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Flood Risk Management Plan Consultation:

Response from the Cam Valley Forum

(Anglian Region/ Cam and Ely Ouse catchment/ sub catchment: Cam)

INTRODUCTION

This is the response to the EA Flood Risk Management Plan Consultation from the **Cam Valley Forum**. We wish to highlight the Flood Risk issues that our group discusses in our own river and river valley catchment. The Forum, a voluntary charitable organisation, works with many other bodies to protect and improve the river Cam and its riversides, including its many tributaries and its sustaining aquifers. This response focuses on our group's concerns. We have contributed to many similar planning discussions that have already taken place and we do urge that some of the points we make below be taken seriously by the EA and others. Community groups like ours are needed to further solutions towards more natural flood management. We have already contributed to the response from the **Cam and Ely Ouse Catchment partnership**.

Who we are

The Forum is an association of local individuals with diverse environmental, recreational, academic and business interests, concerned directly or indirectly with the River Cam. Our interests embrace not only the main river within the City but also the smaller watercourses that run through the Cam Valley's fields and villages, local towns and Cambridge suburbs. The Forum was established in 2000 and currently has some 130 members. Our work is undertaken entirely by volunteers. Our mission is to be an authoritative voice for the River Cam: defending its health and wellbeing for its wildlife, environment and everyone that enjoys it; safeguarding its historical and cultural importance; and seeking, through a reasoned and evidence-based approach, changes in policy and practice to enhance the entire Cam catchment.

Our prime interest

Between 2021 and 2027, Cambridgeshire County Council are planning to work with partners (such as Cam Valley Forum) to better understand and trial measures required to increase the resilience of Chalk streams in Cambridgeshire. We do consider that, in line with the EA's own assessment, a reduction of 60-70% in catchment groundwater abstraction at source is key to our aim of restoring as near as possible *natural* flows to our Chalk stream headwaters. This should include capturing the winter surface water flows that never recharge the aquifer in downstream reservoirs, to provide alternative drinking water supplies, and in infiltration basins to assist aquifer recharge. We recognise that more natural flow regimes may need managing to minimise risks of flooding to homes and business premises. Reservoirs that capture surplus winter flows will alleviate risks downstream; within the catchment, natural processes, including the reconnection of rivers to their historic floodplains, should be prioritised over built defences.

We would like to stress the need for **joined-up thinking** between those working in water resources, water quality and flood risk management functions. The ‘silo-thinking’ approach that has dominated for too long means that each function looks at the river from its own perspective, failing to take on board those of others. All too often, the fundamental ecological needs of the river itself have been lost among the silos and have suffered drastically as a result.

A step-change towards **integrated thinking** about land and water at the catchment scale is needed:

- Drainage and flood protection should be better linked to water resources and water quality.
- Local knowledge needs to be tapped and local catchment partnerships listened-to.
- The full potential of Environmental Land Management should be exploited so that land management practices actively enhance watercourses rather than damaging them.
- Impacts on water resources, water quality and flooding need to be better considered in the planning of new development and infrastructure at all scales.
- Securing biodiversity net gain should be a key principle in all areas.

ADOPTING A NATURE-BASED APPROACH IN FLOOD RISK MANAGEMENT

There is an urgent need to change the culture of flood risk management practice in the EA. The Agency’s responsibilities in this area need to be aligned with national policy, as set out in the [Policy statement on flood and coastal erosion risk management](#). This places a much stronger emphasis than ever previously seen on the need for the EA itself to adopt ‘nature-based solutions’ and to tackle flood risk by ‘slowing the flow’:

