Environment Agency visit to Ashton Keynes - 7th July 2020

Introduction

A visit from the Environment Agency to inspect a section of the river Thames was arranged for the 7th July 2020.

Attendees: Shaun Shackleford – Environment Agency, and three Parish Councillors: Natasha Inzani, Malcolm Carter, Barry Ellison, all from the Flood Risk Management Working Group.

The purpose was to look for obstructions or other issues that could lead to a flooding risk from the river. The stretch of the Thames inspected was from Flood Hatch Copse to Oaklake Bridge ***(map-1).***

Flood Hatch Copse

There is a fixed blind crest sluice here which naturally adjusts the river flow, depending on water levels, and will divert some water over the sluice down the overflow channel towards Swill Brook.

During periods of high rainfall, typically in Winter, the sluice acts to divert a significant amount of river flow away from the village southwards towards Swill Brook. Its condition is generally good, and it appears that some 6x4 inch timbers have been added atop the older wooden barriers. One end of a board appears to be starting to rot, with a little water leaking into the overflow channel.

The general condition of the Thames in this area is not an issue. The low water level at this time of year reveals the silt build up on the edges of the river bank. This is normal due to changes in water flow around small obstructions like rocks, or build-up of weeds like reeds, cresses, briars.

Where large broken branches are in or overhang the river, these should be cleared to avoid debris becoming trapped on them and potentially causing an obstruction. This can happen in the Winter months when reeds and river vegetation die back and are carried away downstream by the river. There were a few such branches noted here.

Approach to Mill House

The section of the Thames towards Mill House was generally clear from obstructions. There were some broken branches both overhanging and in the river, which again should be cleared to prevent an obstruction being formed.

Where there was no tree canopy shading the river, the reeds had grown to cover nearly all of the river width towards the Mill House debris catch grid. Reeds and river vegetation are not

considered to significantly impact any flood risk as they are pushed flat when river levels are high and water flows over them. In Spring and Summer months they provide valuable cover for nesting birds, spawning fish and other wildlife – they are part and parcel of a healthy river.

Reeds and other river vegetation die away in the Winter and are carried downstream, and over this stretch of river will be trapped by the catch grid. It is important that this catch grid should be monitored during Winter months, and kept clear of any build-up of debris.

The river bank at the culvert entrance by Mill House, on the footpath side, appears to be in poor condition and may seep water onto the footpath, or overflow at times of high water levels. Some maintenance work could be carried out here to prevent seepage problems.

A small sluice to the side of the catch grill does not appear to be in use. It is possible that the owner may not want water flowing through the property, and does not control it.

It was recommended that the debris catch grill be removed and replaced with a new custom made catch grill across the culvert entrance, fixed directly to the wall above. This could have a walkway for safe and easy access when debris needs to be removed.

Church Walk stretch through to the High Road

The stretch of river through Church Walk is in good condition. There are signs of a build-up of algae, weeds, and silt. However, this will be clear with increased water flow later in the year.

Some years ago, the Thames continued down Back Street, via the culvert under the High Road from Church Walk. This offshoot is now dry and with a noticeable build-up of silt and earth.

The Church Walk entrance to this culvert appears to be blocked with river dirt, and this could suggest that the culvert under the road may be blocked. If so, it is thought that responsibility for clearing it lies with Wiltshire Highways, who may if requested inspect it with a camera probe.

The condition of the Thames offshoot further down Back Street is unknown, and it was thought likely that some property owners may not have kept their stretch clear. Only an inspection of this offshoot through these properties would clarify this.

Restoration of this offshoot would require considerable cooperation and ongoing work both by Wiltshire Highways and by every householder who has the offshoot at the end of their garden. The difficulties of this, and the likely reluctance of householders to encourage and maintain river flows through their gardens, were discussed.

Given that this offshoot has been dry for a number of years with little impact, the effect was thought to be minimal to the water flow down the river along the High Road and to the flood risk to the village.

High Road stretch

The stretch of the Thames along the High Road from Church Walk to the River House sluice was considered to be in good condition, and nothing problematic was identified.

In this stretch the flow of water is not restricted by the width of the channel, or any vegetation in the river. The flow of the river is governed by the available space under the bridges downstream. As most of the bridges have arches, and in some cases where the channel also narrows, this becomes the throttle space through which the water flows.

In times when the river level is high, the water may not flow quickly enough under a bridge and the river level will rise. Clearing vegetation from the section of river directly upstream of such a bridge would have no effect on overall flow, and would therefore not impact the river level nor mitigate any flood risk.

River House Sluice

The sluice at the River House maintains the water level in the river upstream. It is thought that the sluice was installed here many years ago to divert water up the side channel to service a tannery. Nowadays, the sluice is used to manage river levels: for example kept lowered during Summer to prevent the river drying out, and raised in the Winter to allow free flow of water.

