

How you can manage your own flood risk

Adrian Porter - May 2025



CHILTERNS
CHALK STREAMS
PROJECT

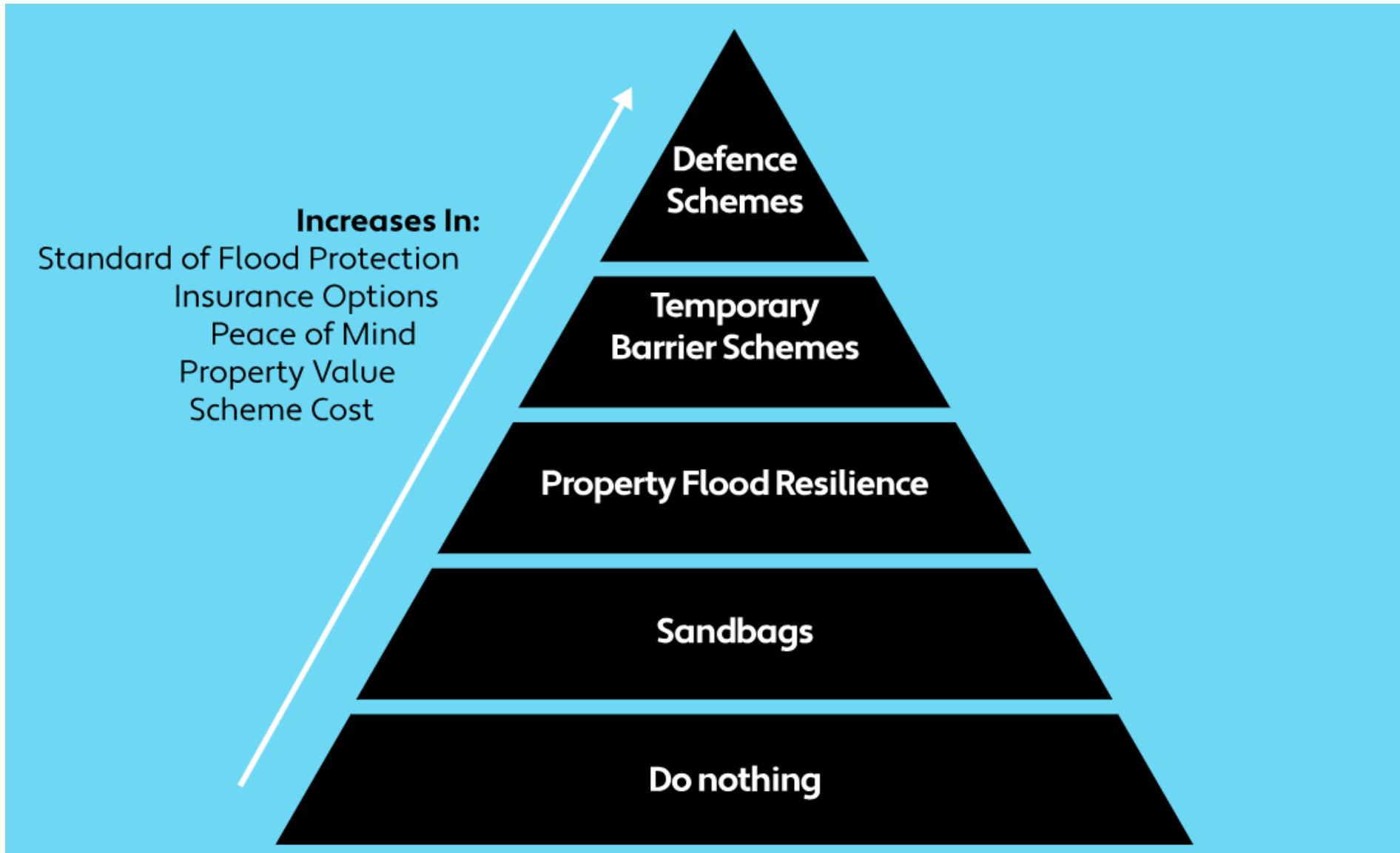


Chilterns
National
Landscape

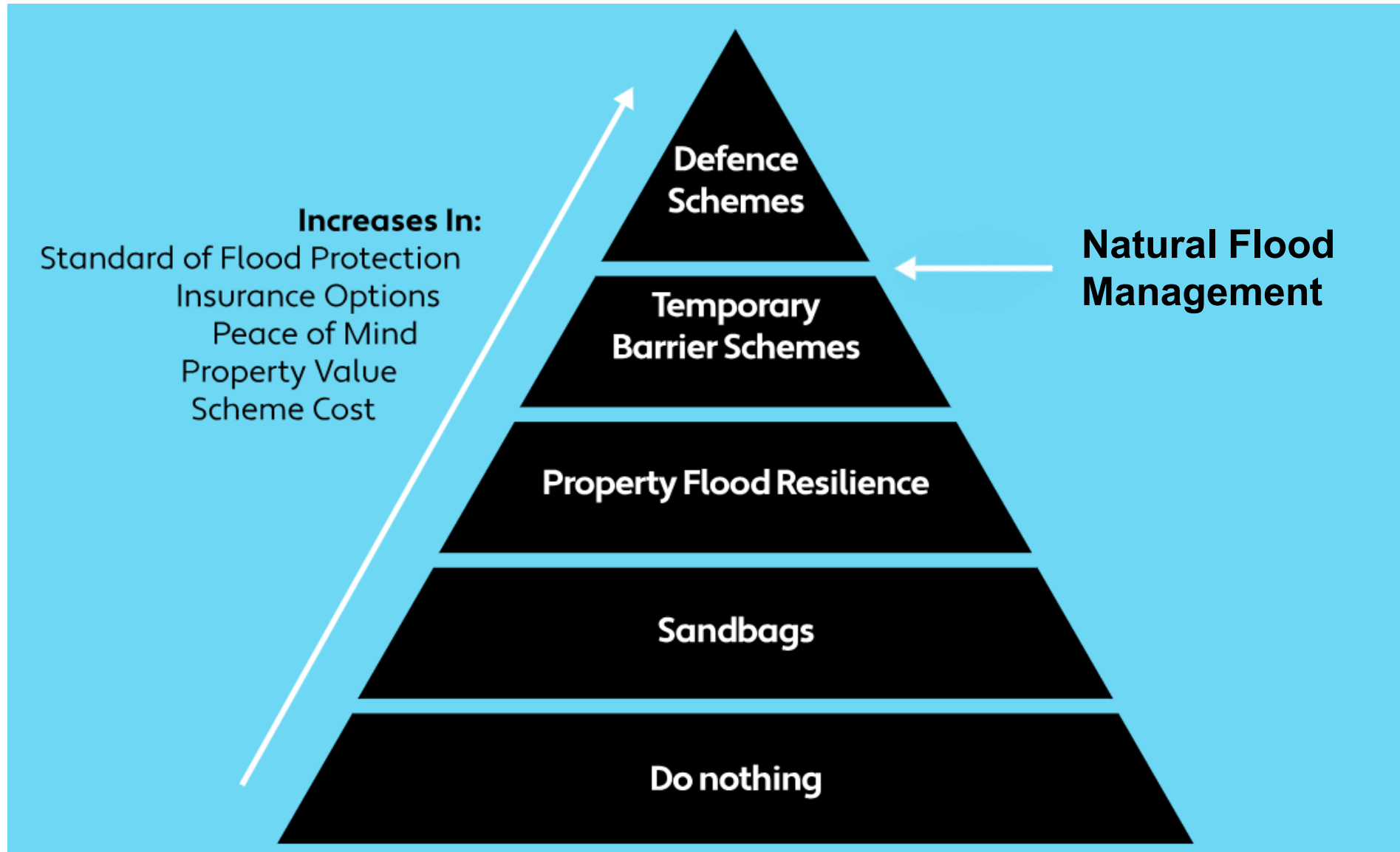
How you can manage your own flood risk

Adrian Porter - May 2025

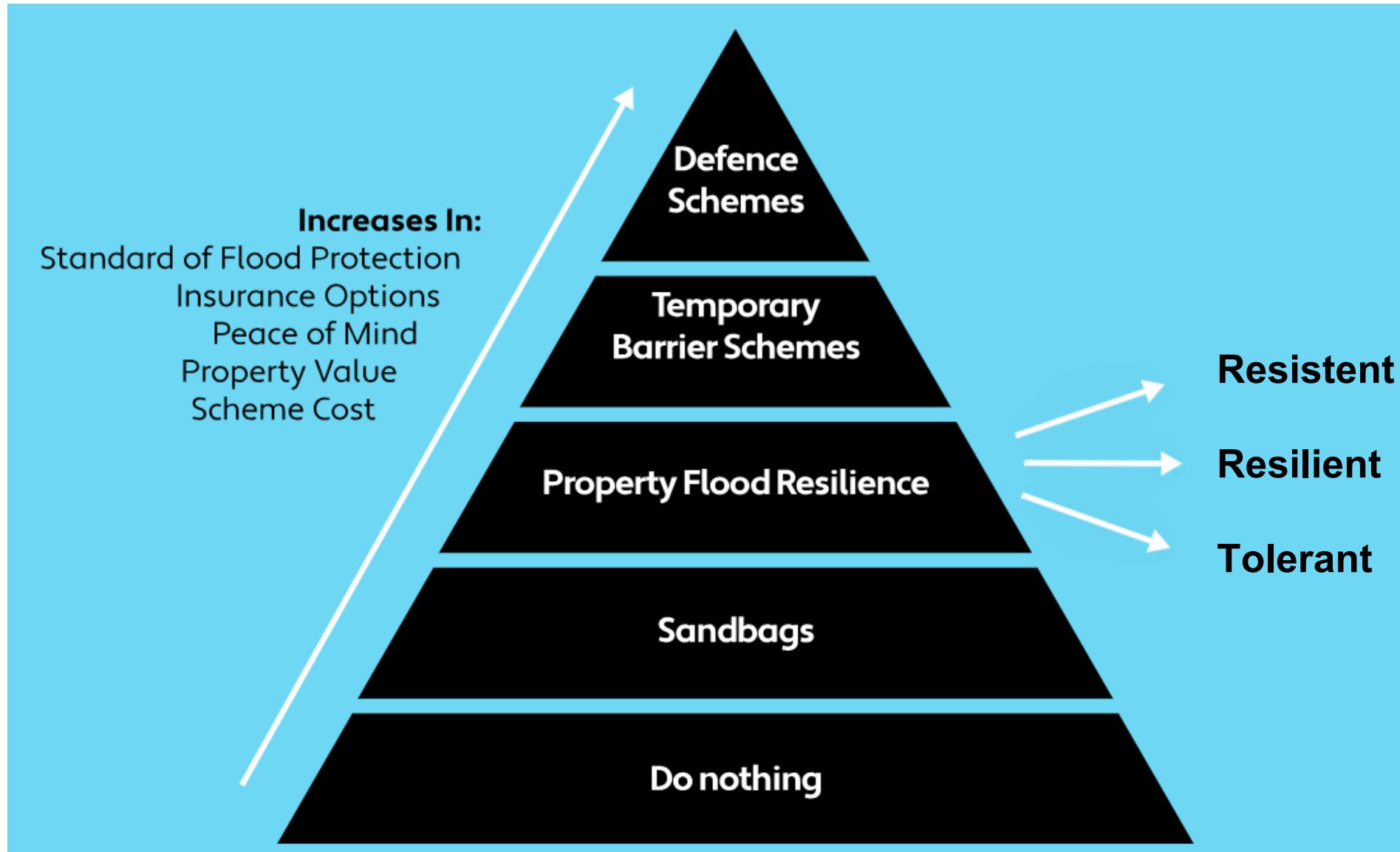
Flood defence hierarchy



Flood defence hierarchy



Flood defence hierarchy



Understanding flood risk (1)

Sources of Flood Risk

Flooding can occur from a range of different sources including:

Sea

Properties located on the coast can be at risk from tidal flooding during storms and high tide conditions. The impacts of climate change and sea level rise means that tidal flooding is likely to affect more properties more severely in the future.

Rivers

Fluvial flooding can occur along Main Rivers and Ordinary Watercourses.

Main Rivers are usually larger rivers and streams that have been designated and are the responsibility of the Environment Agency

Ordinary Watercourses include all other watercourses that have not been specified as Main Rivers and are the responsibility of Lead Local Flood Authorities.

Surface Water

Even if you are not located near a river or the sea, surface water flooding after periods of heavy and prolonged rainfall can create a flood risk, particularly in steeper catchments.

Groundwater

During long periods of heavy rainfall groundwater levels can rise towards the surface.

This can lead to water flooding up through the ground into or around a property.

Sewers

Blockages or additional floodwater in the sewers can reduce the capacity of the network. This can lead to sewage backing up causing sewage flooding. Combined sewer networks are particularly at risk of being impacted by flooding.

