Allesley Flood Risk Management Community Information Event

7th November 2019

Coventry City Council

Environment Agency

THE wildlife TRUSTS Warwickshire

A wet summer?

Wet weather inspection, 24th September 2019
38.6mm rainfall over 2 days

Rainfall Data, Bablake Weather Station

385.4mm of rain June to September

Wettest June – September since 2007 (396.4mm)

Only 3 such periods have been wetter since 1870 (1878, 1879 and 2007).

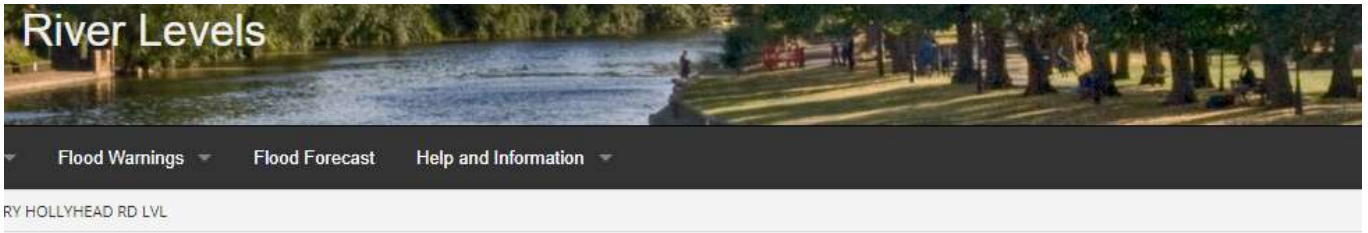
Rainfall comparison with previous flood events

Date	Flooding type	Event rainfall *Bablake Weather Station*	Notes
Previous flood events			
14/06/2007	River flooding	69.9mm / 2.75 in	19.8mm the following day
20/07/2007	River flooding	38.1mm / 1.50 in	
13/12/2008	River flooding	17.4mm / 0.69 in	29.6mm the previous day
24/11/2012	River flooding	37.4mm / 1.47 in	47.3mm over the previous 4 days
06/02/2016 **07/02/2016**	River / surface water flooding	32.2mm / 1.27 in	8.6mm the previous day. 20.2mm the previous 8 days
16/06/2016	Surface water flooding	27.8mm / 1.09 in	25.4mm the previous 3 days
Summer 2019 heavy rainfall			
12/06/2019	No flooding	**25mm / 0.98 in**	22mm on 10th, 10.2mm on 11th
30/07/2019	No flooding	**33.4mm / 1.31 in**	
24/09/2019	No flooding	**20.2mm / 0.80 in**	18.4mm the previous day
28/09/2019	No flooding	**33.6mm / 1.32 in**	

River level data
Holyhead Road Gauging Station

www.riverlevels.uk

Coventry City Council



River Sherbourne at Coventry Hollyhead Rd LVL

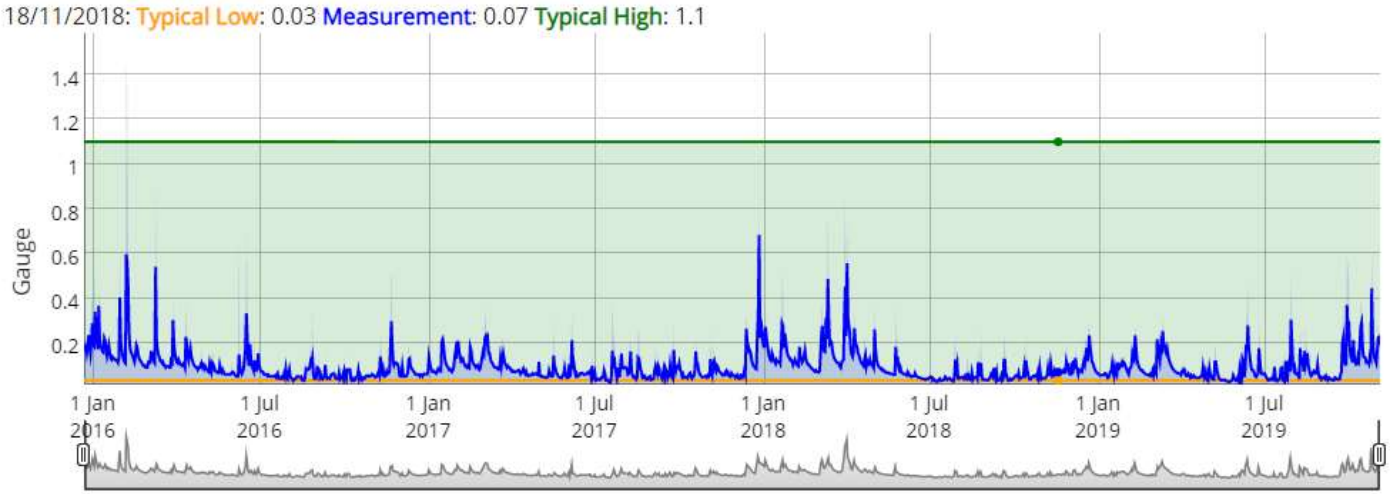
Current River Level: 0.175m, falling

Within the usual range for this location

Current level recorded at 4:00am, Tuesday 5th November GMT

Change from previous measurement: -0.019m

(recorded at 6:00pm, Monday 4th November GMT)



