

# **North West RFCC**

**11 July 2025**

# Agenda Item 3

## **Report from the RFCC Finance & Business Assurance Subgroup**

Presented by Adrian Lythgo, Adam Walsh and Sally Whiting

# North West RFCC Capital Investment Programme

## 2024-25 Outturn

### Properties

Area	Target	Claimed
CLA: Cumbria and Lancashire	1075	960
GMMC: Greater Manchester, Merseyside, and Cheshire	426	299
Cross Partnership	56	93
Total	1557	1352

### Spend

North West		BUDGET	End of year	
		BUDGET (£k)	ACTUALS (£k)	VARIANCE
GIA	EA	£85,444,494	£87,949,138	£2,504,644
	RMA	£18,121,000	£16,927,349	-£1,193,651
	TOTAL	£103,565,494	£104,876,487	£1,310,993
LOCAL LEVY	EA	£6,930,000	£4,957,000	-£1,973,000
	RMA	£922,000	£877,000	-£45,000
	TOTAL	£7,852,000	£5,834,000	-£2,018,000
PF	EA	£4,381,728	£1,668,021	-£2,713,707
	RMA	£2,236,500	£93,545	-£2,142,955
	TOTAL	£6,618,228	£1,761,566	-£4,856,662
TPE	EA	£96,756,222	£94,574,159	-£2,182,063
	RMA	£21,279,500	£17,897,894	-£3,381,606
	TOTAL	£118,035,722	£112,472,053	-£5,563,669

### Capital Efficiencies Claimed

Area	24-25
CLA: Cumbria and Lancashire	£1,765,880
GMC: Greater Manchester, Merseyside, and Cheshire	£1,657,496
Total	£3,423,376

Authority	Total GiA Spend £	10% Efficiency Target £	Efficiency Claim Value £	Variance (Target vs Claimed) £	Variance (Target vs Claimed) %
EA	87,949,138	8,794,914	3,269,428	-5,525,486	-63%
RMA	16,927,349	1,692,735	153,948	-1,538,787	-91%
Total	104,876,487	10,487,649	3,423,376	-7,064,273	-67%

# Top spending projects 2024-25

Project Name	RMA Name	County	Actual Spend - 24/25
Kendal Appraisal Package Kendal FRM Scheme	Environment Agency	Cumbria	£19,122,122
River Roch, Rochdale & Littleborough Flood Risk Management Scheme	Environment Agency	Greater Manchester	£18,457,810
Preston and South Ribble	Environment Agency	Lancashire	£13,698,940
Wyre Beach Management Scheme	Wyre Borough Council	Lancashire	£9,813,367
Lower Risk Debris Screen Programme - GMMC	Environment Agency	Cross Partnership	£4,351,922
Carlisle Appraisal Package Appleby Town Centre	Environment Agency	Cumbria	£3,808,854
ENVCatterallBridgeReplacement	Environment Agency	Lancashire	£2,944,182
Radcliffe & Redvales FRM Scheme	Environment Agency	Greater Manchester	£2,303,661
Blackpool Beach Nourishment Scheme	Blackpool Borough Council	Lancashire	£1,720,000
River Calder, Padiham	Environment Agency	Lancashire	£1,516,034



# 2024-2025 Resource Maintenance End of Year Position

	Budget (£)	Final Position (£)
CLA	£6,230,000	£6,176,484
CLA additional spend	£1,850,000	£1,850,000
GMC	£5,698,000	£5,605,053

Notes:

CLA received permission to overspend on Asset Electricity Costs and Flood Basin Operation Compensation Payments – this equated to an additional £1.85million.

CLA end of year position was 99% of budget.

GMMC end of year position was 98.4% of budget. This was in order to balance overspend across the wider Ops team and keep within agreed budgets.

# North West RFCC Investment Programme Overview: 2025-26

What outcomes are we delivering?

		<b>* <u>North West</u></b>	<b><u>North West</u></b>	<b>Actual to</b>
		<b>Target</b>	<b>Forecast</b>	<b>date</b>
		5,716	6,751	0

Are we spending the funding we have secured?

	<b>Capital funding</b>	<b>Capital forecast</b>
	<b>available</b>	
	<b>£135.153 million</b>	<b>£141.060 million</b>

# Top Spending Projects Forecasts in 2025-26

Project Name	RMA Name	County	Forecast Spend - 25/26
Kendal Appraisal Package Kendal FRM Scheme	Environment Agency	Cumbria	£24,400,000
River Roch, Rochdale & Littleborough Flood Risk Management Scheme	Environment Agency	Greater Manchester	£19,186,842
Wyre Beach Management Scheme	Wyre Borough Council	Lancashire	£15,000,000
Preston and South Ribble	Environment Agency	Lancashire	£11,095,617
Lower Risk Debris Screen Programme - GMMC	Environment Agency	Cross-Partnership	£6,507,033
Carlisle Appraisal Package Appleby Town Centre	Environment Agency	Cumbria	£4,582,401
Anchorsholme Coast Protection Scheme	Blackpool Borough Council	Lancashire	£4,000,000
GMMC Recovery 2025	Environment Agency	Cross-Partnership	£3,658,488
Radcliffe & Redvales FRM Scheme	Environment Agency	Greater Manchester	£2,926,732
River Calder, Padiham	Environment Agency	Lancashire	£2,588,109

# Risks to Capital Programme 2025-26

- We have high confidence in achieving our properties better protected from flooding target (5716). Although, 49% of this target is forecasting to claim these properties in March 2026. Therefore, there is a risk that some of these properties might move into the next financial year. We are working closely with project teams to mitigate any project slippages to enable us to meet our target.
- As we are in the final year of the capital programme, strong cost management needs to be in place to ensure we can deliver the programme on allocation. There will be limited opportunities for schemes to spend above their FDGIA allocation.
- On-going recovery spend (following the New-Years Day flooding events) will need to be absorbed within the current allocation. If we experience another significant flooding event across the North-West it will put more strain onto the programme.

# 2025-2026 Resource Maintenance Allocation

	Budget (£)	End of Yr Forecast (£)
<b>CLA – Resource Maintenance</b>	<b>£7,000,000</b>	<b>£7,000,000</b>
<b>Asset Projects</b>	-	-
Flood Basin Compensation	£500,000	£500,000
Croston Basin Legal Fees	£50,000	£50,000
Principal Depot Costs	£180,000	£180,000
Glasson Dock Maintenance Contributions	£50,000	£50,000
Lane End Amenity Area Maintenance Contribution	£5,600	£5,600
MEICA Commercial Support	£363,000	£363,000
<b>GMC Resource Maintenance</b>	<b>£5,577,304</b>	<b>£5,577,304</b>
<b>Asset Projects</b>	-	-
Natural Resources Wales Contribution	£230,000	£230,000
Canal & River Trust Contribution	£12,000	£0
Principal Depot Costs	£174,000	£0
Decommissioning	£220,000	£0
Commercial Support (inc MEICA)	£99,000	£99,000
Bedford Pumping Station, Leigh, De-silt	£0	£406,000

The 25-26 Budgets appear slightly higher than previously released figures due to capital salaries re-charge now being included in the budget for the first time this financial year.