- *Managing the flow of water through catchments can reduce pollution of rivers and streams; helping to ensure enough availability in times of drought and slow and store water in times of excess. (Page 19)*
- *We will increase the number of water management schemes across catchments to reduce flood risk and help manage drought risk. We recognise there may be more untapped opportunities to maximise the temporary and permanent storage of water in places or times when flood risk is highest, and, where possible, capture that water to be used when or where needed. Unlocking this potential means looking across the catchment from source to sea, using a range of small and large scale actions that slow, hold and release water when needed. (Page 20)*
- *In the upper catchment this might include opportunities to slow or divert flow, or taking actions to allow temporary water attenuation. In the middle of catchments it might mean large flood storage areas to better protect communities, smaller scale flood ponds or basins in urban areas and well managed flood plains or washlands. In the lower catchment and low lying areas it could include better links between land drainage and water storage needs. (Page 20)*

This policy steer represents a significant break with the historic emphasis on engineered solutions designed to evacuate water to the sea as quickly as possible. It is a step change in approach that needs to be positively and quickly embraced, now, by EA operational staff.

In relation to Chalk streams, specifically, the EA needs to recognise in its operational work that Chalk streams are *priority* habitats - the UK holds some 85% of the *world's* Chalk streams - and materially *different* from other rivers. They require a distinctive and tailored approach. For example, our discussions with EA staff over the use of herbicides to control river vegetation have shown that a better understanding is needed of the unique ecological identity of Chalk streams and the need for much more sensitive management.

The EA also needs to heed - and wholeheartedly embrace - the careful analysis and recommendations of the [National Chalk Stream Restoration Strategy](#) in relation to flood risk management. Page 115 of the *Strategy* highlights specific examples of the nature-based solutions that the EA should be taking, or fostering, to contribute to chalk stream restoration:

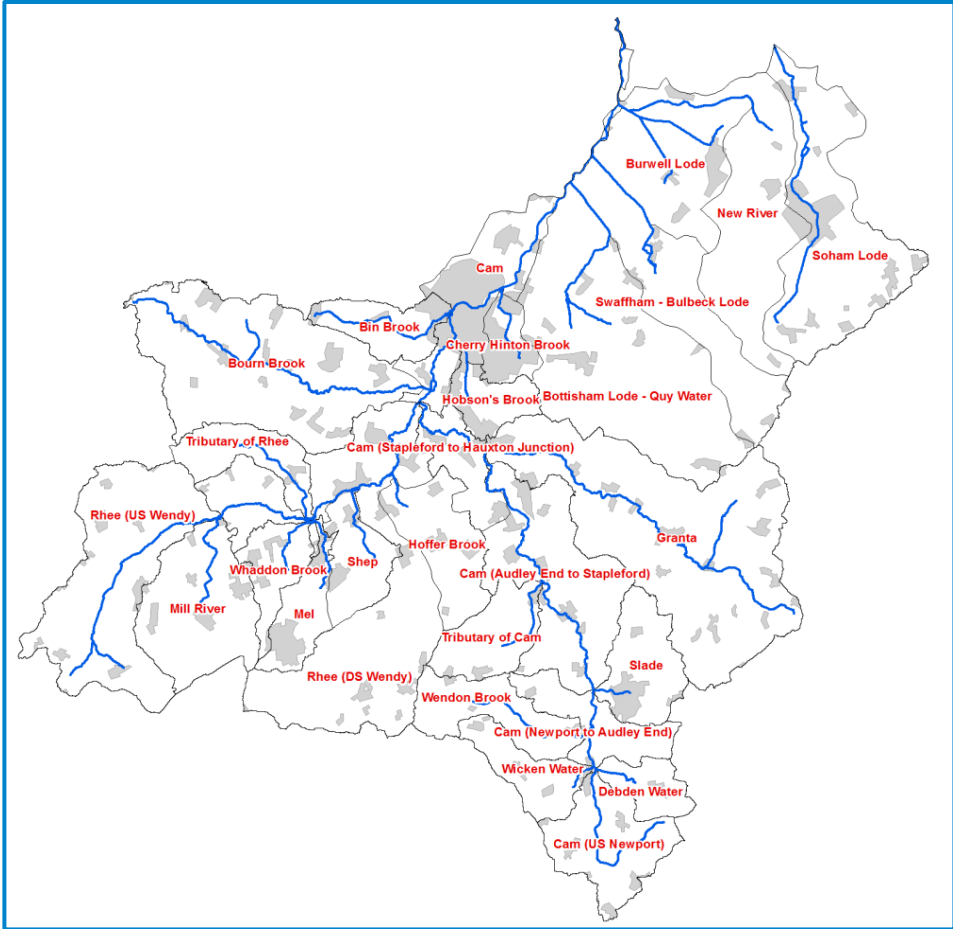
- *'Features that help to attenuate run-off across fields and along tracks and pathways can complement natural processes by connecting surface run-off with access points such as soakaways, ponds, wetlands and fen that drain to or connect with groundwater.'*
- *'Soil management that promotes the recovery of organic matter (zero-till, for example, or winter cover crops) can help to buffer intense rainfall events and the associated run-off and pollutant losses to surface- and ground-water. Good soil health improves the retention and infiltration of rainwater, increases soil carbon content and its resilience to erosion, and minimises losses of sediment and nutrients from soil to river and aquifer.'*
- *'Riparian woodland can play an important role in mitigating temperature extremes whilst also helping to restore riparian habitat. Note that careful consideration of tree planting (location, species and density) is important where water resources are scarce.'*
- *'Measures that enable the capture and the storage of rainwater on farm reservoirs during peak flows or high rainfall can reduce the pressure on water abstraction during the summer months.'*
- *'The re-connection of river and floodplain in combination with the restoration of a more natural channel morphology (especially width and depth) will help to promote the restoration of wetland habitats in the floodplain.'*

