

# Elmore

(Note: The northern most part of the Longney and Epney parish [north from Hill Farm] is included and discussed here)

## Existing defences and probability of flooding

At **Elmore Back**, there is a 1 in 20 chance in any year of tidal flooding to the agricultural land. This includes the access road to the properties at Elmore Back. The lowest lying Elmore Back properties have about a 1 in 50 chance in any year of tidal flooding while the other properties have a slightly lower risk.

In the future, as sea levels and storminess increase, the level of flood risk will increase. A sea level rise of 0.1m would result in the flood risk to the agricultural land increasing to a 1 in 10 chance in any year. A sea level rise of 0.3m would result in the defences being overtopped in most years.

The current estimated life expectancy of the Elmore Back defences is about 40 to 50 years but this will depend on how many times they are overtopped. Even with maintenance, the risk of a breach to the defences increases as overtopping becomes more frequent.


At **Weir Green** there is a ring bank providing protection to property. These properties have a 1 in 100 chance in any year of flooding from the Severn. The risk of flooding will increase with sea level rise and increased fluvial flow.

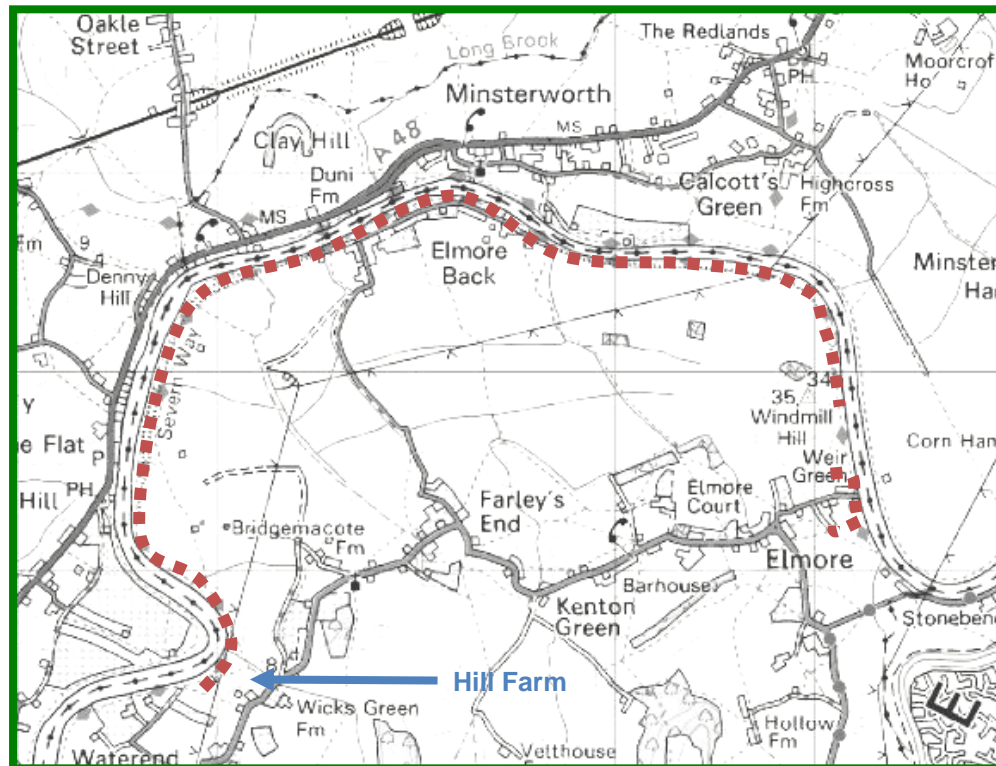
## Sea level rise note

The UKCP09 medium emissions scenario projects approximate sea level rises of 0.1m by 2030, 0.3m by 2060, and 0.7m by 2110 and an approximate increase in fluvial flow of 25% by 2110.

Currently sea level is rising at about 2 to 2.5mm a year. If this rate were to continue then sea level rise would be less than the amount projected by the UKCP09 medium emissions scenario.

## Key

 Existing defences referred to in text



## What could be done in the future?

If a point is reached when the EA is unable to continue to maintain the entire length of the Elmore Back flood defences and/or a tipping point is reached in terms of increased flood frequency there are a number of options that can be considered by the landowners, residents and the community.

Those options may include:

- Working in partnership with public authorities, landowners and community to maintain and/or improve the existing defence.
- Landowners taking on responsibility for the maintenance and/or improvements of the defences (subject to the appropriate consents or permissions being obtained).
- Doing nothing and allowing the standard of protection to reduce as the condition of existing defences deteriorate
- Landowners, community and the EA exploring a voluntary managed realignment scheme to construct new defences, provide an improved standard of protection for property and allow some land to be used for habitat creation. Property access will be an important consideration of any scheme.
- Adapting properties (residences and farm buildings), property access and land use to become more resilient to flooding.

## What can be done?

At **Elmore Back** the EA intends to continue maintenance of the existing defences into the medium to long term future (about 40 to 50 years, depending on actual sea level rise experienced and the amount of damage to defences in overtopping events).

At **Weir Green** the EA intends to continue to maintain the defences as funds allow. Measures to sustain the current standard of protection by raising the defence in response to climate change may be required after 2030. Under the current funding policy this is likely to be at least partly funded by public money.

The EA carrying out maintenance on the defences depends on the annual availability of public funding. Please see the Supporting Information for further explanation of EA maintenance and funding.

## How these options were reached

The Elmore Back and Weir Green defences are in good condition so are likely to require minimal maintenance in the short term.

The long length of the **Elmore Back** defence and the relatively low number of properties benefiting from it means that the cost of raising the height of the entire length of the defence on its current line would be more than the economic benefits. Under the existing funding policy, it is unlikely that public funding can be used to raise the entire length of the defence.

The cost of maintaining the current standard of protection of the shorter length of the **Weir Green** defence is likely to be less than the economic benefits.

## Ongoing discussions

The EA, landowners, community and other organisations will seek to explore further what could be achieved by working in partnership to maximise maintenance with the funding that is available each year.

The EA will seek to work with the community to address concerns about erosion of the river bank and damage to flood defences from stock and vehicle traffic.