River level Comparison with previous flood events

Date	Flooding type	Daily rainfall *Bablake Weather Station*	River Level (post event) *Holyhead Road Gauging station*
Previous flood events			
14/06/2007	River flooding	69.9mm / 2.75 in	1.5m
20/07/2007	River flooding	38.1mm / 1.50 in	1.4m
01/08/2008	River flooding	28.6mm / 1.13 in	0.31m
13/12/2008	River flooding	12.4mm / 0.49 in	1.44m
24/11/2012	River flooding	37.4mm / 1.47 in	1.59m
06/02/2016 **07/02/2016**	River / surface water flooding	32.2mm / 1.27 in	1.44m 1.34m
16/06/2016	Surface water flooding	27.8mm / 1.09 in	0.69m
Summer 2019 heavy rainfall			
12/06/2019	No flooding	25.0mm / 0.98 in	**0.48m**
30/07/2019	No flooding	33.4mm / 1.31 in	**0.51m**
24/09/2019	No flooding	20.2mm / 0.80 in	**0.38m**
28/09/2019	No flooding	33.6mm / 1.32 in	**0.59m**

River levels have not been recorded over 1m at Holyhead Road since 7th February 2016

- the last river flooding event

Significant improvements made…

Ditch improvement works
Autumn 2016

Pipe improvement works
Spring 2018

Natural Flood Management
Spring 2019

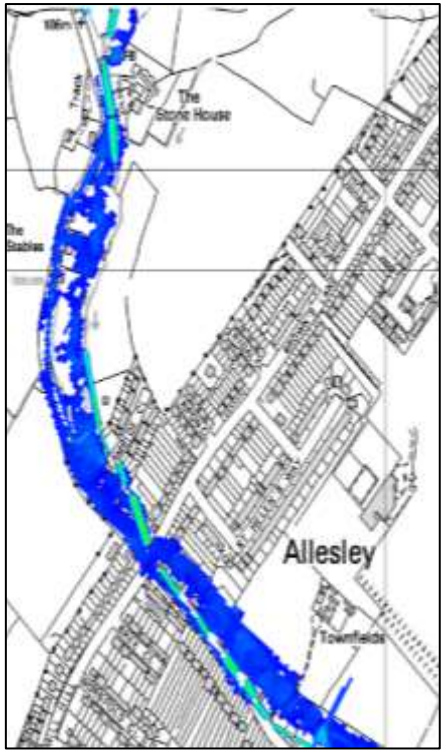
…but more work to be done

Sam Hooley, Capita

MODELLING EXISTING FLOODING

Flood Issues – Surface and River Water

Model run for a 1% Chance of Flooding in Any Given Year



Max Flood Extent – 9 hours

- Surface water causes flooding at the onset, later combined with high flows from the river
- Flow path from Washbrook Lane through the properties at Browns Lane to the gardens of Butt Lane
- Following threshold survey results 31 residential and 1 business properties are shown as flooding in this scenario

MODELLING OF OPTIONS

Options Carried Forward For Further Investigation:

Option 5: Wall along Washbrook Lane
Option 8: Reinstatement of the off-line Mill Pond with control structure, North of Hawkes Mill Lane
Option 9: Cattle grids or flow deflectors down Washbrook Lane
Option 11: Measures preventing flow route through houses on Browns Lane

Additional options included in the economic appraisal but not included in hydraulic modelling:
Option 12: Property Flood Resilience measures
Option 14: Combination of Option 11, Option 12 and Natural Flood Management measures

Options Modelled but Not Carried Forward:

Option	Description	Residential properties protected in the 1% Chance of Flooding in Any given Year (compared to current situation)
5	***Option 5 (Wall at Washbrook Lane)***	**- 1**
8	***Option 8 (Reinstatement of Mill Pond north of Hawkes Mill Lane)***	**0**
9	***Option 9 (Cattle grids or flow deflectors down Washbrook Lane)***	**0**

Based on these results ‘Option 5’, ‘Option 8’ & ‘Option 9’ were not taken forward to the economic appraisal as technically they do not reduce the risk of flooding

