WILD TROUT TRUST

Advisory Visit

River Thet, Manor Farm, Attleborough, Norfolk

March 2024

Rob Mungovan rmungovan@wildtrout.org tel. 07876 257058

Key Issues

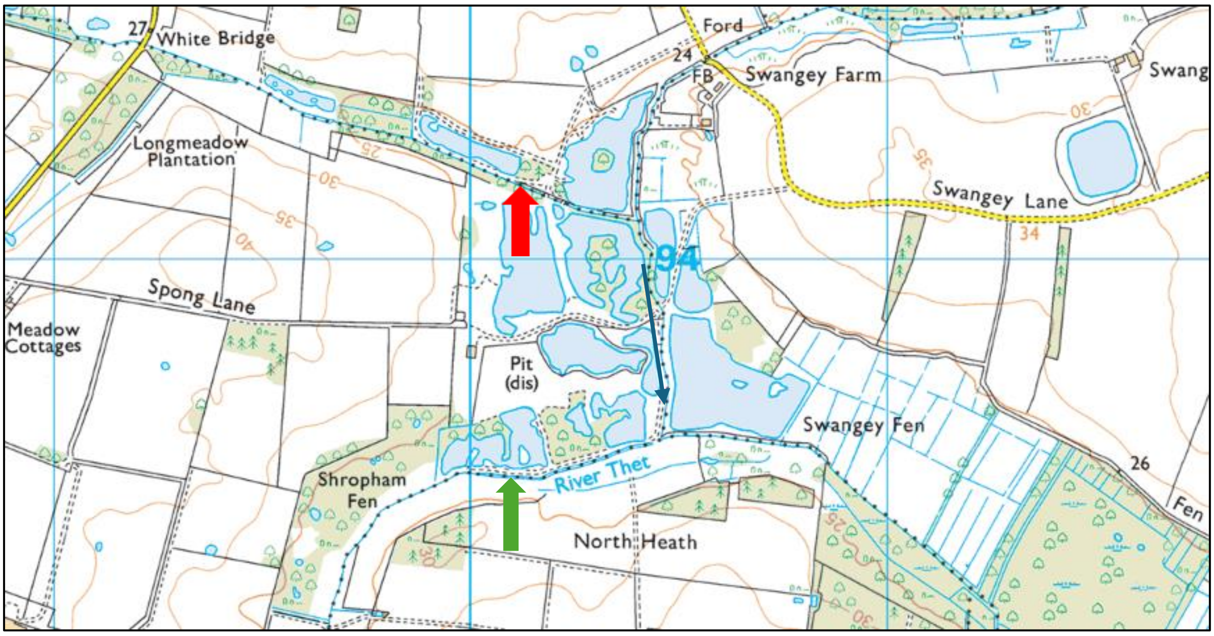
- The river is largely disconnected from its floodplain and flows within an incised and straightened channel following historic realignment.
- The river has been maintained in its straightened channel which has adversely affected its sediment storage and transport capacity.
- The river has an over-supply of fine sediment, mainly sand, which it is not able to transport effectively through the reach. Consequently, sand is degrading the gravel bed.
- Only a new phase of river realignment, in combination with riverbed raising, will create a functioning river once again. This objective should be the high-level aspiration for Oxygen Conservation. But it will need adjacent landowners to support the project objectives from its outset.
- The lakes present a constraint to river realignment, but they should not be seen as complete obstructions as they could be partially modified to allow a realigned river to cut through them.
- Much of the river has poor habitat for brown trout. Habitat enhancement measures could be deployed to enhance the river's current low-flow channel characteristics and lack of sinuosity, but they will not address the underlying problem of an unnatural river form as a direct result of historic realignment.

1.0 Introduction

This report is the output of a site visit undertaken by Rob Mungovan of the Wild Trout Trust on 21st March 2024 to the River Thet at Manor Farm near Attleborough. The visit was requested by Oxygen Conservation, who were present for the visit. The purpose of the visit was to advise on the suitability of the river for wild brown trout, and to consider what measures to bring forward for river restoration. Comments in this report are based on observations on the day.

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

Specific locations are identified using decimal latitude and longitude (e.g. 53.054667, -1.9038695), which can be pasted straight into Google Maps to identify locations.



Map 1 – The River Thet near Attleborough. Red arrow is upper limit, green arrow is downstream limit of visit, © Ordnance Survey.

