



Gatwick Stream – Riverside Garden Park, Horley



An Advisory Visit by the Wild Trout Trust – January 2014

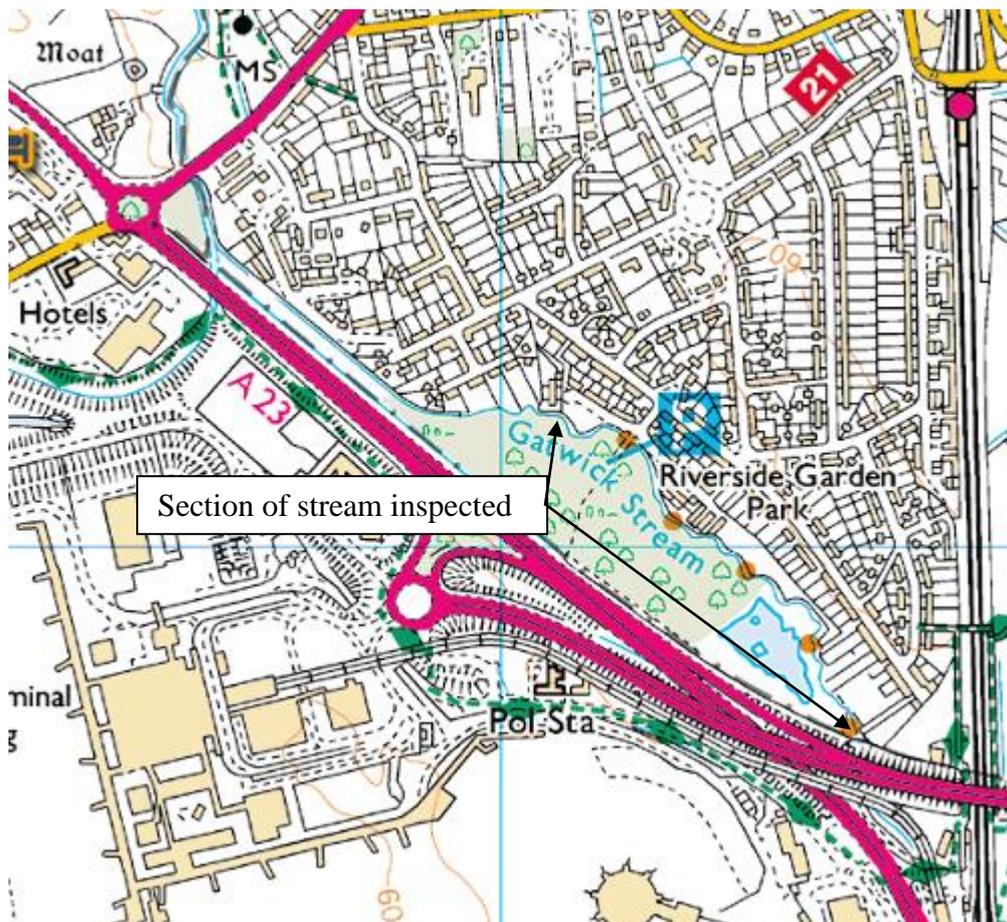
1. Introduction

This report is the output of a Wild Trout Trust visit to the Gatwick Stream in Horley, West Sussex.

The Visit was made following conversations with Fran Southgate from the Sussex Wildlife Trust (SWT) and Kevin Lerwill from the Gatwick Green Space Partnership, which is also part of the SWT. Kevin was leading a group of volunteers undertaking hedge laying and scrub clearance on-site and the opportunity was taken to meet and discuss options for the Gatwick Stream.

Comments in this report are based on observations on the day of the visit and discussions with Kevin Lerwill and Paul Capper from the Horley Piscatorial Society. The river was in semi-spate conditions during the visit, making any evaluation of river bed gravels and spawning opportunities for flow loving fish species impossible.

Throughout the report, normal convention is followed with respect to bank identification, i.e. banks are designated Left Bank (LB) or Right Bank (RB) whilst looking downstream.



Section inspected

2. Catchment overview

The Gatwick Stream is headwater tributary of the River Mole. The stream is heavily impacted by the long culvert system which takes the stream beneath the South Terminal and railway station at Gatwick Airport. The stream also receives effluent from the waste water treatment plant at Tinsley Green, as well as draining the extensive network of local roads and urban conurbation lying to the east of the Airport.

The Gatwick Stream is reputed to support a small wild brown trout (*Salmo trutta*) population as well as eels (*Anguilla Anguilla*) and a mixed coarse fish community.

3. Habitat assessment and project opportunities

The 1km reach of the Gatwick Stream bordering the Riverside Garden Park runs through a short section of natural meandering channel. Either side of the Park section, the stream has been heavily modified, with the short downstream having been straightened, presumably to accommodate the A23 dual carriageway. The upstream section is fragmented by a flow gauging weir and then buried in a culvert flowing beneath the Gatwick South Terminal.