Reservoirs

Reservoir flooding is extremely rare in the UK due to very strict regulations and mandatory assessments. Reservoir failure can lead to significant flooding and will cause very fast flowing water to flow along the watercourses downstream of a reservoir in large quantities.



CHILTERN
CHALK STREAMS
PROJECT



Understanding flood risk (1a)

Sources of Flood Risk

Flooding can occur from a range of different sources including:

Sea

Properties located on the coast can be at risk from tidal flooding during storms and high tide conditions. The impacts of climate change and sea level rise means that tidal flooding is likely to affect more properties more severely in the future.

Rivers

Fluvial flooding can occur along Main Rivers and Ordinary Watercourses.

Main Rivers are usually larger rivers and those that have been designated as such are the responsibility of the Environment Agency. Ordinary Watercourses are smaller watercourses and are the responsibility of the local authority.

Surface Water

Properties located near a river or the sea, after periods of heavy and prolonged rainfall, can be at a flood risk, particularly if they are in low-lying areas.

Groundwater

During long periods of heavy rainfall groundwater levels can rise towards the surface.

This can lead to water flooding up through the ground into or around a property.

Sewers

Blockages or additional floodwater in the sewers can reduce the capacity of the network. This can lead to sewage backing up causing sewage flooding. Combined sewer networks are particularly at risk of being impacted by flooding.