2.0 Catchment Overview

The River Thet rises in Norfolk. It has its main sources at Deopham Green and Rockland All Saints in the Breckland landscape, before flowing in a south westerly direction to become the main tributary of the Little Ouse at Thetford. Near to the visit location, many small tributaries rise from the calcareous valley fen at Swangey Fen, including the Buckenham Stream (Buckenham-Stream-Advisory-Visit-Norfolk_Wild-Trout-Trust_March-2022.pdf (dulavx8rjuiml.cloudfront.net)). Carr woodland is the dominant habitat of the floodplain, with small wet meadows and spoil deposits found between naturalised gravel pits. The underlying geology is a mix of clay/loam over chalk with the Breckland influence of sand and gravel strong in the landscape.

Table 1 summarises the Water Framework Directive (WFD) data for the Thet. The overall classification is 'moderate' ecological status. Parameters that make up the classification include 'moderate' for macrophytes and phytobenthos (plants and algae) and 'high' for invertebrates. Strangely, there does not appear to have been an assessment for fish. Habitat improvement that raises the 'moderate' status for macrophytes to 'good' could help to increase the overall ecological status of the river. With the river clearly having been realigned, the assignment of "supports good" for morphology at this location is questionable.

	Waterbody details
River	River Thet
WFD Waterbody Name	Thet (upstream of Swangey Fen)
Waterbody ID	GB105033047830
Management Catchment	Cam and Ely Ouse
River Basin District	Anglian
Current Ecological Quality	**Moderate** ecological status
U/S Grid Ref inspected	TM 00128 94175
D/S Grid Ref inspected	TM 00093 93480
Length of river inspected	1.3km

Table 1 Data from Thet (US Swangey Fen) | Catchment Data Explorer | Catchment Data Explorer

Classification Item	2019	2022
Ecological	Moderate	Moderate
Biological quality elements	Moderate	Moderate
Invertebrates	High	High
Macrophytes and Phytobenthos Combined	Moderate	Moderate
Macrophytes Sub Element	Moderate	Moderate
Physico-chemical quality elements	Moderate	Moderate
Acid Neutralising Capacity	High	High
Ammonia (Phys-Chem)	High	High
Biochemical Oxygen Demand (BOD)		High
Dissolved oxygen	High	Good
Phosphate	Moderate	Moderate
Temperature	High	High
pH	High	High
Hydromorphological Supporting Elements	Supports good	Supports good
Hydrological Regime	Supports good	Supports good
Morphology	Supports good	Supports good
Specific pollutants	High	High
Copper	High	High
Iron	High	High
Chemical	Fail	Does not require assessment

Table 2 Data from Thet (US Swangey Fen) | Catchment Data Explorer | Catchment Data Explorer

3.0 Habitat Assessment

Oxygen Conservation controls >2km of the Thet as it runs through the gravel pit complex at Swangey Fen. Whilst they control both banks through most of their site, they do not control it all, thus any plans for river restoration must be discussed with adjacent landowners to ensure they are on board from the outset.

Otter spraints were found at 52.504973, 0.952105. Otters are known to be widespread throughout the catchment. Otters and water voles, as well as their habitat, receive full legal protection under the Wildlife and Countryside Act, 1981. Any work that could adversely affect their habitat must be fully assessed.

The visit started at a point where the river is realigned between two former gravel pits, consequently the river's course is straight as it flows in an easterly direction. The river is ~4m wide with a depth ~0.3m (pic 1). The flow was swift with a gravel bed exposed. In the lee of any obstruction sand and fine sediment was present. The gravel, although abundant, was generally poorly sorted, suggesting that it was not very mobile. Importantly, brown trout need clean and graded gravel (particularly in the size range 10-40mm) to spawn upon (illustration 1). With their eggs remaining in the gravel for up to 100 days before the fry emerge, trout eggs are very susceptible to mortality from siltation or physical disturbance.

Pic 1 – The Thet has some areas of swift flow over a gravel bed, but an abundance of fine sediment reduces its potential for productive trout spawning.

Encouragingly, the river contained natural logs jams (pics 2 & 3) and woody material. Accumulations of large woody material provide some cover and encourage silt to drop. The occurrence of fallen sticks, branches and tree limbs, together with the organic matter that they collect, may look unsightly to some but the presence of such material is of great importance within rivers. Collectively such material is referred to as Large Woody Material (LWM). LWM leads to an increase in the surface area on to which a biofilm (algae, bacteria and other microbes) can grow. In turn, the biofilm may become a source of food for invertebrates, increasing the total biomass that a river can support. LWM also provides underwater cover, offering protection for fish against otters or fish-eating birds. LWM can also provide natural flow deflection which may locally increase a river's flow velocity assisting cleansing of the gravel bed, but correspondingly slowing it elsewhere around structures. Where LWM presents no flood risk it should be retained, as it improves hydraulic roughness within the channel. Where possible, fallen trees should be retained as they fall. But where there is concern for their position, they may be secured using appropriately secure fixings.