On page 96 the *Strategy* gives just one example of the need for a change in attitude and approach; *'Historically, both anglers and the Environment Agency have been too quick to remove fallen trees, in the name of tidiness, or because they are deemed a flood-risk. But in terms of river ecology tidy is not good and in terms of flood risk, unless the tree is right next to houses, or would cause flows to erode and collapse the banks of a perched channel, it is unlikely to be a risk at all and it may well help by slowing the flow, and reconnecting the river to the floodplain: which is the best form of flood management.'*

On page 98 the *Strategy* stresses that *'Natural flood management techniques to slow the flow – such as reconnecting chalk streams to their natural floodplains – should be used to reduce run off, increase infiltration and trap fine sediment. This reduces the risk of flooding but has significant additional benefits for water quality and biodiversity.'*

THE RIVER CAM CATCHMENT

The River Cam Catchment comprises the Rivers Cam, Rhee and Granta, several Brooks, the New River and three Lodes, all their tributaries, and Stow cum Quy Fen, some 29 water bodies altogether, from their sources all the way downstream to where the Cam meets the Ouse, south of Ely; it excludes water bodies north and west of Cambridge that drain into the Old West River, a separate Great Ouse catchment.



Source: Environment Agency.

SOME OF OUR LOCAL FLOOD RISK AREAS

It is worth our listing these specific **Flood Risk areas** in our catchment that we (and the EA) are well aware of:

- (a) **Upper Cam at Saffron Walden (River Slade tributary)** (Cam catchment: Local Authority: Uttlesford District Council).
- (b) **River Cam and its tributaries gather in a large floodplain south of the City.** There is a need to mitigate here the impacts of flood water converging on Cambridge (Cam Catchment: Local Authorities: Cambridgeshire County Council, Cambridge City Council and South Cambridgeshire District Council).
- (c) **Bin Brook and Gough Way in the west of Cambridge City** (Cam catchment: Local Authorities: Cambridge City Council and South Cambridgeshire District Council).

(d) **Cambridge City Centre, especially Riverside.** This has been very badly flooded with many homes affected. (Cam catchment: Local Authority: Cambridge City Council).

(e) **Beck Brook, Barhill Brook, Oakington and Girton** (Cam and Ely Ouse Management Catchment: Local Authority: Cambridgeshire County Council).

The EA has reports on all these flooding areas and incidents. However, as an independent voice, Cam Valley Forum would like to highlight common features that many share.