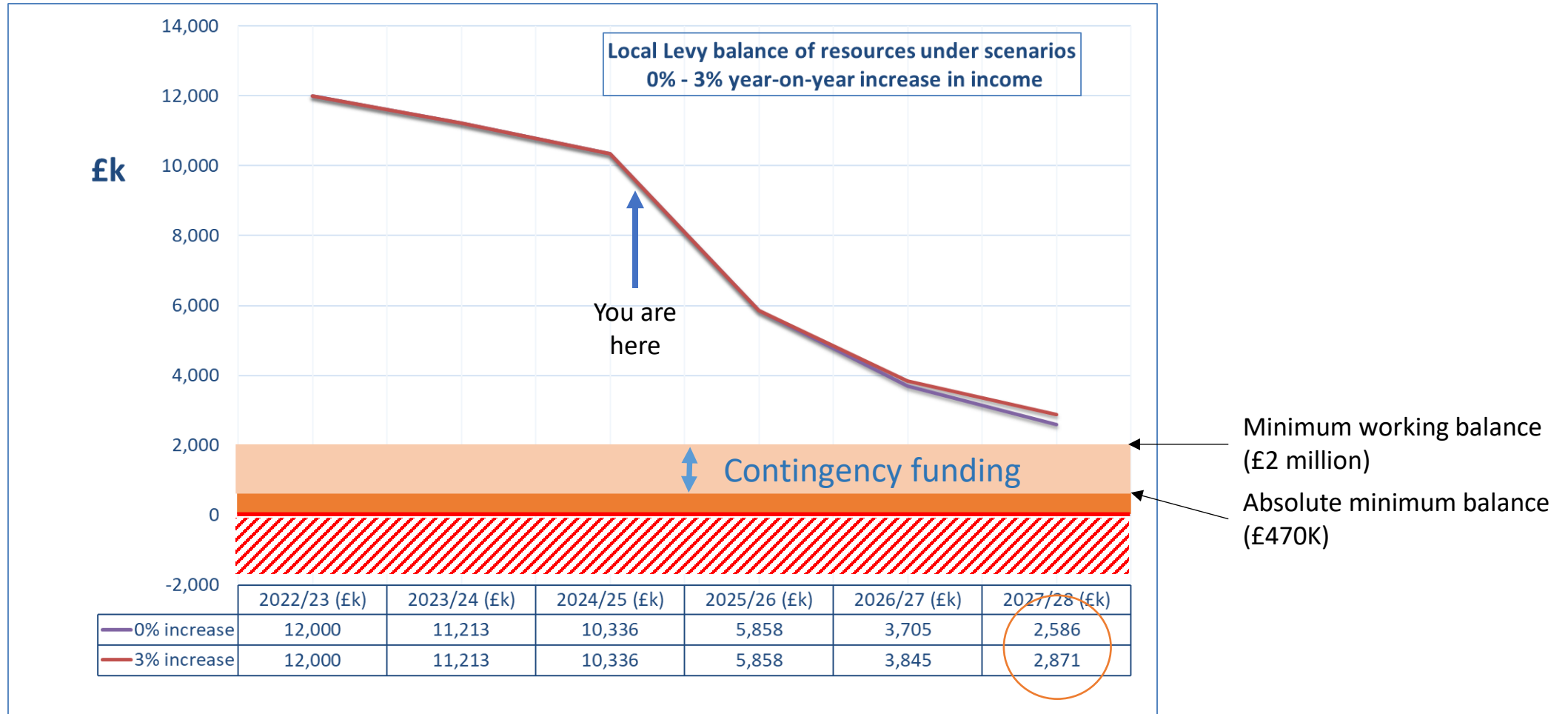
Partnership	EA/LA	No. of Projects (Phase 1)	TPE 26-27 Phase 1 (£)	Expected rOM Phase 1
Cumbria	EA	11	27,530,246	64
	LA	19	16,807,309	356
	<b>Total</b>	<b>30</b>	<b>44,337,555</b>	<b>420</b>
Lancashire	EA	14	44,212,232	132
	LA	10	58,974,880	10,884
	<b>Total</b>	<b>24</b>	<b>103,187,112</b>	<b>11,016</b>
CLA Cross Partnership	EA	6	5,300,741	791
	<b>Total</b>	<b>6</b>	<b>5,300,741</b>	<b>791</b>
Merseyside	EA	0	0	0
	LA	6	4,173,000	1,837
	<b>Total</b>	<b>6</b>	<b>4,173,000</b>	<b>1,837</b>
Greater Manchester	EA	13	36,145,692	733
	LA	5	1,960,000	61
	<b>Total</b>	<b>18</b>	<b>38,105,692</b>	<b>794</b>
Cheshire Mid-Mersey	EA	2	2,900,000	45
	LA	7	944,370	72
	<b>Total</b>	<b>9</b>	<b>3,844,370</b>	<b>117</b>
GMMC Cross-Partnership	EA	3	13,819,900	50
	LA	0	0	0
	<b>Total</b>	<b>3</b>	<b>13,819,900</b>	<b>50</b>
Total North West	EA	<b>49</b>	<b>129,908,811</b>	<b>1,815</b>
	LA	<b>47</b>	<b>82,859,559</b>	<b>13,210</b>
	<b>Total</b>	<b>96</b>	<b>212,768,370</b>	<b>15,025</b>

## 2026-27 Capital Programme Refresh – Draft Bid

# **Local Levy Minimum Balance**

Presented by Sally Whiting

# Local Levy balance forecast with minimum balance proposals shown





# Proposals

- That there should be a new **absolute minimum balance of 10% of annual income** which is always preserved unless the RFCC make the decision to use some of it under very exceptional circumstances.
- And that there should be a **new minimum working balance** of either:
  - **Option 1 - £2 million**
  - **Option 2 - 50% of annual income**
- That there should be a link between use of the contingency funding and the annual Local Levy rate vote – in other words that there should be an expectation of a higher rate of annual income to replenish any contingency funding used.
- That the Levy contribution proportion guidelines applying to schemes (50% for under £0.5 million, and 15% above £0.5 million) are confirmed as the expected norm, with consideration of exceptional circumstances.

## Recommendation from the Sub Group

- To approve a **new minimum working balance of £2 million**

Guidelines retained in existing Local Levy Strategy:

- Minimum balance of 5 - 10% of annual income (in accordance with Defra's recommendation).
- Levy contribution proportion guidelines applying to schemes (50% for under £0.5 million, and 15% above £0.5 million).

# **Local Levy Programme Update**

Presented by Adam Walsh

# North West RFCC Local Levy programme for 2024-25

## Outturn

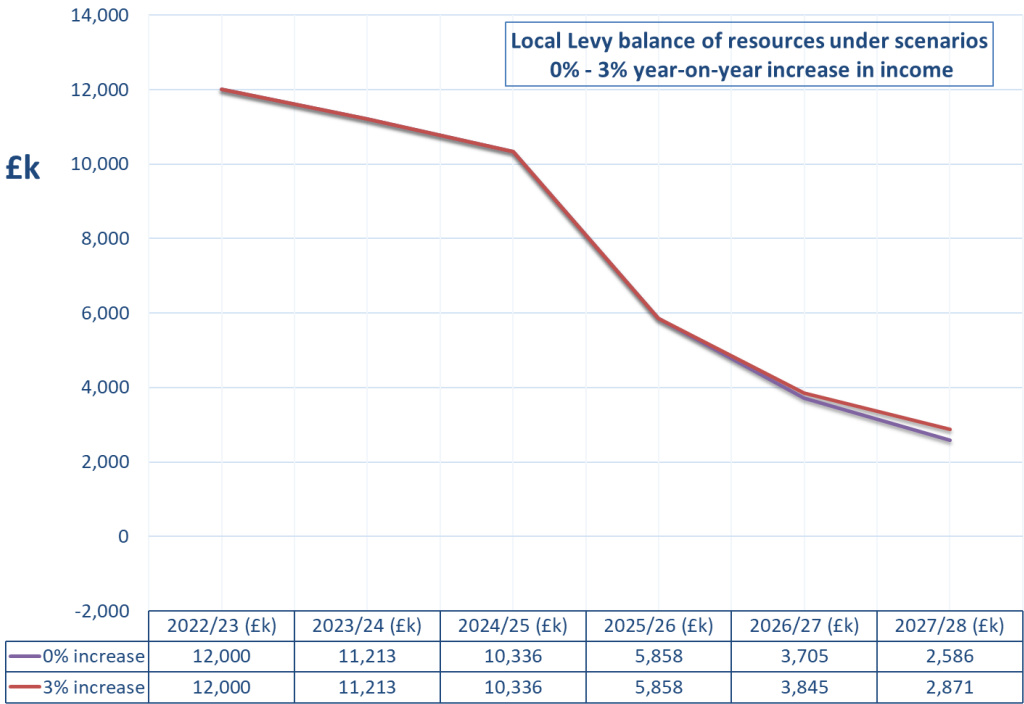
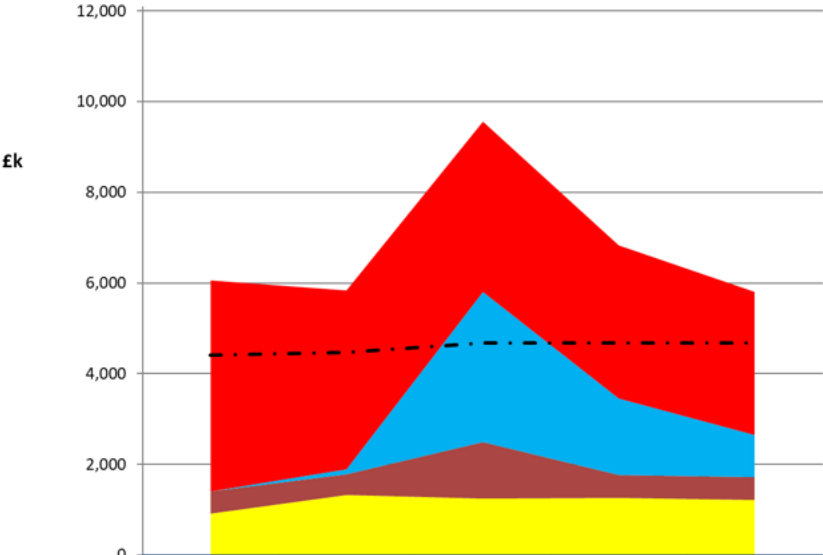
2024-25	
Local Levy income and allocation summary (£ million)	
Cash balance at start of year	11.213
Local Levy income	4.469
Interest earned	0.489
<b>Total available balance</b>	<b>16.171</b>
Actual Spend*	5.835
<b>Remaining cash balance at year end*</b>	<b>10.336</b>