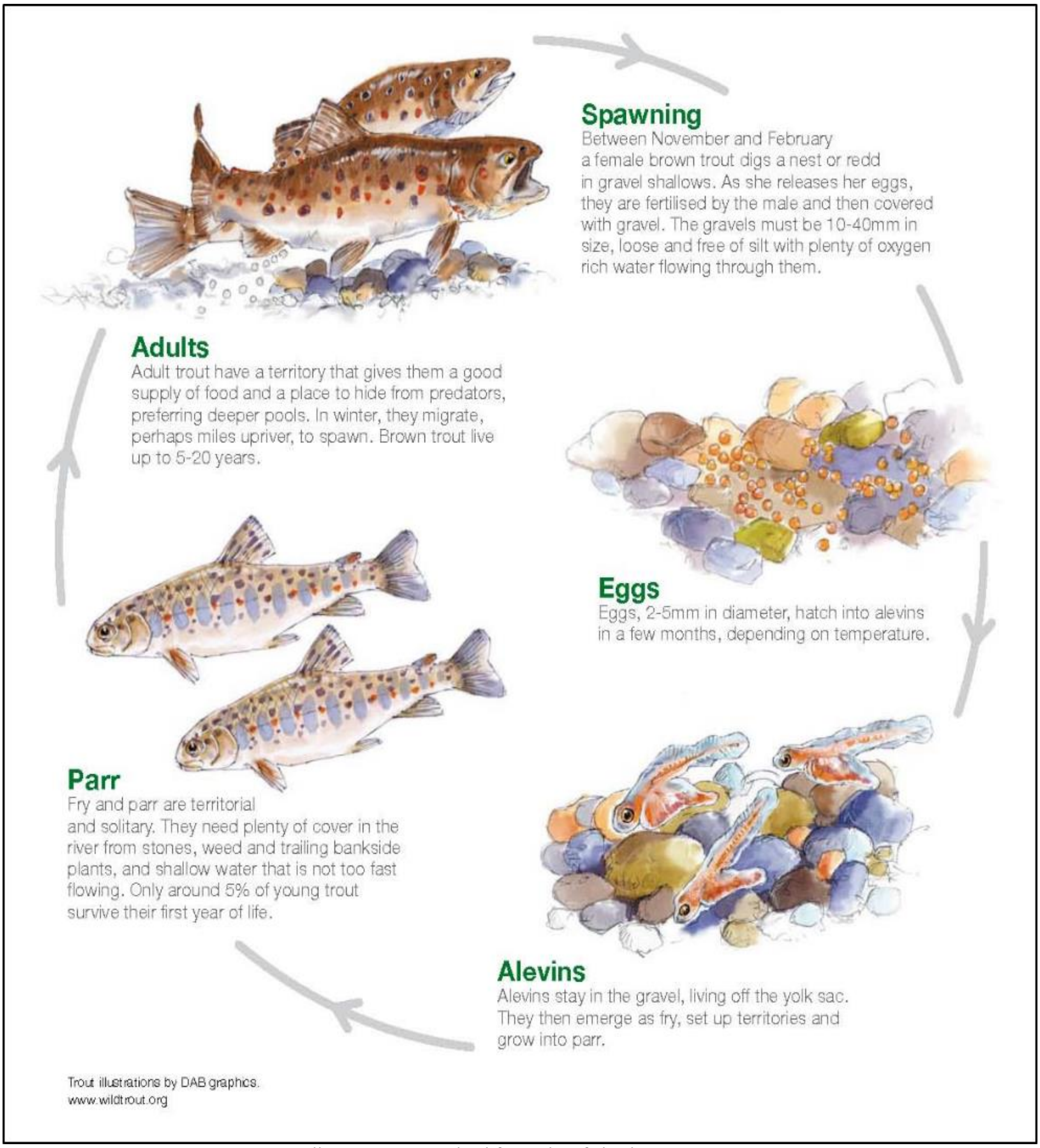


Illustration 1 – The life cycle of the brown trout.

Pic 2 – Natural log jams provide important cover for fish and aquatic invertebrates.