From what could be seen, the stream appears to support a range of in-channel habitat, with pool, glide and shallow riffle features. In-channel maintenance work has obviously been quite relaxed and there were many examples of good habitat being supported by fallen and semi-fallen trees, promoting valuable river bed and bank scour, as well as providing a habitat for invertebrates and cover for fish.

Several potential issues were observed which may give rise for concern.

1. A significant issue is the proximity of the footpath running adjacent to the LB in several locations. The channel is deeply incised, comparatively high and steep. In several locations the bank is actively eroding (photo 1 and 2) and without intervention the footpath is likely to be severely damaged.

Several options are available. Measures to slow down the high energy, erosive flow can be undertaken using simple techniques using materials won from riverside trees. For the site depicted in photo 1 a stub flow deflector made from a tree trunk or thick branch section could be keyed into the bank and configured to kick the flow away from the margin and towards the centre of the channel. The bare eroded bank faces at both sites can be protected by installing a brushwood mattress against the face to flow down water velocity and trap sediment (example depicted in photo 4). Ideally there should also be a managed retreated and the formal path should be either moved back, or narrowed to make space for defensive planting between the path and the top of the bank.

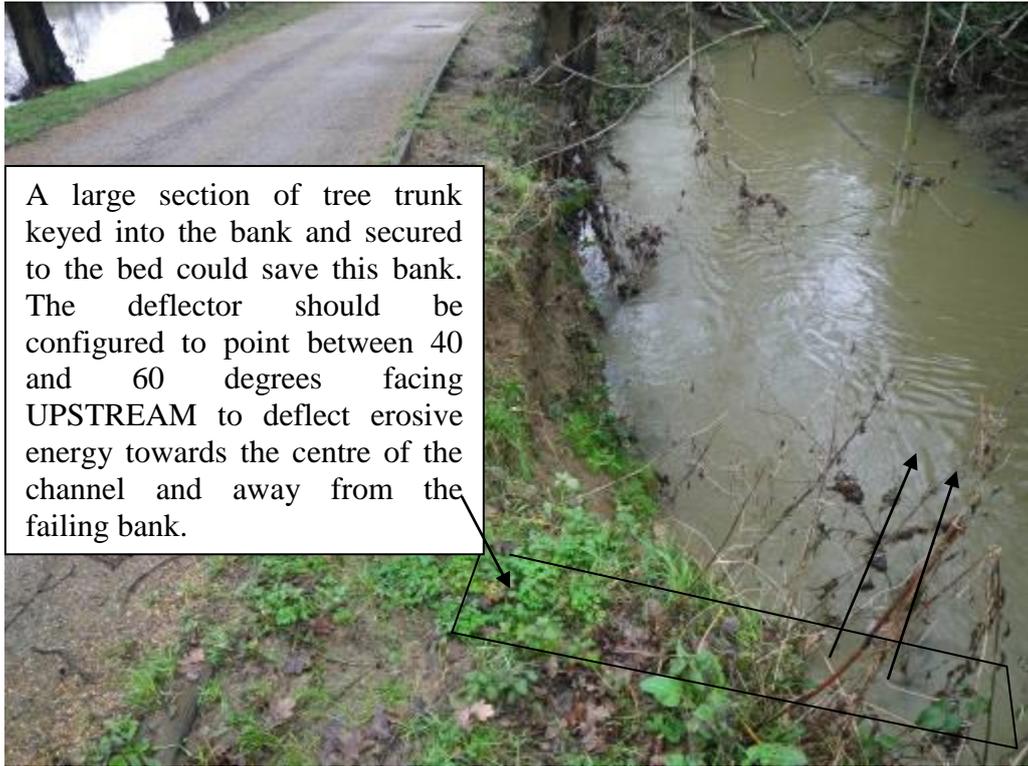


Photo 1. Steep bank on the outside of the bend will lead to bank failure and damage to the footpath.



Photo 2 Another area where the path is in danger. Unfortunately the shape of the alders is forcing water into the bank under high flow conditions.



Photo 3. View from upstream looking down highlights the angle of the left hand trunk promoting the bank erosion.