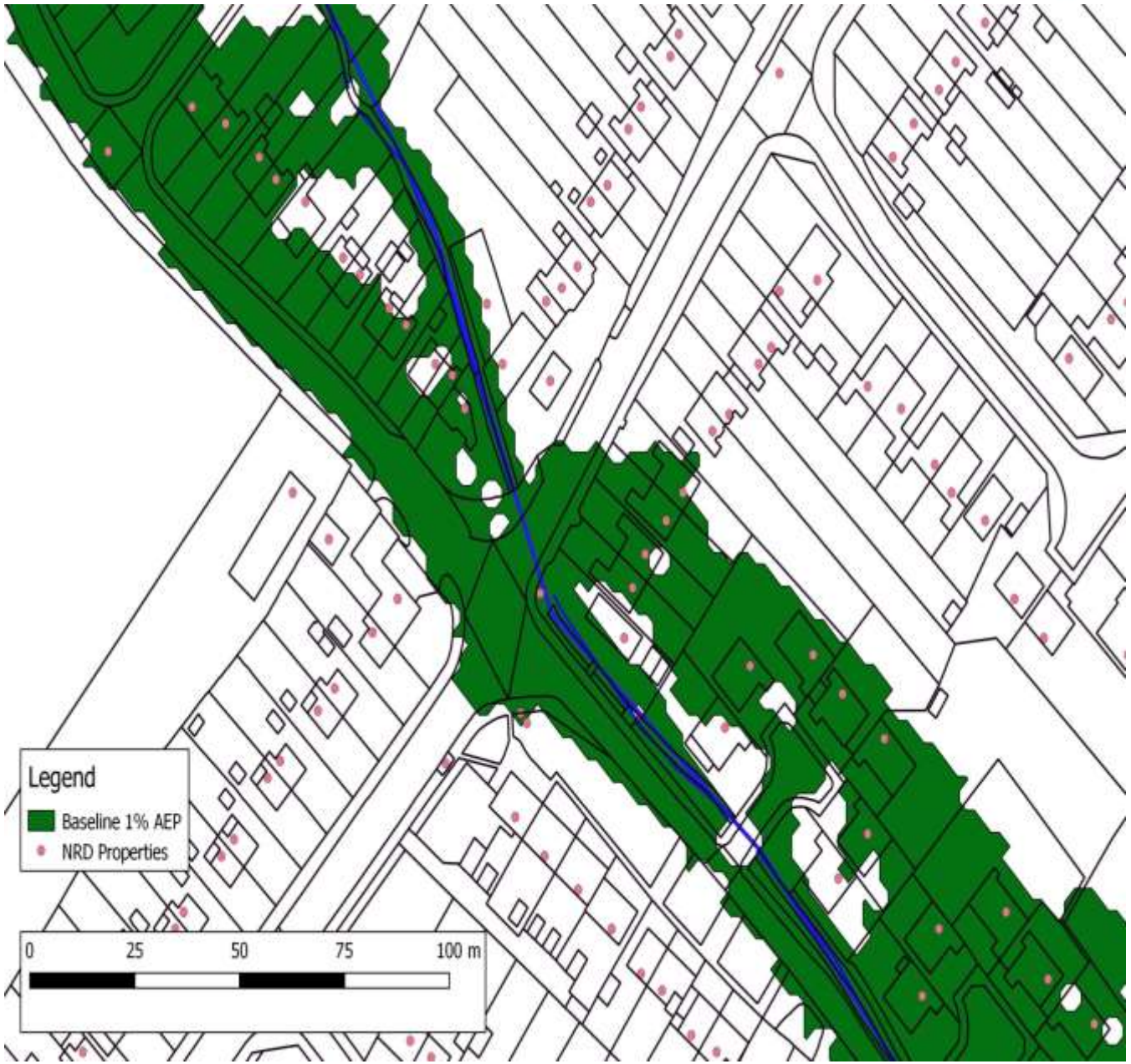
Options Modelled And Carried Forward:

Option	Description	Residential properties protected in the 1% Chance of Flooding in Any Year given (compared to current situation)
11	***Option 11 (Measures preventing flow route through houses on Browns Lane)***	**7**
12	***Option 12 Property Flood Resilience measures***	**31**
14	***Option 14 (Measures preventing flow route through houses on Browns Lane, Property Flood Resilience (PFR) and Natural Flood Management)***	**31**

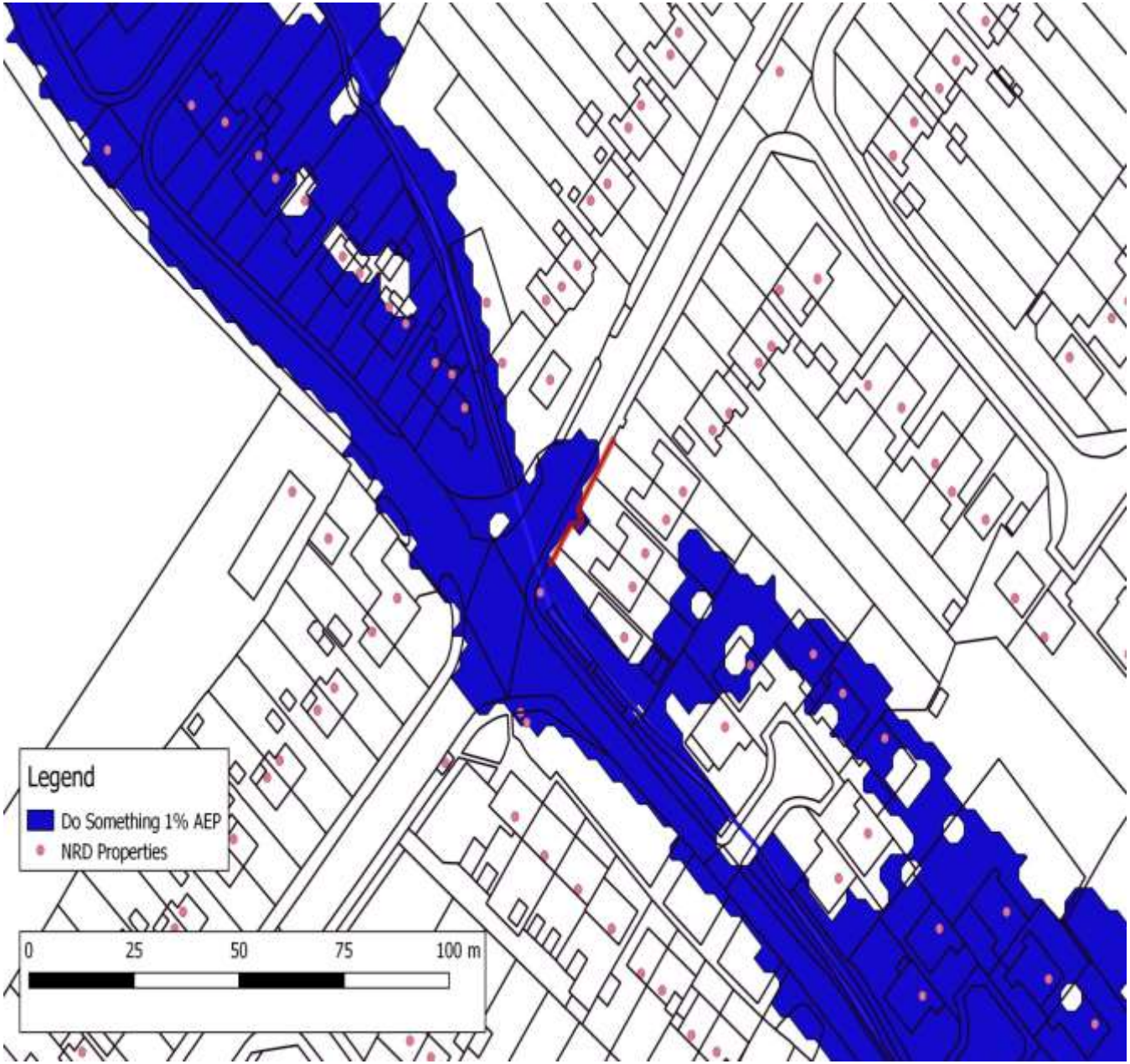
The results show these options can reduce the risk of flooding to properties and may be financially viable to progress