Pic 3 – Natural log jams also enhance flow diversity and may initiate bed scour and sediment storage.

Some of the smaller trees, especially hazel, could be hinge-cut to increase marginal cover (pic 4). Tree-hinging is a technique favoured by the Wild Trout Trust for delivering instant woody cover at, and below, water level. Trees (large or small) are cut to produce an effect similar to hedge laying. 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, increased habitat for aquatic invertebrates and cover for fish against predators.

Pic 4 – Note that limbs (red circles) have been cut from the hazel, presumably to ease the passage of flow, reduce scour and meandering near to the lakes.

There was clear evidence of the river having flowed into and out of at least one lake during recent high-water events (pic 5). The lakes now occupy the space that would have once been the river's floodplain, and it is clear following this winter's exceptionally high flows that the river will connect to its floodplain.

Connection of a river to its floodplain is important as it prevents a rapid flow of water which can push weak-swimming trout fry and aquatic invertebrates downstream. It also allows fine sediment and nutrients to be deposited on land rather than within channel, and can reduce hydraulic forces within a river, thus reducing bank and bed erosion.

The issue of fine sediment within the river channel starts to become a major issue for the Thet at 52.507991, 0.950820 (pic 6). Sand covers the gravel bed, moving downstream in bars with only larger stones protruding. High volumes of sand (and other fine sediment) covering the entire riverbed will reduce the river's diversity by limiting the availability of ecological niches. For example, clean and sorted gravel may be present beneath the sand but it unavailable as a spawning substrate. Similarly, riverbed stones used by stone-clinging caddis and mayfly larvae will also be absent. Fine sand forms a dense, cohesive body making it less likely to be scoured in all but the highest of flows. In addition to the river not being able to lift its fine sediment load and deposit it upon its floodplain, the river is also struggling to transport it through the system due to a lack of flow diversity; the lack of flow diversity is compounded by the river's straightness and incised form. If the river meandered, it would be better able to sort its fine sediment and deposit it on the inside of meanders, and if the channel was not so incised it would be able to deposit its fine load upon adjacent floodplains. That is simply not happening in the River Thet at this site. Past realignment and dredging has changed the river from its natural state, which can transport fine sediment, to one which is an over-capacity, depositional environment which can no longer manage, and balance its fine sediment load.

Pic 5 – Water has entered the lake from the right bank, and has flowed out (blue arrow) with enough force to scour the bank top.

Pic 6 – Sand starts to dominate the riverbed.

At 52.507937, 0.951396 the Thet is forced to take an unnaturally sharp 90-degree turn (pic 7) as it meets another tributary. The channel upstream continues to be dominated by sand, with some deep deposits to the margins but with none high-up the bank. It is thought that when the river is in flood, whilst its channel may fill-up, water is partially backed-up as opposed to running faster, the river's velocity near bed is probably not that high and little sediment is actually lifted and transported. Sediment is likely to be mobilised as the river drops in level. The constant movement and smothering of the bed by fine sediment will be ecologically damaging to the river's aquatic environment, especially it's invertebrate communities which are a crucial component of many food webs.

Pic 7 – The river is forced to take an unnatural 90-degree turn. The unnatural channel alignment is adversely affecting the river's ability to transport fine sediment.

With the river now having turned to flow in a southerly direction, it is still over-burdened by sand. A right bank berm showed recent sand deposits (pic 8), it is doubtful that the feature could have taken any more. If the berm is in full sun, then the deposited sand may become fixed by vegetation growth, which is time may become stable enough to deflect flow, leading to some degree of channel movement. But the natural extent of movement is likely to be very minimal given the strongly rooted (pic 9) shrubs and trees of the left bank.

Mature trees and shrubs provide extensive root systems which not only hold banks firm, but also give important marginal cover and boltholes for fish from predators.

Pic 8 – A large sand deposit with potential to become a vegetated berm.

Pic 9 – Strongly rooted trees and shrubs (red oval) hold the left bank firm making it less likely to move due to lateral scour.

Occasionally there was evidence of active coarse sediment supply (pic 10), but the volume of gravel and stone is far from the quantity that would be required to form new gravel bars and riffles.

Pic 10 – Active coarse sediment supply, but it will not be enough to create new valuable river features.