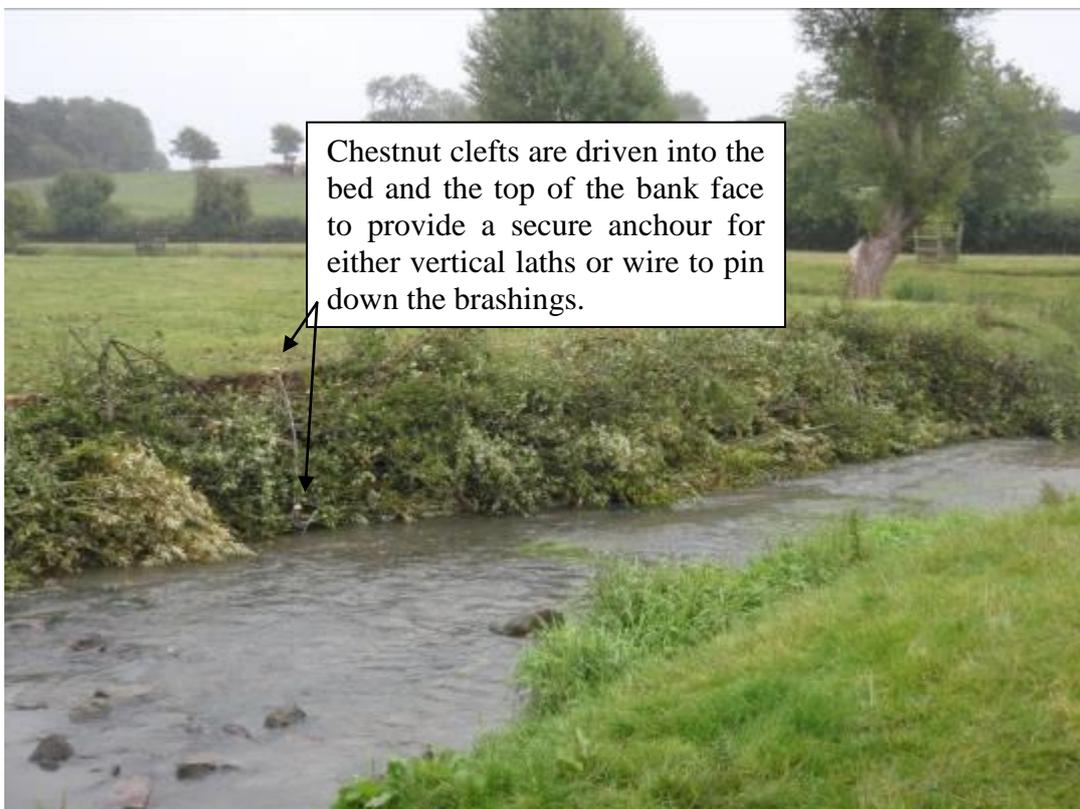


Photo 4. A brushwood mattress packed against an eroded bank face on the river Great Ouse

Currently the channel is quite heavily shaded. Some tree work would be desirable to provide a 50:50 dappled light and shade regime. Retaining low, overhanging cover is important, particularly over the outside of bends and over deeper pool habitat. There were some undesirable non native laurel or rhododendron trees which were blocking out all light and ideally they should be removed (photo 5).



Photo 5. Laurel trees completely shading the channel should be removed.

Several house gardens back onto the Gatwick stream from the RB. The treatment of the river bank varied considerably, with some garden bottoms being sensitively managed with others less so. A campaign to raise awareness about the flood defence and ecological value of the river bank would be worthwhile.

4. Conclusions

This section of Gatwick stream provides a short but potentially extremely valuable wildlife corridor and fishery. A follow up visit to examine the river bed under normal flow conditions is recommended.

There was some discussion regarding an impounding weir structure further downstream which has been recently lowered. It was suggested that this might have adversely impacted on the Gatwick Stream fish community. This would seem to be a very unlikely scenario and although it is possible the lowering of an impoundment downstream has resulted in the park section running lower and

faster, this should have resulted in improved conditions for flow loving fish species such as dace, chub, gudgeon, bullhead and possibly trout.

With the an active local group prepared to undertake work, it is possible to organise a River Habitat Workshop, where the WTT could potentially partner the Gatwick Green Space group. Together we could provide training, tools and materials necessary to undertake some in-channel improvements and provide improved understanding of the techniques available that can enhance both riparian and in-channel habitat.

5. Recommendations

- Consider pegging in brushwood against the eroding bank face adjacent to the footpath.
- Coppice out any tree trunk which exacerbates bank erosion.
- Install a “tree trunk” stub flow deflector, keyed into the bank and extending a third of the way across the existing channel width to reduce erosion of the footpath.
- Remove non native trees shading the channel.
- Highlight the importance of sensitive use of the river bank with garden owners adjacent to the RB.
- Coordinate and implement a Practical Habitat Workshop, led by the WTT, where interested groups can be trained with the simple techniques required to maintain and improve in-channel and riparian habitats.
- A training day could also incorporate some simple invertebrate monitoring techniques promoted through the Riverfly Partnership. This is a great technique where local volunteers can monitor water quality performance. More details are available via www.riverflies.org
- Local coppicing of river-side trees to allow in more sunlight on densely shaded sections.
- Pinning LWD into the channel to promote river bed scour and promotion of deeper pool habitat.
- Pinning in brushwood tree material parallel to the bank to provide enhanced in-channel cover for fish and invertebrates.
- designs for stream enhancement can be found in the WTT habitat manuals available via our web site www.wildtrout.org
- **Note.** All work carried out within 8m of the top of the bank on a main river watercourse will require prior written consent from the Environment

Agency. The WTT can assist with project designs and the submission of applications for consent.

Acknowledgement

The WTT would like to thank the Environment Agency for supporting the advisory and practical visit programme.

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