

Hebden Bridge Flood Alleviation Scheme

The Environment Agency is working with Calderdale Council to design and build a Flood Alleviation Scheme for Hebden Bridge.

The Role of Natural Flood Management in Hebden Bridge

The Environment Agency recognises the strong local support for Natural Flood Management (NFM) and fully acknowledges the community's desire for more nature-based solutions in the upper Calder Valley. **However, for Hebden Bridge, NFM alone is not an alternative option.**

For several years, we have invested in upstream NFM with partners including Calderdale Council, volunteer groups, charities, landowners and volunteers. This work has already delivered substantial interventions - all of which help slow and store water before it reaches the town. In addition, a number of NFM schemes have been funded through the NFM landowner grant scheme. These measures will continue to form an important part of flood risk management in the area, as well as delivering many co-benefits such as habitat creation, increased biodiversity and improved water quality.

However, it is essential to explain why NFM, on its own, **cannot** provide the level of protection that Hebden Bridge requires. The fundamental issue is the landscape in which the town sits. Hebden Bridge lies at the bottom of a steep, narrow valley where three watercourses, the River Calder, Hebden Water and Colden Clough meet in the town centre. This creates a catchment that responds extremely quickly to rainfall events, with water travelling from the hillsides into the town much faster than natural features can hold or intercept it. Even with extensive upstream NFM, the natural capacity to delay or store water is limited.

At present, the risk of river flooding in Hebden Bridge is high. At locations such as the Wavy Steps, there is around a 20 percent chance of flooding in any given year. Modelling shows that the proposed flood alleviation scheme would reduce this risk to around 2 percent. NFM alone cannot achieve anything close to this reduction. During severe storms and prolonged rainfall, the volume and speed of water moving through the valley far exceed what natural interventions, no matter how numerous, can safely absorb, store or slow. This is not a reflection of the quality or ambition of NFM, but simply the physical constraints of the landscape.

For Hebden Bridge, the challenge is both the amount of water, and the speed at which it arrives. Because the valley is steep and confined, stormwater does not linger in the uplands long enough for natural features to flatten the peak flow. Instead, water reaches the town rapidly, leaving very little time for warning or preparation. The Environment Agency aims therefore to ensure that the central areas of the town, where homes, businesses and critical infrastructure are concentrated, have flood defences that can cope with these fast-moving floodwaters. Engineered structures such as strengthened walls, rising barriers, modified weirs and reinforced bridges can be designed to withstand specific flood conditions backed by hydraulic modelling.

It is important to emphasise in relation to Hebden Bridge, engineered measures do not replace NFM; rather, they are required **in addition** to it. NFM makes a meaningful contribution by slowing flows and increasing resilience in the wider landscape, however it cannot provide the standard of protection needed for this town centre.

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The combined approach, NFM upstream and engineered defences within the town, is the best option to meaningfully reduce the impact of future floods. Research and experience across Calderdale also show that engineered schemes are essential in locations where flooding is frequent, severe and driven by rapid catchment response. The Environment Agency, Calderdale Council and partner organisations are therefore committed to both continuing NFM investment and delivering the engineered scheme to protect the community.

We understand the concerns raised by some residents who would prefer to rely on natural methods alone, especially given the beauty and heritage of the town. However, we must base our decisions on evidence from catchment modelling, historical flood incidents and the physical characteristics of Hebden Bridge. The unavoidable conclusion is that natural measures, while important, cannot provide sufficient protection on their own in this landscape. The engineered elements of the scheme are necessary to ensure the safety of people and property now and in the decades ahead.

The Environment Agency remains committed to working closely with the community as the scheme to reduce flooding for Hebden Bridge progresses.

For the most accurate information about the scheme, please do come and visit us at the Flood Information Centre on Valley Road and speak to the Project Team or email us HebdenBridgeFAS@environment-agency.gov.uk

