

## Stock Beck culvert rehabilitation works

### Scheme overview

The Environment Agency has proposed a Flood Risk Management Scheme to better protect homes and businesses from flooding in the Kent Catchment and is delivering a combination of the following measures;

- **Kendal:** Construction is underway, building flood walls, earth embankments and proposed new pumping station.
- **Burnside, Staveley and Ings:** Proposed flood walls, earth embankments and local flow routing.
- **Upper Catchment:** Proposed flood storage at Kentrigg and Kentmere Tarn, and a flow routing channel on Stock Beck.
- **Complimentary measures:** Natural Flood Management and Peatland restoration in the upper catchment.



### Stock Beck culvert survey update

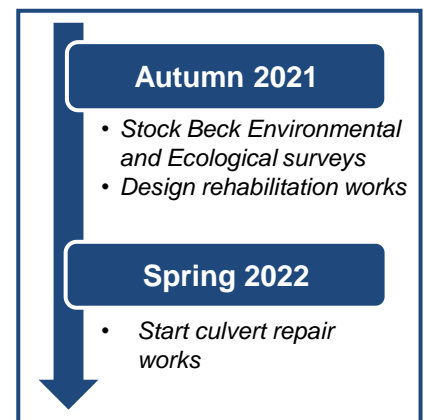
You'll be pleased to know we have successfully completed a series of surveys within the Stock Beck culvert system. These surveys will determine the structural integrity and conveyance capacity through areas of East Kendal. During the surveys enabling works were carried out where needed to unblock sections of the culverts, allowing the condition of the culvert system to be recorded with CCTV cameras.

### What's happening next?

Camera footage and other measurements collected through the surveys will be used to help us design and carry out repair and improvement works to sections of the culvert system during Autumn 2021 and beyond into 2022.

During September and early October our team of surveyors carried out aquatic (in the water) and terrestrial (on dry land) habitat surveys around the Stock Beck culvert and tributary system.

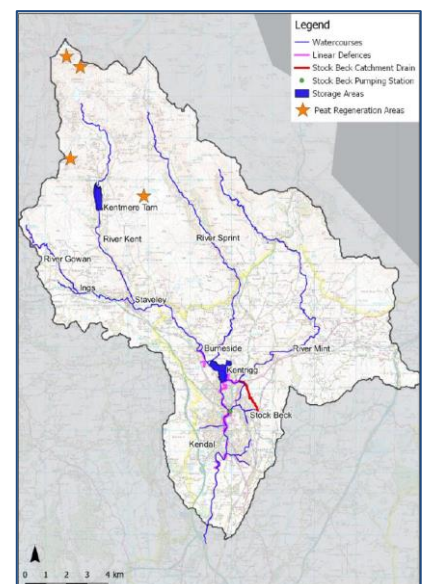
We will continue to work with landowners, partners and members of the community to explain our work and listen to any concerns they might have. Together with the survey results these discussions are being used to inform our designs for the proposed Flood Risk Management Scheme (FRMS).



### How will this help reduce flood risk?

The culvert rehabilitation works will improve the conveyance of water through the urban stretch of Stock Beck, Kendal. Ultimately, flood risk will be reduced when:

- the pumping station near Gooseholme Park has been built in 2023. This will improve flow through the system, enabling Stock Beck to discharge when levels in the Kent are high; and
- the catchment drain is constructed in 2025, helping to control the amount of water flowing through the culverts.



## Culvert surveys on Stock Beck

### What is the Stock Beck culvert system?

Stock Beck comprises several sections of watercourse that originate in farmland before entering the eastern side of Kendal. The watercourses converge and are joined by inflows from surface water drains. The combined flows pass through the largely culverted stretch of Stock Beck in its urban catchment and outfall into the River Kent in the town centre near Gooseholme Park.

### What will the culvert measures involve?

Measures proposed on Stock Beck form part of the combined option for the Kendal Flood Risk Management Scheme that aim to help limit the volume of water entering the River Kent within central Kendal, and improve conveyance of the remaining flow at the confluence. The combined option includes the following measures on Stock Beck:

1. **A 2km long catchment drain** from Stock Beck East and North into the River Mint.
2. **Repairs to the culverted sections** and adjustments to the operation of the penstock at the existing flood storage basin, lying between the A684 Sedbergh Road and Calder Drive. The penstock is a sluice used to control and direct the flow of water.
3. **A pumping station** at the Stock Beck outfall to pump water from Stock Beck when it becomes gravity locked by the River Kent.



CCTV footage, damaged and blocked culverts



### The focus of this update is on repairs to the culverted sections

Some sections of the culverts were already known to be in poor condition, which contributed to flooding that occurred during Storm Desmond in 2015. Our 2021 surveys have plugged information gaps that enable us to design and carry out repair and rehabilitation works to bring the culverts back into our target condition.

### Stock Beck ecological surveys

Data gathered through aquatic and terrestrial habitat surveys around the Stock Beck culvert and tributary system will inform rehabilitation works as well as the development of 'fish friendly measures' we can incorporate into our proposed approach to the Stock Beck catchment drain, and if we need to, put any complimentary measures in place to protect bats, otters and white clawed cray fish.



Daubenton's bat, River Mint

### Where will we find the latest information?

All information on the Flood Risk Management Scheme as it is being developed can be found on The Flood Hub. For more information visit [www.thefloodhub.co.uk/upperkent](http://www.thefloodhub.co.uk/upperkent)

#### Contact us

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