MODELLING OUTPUTS

Modelling Results - No Measures In Place

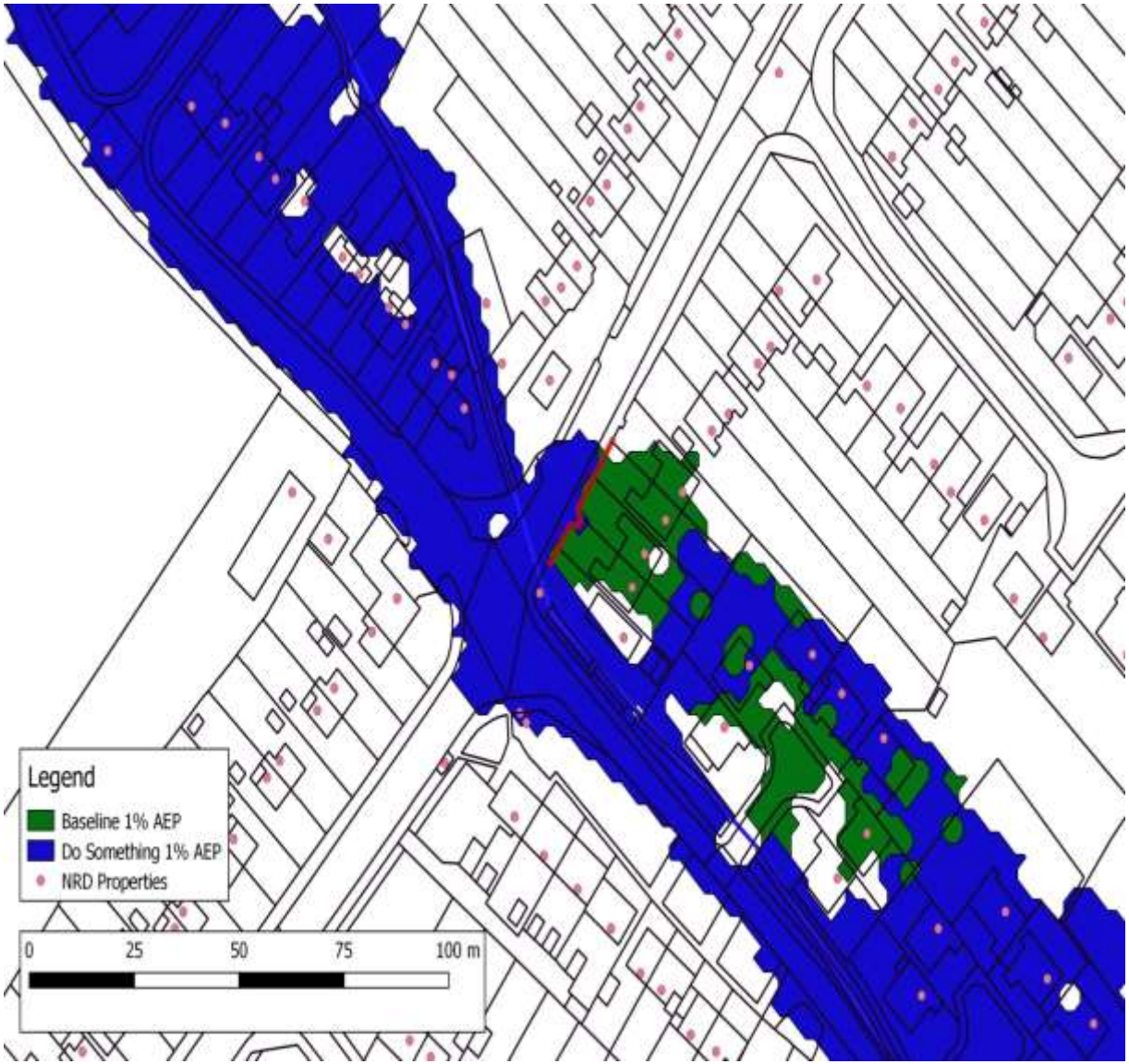


Modelling Output for Measures preventing flow route through houses on Browns Lane