In places the water level appears to be ~4m below the ground level, the extent of channel incision is very significant. Although remaining largely straight, there are some short reaches where the channel gently meanders (pic 11) and the width increases to ~7m. Correspondingly, there are silt bars on the inside of the meanders with some marginal vegetation. Unfortunately, the vegetation appears to be predominantly bur reed. Bur reed typically grows in slow to medium paced rivers where deep silt and sand dominate. Bur reed can completely dominate open water habitats by late July, giving the impression of a choked channel. Once river managers perceive a choked channel, the thought is that something must be done to return the river to its earlier capacity and so physical removal of the plant and substrates may be called for (by dredging or heavy weed cutting) but this simply repeats the cycle of over-deepening the channel, fine sediment accumulation and colonisation by bur reed. A more considered approach is to remove the physical conditions that the plant requires for growth. That can be done by restoring the riverbed to one which is shallower, prevents the accumulation of fine sediment, and creates faster water velocities (which can prevent reeds from rooting). But in the case of the Thet, it is not just riverbed restoration that is required, but also channel realignment. Only a combination of riverbed restoration and channel realignment will achieve effective river restoration at this site.

Pic 11 – The channel has some slight meandering, just enough to allow silt to be deposited in margins.

Given the tree-lined nature of the reach, it was surprising not to find fallen trees within the channel. There was evidence of past tree management and of trees having been removed from the water. Trees within rivers are a crucial component of the riverine environment. Fallen trees only need to be moved if they are causing an unacceptable flood risk or lead to habitat degradation (as can result in an unnatural realigned channel). In the setting of Swangey Fen there did not appear to be any flood risk to property and fallen trees could provide additional cover at water level. Importantly, fallen trees will initiate bed scour by retaining a head of water behind them, as water is forced down against the bed, coarse sediment may be scoured out leading to the formation of new riffles and gravel bars.

Oxygen Conservation should establish if the river is subject to any (annual?) maintenance regime and by whom. It might be possible to adjust the regime for the greater benefit of the river.

Pic 12 – Overall, the river lacks fallen trees within it. Trees have been removed from the river in the past (inset).

At 52.506024, 0.952194 there are the remnants of a former bridge. Beneath where the bridge deck once stood, the riverbed appeared to be shallower, indicative of a more natural bed depth (but remembering that the whole channel is considered artificial). The bridge parapets are still present, causing a channel restriction and degradation of the marginal habitat (pic 13).

Pic 13 – The retention of defunct bridge parapets results in channel degradation and a restriction to flow.

At 52.505026, 0.952150 the river is starting to be lost beneath tree canopies merging from both banks. This is allowing brambles to cover the river. Whilst shade from trees is important, with brambles engulfing the river corridor excessive shade will result. That will prevent the growth of marginal plants leading to a decline in the ecological richness of the river, its flow diversity and its ability to fix mobile sediment. Pics 14 and 15 show the process of tree and bramble dominance. Given that most trees on the true right bank appear no older than 10 years, it’s a change that has probably arisen from the cessation of flail cutting which probably maintained the right bank for ease of access.

Pic 14 – Recently established ash trees have colonised the bank, bramble (and ivy with its leaves still visible) are growing out over the river using the trees for support.

Pic 15 – A recently installed fence has protected riparian trees, but they now threaten to reduce the river's ecological diversity through dense shade, which is further compounded as bramble grows up, and over, the low trees.

