

WEAVER FLOODS JANUARY 2021

Our Society was involved in several discussions with the Environment Agency prior to the preparation of their Flood Prevention plans and their subsequent implementation. We have considerable background historical knowledge of previous flood emergencies and considerable understanding as we have five qualified engineers on our committee! Despite these consultations, our suggestions were not adopted, as we were told that, "their model," (the EA model) showed that they would not be effective. We obviously could not dispute this, as we did not have the resources to produce a, "model," of our own

Our contention was that the primary requirement to minimise the flood risk IN NORTHWICH was to ensure that the Navigation Channel through the town down to the next flood control sluices located at Winnington, Barnton and Saltersford were maintained at least to the minimum depth determined by the River Weaver Trustees prior to the nationalisation of the River in 1948. The Trustees were concerned with the well-being of the river in toto, as it was managed, prior to nationalisation, superbly well, by local dignitaries for overall local benefit.

British Waterways (as it then was) have not been maintaining these full depths for many years, for the understandable reason that deep draughted commercial craft movements have dwindled and dredging to these depths is a considerable expense and seldom required for navigational purposes. In fact the mere hint to boat operators that specified river depths are not being maintained is sufficient to deter them attempting a deeper draughted craft transit.

What is, however, PARAMOUNT, is that this river depth is maintained ALSO to ensure that flood waters can pass rapidly through the town when flooding is likely to occur, as a deeper and wider channel increases water flow not only because its volumetric capacity is greater, but also because the reduced frictional flow restraints of a bigger channel allows the water to move more speedily.

Canal and River Trust (ex British Waterways) have no responsibility to protect Northwich from flooding, though obviously extreme flooding denies them the use of the river and puts waterside structures at risk, so they will obviously continue to take what steps they consider prudent to prevent this occurring.

This responsibility for flood prevention now rests with the Environment Agency.

It must also be realised that the critical risk point of flood creation is at Town Bridge, at the confluence of the River Dane and the River Weaver. The Dane is both geographically longer and much faster flowing, in flood conditions, than the Weaver, and drains the Peak District, which has a higher rainfall than the upper Weaver valley. This means that at this meeting of the waters there is a massive deposition of silt as the speed of the combined water flow reduces at this point and much of the silt in suspension in the Dane water sinks to the river bed very rapidly.

It is interesting to observe that although the control of water flow from the Dane is the more important factor in the determination of the water level in Northwich under flood conditions, the recently completed flood control measures have not attempted to control the Dane in any way. This is surely shortsighted, as the lack of control of the Dane water further upstream could have also reduced planning problems with new housing developments in the Dane valley, as well as control of Dane water flow being of vital benefit to determining water levels in Northwich.

The biggest unaddressed problem, however, in our view, to the high flood risk in Northwich, is the lack of insistence on dredging, at least to the minimum levels previously stipulated for navigation and on a wide cross section, by the Environment Agency.

It is obviously more sensible, in terms of flood prevention, to have a river through Northwich operating at a lower datum level with greater storage margins under flood conditions, rather than adopt the alternative of building barriers at the low flood points throughout the town.

Older residents of Northwich will remember the very frequent dredging that took place downstream from town bridge in the last century to ensure that the NAVIGATION could remain open, and although dredging still takes place, it is now less frequent and to a less deep datum to save money, as the toll revenues from deep draughted boats have disappeared.

The likely actual hidden scenario is that the Environment Agency refrained from stipulating a necessary minimum dredging depth and width requirements to minimise flood risk, as these would exceed those currently achieved by Canal and River Trust. This would, in turn, transfer the responsibility, and hence the financial burden, of maintaining this more deeply dredged channel to the new requirements, to the Environment Agency.

By adopting this unattractive method of providing flood barriers, rather than more definitively controlling the depth of the water channel, the Environment Agency have tried to ensure that, after their capital outlay, the operating costs of flood prevention in Northwich will still be largely borne by the cash strapped Canal and River Trust, rather than accepting that the responsibility is now theirs and could have been better managed by also deeper dredging between Town Bridge and the Winnington/Barrton Sluices.

Note: Northwich Town has been sinking ever since salt and brine working has been an activity in the locality, as the Weaver Minute Books show, by recording the diminishing headrooms of their bridges, year on year. Happily, it is now stabilised. The statutory river water level, however, has remained close to the town's pre subsidence levels. The datum water level on the Northwich Pound, between Hunts and Saltersford Lock, needs to be lowered, whilst still offering transit in a wide channel for deep draughted vessels, as this is primarily needed to ensure rapid water flow, and this can ONLY be achieved by dredging, coupled with adequate sluicing control down to the Acton Bridge pound.

Where do we go from here??

It must be recognised that the flooding problem is a WHOLE RIVER concern. Flooding of several properties occurred at Acton Bridge and was very very close at Saltersford and Dutton. These problems also HAVE TO BE ADDRESSED in combination with any further remedial work that is implemented in Northwich. The drainage of the three water levels below Northwich before the floodwater drains into the Mersey ALL require close attention in terms of both floodwater storage and flow control.

There are three ways of dealing with floodwater passing through high risk locations.

- 1 Restrict and spread the UPSTREAM flow into the high risk area to reduce the peak.
- 2 Create extra water capacity, by raising barriers to contain the floodwater at the high risk site.
- 3 Ensure that the floodwater passes through the high risk site more rapidly and therefore at a lower level

The only remedial action to minimise flooding that has so far been taken in Northwich is under heading 2. This can be taken no further and it is the least attractive solution - only one panel has to collapse in Northwich and the whole lower town is inundated.

Which leaves 1. and 3.

Action on heading 3. requires further work on ALL the flood control measures already in place on the lower river throughout its remaining 12 mile course to the Mersey, as faster throughput of floodwater would exacerbate the critical problems that already exist and need to be addressed.

Action on heading 1.

The River Dane is the rogue river as it is the MAJOR water supplier to the lower Weaver, yet it is virtually uncontrolled. It holds Northwich to ransom and some control of its flow by damming and control of the attendant sluices would alleviate the extreme conditions when they occur.

Overall considerations.

The maintenance of the existing water control features, dams, sluices, weirs, locks are maintained and supervised by CRT. They are desperate for funding, and maintenance of the Weaver to its previous high standard is not a high priority to CRT as commercial traffic, for whatever reasons, has largely disappeared and the existing pleasure traffic is more shallow draughted. This situation has also been exacerbated by CRT's decision, over a decade ago, to close the Northwich Works and shipyard, thereby immediately losing an enormous pool of experience, expertise and maintenance capability that cannot be replaced.

Additionally, prior to this event, almost all the River's floating maintenance craft were auctioned, comprising an almost new dredger, tugs, a floating crane, numerous lighters and bank boats. Again, during this period, the cottages that were situated at each lock to accommodate their on site lock keepers had all been sold, so the locks were no longer supervised on a continuous basis and capable of 24 hour control, under extreme conditions. The locks are now tended, on a minimal basis, by visiting staff. This can, and often does, mean lack of concern by staff whose job responsibilities change on a frequent basis and routine maintenance and care are, of necessity, neglected.

The purpose of this potted history and analysis is to illustrate that, despite CRT still having devoted and caring staff involved in Weaver maintenance, their responsibilities are so widespread, their numbers so minimal and their access to interested caring top management is so reduced (the Navigation Road headquarters is about to be closed completely!) a new overall management structure should be put in place. This must remove the FINANCIAL RESPONSIBILITY of providing funding for the replacement, maintenance and improvement of works primarily intended for flood prevention from CRT, and this responsibility should encompass all waters draining into the Weaver Valley.