# North West RFCC Local Levy programme for 2025-26

<b>2025-26</b>	
<b>Local Levy income and allocation summary (£ million)</b>	
Cash balance at start of year (expected)*	10.336
Estimated interest	0.400
Local Levy income	4.681
Total available balance*	15.417
Latest forecast	9.560
<b>Expected remaining cash balance at year end</b>	<b>5.858</b>

\*Figures are still subject to the 2024-25 end of year audit, which is ongoing

# Local Levy Income and Expenditure Scenario



# Local Levy Requests



# Padiham Flood Risk Management Scheme

Introduced by Jim Nettle







# Scheme details

- The estimated total cost is £40.7 million.
- We have the following funding contributions to date:
  - Grant in Aid - £6million
  - Northwest Regional Flood and Coastal Committee (Local Levy) - £1.3 million (£300k not yet spent)
  - Asset Replacement Allowance - £300,000
  - Local Enterprise Partnership - £3million of Growth Deal 3 funding
  - Green Recovery Funding - £2million
  - Pre-September 2024 - Other Government Department Funding (OGD) - £3million
  - Post- September 2024- OGD - £21.35million

The current funding gap is £3.7million, and this is forecast in the financial year 2027/28 and 2028/2029.

**We are looking for a local levy contribution of £3.7million, to make the scheme fully funded.**

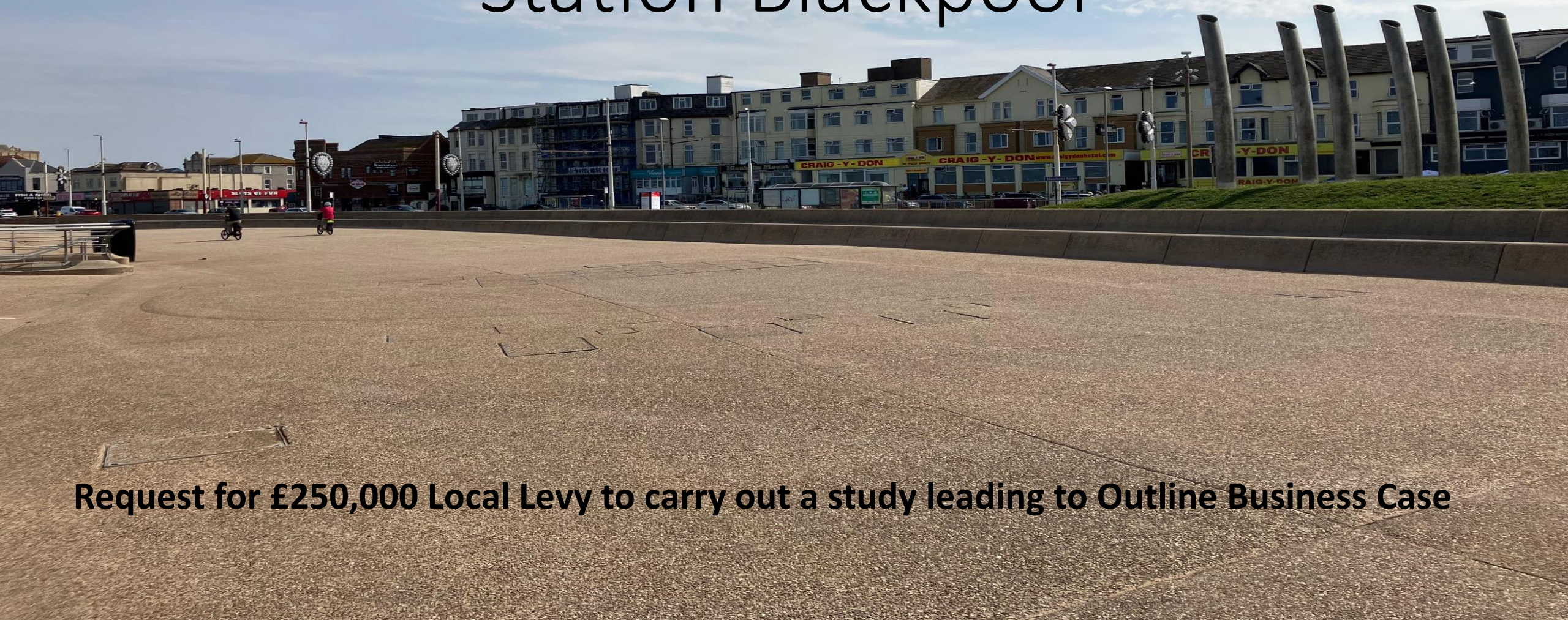
# **Local Levy Request**

**Manchester Square Pumping Station, Blackpool**

Introduced by Clare Nolan-Barnes



# Manchester Square Pumping Station Blackpool



**Request for £250,000 Local Levy to carry out a study leading to Outline Business Case**



The replacement pump scheme connection to the Blackpool Council/United Utilities culvert

The existing culvert requires repairs including the beach gates currently constructed using scaffold poles

Without intervention the pumping station will fail and back surge from the system causes inspection chambers along the frontage to rise and cause serious health and safety issues.



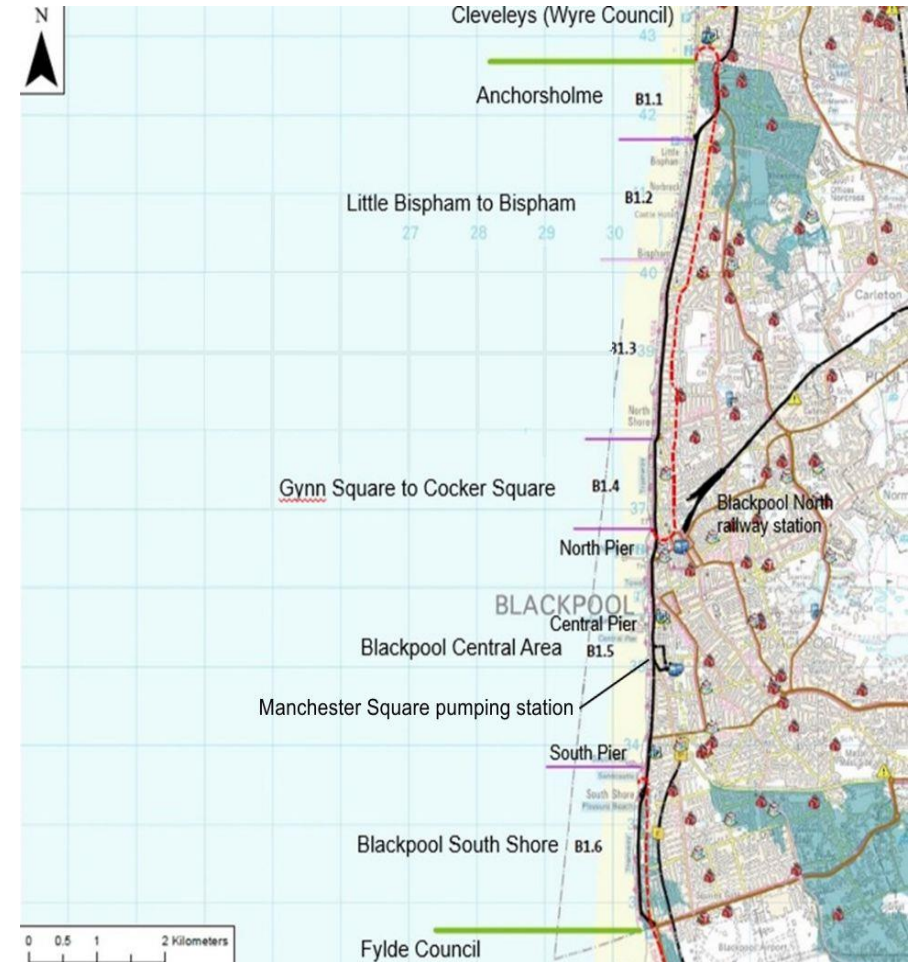


# Location in relation to Coast Protection Schemes and Consequential Efficiencies

		Project Name	
		Manchester Square pumping station	Central Beach Nourishment
Milestone	OBC	Dec 25	March 23
	Detailed Design	Dec 26	Sept 25
	Construction Start Date	April 27	Feb 26
	Benefits Realised	Mar-28	Mar-28
	Scheme completion	Q2 28/29	Q2 28/29