Reservoirs

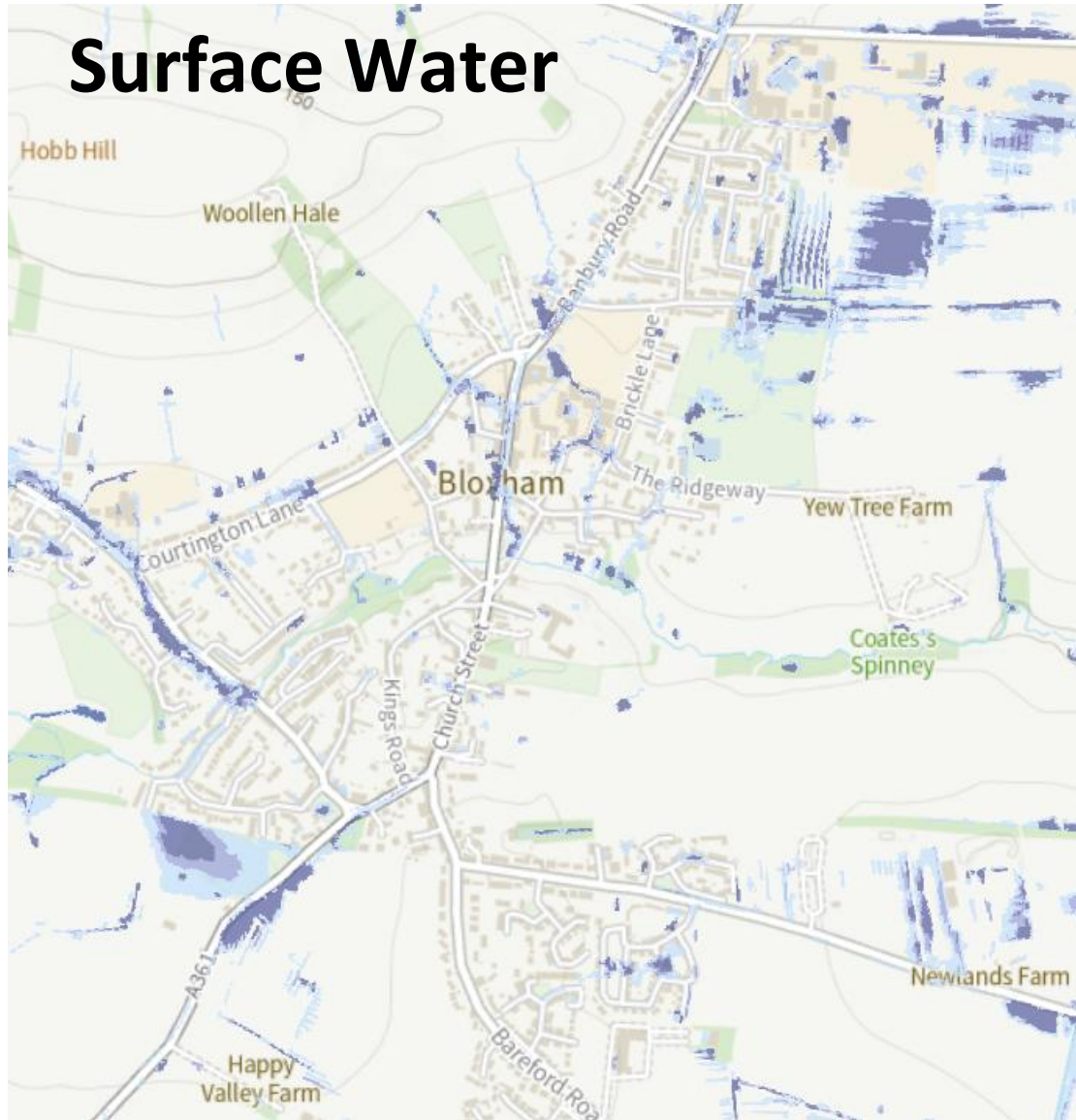
Reservoir flooding is extremely rare in the UK due to very strict regulations and mandatory assessments. Reservoir failure can lead to significant flooding and will cause very fast flowing water to flow along the watercourses downstream of a reservoir in large quantities.

Climate Change

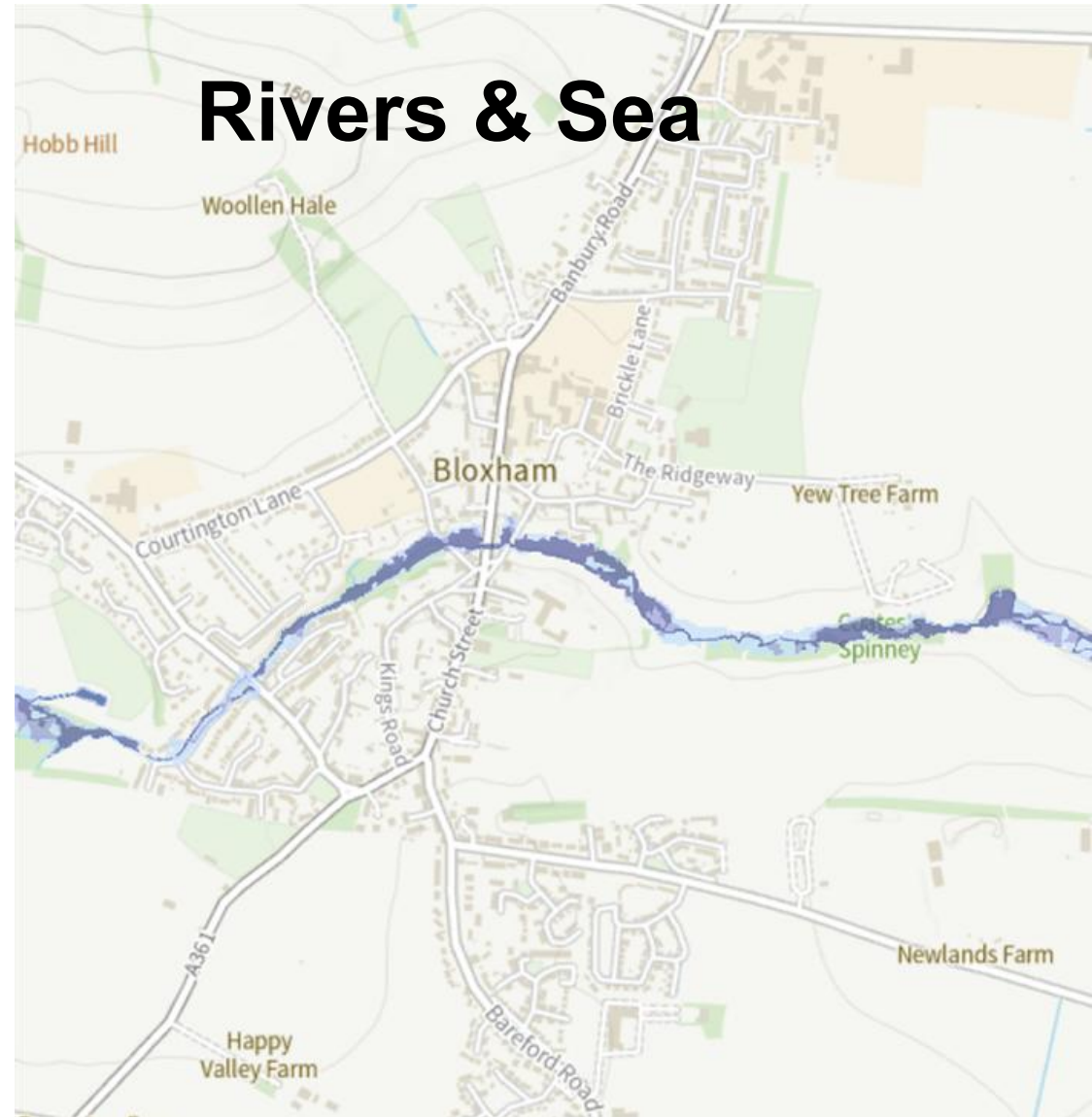


Understanding flood risk (2)

