

Settlement: Hereford (Lower Bullingham)

Location of Investigation

Figure 1: Large Scale Map showing location of Lower Bullingham within Hereford

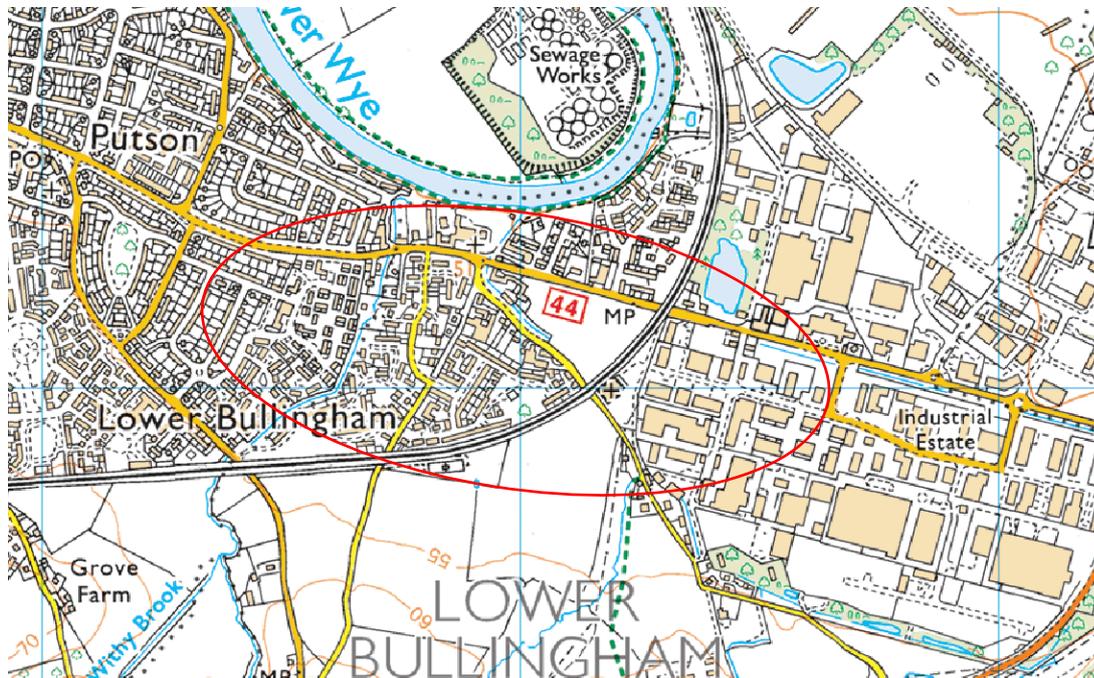
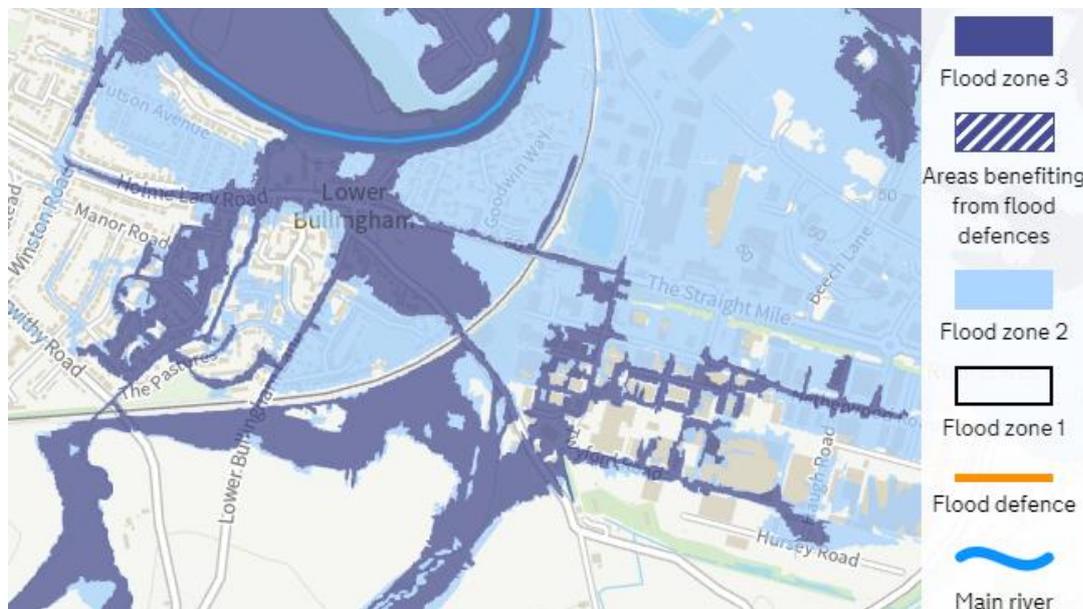


Figure 2: Environment Agency's Flood Map for Planning (Rivers and Sea), June 2021



Date of key flood event	26 th October 2019 & February 16 th 2020
Authorities with Flood Risk Management duties or functions relating to the event	Herefordshire Council (Land Drainage Authority) Environment Agency

The Red Brook and the Withy Brook are designated as Ordinary Watercourses which therefore fall under the regulatory supervision of Herefordshire Council Land Drainage Authority. The River Wye is a main river and is under the regulatory supervision of the Environment Agency.

Key Flood Event

Flood Type: Fluvial

Watercourse Catchment: Red Brook and Withy Brook are tributaries of the River Wye.

In February the Wye reached the highest recorded level at the Old Wye Bridge in central Hereford.

The number of properties reporting internal flooding in Lower Bullingham was 16 in October 2019 and 31 in February 2020. Of these, seven reported flooding during both events. The depth of flooding varied considerably amongst the properties, from less than 6 inches in some cases up to 5ft in others. The duration of flooding also varied amongst the properties. Flooding was recorded as persisting for less than 1 day in some cases and up to 4 days in others.

There is one account of previous flooding in 1998 and eight properties noted the 2020 event as their first flooding event. Herefordshire Council records for this location identify an extensive history of flooding across a range of years, in addition to the events in both 2019 and 2020.

Number of Internally Flooded Properties related to key flood event	31
Number of Internally Flooded Properties during most acute flood	31
Impact on Strategic Highway Network	Straight Mile highway
Impact on Critical Infrastructure	Care Home
Health Risks	No injuries or loss of life were reported

Description of Flooding

Almost every property with reported flooding is shown to be within the Flood Zones 2 and 3. The primary flooding mechanism is fluvial, though there may also be some contribution from overland flows. Fluvial flows would be likely to come directly from the Red Brook and Withy Brook. However, as water levels in the River Wye were high this would have contributed to the flooding.

There were many accounts of an overflowing river/stream which support the evidence from the flood maps, as well as one account of a blocked bridge or culvert which may have related to flooding from a watercourse. However, two properties reported a blocked gully, there were two accounts of an overflowing sewer or drain and three properties reported an overflowing ditch. There were also three accounts of surface water runoff and two accounts of water entering via Watery Lane.

Our inspection has confirmed that the culverts along the route of both ordinary watercourses were clear after the flood event subsided. The primary mechanism was fluvial, the reports related to the overflowing sewer are being addressed by Welsh Water. Blocked highway gullies are cleansed on a reactive basis but owing to the fluvial nature of the flooding the condition of the gullies would not have impacted on the extent of flooding that was experienced.

Fluvial flooding occurred from Red Brook and Withy Brook, exacerbated by high River Wye levels. The Withy Brook broke its left hand bank, flooding low lying adjacent ground and re-joining the Withy close to Holme Lacy Road.

Road Closures: Lower Bullingham Lane was closed on 15th February 2020. Both Holme Lacey Road and Bullingham Lane were closed to traffic on 16th February 2020.

Damage to Cultural Heritage Sites: There are 6 listed buildings located in the Flood Zone within Lower Bullingham.

Previous reports of floods

One property recorded flooding in 1998. There is an extensive history of flooding across a range of years.

Previous Flood Risk Studies

There are no flood risk studies previously undertaken at this location.

Conclusions

Some properties reported flood durations of up to 4 days which would indicate that the primary source of flooding is from a large watercourse, such as the River Wye. However, others reported short flood durations of less than a day which would be likely to indicate that the primary source of flood risk is from a smaller watercourse such as the Withy Brook or Red Brook, exacerbated by high Wye levels.

Herefordshire Council completed an Integrated Catchment Strategy in 2019, which considered the following options to mitigate flood risk:-

- The installation of Flood Storage Areas on the Withy Brook and the Red Brook to mitigate downstream flooding.
- Provision of a Flap Valve structure on the Red Brook, to prevent backwater from the River Wye exacerbating flooding at Holme Lacy Road.
- A series of woody dams in the upstream catchments to attenuate water.

The ICS Study did not identify a clear option to mitigate fluvial flood risk in Lower Bullingham. DEFRA grant funding is being sought, on the basis of the existing fluvial flood risk in this district and a feasibility study is proposed. Further governance reports will be required prior to any formal application for funding.