SOME COMMONALITIES IN THESE LOCAL FLOOD RISK PROBLEMS

1. Failure to recognise the primacy of floodplain land is an enduring planning problem.

It is often exacerbated by the pressures for house or settlement building on what was former open farm land. These pressures have been insufficiently resisted in some past planning in Cambridgeshire. Flood plain land use needs to be considered with the River's own requirements in mind.



Cam Valley Forum objected to a recent planning permission sought for some elements of the new Addenbrooke's Biomedical site built on the flood plain. We were therefore not surprised to learn that the building foundations and basements of one major building there have suffered ingress of ground water. It has cost that project dear.

At left: *EA Flood Plain map* shows this site with the flood plain clearly marked (in dark blue). Nine Wells (at bottom left) is a natural spring that supplied Cambridge with drinking water for centuries past but is now sadly depleted by over-abstraction.

2. In several cases (the Slade in Saffron Walden, Bin Brook and Gough Way in Cambridge and The Beck Brook in Girton) the watercourses are confined by built channels, conduits or bridges that are too narrow to cope with flood events. They all continue to flood! This again reflects poor local authority and water management planning:

- In Saffron Walden a two-foot diameter pipe culvert has inadequate capacity in a flood that still leads to occasional lower town flooding.
- When the Gough Way estate (in Cambridge) was built in the early 1970s, the Bin Brook which runs through it was culverted right under part of the estate; this culvert had insufficient capacity to carry flood flows. Flooding occurred in Gough Way in 1978 and following this event a relief channel was constructed around the estate to increase flow capacity. Despite construction of this channel, flooding occurred again in October 2001.
- In Girton, similarly, flooding has continued after sustained inaction by the EA. An engineering report by G. Pearson (1979) was done for the Great Ouse River Authority. In that report it stated clearly that all the culverts on the Beck Brook were too small. Major

flooding occurred in 2001, leading to homes being unoccupied for some months.

3. Over-dredging of water courses has, we believe, contributed to some incidents of flooding. This pattern of flow acceleration was adopted over decades in this County, as well as elsewhere. The wisdom at the time was that speeding up drainage would reduce farmland soil saturation to the benefit of its agricultural production. This may well have helped by allowing more riparian land to be ploughed and cultivated. However, the downside was faster downstream inundation. The loss of riparian pasture has also contributed to massive soil losses from the County - doubtless also adding to further dredging costs further downstream.

Interventions such as over-deepening, straightening and field drainage, have disconnected rivers from their floodplains, and reduced habitat quality. River bed gravels, essential for spawning fish, have been removed by dredging or been buried by sediment. The Cam Valley Forum, and the river groups across the catchment would like to restore rivers so far as is possible to their original courses, reconnect them to their floodplains, open up culverted and piped sections, remove unnecessary weirs and other structures, and adopt nature based solutions in managing flood risks in place of engineered solutions. This, supported by more advanced weather forecasting and telemetry, should ease flooding risks.

SOME ROUTES TO ACHIEVING BETTER FLOOD MANAGEMENT OBJECTIVES

Cam Valley Forum would like to:

- Endorse thoroughly the Catchment Based Approach of the Environment Agency.
- Work better with the tiers of local government authorities concerned with flood planning.
- Find ways of involving all river-related community groups and the Rivers Trust in the flood planning process.
- Bring together these groups in coordination with Government Agencies (DEFRA, EA, NE, etc, to influence and incentivise nature-based land management funding).
- Bring together also the water companies, farming community and landowners (e.g. NFU and CLA) who are central.
- Bring together to the Cam River catchment's partnership the numerous recreational groups concerned with Wildlife, Rowing, Canoeing, Angling, Swimming, Boating, Punting, etc. None of these should be left out.

This for call for **joined-up thinking** and other enabling actions would allow and support far better planning and execution of Flood Risk Management.

SPT/AW

Cam Valley Forum
21 January 2022

Appendix

Our website <https://camvalleyforum.uk/> provides links to further information. See, in particular, our reports and submissions at <https://camvalleyforum.uk/reports-consultations/>.