Combined Modelling output

Combination of preventing flow off Browns Lane and Property Flood Resilience is the preferred option we plan to take forward



Next Steps

Melanie Dinnis

Environment Agency, Project Manager

Environment Agency

Options being taken forward

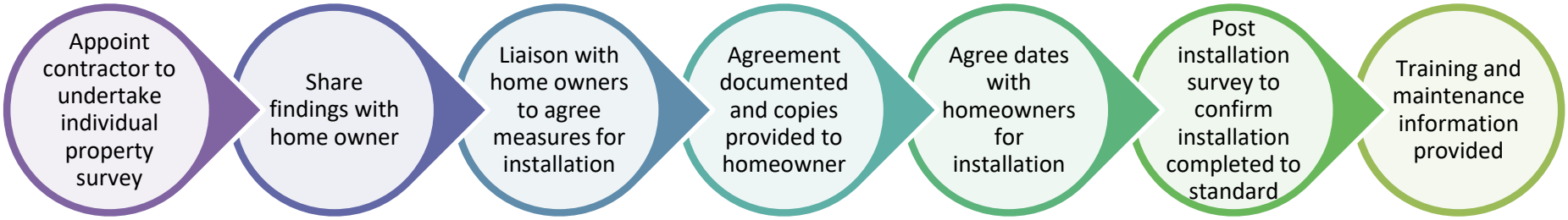
- Property Flood Resilience Measures

- Natural Flood Management

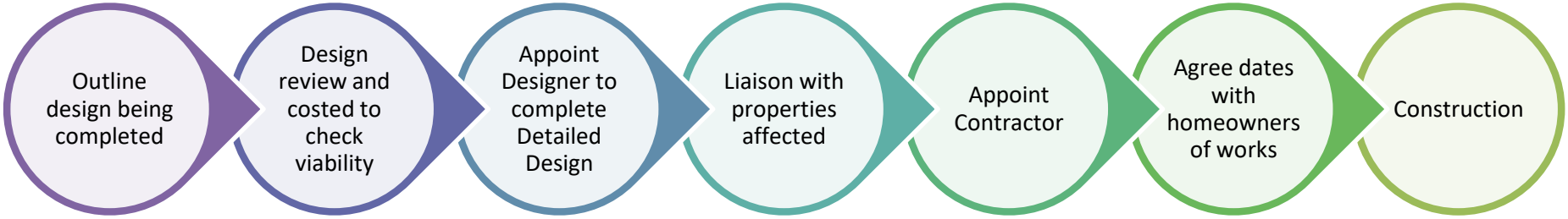
- Measures Preventing Flow Route through houses on Browns Lane

Next Steps

Property Flood Resilience



Measures Preventing Flow Route through Houses on Browns Lane



Door Protection

Protection from Other Flow Routes

Non-return Valves

Airbricks

Sump and Pump

Push Fit Valve

Approvals Prior to Installation

Funding to be confirmed

Final Business Case to be completed and Approved

Upper Sherbourne Natural Flood Management

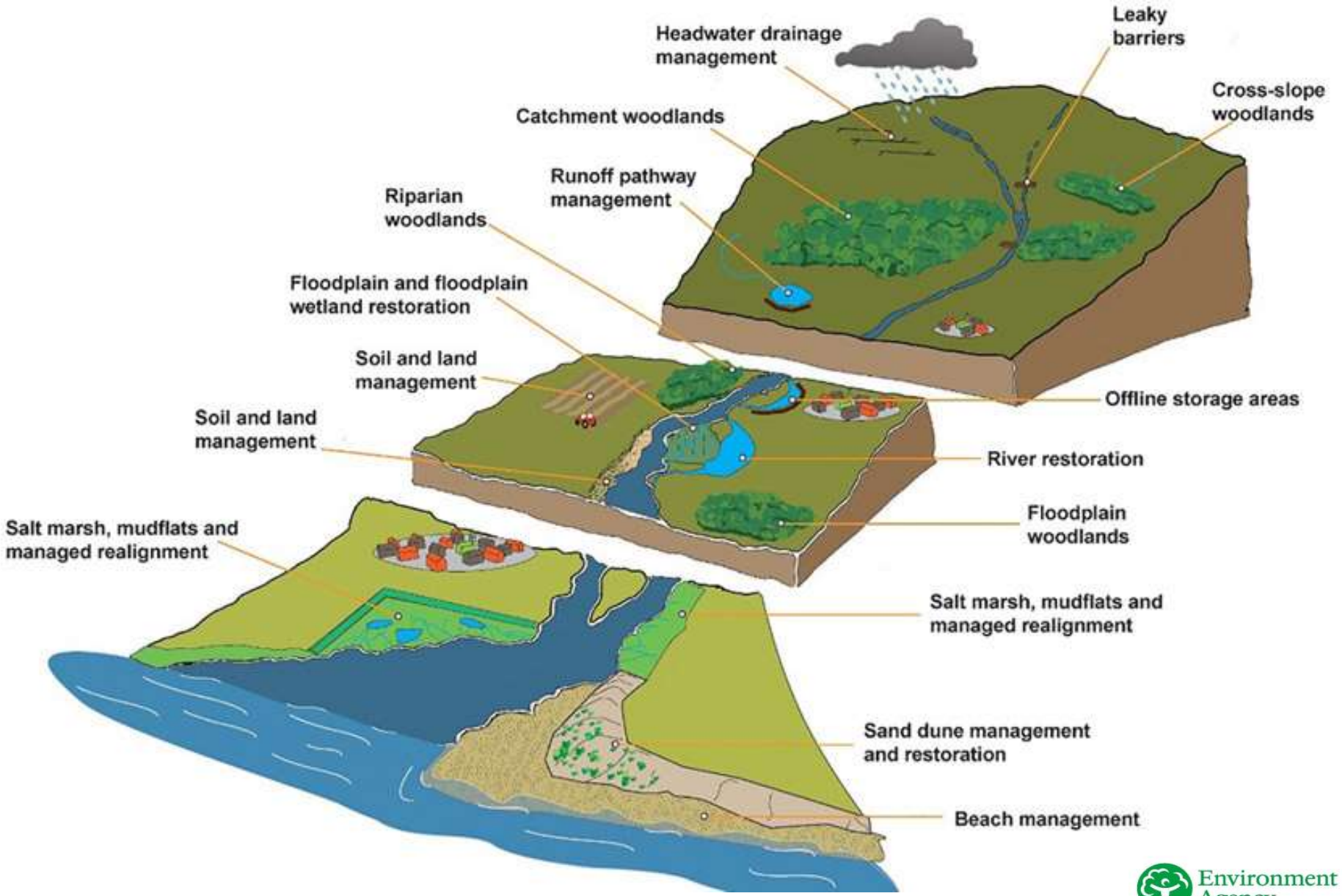
What is natural flood management?