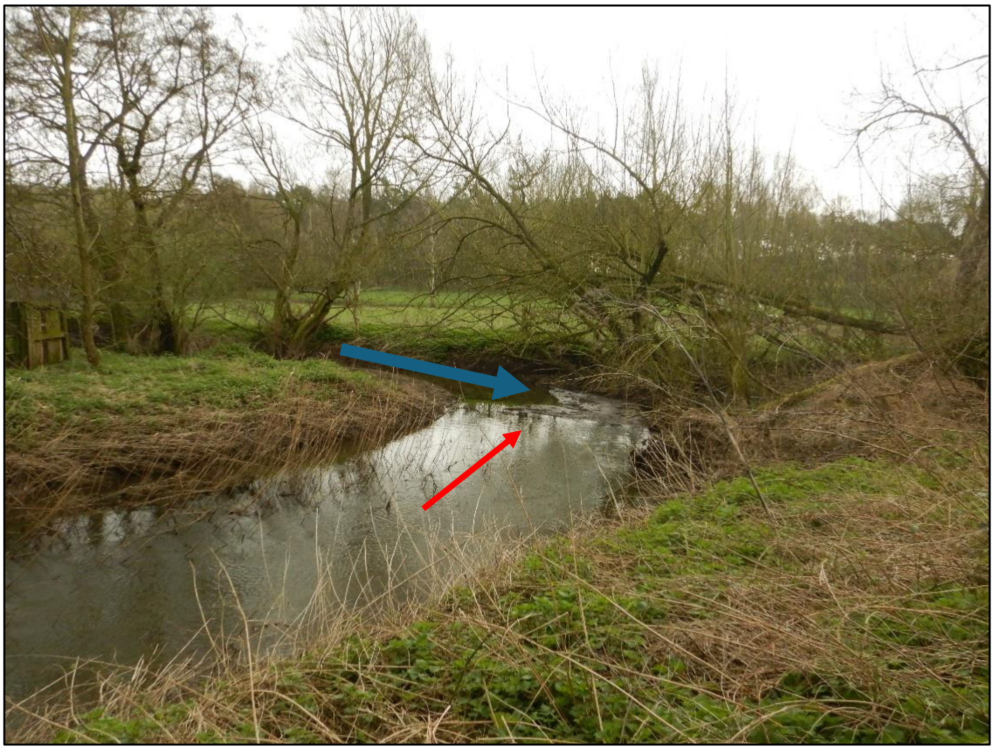
The river continued to flow in an unnaturally straight channel (pic 16) and its velocity appeared to reduce. There were occasional accumulations of woody material resulting from recent high water, but none of the accumulations were pinching the channel enough to initiate bed scour.

Pic 16 – Accumulations of woody material are not enough to initiate bed scour but still provide important cover.

Burrows in the bank were noticed at 52.503652, 0.952194. The shape and density of them suggests signal crayfish rather than water vole (pic 17). With signal crayfish present, banks will become less stable, especially with less marginal vegetation because of shade. Bank instability will result in further fine sediment input to the river, leading to further ecological damage.

Pic 17 – Note the lack of marginal vegetation and signal crayfish burrows.

At the confluence of the Buckenham Stream the river took another 90-degree turn to head in a westerly direction (pic 18). The upper reaches of the Buckenham Stream were assessed as having good trout potential in 2021, but no fish were seen during the visit. The Thet after the confluence was notably stronger in flow and had a greater width ~8m. The river only needs to rise ~1.2m before over-topping the left bank (land outside of Oxygen Conservation's control). It is clear that flooding of left bank's low-lying land is the consequence of a flood pathway connecting to a paleochannel (pic 19).



Pic 18 – Note how the flow of the Buckenham Stream (large blue arrow) appears stronger than the Thet (small red arrow), suggesting that the Thet's flow could become backed-up when flooding occurs.

Pic 19 – Flooding of left bank's low-lying land is the consequence of a flood pathway connecting to a paleochannel.

In contrast to upstream reaches, the river from this point has many willows growing within it. As the trees fall, they will cause the river to back-up, scour and re-meander, leading to significant (and importantly *unknown*) channel and landscape changes. Much good will come of the process given the constrained current setting of the Thet, and some less desirable action may also result (such as unforeseen river connection(s) to the lake(s)). Whatever course of action is allowed to run, it will take many years for channel stability to arise given:

1. The high volume of mobile sediment.
2. The existing straight channel alignment.
3. The low gradient of the landscape.

Means of addressing poor channel alignment are discussed in the Recommendations.

Pic 20 – Willows are now growing from within the river, contrasting to the upper reach. As the trees fall, they will create flow diversity resulting in different flow pathways across the floodplain.

At 52.502493, 0.946609 a significant deer crossing point is present. The input of silt from the damaged banks is significant (pic 21), creating another source of fine sediment input to the river. The paleochannel started to diminish at this point but it was still apparent that a notable volume of water had moved across land to the south, creating a wide meander in the landscape until higher ground would have stopped the river's historic path, forcing it back nearer to the current channel.

Also of significance at this point is the force of water that has entered one of the lakes (pic 21), demonstrating again that the lakes are within the active floodplain and will become inundated, possibly more frequently due to climate changes and more intense storm events.

Pic 20 – Note the paleochannel still present in the landscape (blue arrow). If the river was connected to it, it could provide more space for better channel alignment and the chance for natural river processes to shape the river and its valley once again. In the foreground is bank damage caused by deer, a similar extent of erosion is present on the near bank.

Pic 21 – As the river has come out-of-bank it has flowed into an adjacent lake, creating a scour path. If floods become more frequent and greater in magnitude the river is more likely to flow into the lakes, and in time the lakes may actually become one with the river leading to a large swamp environment.