## Levy Funding Request

The cost of the Manchester square pumping station study leading to OBC is £250,000



# Recommendations from the Sub-Group

(Local Levy Programme)

- To approve the local levy request for the Padiham FRMS
- To approve the local levy request for the Manchester Square Pumping Station Scheme, Blackpool

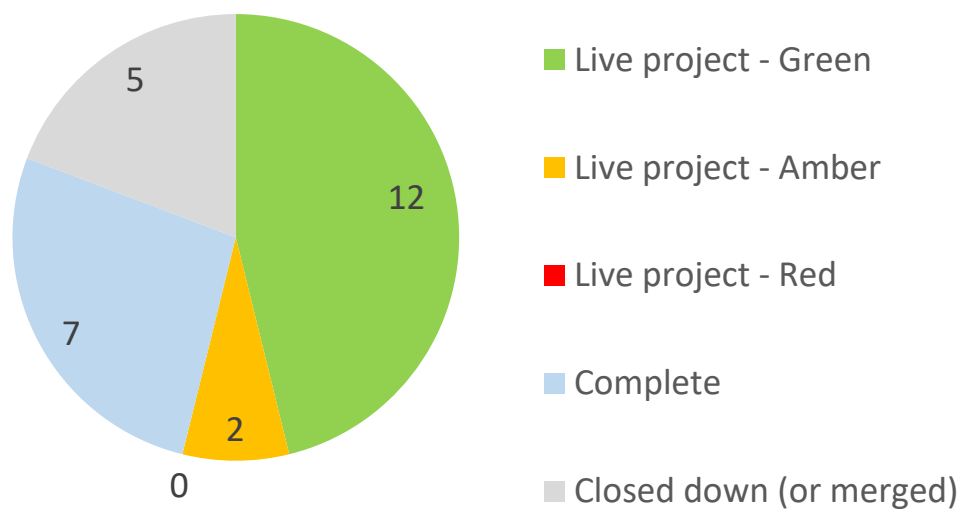
# **RFCC Business Plan update**

Presented by Sally Whiting



# Project status

Project RAG summary



Continued good progress overall

Of 21 projects which have been progressed:

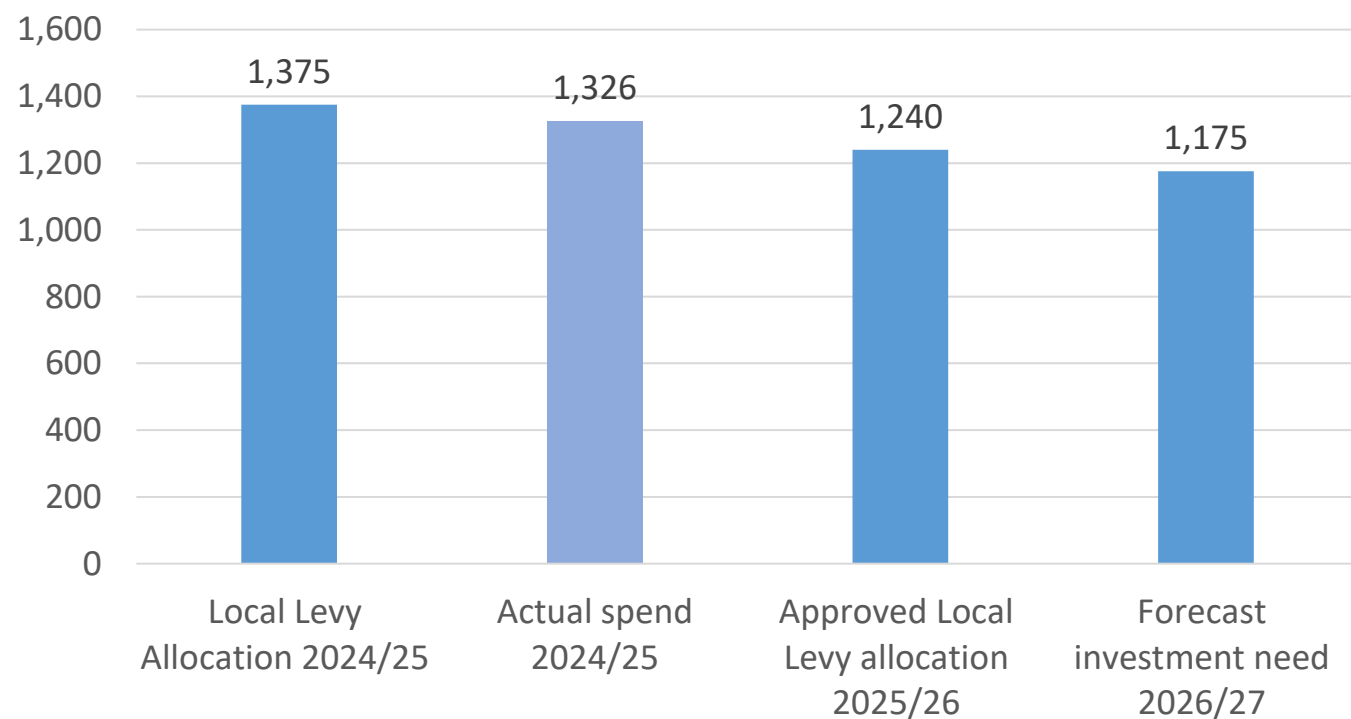
- 7 are now complete (2 this quarter)
- 12 are progressing well (Green)
- 1 is nearing completion
- 2 are behind schedule or resolving issues (Amber)

Amber rated projects:

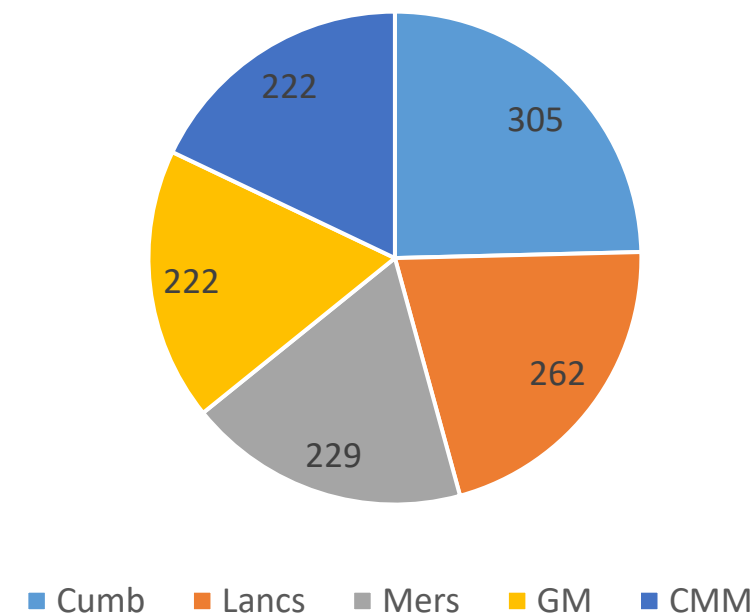
- ID22 'NFM Pipeline (Cumbria)' - Paused for review of scope/approach
- ID10 'Evidence Gathering – Planning & Development' - Behind schedule - Year 2 reports still awaiting review and summary

# Investment overview

Programme Investment Profile (£K)



Investment by partnership  
benefitting (2025/26) (£K)





# Project successes

## ID8 Flood Poverty project wins national Innovation in Climate Resilience award

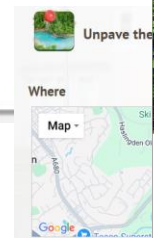


## ID12 Unpave the Way highlighted nationally as good practice

### Case study of the month

#### Unpave the Way Garden

The Unpave the Way Garden promoted SuDS, permeable paving and rainwater harvesting to address flood issues.