Surface Water



Rivers & Sea



<https://check-long-term-flood-risk.service.gov.uk/map>



CHILTERN
CHALK STREAMS
PROJECT



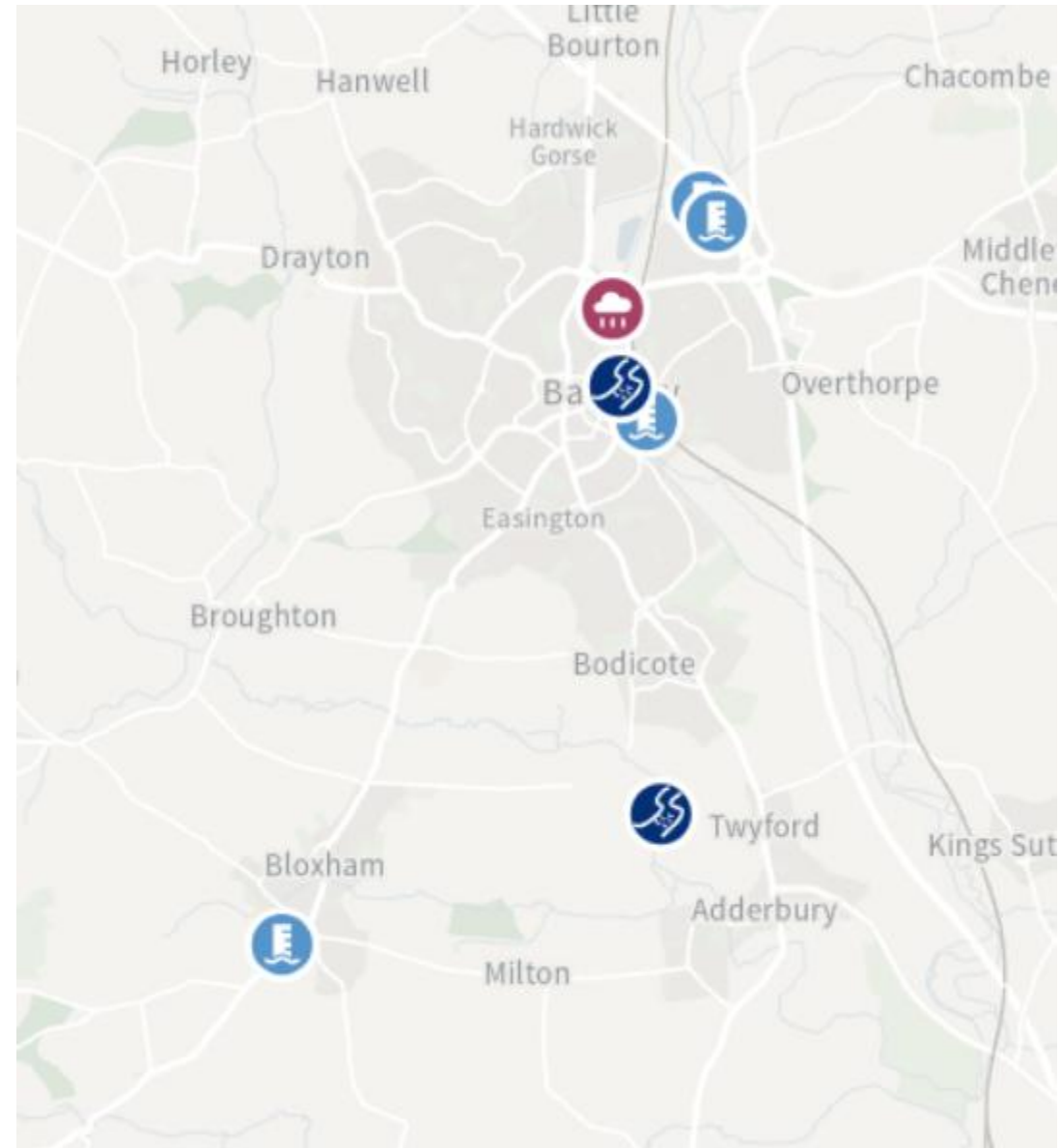
Chilterns
National
Landscape



Understanding flood risk (3)