The river through Swangey Fen is not where it naturally once flowed. Due to the river having been realigned, a maintenance burden has been created (as the river would naturally strive to set itself back to its natural alignment over time). If restoration of the river is Oxygen Conservation's aspiration, then careful consideration of what is now achievable needs to be done. In its present alignment the river cannot be effectively restored.

4.0 Recommendations

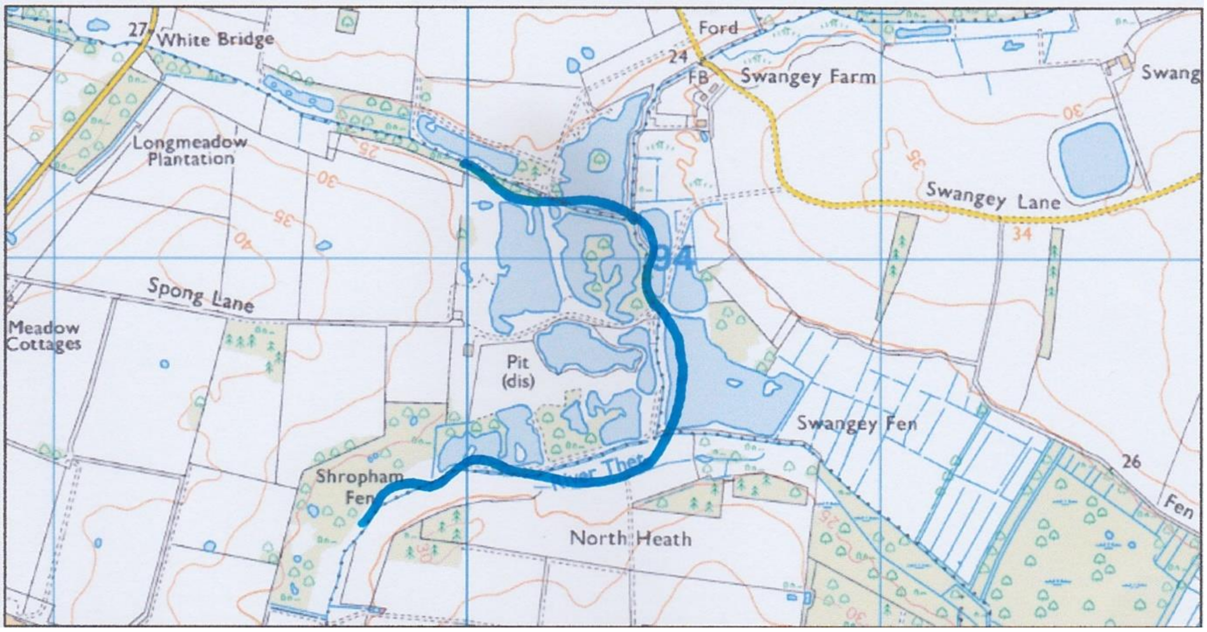
To consider what restoration options may be possible the next phase of site investigation requires the input of a geomorphologist. Riverbed levels have been dug down below the level of the lakes, so to bring about a new meandering planform, bed raising will be required and it will be necessary to cut into some parts of the lakes.

The approach of simply meandering the river through connected lakes is not favoured as it will result in a large swamp habitat, with fine sediment ultimately causing the same impact as if no action was taken and the river were allowed to randomly connect to a lake(s) as time progressed. Further the lakes are reported to present valuable specimen coarse angling lakes, apparently containing catfish which should not be allowed to enter the river.

A geomorphologist should establish the total gradient through the site, and should then look for the river's natural meander waveform, the expected bed width and depth. Once those guiding parameters are established, they can be plotted on to maps, taking account of the site's topography, and an idealised channel alignment may start to emerge.

The geomorphologist should also study past maps (back to Enclosure of the 1800's) to establish the river's past alignment. If that can be established, then a pathway to follow through the current lake-dominated landscape may be revealed. The geomorphologist should be able to make some crude assessment of the volume of fill material that would be required. The volume may be very large and potentially prohibitive, but it should be explored from the outset.

Cutting into lakes will clearly require their (partial?) dewatering, and it is quite possible that some cut areas of lakes may require land re-forming to allow a new river course to be created through them. An indicative channel has been added to map 2 below. The current location of lakes should not hinder the proposal of the best and most natural realignment of the river. Landowner negotiations will have to address that, creating the optimum conditions to enable the river to function properly should be the high-level aspiration for Oxygen Conservation at this stage.



