possible that recent FCRM work had mobilised the sand. The river's margins showed (pic 14) there to be a gravel seam which if subject to scour could supply further coarse sediment to the channel. Increasing in-channel sinuosity through the use of flow deflectors would assist the evolution of a sinuous channel, which would be better able to sort its bedload. Fine material (especially sand) could then become deposited in the slower moving margins, thus aiding the development of marginal habitats and sediment entrainment. Furthermore, the creation of some deeper pool habitat (using of flow deflectors) within what it's a relatively shallow run for this fishery could increase angling opportunities, as well as providing resting habitat for pre and post-spawning fish.

Pic 14 – A gravel seam was present just above the waterline, lateral scour could result in this material being supplied to the river which would aid the development of habitats. Note the tree stumps (red circles)

Pic 15 – The collapsed Clifton overspill weir. The head-loss has allowed the river to become energised up to the Horsebridge.

Downstream of the failed Clifton overspill weir the river had returned to what was believed to be the natural channel of the River Ivel. The channel form exhibited far greater bed variation, flow diversity and in-channel sinuosity (pic 16). The sinuous channel was clearly aiding sediment transfer and sorting, as graduation of particle size could be seen in the margins.

Pic 16 – Following the weir, the river has returned to flow once again in its natural channel. This short length of river exhibited many natural features which would be attractive to brown trout and gravel spawning coarse fish (depth variation, flow diversity, undercut banks, accumulation of graded sediment and mature tree cover).

The EA's FCRM team should be asked to clarify their objectives for the work in this reach. If it was for flood conveyance then the removal of LWM, riparian trees and trailing branches would have a negligible impact given the impounding structures still present. If it was to increase flood attenuation, then re-connecting the river to its floodplain is the ultimate position.

4.2 Longford to Stanford

The start of this reach was immediately downstream of a redundant lock (pic 17). It is important to note that the navigation is no longer operational and as such there is no need for the lock to be present. The lock was causing upstream water levels to be impounded (and thus increasing flood risk to that area) and acts as sediment trap for coarse material. Furthermore, the lock dissipated the river's energy with cascading water centred entirely within it.

There was little scour downstream of the lock. Options for the lock's removal should be explored. If that cannot be achieved then fish passage through a rock ramp should be considered.

The pool downstream of the lock was ~20m wide with no flow diversity (pic 18). It was not possible to assess the depth within this reach. The margins had fine sediment forming mud bars beneath the willow trees of the RB. The bed was covered in fine sand and silt.

Pic 17 – A redundant lock on the navigation. Note the ~0.6m fall of water within it which presents a barrier to the movement of fish.

Pic 18 – The navigation downstream of the lock was wide and slow flowing, but downstream marginal vegetation had narrowed the channel resulting in the evolution of a sinuous pathway (inset).

On emerging from the lock pool, the river had been able to narrow itself due to marginal encroachment (pic 18) and willow roots. Unfortunately, an excavator had been used to remove many willow trees from the margins. This had compromised the stability of many silt bars and it is possible that many will wash-out over the coming months resulting in an impoverished habitat at source, and degraded habitat where the silt settles. It may take many years for the river to evolve the same extent of stable silt bars, marginal growth and riparian trees to that which were removed.

A significant dog slide was seen, and it had caused severe bank erosion. It was a significant source of fine sediment input (pic 19).

Pic 19 – An extensive dog slide resulted in fine sediment smothering the gravel bed (inset).

Moving downstream, the impact of the recent EA FCRM work was more significant than in the Shefford to Clifton overspill weir reach, most probably due to the presence of the excavator. Larger tree roots had been removed (pic 21) and the chipping piles were larger (pic 24). The removal of marginal vegetation had resulted in the widening of the channel. What is completely pointless about the *pulling back* of the marginal vegetation, is that overall it offers no gain to flood conveyance. The deposited material is still within the channel's cross-sectional area (pics 22 & 23) so is effectively reducing the ability of the channel to convey flood water. For flood protection and conveyance all removed material should be moved from the channel and placed where it is not at risk from being washed back in, nor placed where it may impede floodplain flow. That has not happened in this instance.

Pic 20 – The removal of willow trees will have mobilised fine sediment and eliminated their ability to suppress excessive marginal vegetation.

Pic 21 – An extensive chipping pile left on the bank-top and side.


Pic 22 – Stands of marginal reedmace had been pulled back and placed on the existing berm.


Pic 23 – Marginal vegetation has been pulled from the water's edge and placed upon the berm (red circles).

Prior to the river's realignment to create the navigation a mill existed near to Stanford. The mill channel is now heavily silted (pic 24) and shaded. It is barely visible where it meets with the navigation (pic 25). The mill channel could be opened-up and desilted to provide a substantial backwater to benefit juvenile fish.