<https://earth.google.com/web/>



<https://environment.data.gov.uk/hydrology/explore>

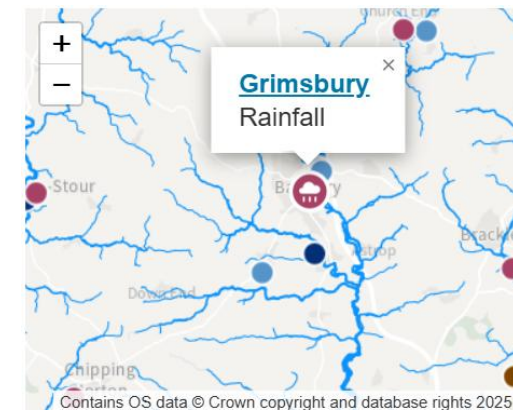
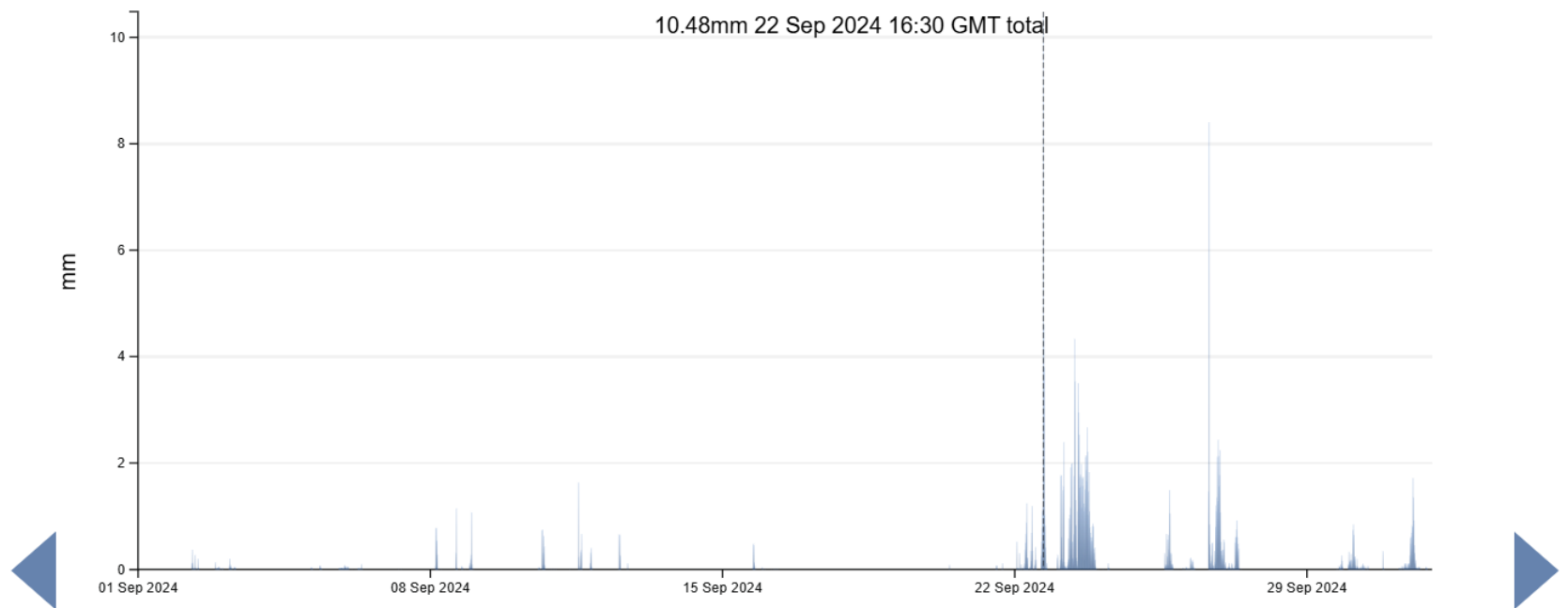
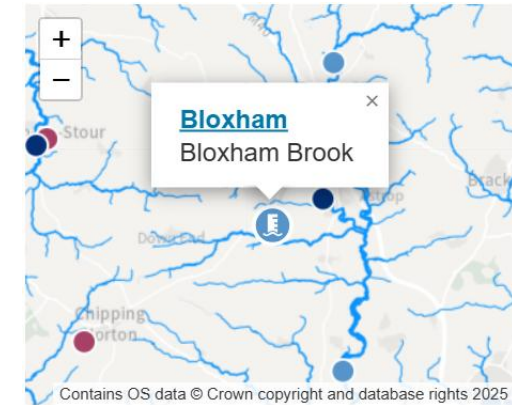
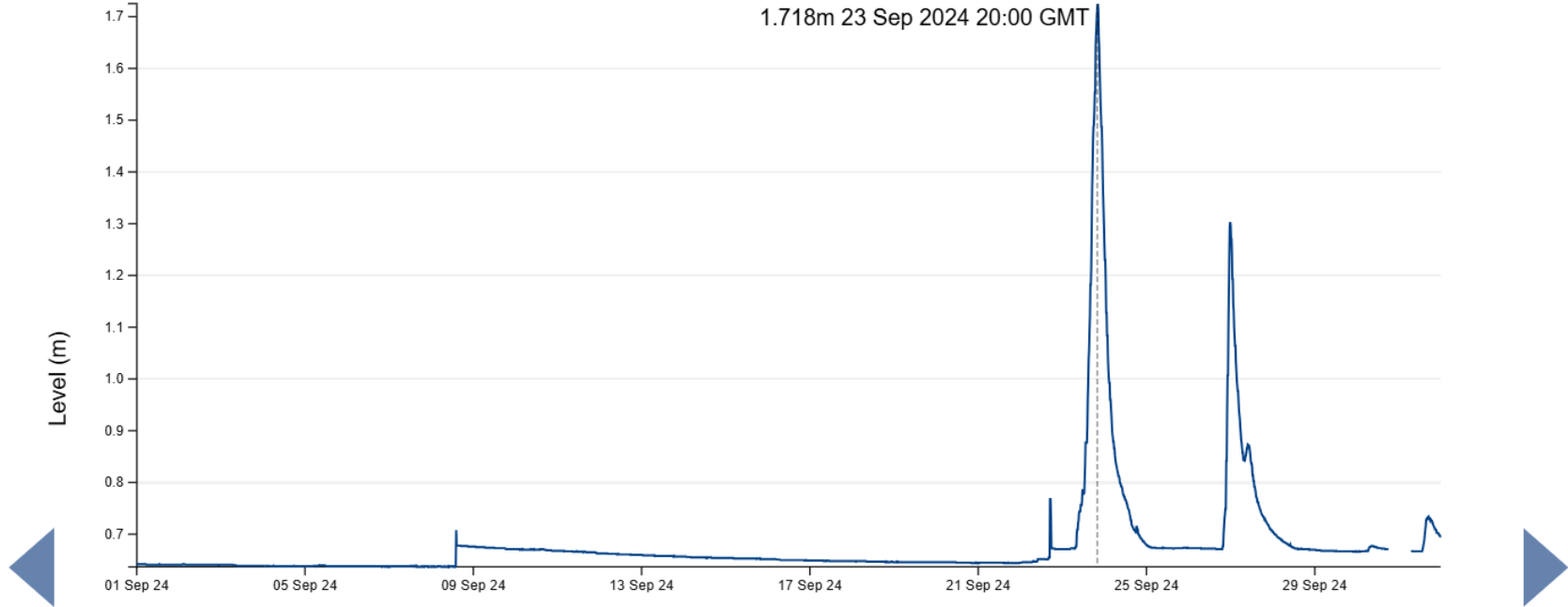