- Gold Medal Award Winning Garden Designer Leon Davis designed the garden with input from the Unpave the Way Project Team. The design criteria were:
- Low maintenance SuDS features for small domestic spaces
  - Naturalistic climate resilient planting
  - Both DIY SuDS components and ready-made SuDS products
  - Functional driveway space
  - Variety of permeable surfaces

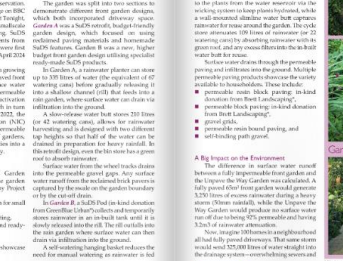
The garden featured two differing front garden designs which both incorporated driveway space. Garden A was a SuDS retrofit DIY low-budget garden design which focused on using reclaimed paving materials and homemade SuDS features. Garden B was a new higher budget front garden design which utilised specialist ready-made SuDS products.



MCC | City Centre (P) 0161 275 1233



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increasing the risk of floods. By switching to permeable designs, homeowners can help reduce the strain on urban drainage systems. The Unpave the Way Garden also offers a wide range of other environmental benefits. The climate-resilient planting provides essential habitats for wildlife and helps boost biodiversity, particularly in a pollution-laden urban environment. The carefully selected plants also play a key role in improving air quality by filtering pollutants, while small trees provide natural cooling in the hot summer months. The garden also offers a valuable opportunity for residents to learn about climate change and how they can help reduce their carbon footprint. The project is a testament to the power of community action and the importance of sustainable urban development.

A Living Legacy

In September 2024, the garden was presented to the North West Flood & Coastal Committee as a Living Legacy for the community and for visitors from further afield. Local volunteers, along with the North West Flood & Coastal Committee, were involved in the project's maintenance and upkeep. The project is a testament to the power of community action and the importance of sustainable urban development.

You can keep up to date with the project by following Unpave the Way on social media including LinkedIn, Facebook and Twitter.

For more information, please contact the project team.

Unpave the Way Garden

Unpave the Way Garden

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Unpave the Way Garden

# Asks of the RFCC

(RFCC Business Plan update)

- Note the progress update
- Formally recognise the completion of project ID1 Investment mapping feasibility
- Formally recognise the completion of project ID18 RFCC SharePoint site



# Property Flood Resilience

– Outline proposal for Local Levy support

Introduced by Adam Costello

# Our Updated Proposal

	2026/27	2027/28	2028/29
Number of PFR Project	4 *	8 *	10 *
Assumed number of properties per project	15	15	15
Total cost of PFR Projects	£900,000	£1,800,000	£2,250,000
Assumed success rate in securing GiA	25%**	50%**	50%**
GiA we aim to secure	£225,000	£900,000	£1,125,000
<b>Local Levy that could be needed</b>	<b>£675,000</b>	<b>£900,000</b>	<b>£1,125,000</b>

# Recommendation from the Sub-Group

- To approve the local levy request for the Property Flood Resilience Programme 2026/27 to 2028/29



# RFCC Improvement Project – Investment Programme information and Papers

Presented by Andy Tester

# What?

A fundamental review of the information provided on the investment programme at all levels



# Why?

- In response to feedback from Partnership Coordinators and RFCC Members, and to go further in meeting our customers' needs (primarily the partnerships and their constituent RMAs).
- To make the information provided more concise and easily understandable while providing access and visibility to additional detail if required.
- To improve the flow of information and line of sight between partnerships and the regional scale information for the FBA Sub-Group and RFCC.
- To make optimum use of the RFCC SharePoint site for sharing (more detailed) information and making it readily available.

# Why?

- To further strengthen the foundation at partnership level focussed on RMA and project-level information on the investment programme (**all RMAs**) and encourage the partnerships to 'own' their programmes, to monitor delivery and celebrate successes.
- To achieve more consistency in the information provided to the five sub-regional partnerships and the role they carry out in response to it.
- To ensure the information provided to the F&BA Sub-Group is distinct and complimentary to the partnership level information, enables the Sub-Group to receive a valuable overview of the regional programme, and to provide reassurance at RFCC level while reducing duplication of reporting.
- To go further in enabling the RFCC to fulfil its statutory role as effectively as possible, including through roles for the partnerships and F&BA Sub-Group.

# Different levels and flow of information

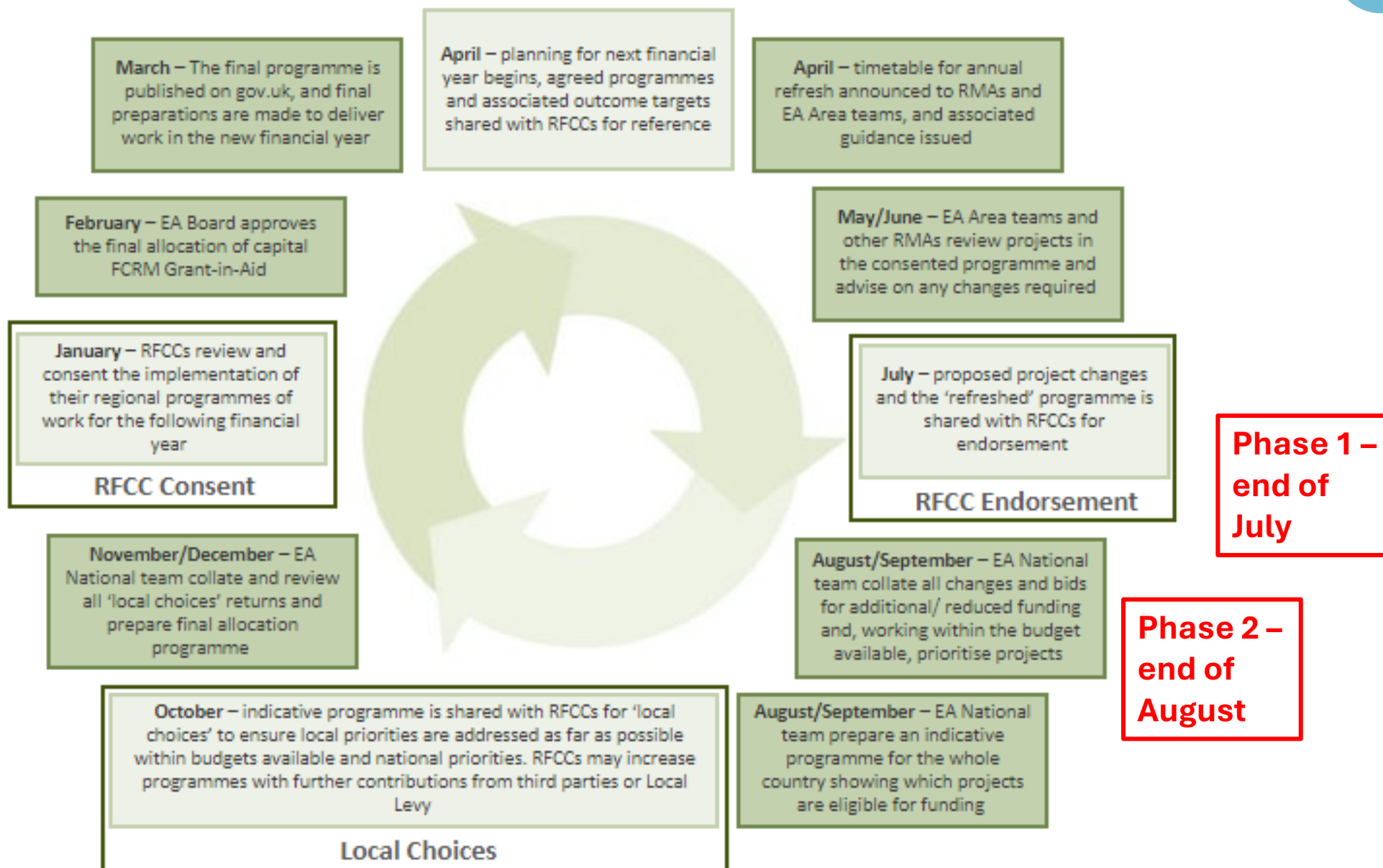


# When

## Timeline:

- June – Update for Committee members at Finance and Business Assurance Sub-Group
- July to September – further involvement of Partnership Coordinators to review example outputs and to provide feedback
- October Finance and Business Assurance Sub-Group to share findings, seek feedback and begin implementation
- Beyond October – continuous improvement and annual review