1. **Slowing water down –** by installing woody debris, planting hedges and creating buffer strips.

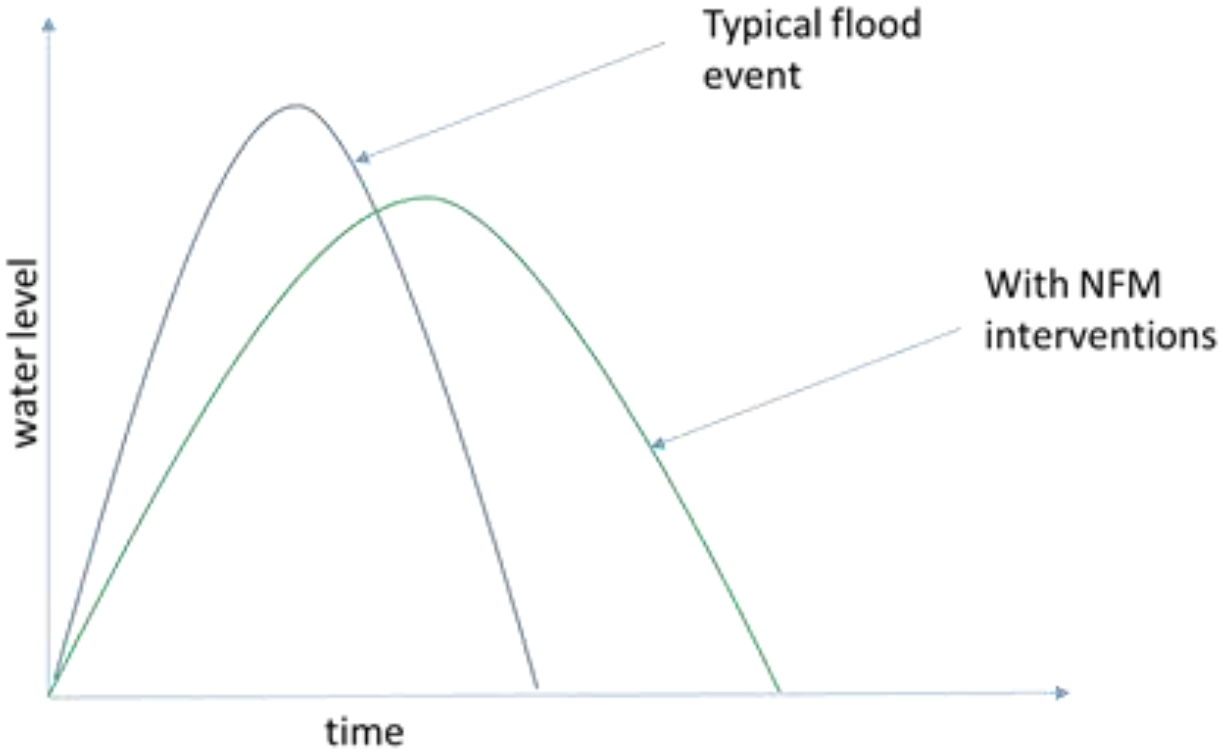
2. **Storing water** – by creating capacity in ponds, scrapes, swales and ditches so that they fill and then empty slowly after 12-24 hours.