Pic 24 – The former mill channel above the navigation. It could be desilted to create a backwater habitat.

Pic 25 – The removal of willow that would have provided marginal cover for juvenile fish. This location (red arrow) is the point where the former mill channel once entered the navigation.

The need for the recent FCRM work is questionable given the rural location and lack of immediate flood risk to property. Downstream are a number of towns including St Neots which is known to be at flood risk. It is the author's view that this work will do little to alleviate flood risk in the vicinity of the works given that existing structures (a sluice, a weir and a lock) retain water levels, and that by removing obstructions (such as trailing branches and fallen trees) the flood risk has simply been passed on to downstream communities (if the work actually results in increasing the downstream movement of water).

Pic 26 – Riparian willows have been completely cut back.

Pic 27 – LWM had been removed from the channel. Much of this material was completely saturated and is likely to have been in the river for many years.

However, it is acknowledged that in an artificial waterbody like the Ivel Navigation the natural processes of vegetation growth and siltation undo the very work that was required to cut the navigation. If an artificial system is to be maintained in an open-state then it will require human intervention, and a balance has to be struck. A more sustainable approach would have been for the EA to work with natural processes. Refer to:
https://www.gov.uk/government/publications/working-with-natural-processes-to-reduce-flood-risk
This could have seen further weir removal and habitat enhancement undertaken to increase in-channel sinuosity, sediment transfer and deposition, and natural bed scour.

Again, the EA's FCRM team should be asked to clarify their objectives for the work in this reach. If it was for flood conveyance, then the narrow disused lock was the most significant restriction to flow. If it was to increase flood attenuation, then the pulling back of material that was previously below water and placing it above the waterline within the channel has actually reduced the available attenuation volume.

During the visit an extensive length of spoil deposition was noted on the RB downstream of the Clifton overspill weir (not on Shefford and District Angling Association controlled land). The matter has been reported to the EA via its incident line. The reduction of floodplain capacity and alteration of floodplain flow poses a much greater flood risk than marginal vegetation, trailing branches and some large woody material Photographs of the deposited spoil are presented in the appendix.

5.0 Recommendations

Wherever possible, the first approach should be to remove sluices, weirs and locks that no longer serve a water control purpose. Removal of water control structures will reinstate natural river processes, and if flow conveyance is the primarily concern for the EA's FCRM team then this should be a priority for consideration.

The large grass cutting pile should be located away from the river (such as on the other side of the field).

A number of silted back-channels were found which could be desilted to provide refuge areas for fish during high flow, and warmer habitats for juvenile coarse fish to grow within.

Removal (or re-adjustment) of the stones beneath the Horsebridge would reduce upstream water levels initiating bed scour, which in turn would control the growth of bur reed.

Some stands of willow must be allowed to re-grow in order to control excessive emergent vegetation and to aid water cooling. A tree management plan should be produced by SDAA, and agreed by the EA, to ensure that important trees are retained in future, and so that a tree-tunnel is not grown to the detriment of marginal plants.

Large woody material should be returned to the channel, particularly downstream of the Horsebridge, to enhance in-river habitat. The WTT could work with SDAA to conceive a project proposal. Tree-hinging would be a simple first approach to managing the existing tree stock whilst providing cover at water level. The introduction of simple flow deflectors to initiate scour and sediment transfer would be beneficial, especially if combined with brushwood ledge creation to encourage the retention of fine sediment within the margins.

The dog slides could be reinforced with logs to create a stepped profile and the bank-toe topped with cobble/gravel mix to reduce the down-washing of fine sediment. The largest slide could be re-shaped to create a bay-like habitat to aid the growth of coarse fish fry.

All chipping piles should be relocated away from the bank top.

All loose woody material staked on the bank top should be wired down as habitat piles without risk of it re-entering the river.

The defunct lock near Stanford should be removed or be subject to a rock ramp fish pass.

6.0 Making it Happen

It is a legal requirement that (most) works to 'Main River' sites like the Ivel Navigation require written EA consent prior to their implementation, either in-channel or within 8 metres of the bank.

The Wild Trout Trust can provide further assistance in the following ways:

- Assisting with the preparation and submission of an Environmental Permit to the EA (formerly referred to as Land Drainage or Flood Defence

consents), or by identify appropriate exemptions to take forward small-scale habitat improvement works.
- Running a training /demonstration day to demonstrate the techniques described in this proposal.

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 material, 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 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

7.0 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.

8.0 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. Accordingly, 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 comments made in this report.

9.0 Appendix

Pic 28 – Spoil deposited on the flood plain reduces water storage.

Pic 29 – The length of deposited spoil extended for over 100m.

Pic 30 – The burying of tree stems by deposited spoil is unacceptable and is unlikely to have been consented by the appropriate authority.