CHILTERN
CHALK STREAMS
PROJECT



Chilterns
National
Landscape





CHILTERNS
CHALK STREAMS
PROJECT



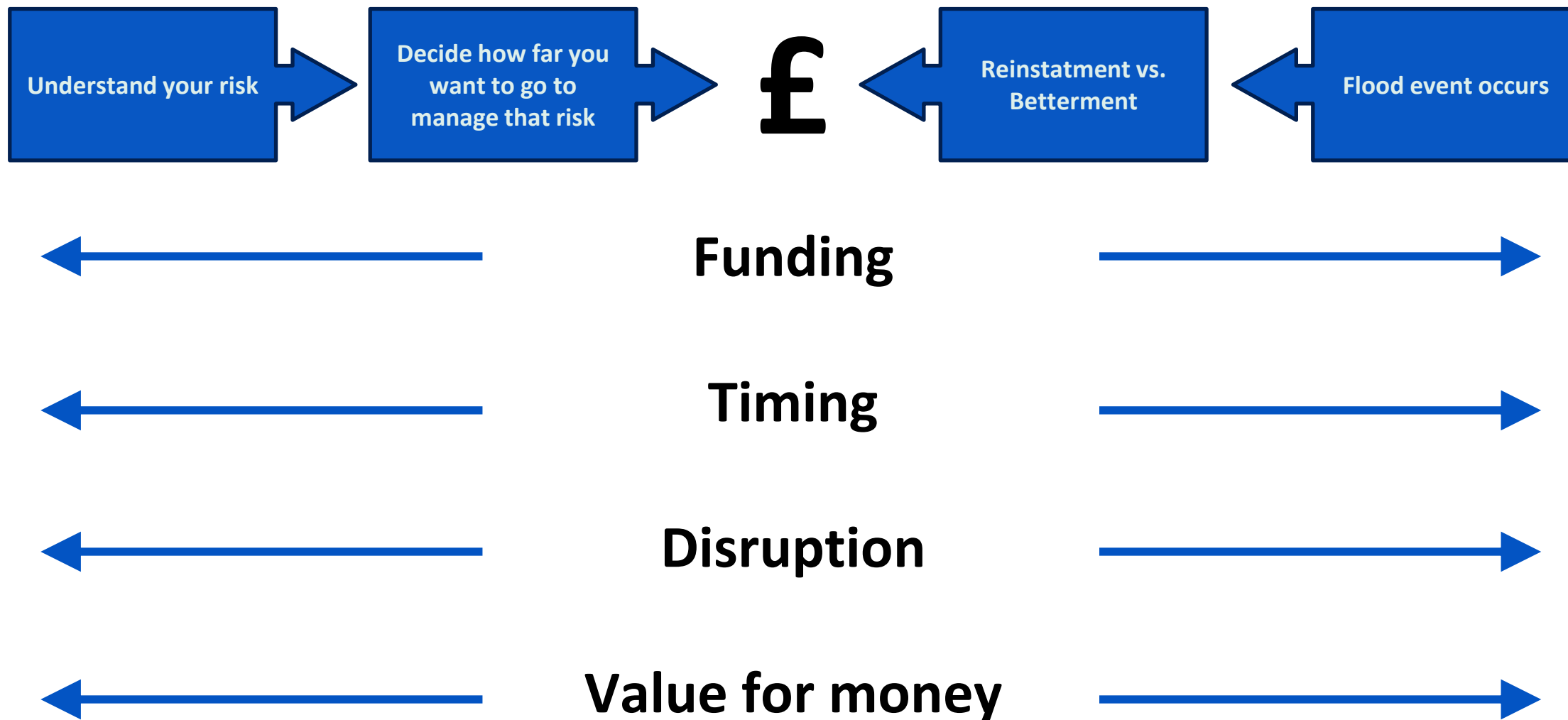
Chilterns
National
Landscape



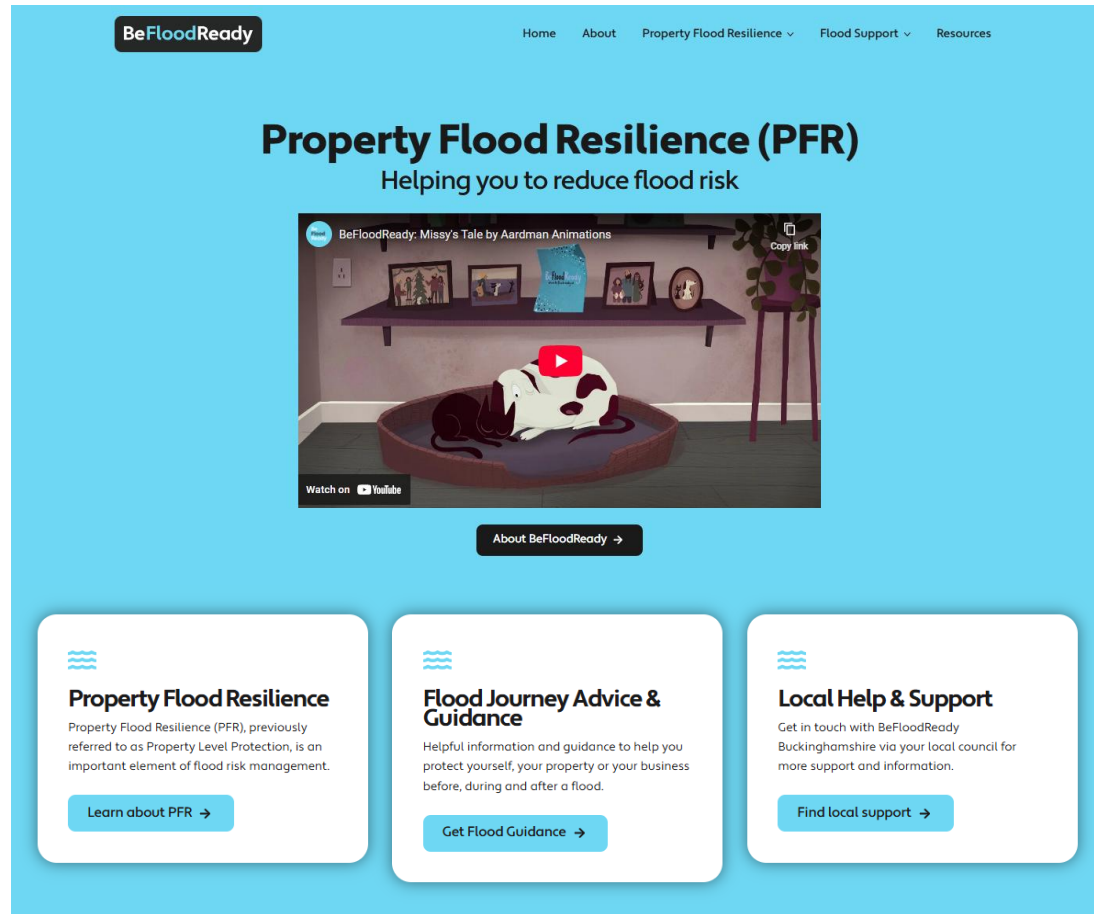
Approach to Property Flood Resilience

Proactive

Reactive



<https://www.befloodready.uk/>



The screenshot shows the BeFloodReady website with a light blue header. The main heading is 'Property Flood Resilience (PFR)' with the subtext 'Helping you to reduce flood risk'. Below this is a video player showing a cartoon dog in a bathtub. At the bottom, there are three white boxes with blue wave icons: 'Property Flood Resilience', 'Flood Journey Advice & Guidance', and 'Local Help & Support', each with a corresponding button.

BeFloodReady Home About Property Flood Resilience ▾ Flood Support ▾ Resources

Property Flood Resilience (PFR)

Helping you to reduce flood risk

BeFloodReady: Missy's Tale by Aardman Animations

Watch on YouTube

About BeFloodReady →

Property Flood Resilience

Property Flood Resilience (PFR), previously referred to as Property Level Protection, is an important element of flood risk management.

[Learn about PFR →](#)

Flood Journey Advice & Guidance

Helpful information and guidance to help you protect yourself, your property or your business before, during and after a flood.

[Get Flood Guidance →](#)

Local Help & Support

Get in touch with BeFloodReady Buckinghamshire via your local council for more support and information.

[Find local support →](#)

<https://www.oxfordshirefloodtoolkit.com/risk/prevention>



The screenshot shows the Oxfordshire Flood Toolkit website with a dark header. The main heading is 'Flood prevention' with the subtext 'Am I at risk? >'. The background is a dark, textured image of a flooded area.

Oxfordshire Flood Toolkit

Am I at risk? >

Flood prevention

Click on the icons below to read more about what can be done to help reduce the impacts of flooding.

Whether you're a homeowner, business owner, community or landowner there are a whole host of ways to help reduce the impacts of flooding and protect your property and land. By **exploring the images below** you'll be able to see what's out there to buy and also what you can do at home or together as a community.

So click on the tabs in the images below and take a step closer to becoming flood resilient!

External measures



Portable Pumps

If flood water enters a property the water level can rise. This can damage the fabrication of the building and the valuable possessions within. Portable pumps can be used in combination with other measures, or as a backup to manage flooding if water does enter the building.



Non-Return Valves

Flood water can flow up through wastewater pipes leading to flooding within a property. Non-return valves can be fitted to these pipes so wastewater can flow out, but flood water cannot enter. Non-return valves can also be fitted to the foul sewer, preventing sewage backing up through the system if the main sewer network is also impacted by flooding. If a non-return valve cannot be fitted, a bung can be used to block the toilet.



Tanking

The ground floor of a property can be tanked internally to resist the ingress of water through the walls and floor. Tanking can be particularly beneficial for buildings that are affected by groundwater flooding, however it can be costly and disruptive to install.