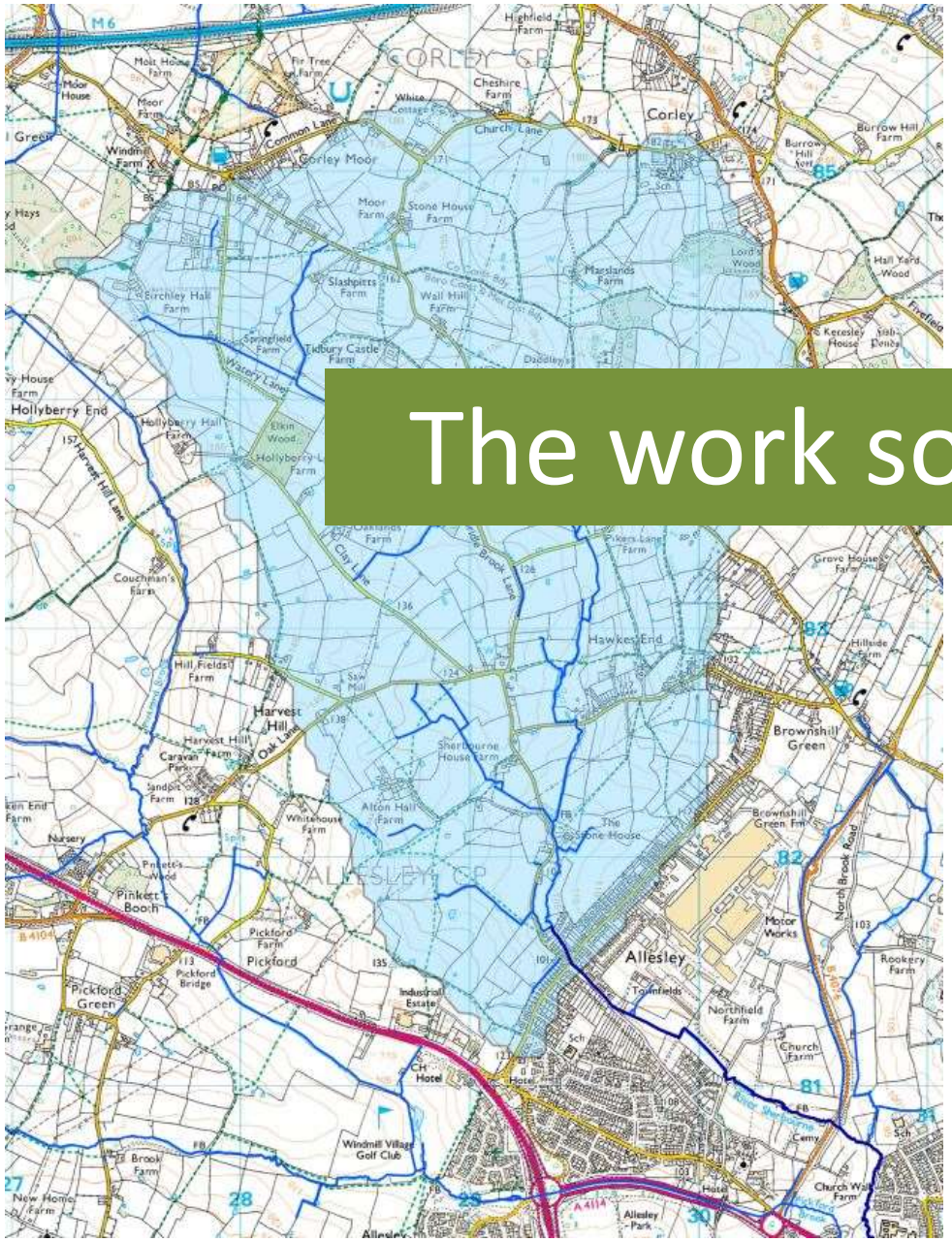
3. **Intercepting rainfall** - Vegetation, especially tree leaves, intercept rainfall so it doesn't reach the ground. Water is then evaporated from the leaves, reducing the volume of flood water. Trees can reduce the amount of water reaching the ground by 25 – 45%.

4. **Increasing soil infiltration** – by improving soil structure and reducing compaction, which can increase the volume of water which is stored in the soil.


Headwater drainage management
Leaky barriers
Cross-slope woodlands
Catchment woodlands
Runoff pathway management
Riparian woodlands
Floodplain and floodplain wetland restoration
Soil and land management
Offline storage areas
Soil and land management
River restoration
Floodplain woodlands
Salt marsh, mudflats and managed realignment
Salt marsh, mudflats and managed realignment
Sand dune management and restoration
Beach management
Environment Agency

Hydrograph comparison





The work so far

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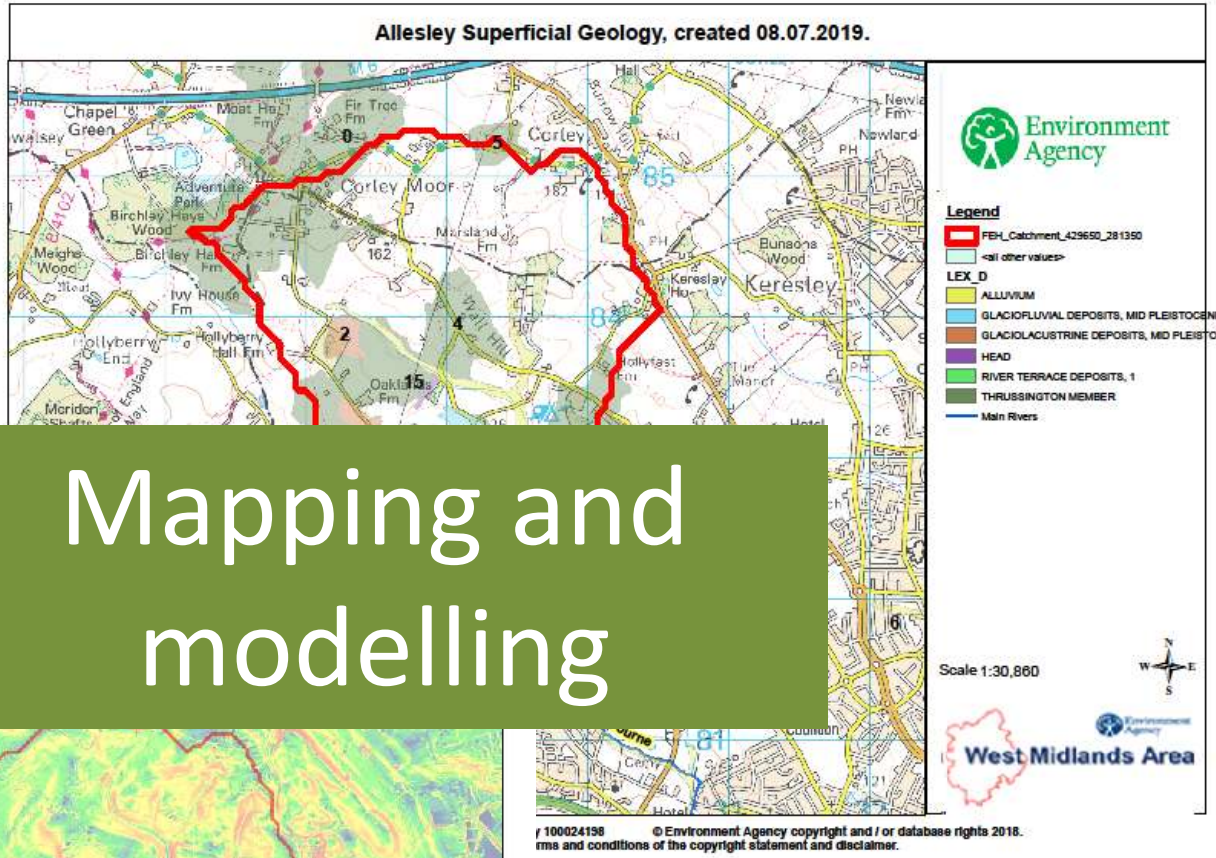
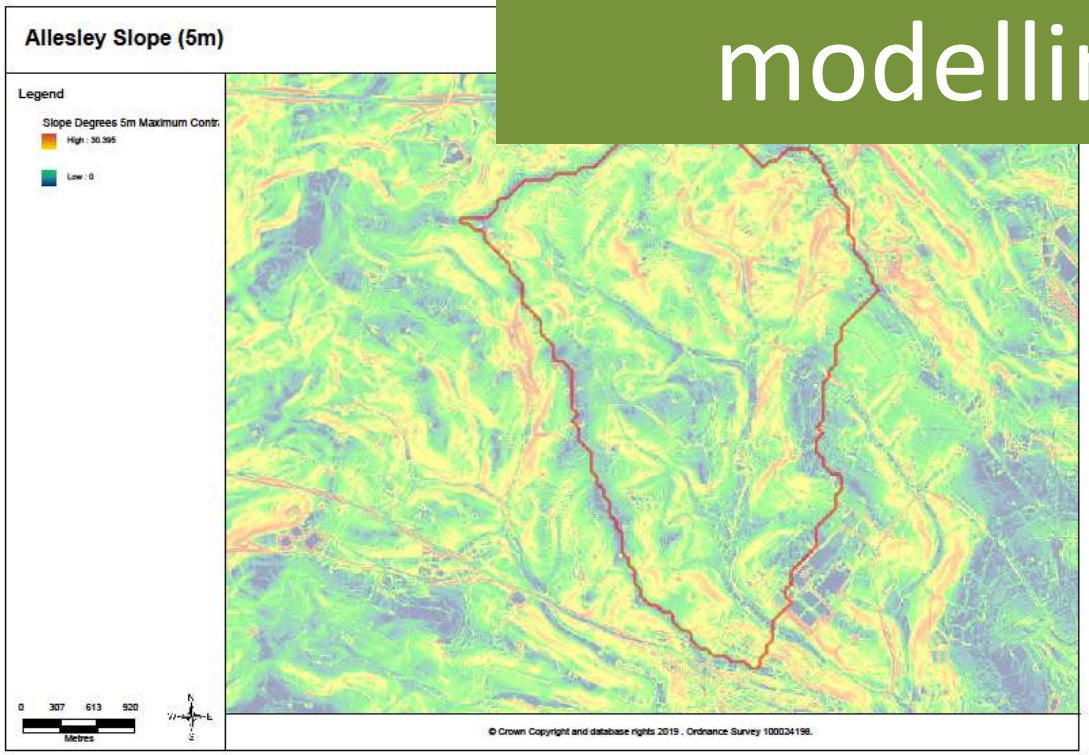
Warwickshire



Mapping and modelling



Walkover surveys

Landowner engagement

NFM installation

NFM installation

Monitoring, maintaining and improving

Further NFM planning

Further NFM planning

Monitoring results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What Happens Next?

Winter 2019/2020

- Property Flood Protection Surveys
- Natural Flood Management install
- Engagement with home owners

Spring 2020

- Liaison with home owners to agree Property Flood Resilience measures
- Appoint Contractor

By Spring 2021

- Complete install Property Flood Resilience measures

Thanks for Listening

To view this information after the event,

please visit:

www.coventry.gov.uk/SherbourneFRM

Coventry City Council

Environment Agency

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THE wildlife TRUSTS Warwickshire

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