# Annual Capital Programme Refresh Cycle (all RMAs)



# Capital Programme Refresh 2026/27 Phases 1 and 2



## **Phase 1 – Deadline 31<sup>st</sup> July**

- Projects delivering properties and projects with an approved Outline Business Case (OBC) by 1<sup>st</sup> April 2026 (projects in or nearing construction)
- Support and enabling programme (27<sup>th</sup> June – submitted)
- Moderation - Health and Safety, legal, statutory or time constrained contributions (27<sup>th</sup> June – submitted)

## **Phase 2 – Deadline 20<sup>th</sup> August**

- Projects with an approved OBC beyond 1<sup>st</sup> April 2026 and moving into construction with a focus on capital maintenance
- Projects that meet the high-level aspirations of the [DEFRA funding reform consultation](#), in particular Capital Maintenance, Natural Flood Management, Property Flood Resilience and Sustainable Drainage Systems

Bids for funding for phases 1 and 2 are made under the current funding policy and partnership funding rules.



# **Agenda Item 4**

## **Defra Investment Reform Consultation**

### **Summary of proposals**

Introduced by Adrian Lythgo and Nick Pearson

# Consultation

- Public consultation – can respond as individuals, organisations, RFCC
- Closing date 29 July
- Defra webinars – 20 June, 10 July and 21 July
  
- Most projects in delivery from April 2026 will use new rules
- Projects with contractual commitments for construction expected to remain on previous PF rules

## **Two main proposals:**

- Simplified funding model
- Prioritisation of funding to projects

## **Calls for evidence:**

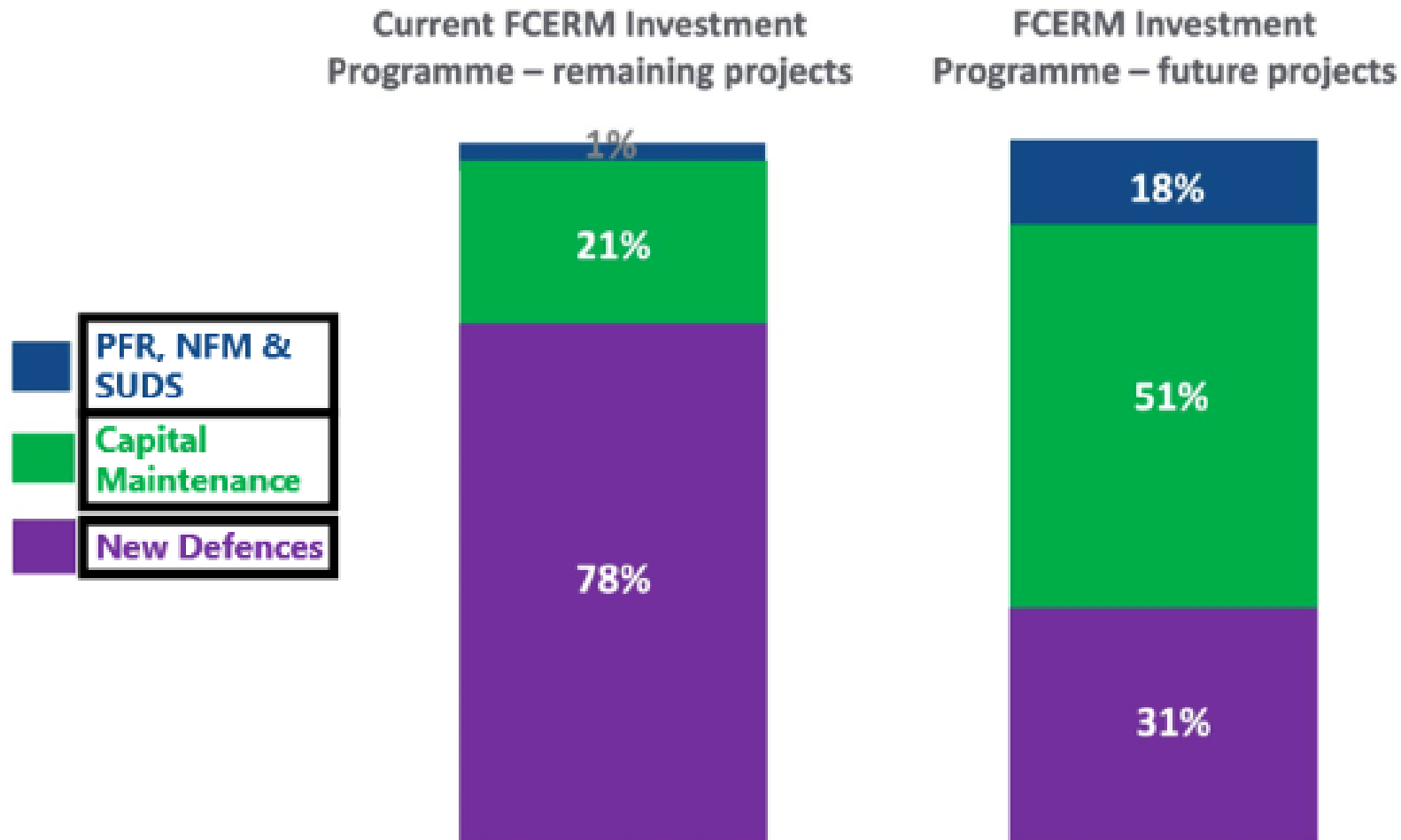
- Alternative sources of funding to enable government funding to go further
- Opportunities for English devolution to support flood risk management.

# Proposed new funding model

## Key principles:

- All FCERM projects have the first £3 million of their project costs fully funded by Defra without the need for external contributions (**Contribution Free Allowance**)
- A **flat rate of 90% of Defra funding** is then applied to costs above £3 million.
- **FCERM asset refurbishment projects** are fully funded by Defra.

# Expected change in composition of investment programme



# Proposed prioritisation of funding to projects

**More Defra funding for more projects without a significant increase in the overall pot means higher demand and funding won't go as far.**

## **Three alternatives**

- 1. By value for money and flood risk.**
- 2. By value for money and flood risk with additional priority given to bolster specific policy outcomes** (e.g. for NFM, SuDS, in deprived communities)
- 3. Providing additional priority to projects which raise additional partnership funding** beyond their required amount (this could be done alongside approaches 1 or 2).