The Environment Agency was satisfied that the Sluice was being operated correctly. They agreed that during Winter months when the river level is high and flowing fast and strong, silt on the riverbed would be moved downstream by the river flow.

If the sluice was lifted during Summer, it was acknowledged that this would lead to the water level in the river being severely reduced, and drained almost dry within days. This would be detrimental to river wildlife, and parishioners living adjacent to the river.

Approach to the Derry Bridge

The approach to the Derry Bridge from Ashton House has an increasing amount of river vegetation, primarily reeds, towards the bridge, giving the impression that the arches under the Derry Bridge may be blocked. Close inspection reveals this is not the case – indeed all the arches of both Garden House/Ashton House bridge and Derry Bridge are clear. Some removal of reeds to create a wider central channel towards Derry Bridge would be beneficial to flow.

As previously mentioned, the width of the bridge arches are the limiting factor of river flow in times of high river levels. This is especially relevant at Derry Bridge, where the removal of more vegetation upstream of the bridge would not increase the flow capacity under the bridge.

Should volunteers wish to get into the river to do non-mechanical clearance work they would not need a permit from the Environment Agency. They would however, need to be mindful of the appropriate time of year to do this, so as not to disturb nesting birds, spawning fish and other wildlife. September through November is typically the best time of year to do this.

Approach to Oaklake Bridge

A large dead tree branch was seen lying across, and partly in, the river. This could lead to a large obstruction should debris such get trapped and builds up. It was highly recommended that this should be removed. The riparian owner will need to give their permission for this.

During a visit by the Environment Agency on the 4th December 2019 it was observed that the river level at Oaklake Bridge was at the sill level of the bridge. This means that no more water could flow out of the village, regardless of the levels of vegetation directly upstream.

The bridge sill height above the water level, and the width of the channel, under Oaklake Bridge are the governing factors for water flow out of the village.

Clearing the river vegetation upstream of the bridge will not increase the flow capacity under the bridge, and so will not mitigate a high river level, nor any flood risk. However, limited removal of some vegetation to widen the channel will aid water flow in normal times.

The prediction for surface water flooding in the fields and gardens adjacent to the High Road south of The Derry and Happy Land in extreme rainfall conditions was agreed to be in accordance with the flood risk map produced by the Working Group ***(map-2)***, which used surface water flood prediction data and groundwater data from the Environment Agency. It was also confirmed that land south of the Derry was designated as a flood plain.

A drainage ditch is apparent adjacent to the western edge of the High Road, extending down to High Bridge, and to drain into Swill Brook. This was seen not to be linked with the Thames at Oaklake Bridge. Drainage ditches are considered to be of benefit for the best use of wet land for crops and animals, and are not believed to assist with flood mitigation from the rivers.

Summary

The conclusion from the inspection visit was that the village is not at significant risk from flooding from the river due to its current condition or obstructions.

The Environment Agency, therefore, does not consider it necessary to write to any riparian owners requiring them to carry out urgent remedial work. In addition, no major structural issues were identified that would require the Environment Agency to undertake corrective work directly.

However, some preventative work is suggested as follows.

a. Remove a fallen tree branch overhanging the river south of the Derry Bridge.

In addition, some work to clear reed vegetation to aid water flow is considered useful:

b. To increase the channel from Garden House to the Derry Bridge, aiming for a clear channel width of 1-1½ metres.
c. To increase the channel from the Derry Bridge to Oaklake Bridge, aiming for a clear channel width of 1-1½ metres.
d. To increase the channel from the Swill Brook overflow as it flows into Oaklake Bridge, aiming for a clear channel width of 1-1½.

The Environment Agency has offered to visit the village and demonstrate how some manual river vegetation clearance should be carried out. The date for this visit is to be agreed, however, due to river wildlife considerations this is likely to be in early September. A suitable location for this demonstration is likely to be nearby the Derry Bridge.

It is recommended that the river is maintained in good condition, with regular vegetation clearance where necessary. A booklet, External Consultation Maintenance Standards, is available from the Environment Agency, which describes working guidelines. An online copy of this can be viewed on the Working Group's section of the Parish Council website.

Whilst this inspection visit did not identify any watercourse condition issues that would increase flooding risk in the village, it is acknowledged that extreme weather events will lead to increased river levels, surface water flooding, and increased groundwater levels. The predictions for flood risk areas under various conditions is available from the Environment Agency, and residents can also sign up for flood alerts messaging.

The Flood Risk Management section of the Parish Council website has links to a variety of guides for owners of watercourses, and advice for home owners on measures they can take to best protect their property in the event of flooding.

A gallery of photos taken during this inspection visit and shown in this report are also available to view on the website.

https://www.akpc.org.uk/index.php/overview

Appendix

Map-1 - Section of the river Thames inspected:

Map-2 - the effect of Surface Water and Groundwater flooding in Winter 2020: