Summary of the Initial Assessment report, 1

The Initial Assessment report presents the findings to date from our flood risk investigation, which focuses primarily on the December 2020 event in Shelfanger.

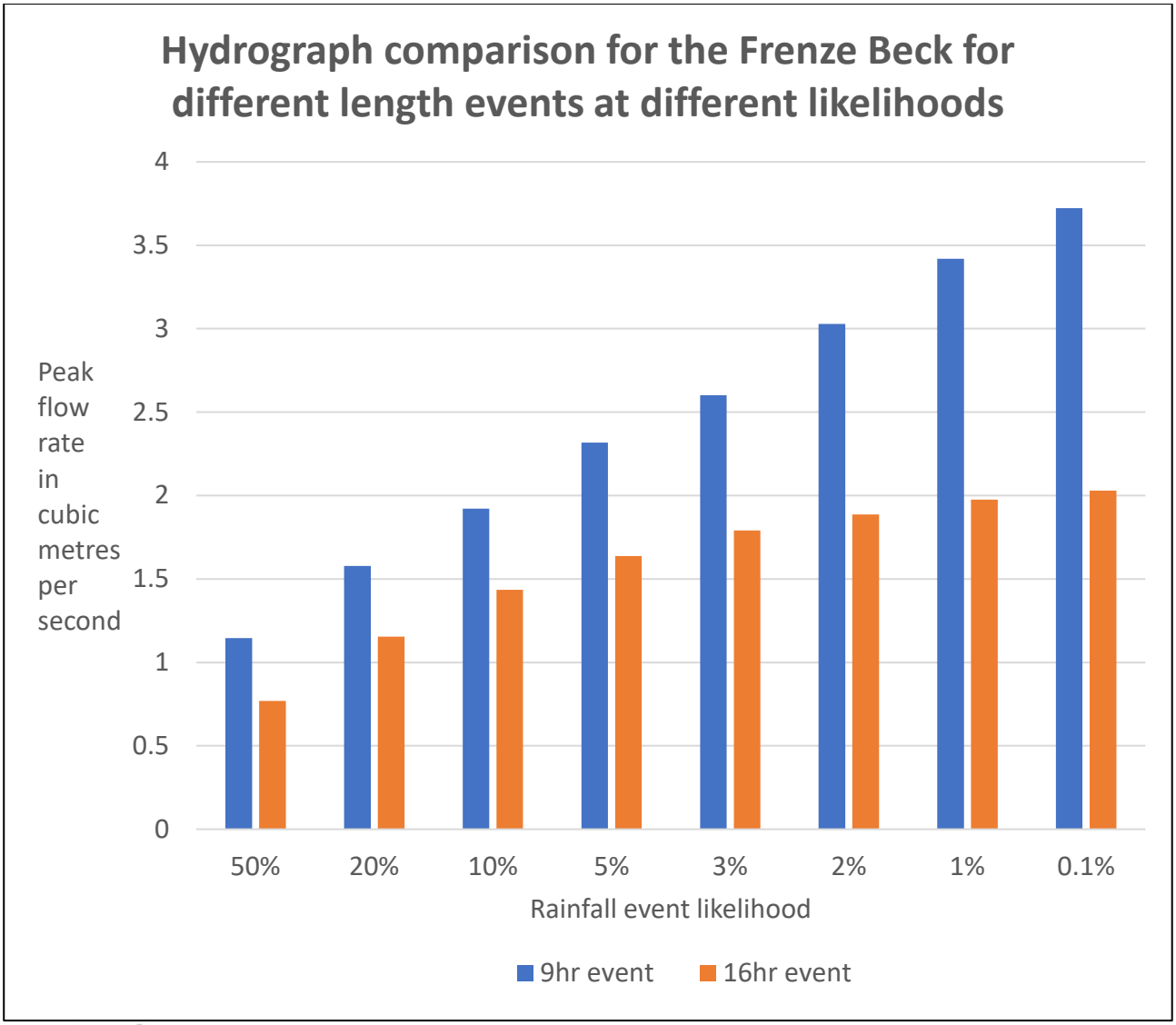
Flood history and causes

Reports given by members of the community into the 2020 flood event, earlier floods, as well as storms Babet and Ciaran, indicate that there are certain points in the village where the channel becomes overwhelmed during periods of high flows. This means the channel overtops, leading to some properties flooding directly from the channel, whilst other houses are affected by the river water flowing down the roads before entering houses (and eventually being able to re-enter the river further downstream). There is also a contribution from surface water, where rainwater flows across fields, along roads, etc., and may collect in certain areas, or cause property flooding, before it joins other floodwater, ditches or the river.

Summary of the Initial Assessment report, 2

Computer modelling

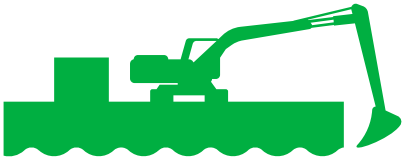
The existing computer modelling, which simulates the channels, as well as the water inputs and flows, was assessed to understand the ability of the watercourse network and structures (such as culverts) to deal with various sized flood events. This would normally then be used to understand whether there are any options that would work to reduce the risk of flooding to the village, and the scale and cost of these. The current modelling needs updating for this to be achieved, however, as it does not mimic the rate that we believe flooding occurs in the village and so underestimates the scale of the problem. It also does not currently include surface water flooding in the village.



Summary of the Initial Assessment report, 3

Potential options to manage the flood risk

Three options were shortlisted as potentially suitable for Shelfanger in the Initial Assessment report:



1. Floodwater storage area(s)
2. Increasing the channel capacity
3. Property Flood Resilience.

The issues with the current modelling mean that we cannot yet estimate how big Options 1 and 2 would need to be and therefore the how much they would cost, where they would need to be located, or whether they would be practical to construct and for you to live alongside.

The options are described on the other table displays and we would like to have your feedback on them, such as if you have a preference, think an idea wouldn't work, or if you think we need to look at other options.

Please bear in mind that to build a scheme we claim funding based on the number of properties being protected, but we can only obtain this money once per property, so we are limited as to the level of works we can carry out, rather than being able to offer a combination of options.

Next steps in the process

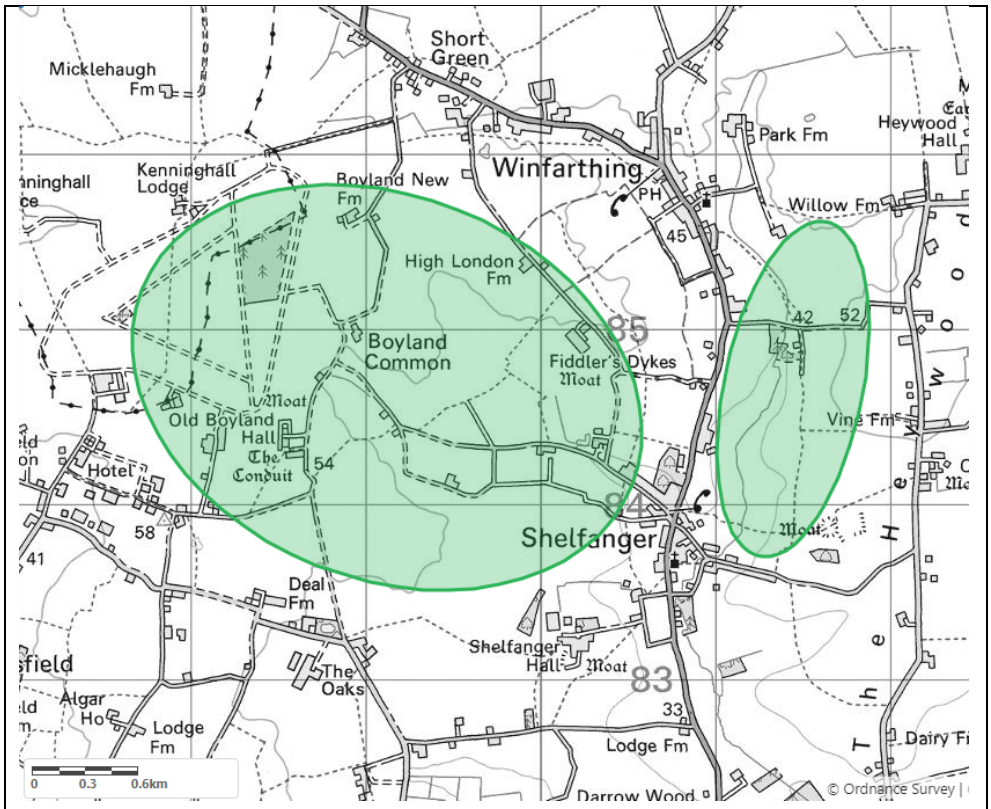
The next steps will be to:

1. Refine the model to better reflect the flood events recorded in Shelfanger, including carrying out a further survey of the village to ensure that any smaller channels, such as ditches, are properly represented in the model
2. Investigate with our partner organisations whether there are any measures that may be available to reduce the flood risk in the short term, such as making it easier for water on roads to enter the river channel instead of flooding properties
3. Reappraise the three options highlighted here, as well as any new ideas, to see if they would work, their cost and environmental considerations
4. Depending on the results of step 3, discuss with you the preferred option(s) and start to seek funding to progress with planning and construction considerations.

Option 1: Floodwater storage

A floodwater storage area would be a large storage pond to collect high flows during flooding events, and then release water when the peak of flow has passed.

Any flood storage area(s) would be upstream of the village, but suitable locations have not yet been identified and landowners have not been approached.



General upstream zones for potential storage areas

Pros:

1. This would be able to store excess flows before they reach the village, reducing the risk of flooding to the community (houses and roads).
2. Has the potential to provide an area of improved environmental function, such as wetland.

Cons:

1. Initial estimates suggest this would need to have a large capacity, which may be hard to find a site for and would require high levels of disturbance to construct.
2. This would be an expensive feature to build and maintain and so it might not be possible to secure the required funding.
3. There is uncertainty over suitability of local soils and topography for construction.

Option 2: Increasing channel capacity

A culvert being installed

Throughout the village there are a number of constrictions such as culverts where flood flows have been pushed out of bank and into the road, or where the channel itself is not large enough to carry the amounts of floodwater.

Uprating the channel would involve enlarging these pinch points (such as by replacing culverts) to allow any excess flows to be passed downstream.

Pros:

1. This would allow flows to pass downstream, reducing the risk of flooding to the community (houses and roads).
2. Likely to be cheaper than Option 1, although further assessment and modelling are needed to specify the requirements, which might alter the costs and potentially suggest that this option is unsuitable.

Cons:

1. Whilst cheaper than Option 1, initial/current estimates suggest that this is too expensive to be able to secure funding.
2. Building works would be required within the village, causing disturbance.
3. This could potentially increase flood risk downstream for other communities so would need to be thoroughly investigated.

Option 3: Property Flood Resilience

Property Flood Resilience (PFR) involves the installation of a range of measures to individual houses to help reduce the amount of floodwater that enters a property.

This includes flood doors (A) or barriers (B), water resisting airbricks (C and D), non-return valves in wastewater drainage pipes, as well as sealing service entry points and weep holes, and provision of internal pumps.

Examples of Property Flood Resilience measures

Pros:

1. Potential to provide flood resilience to houses in the village.
2. Significantly cheaper than either Option 1 or 2.

Cons:

1. PFR only helps to reduce the amount of floodwater entering a house, so it is expected that a small amount of water may still be able to enter, however small internal pumps will also be provided to help manage this.
2. Unlike with the other options, floodwater will still be able to overtop the channels, flooding roads and potentially causing wider damage and disturbance.
3. It is expected that only those properties considered at high risk/those known to have flooded in December 2020 will be eligible for PFR.
4. PFR is only installed on houses, meaning structures such as outbuildings or garages remain unprotected.
5. Certain properties may be structurally unsuitable for PFR, either by being unable to withstand the force applied by floodwater or may be prone to leaking due to the materials used in their construction.

We need your feedback

Please let us know if there are any options that you do or do not like and why, or if there are other options you would like us to look into.

There are comments slips available to fill in.