# Call for Evidence – Devolution, RFCCs and Local Choice

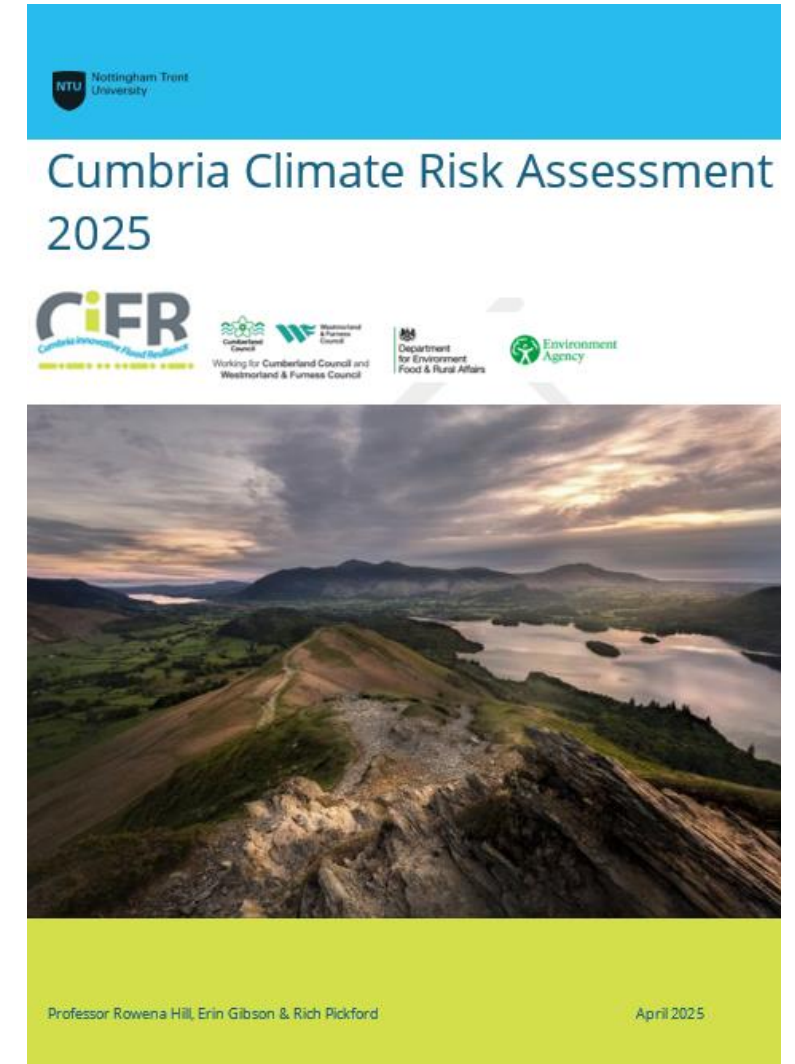
- Seeking evidence and views on how English devolution (e.g. mayoral strategic authorities) can support flood risk management, boost local resilience and align with local growth priorities.
- The proposed flood funding rules would result in more projects being eligible for Defra funding. This creates improved opportunities for RFCCs, through the annual consenting role, to have a greater say in which projects are approved.
- Possible alternative would be to explore giving RFCCs more discretion over the prioritisation e.g. to choose to prioritise one or more, or alternative, specific outcomes alongside the value for money and flood risk approach.

**BREAK**

# Agenda Item 7

# Cumbria Climate Risk Assessment

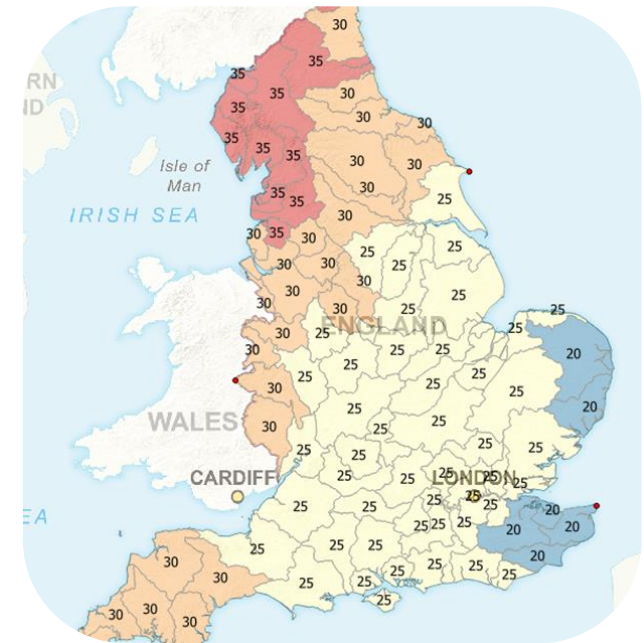
Carolyn Otley





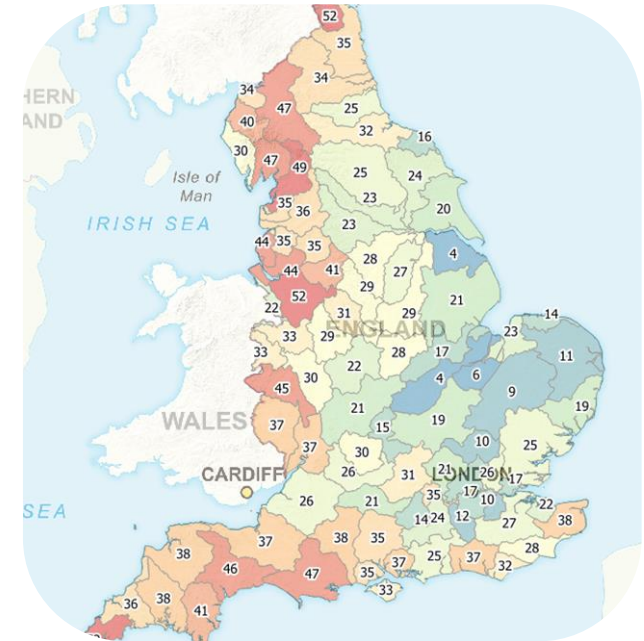
# Climate change is happening now.....

- Global temperatures are increasing
  - Already risen around 1.5°C from the pre-industrial era
- This is causing changes in our climate
  - Higher temperatures bring more intense rainfall
  - Peak rainfall predicted to be up to 35% higher by 2070



# Climate change is happening now.....

- Global temperatures are increasing
  - Already risen around 1.5°C from the pre-industrial era
- This is causing changes in our climate
  - Higher temperatures bring more intense rainfall
- And these climate changes increase risks
  - Peak river flows could be up to 52% higher (2080)



# Flood Risk

We've got access to lots of good data on future flood risk (NaFRA2)

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

## Yearly chance of flooding

Very low

Low

Medium

High

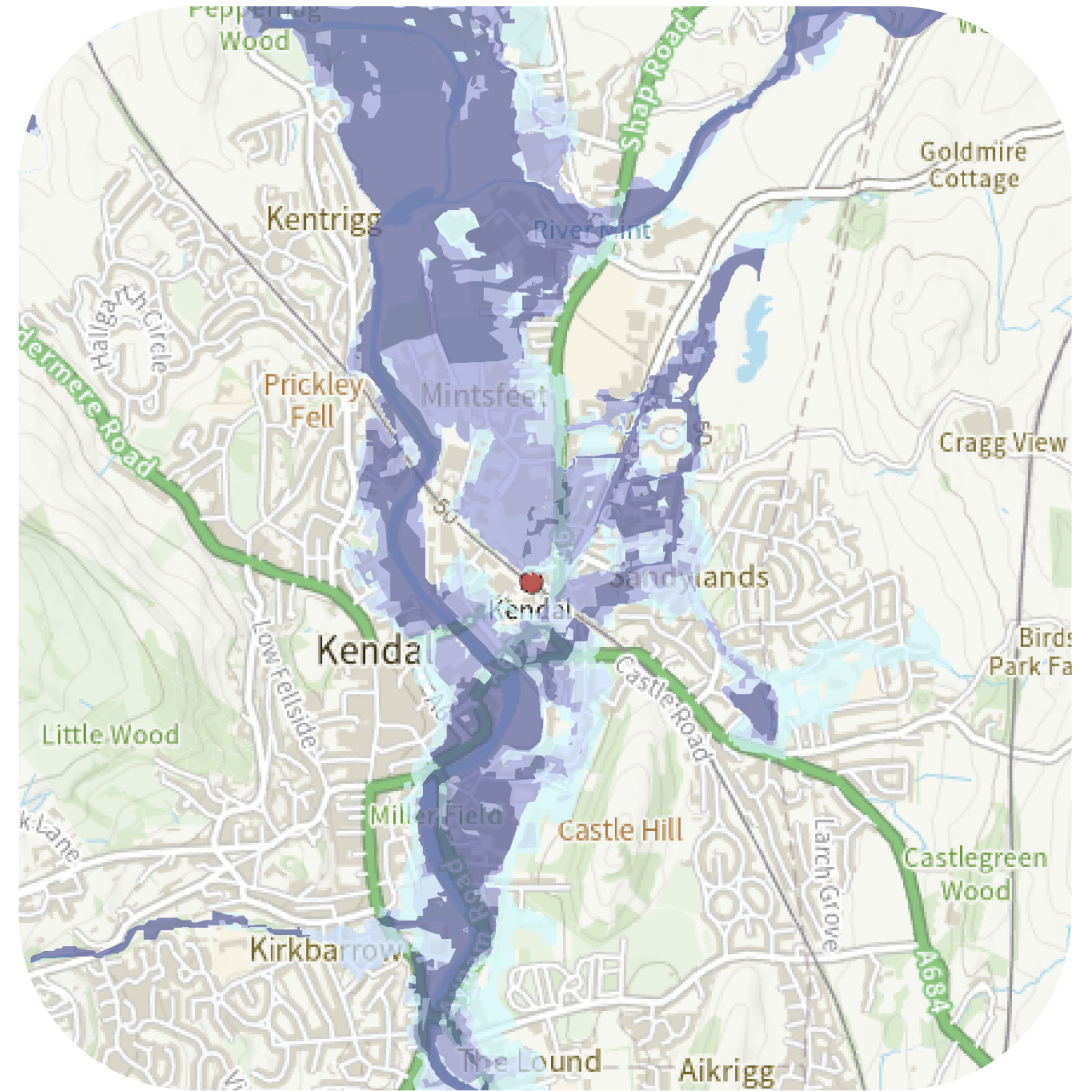
## Yearly chance of flooding between 2036 and 2069