Map 2 – An indicative new route for the River Thet through the site.

Future changes to farm subsidies such as the Government's Environmental Land Management scheme (ELMs) and [Sustainable Farming Incentive - Farming for the future] (which includes payments up to £1242/ha to connect river and floodplain habitats) may influence how riverside land is used and Oxygen Conservation may wish to explore it if they control any adjacent farmland. Farm subsidies may also be a useful lever for attracting the input of neighbouring landowners.

If channel realignment cannot be achieved, then measures to increase flow diversity and sediment transport need to be installed. They may include:

- Tree-hinging: would be a simple approach to managing some of the tree stock whilst providing cover at water level (pic 22).


Pic 22 – An example of tree hinging increasing cover at, and below, water level (River Nadder).

- Tree felling into the river: this sees trees dropped to mimic natural treefall (pic 23). The felled trees create cover, flow deflection and bed scour. Due to the large timbers involved the results can be long-lasting and able to withstand flood conditions.

Pic 23 – Tree felling into the River Mimram has resulted in localised areas of bed scour as water hits the timbers and is pushed down. Note the growth of water crowfoot downstream of the area of turbulence.

- Fixed woody material / brash ledges (pics 24 & 25): these features can be created following tree works. A brash ledge provides complex cover at, and below, water level. Brash from tree thinning is pinned against the bank in alternating directions or increasing stem thickness, and is securely wired down or held with battens. The brash lattice provides niches for invertebrates and small fish, aids silt entrainment and provides a rooting substrate for plants to establish. In time (~3yrs) the brash will become a vegetated berm if exposed to full sunlight. If small tree-tops are available they can be fixed to the riverbed and margins to create an instant ledge-like feature, which will be more natural in appearance and performance.

Pic 24 - a low-level brash ledge created following tree thinning. Structures like these can be particularly effective for enhancing low-flow rivers and for establishing marginal plants (River Misbourne).

Pic 25 – fixing of LWM in margins for cover, sediment accretion and flow deflection. The complex cover provides excellent protection for trout fry (River Granta, Babraham).

- Flow deflectors (pic 26): these features can be used to increase flow diversity and bed scour. They can be simple log deflectors or tethered tree stems. The complex flow that arises creates depth variation, cover and aids sediment sorting. Flow deflectors should not impound the reach above them. Their spacing will be governed by bed gradient, depth and flow.

Pic 26 - A flow deflector used to focus flow and scour beneath a tree hinge-cut into the margins, providing excellent cover (River Mimram).

Where LWM presents no flood risk it should be retained in-river to create habitat and flow diversity. Where possible, branches, tree limbs and even fallen trees should be secured in the river margins and not removed.

The river has clearly been over-deepened and is overburdened by fine sediment. Channel restoration could be achieved by an ambitious scheme of bed raising. This would see large volumes of gravel placed in-river to raise the bed level to an appropriate level. That level could be determined by a geomorphologist looking for landscape clues (such as undredged bridge footings) and by using computer modelling. WTT recently advised Anglian Water on a large-scale riverbed restoration project on the River Gwash (pic 27), which saw ~2000T of stone used over 500m to rebuild the river.

Some examples of suitable habitat improvement works are presented in the following pictures.

Pic 27 – Large-scale bed raising on the River Gwash delivered by Anglian Water as part of their commitment to environmental improvement under the Water Industry National Environment Programme (WINEP).

Pic 28 – Bank re-grading to create a two-stage channel along the Granta at Babraham Research Campus. The engineered low spot allows the river to flood out into an area of woodland.

Pic 29 – placed gravel to form a riffle (River Welland).

5.0 Making it Happen

It is a legal requirement that works to a Main River require an Environmental Permit from the EA.

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

- Walking the river to undertake project scoping, followed by the production of a Project Proposal report.
- Assisting with the preparation and submission of an Environmental Permit, or by identifying appropriate exemptions to take forward small-scale habitat improvement works.
- Running training days to demonstrate the techniques described in this report.

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/shop/products/rivers-working-for-wild-trout-dvd 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

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 WWT via Christina Bryant @ office@wildtrout.org.

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

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 may be required before commencing work on site. These are not limited to landowner permissions but may also involve regulatory authorities such as the EA, lead local flood authority and any other relevant bodies (e.g. Natural England and Forestry Commission) or stakeholders. Alongside permissions, risk assessment and adhering to health and safety legislation and guidance is also an essential component of any interventions or activities in and around your river.