Self-Closing Airbricks

Many buildings have airbricks located at ground level around the perimeter for ventilation. These can be replaced with automatic airbricks that allow for air to circulate but do not allow water to enter.



Air Vent Protection

Air vents that are at flood risk should be removed and sealed if redundant. If the air vents are in use, it is advisable to raise them above flood level or as high as possible. When air vents cannot be raised above flood level, protection options should be discussed with and provided by the specialist contractor and approved by a HETAS gas safe engineer.



Sump Pumps

Where a property has a basement or a suspended floor, flood water can enter these voids and cause damage. A sump pump can be installed to control the water level by pumping water out at a faster rate than it is entering. This manages the water level and stops it from rising significantly which could cause damage to the building.



Flood Barriers

Flood barriers can be installed across doorways, gateways or other openings to stop water from entering a building. Barriers are demountable, so they can be easily fitted when there is a risk of flooding, and then removed and stored away when not needed.



Flood Doors

Flood doors automatically create a water resistant seal when closed. This provides a benefit over flood barriers which have to be manually fitted into place when required. Flood windows are also available and can be used to replace standard windows at flood risk.



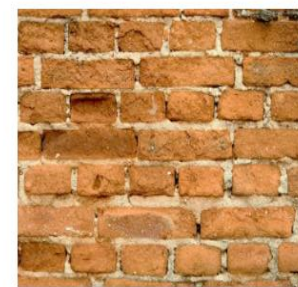
Flood Gates

Standard garden gates can be replaced with flood resistant flood gates. Like a flood door, once shut and locked, a water resistant seal is formed. Gates can be used around a property perimeter to keep water away from a building.



Silicone Sealing

Floodwater can enter properties via the gaps around wires and pipes in walls. Silicone can be used to seal these gaps and increase resilience.



Re-Pointing

Gaps or cracks in walls can allow flood water to enter. Re-pointing helps to seal these ingress routes, improving the overall condition of the wall and reducing water ingress.



Waterproof Spray

If flood water stays in contact with a building for a long period of time, it can soak through the wall. A waterproof breathable spray can be applied to external walls to reduce this.



CHILTERN
CHALK STREAMS
PROJECT

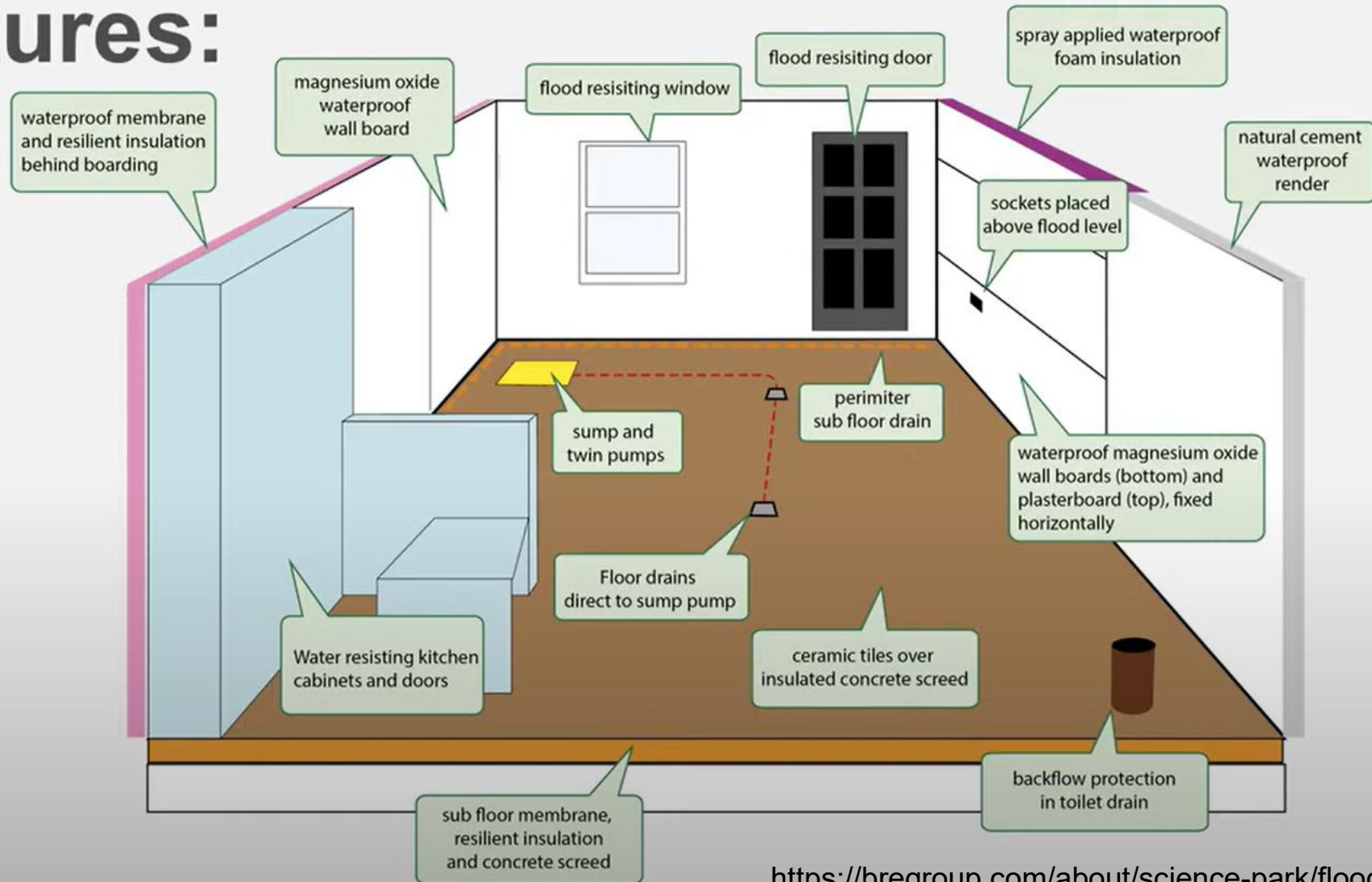


Chilterns
National
Landscape



Internal measures

Features:



<https://bregroup.com/about/science-park/flood-resilient-repair-house>



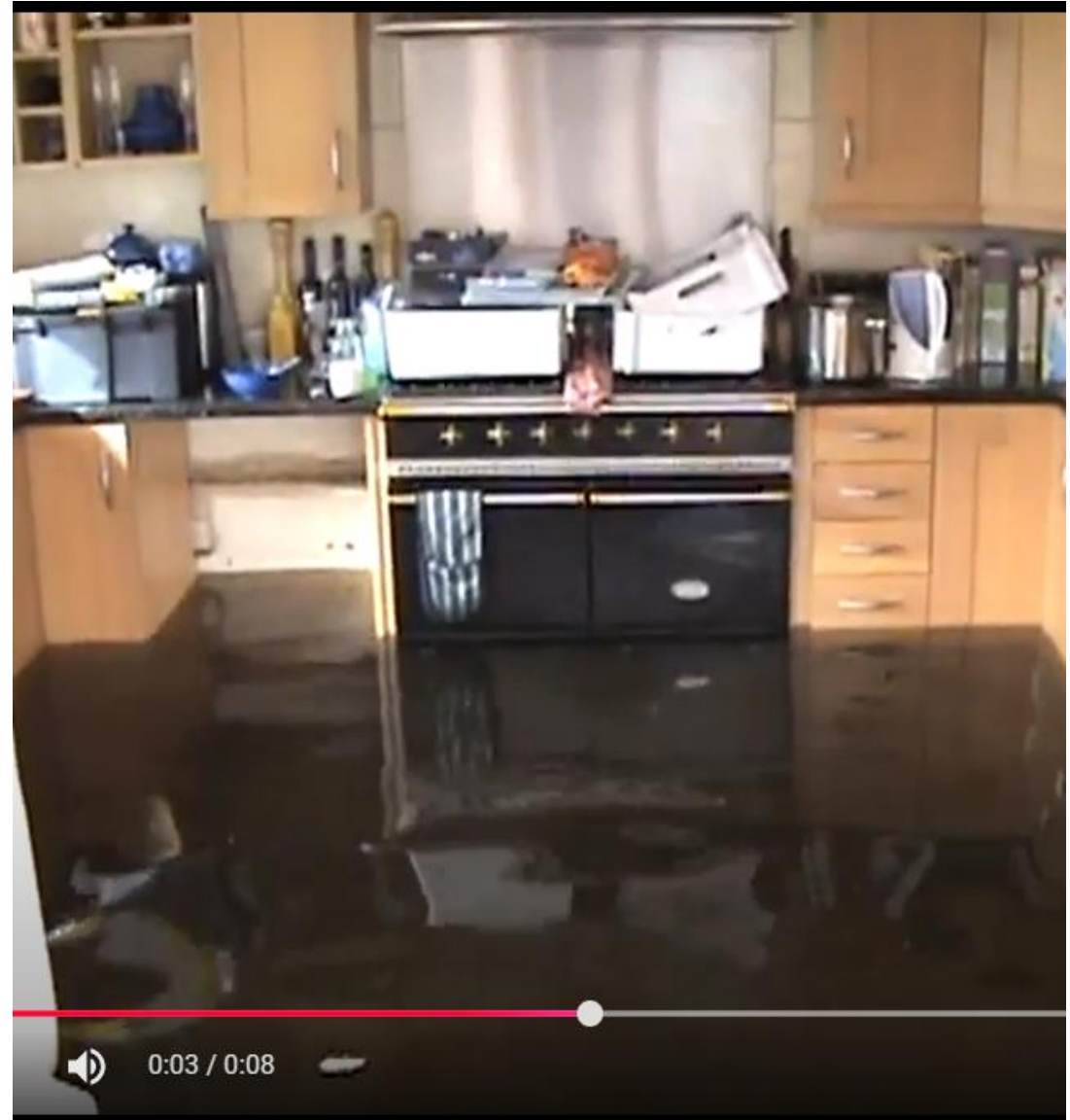
CHILTERN
CHALK STREAMS
PROJECT



Chilterns
National
Landscape



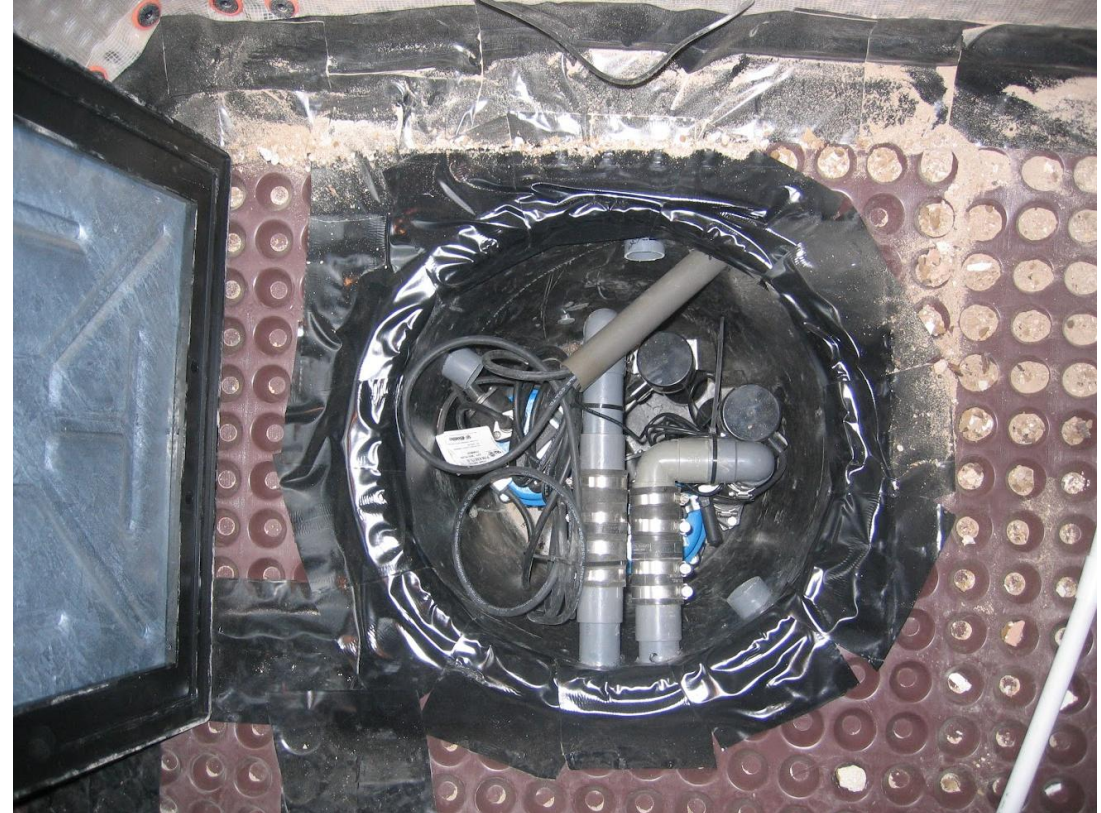
2007 – Summer floods



CHILTERN
CHALK STREAMS
PROJECT



2007 - Betterment



CHILTERN
CHALK STREAMS
PROJECT



2014 – Winter floods



CHILTERN
CHALK STREAMS
PROJECT



2014 – Winter floods (inside)



CHILTERN
CHALK STREAMS
PROJECT



2014 – Winter floods (inside)



CHILTERN
CHALK STREAMS
PROJECT



And now its over to you...



CHILTERN
CHALK STREAMS
PROJECT



General advice...

The National Flood Forum has a helpline that provides general support before, during and after a flood on issues including insurance, home re-instatement and home resilience. Contact the National Flood Forum charity: 01299 403 055 or see: <https://nationalfloodforum.org.uk/>.

We encourage owners of properties at risk of flooding to investigate how to make their homes more resilient for the future. Please visit our [Buckinghamshire – BeFloodReady](#) website to find out more about using Property Flood Resilience measures to mitigate the impact of flooding on your home in the future.

Homeowners who have already suffered damage from flooding can also ask their home insurers about the '[Build Back Better](#)' scheme. If their home insurance includes this scheme as part of the policy, the insurer should work with them to assess if additional flood resilience or resistance measures could benefit their home in the future. The scheme covers the cost of installing such measures up to the value of £10,000, over and above work to repair damage and loss caused by a flood.



CHILTERN
CHALK STREAMS
PROJECT



Chilterns
National
Landscape