Very low

Low

Medium

High



# But what about other risks?

National information is available

- Datasets (UKCP18)
- Climate Change Risk Assessment (CCRA3)

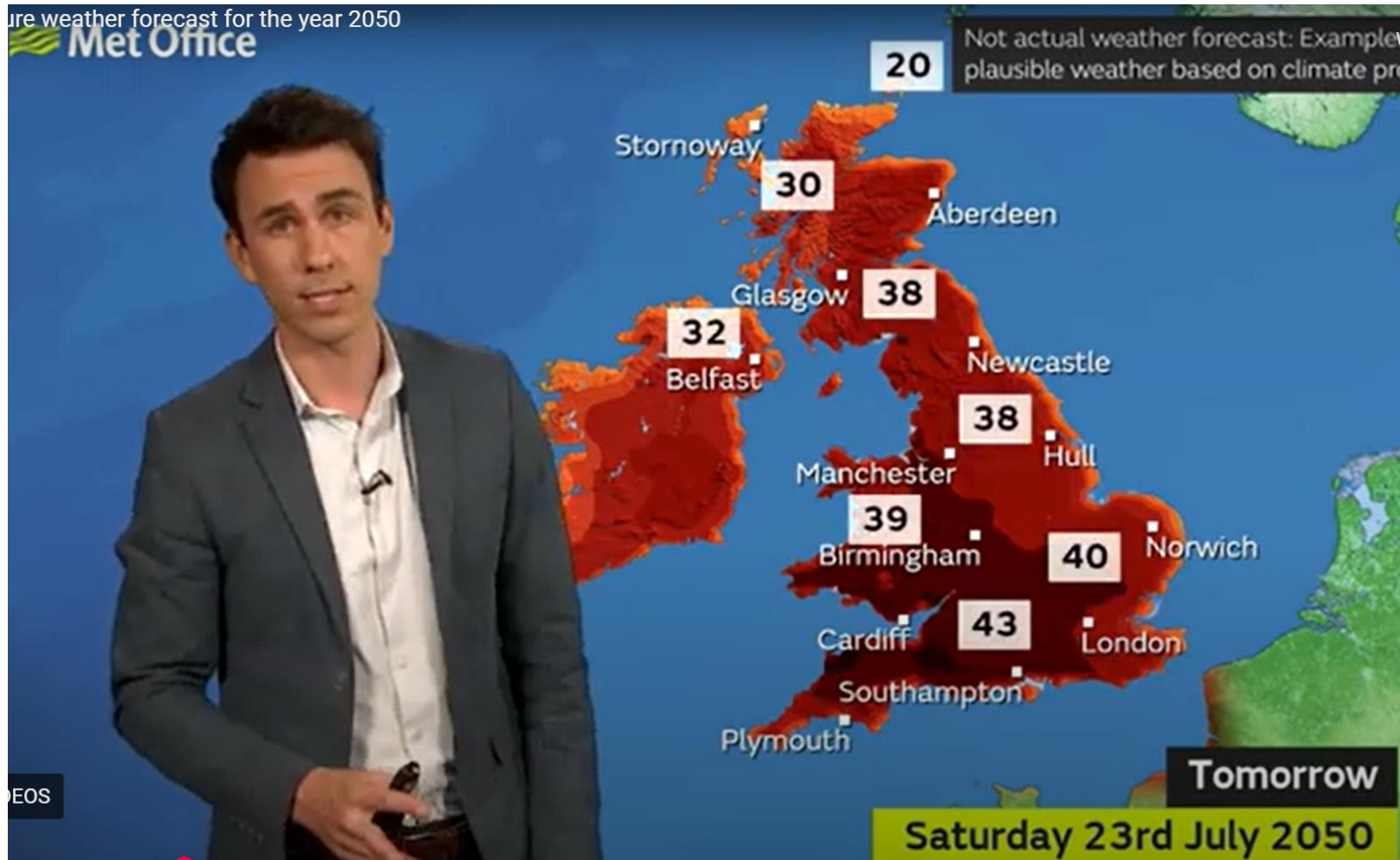
We didn't have a simple summary of local climate change for Cumbria (and its likely impacts) that we could use with communities.

And that makes it hard to plan to adapt....





# A weather forecast for the 2050s



# Nottingham Trent University Team

Professor Rowena Hill

Dr Erin Gibson

Rich Pickford

NTU has a longstanding engagement with Cumbria through the Local Resilience Forum.

They also provide scientific support for the Climate Security National Foresight Group

**The 1<sup>st</sup> National Climate Security, Resilience and Adaptation Review**



Rowena Hill  
Rich Pickford  
Erin Gibson  
Ayowole Oluogbenga Olotupa-Adetona

February 2025



# CCRA outputs

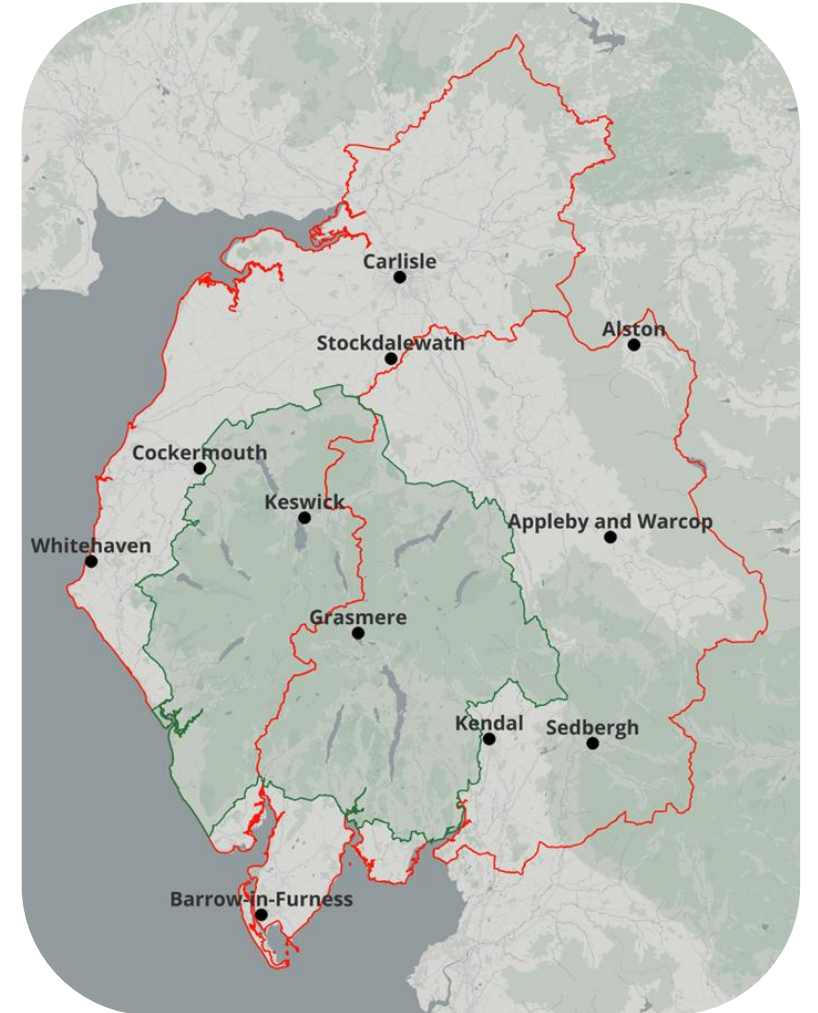
## Main report will give

Climate projection data for

- Cumbria
- Local Authority areas (and Lake District National Park)
- 11 Communities

Information on the risks Cumbria will face as a result of the projected climate changes.

**Interactive climate projection maps will be available online**



# Adaptation Planning

Climate Change Committee Recommendation:

- **Prepare for 2°C rise** in global warming level
- **Assess the risks of 4°C rise**

Currently, we're tracking the higher climate change projections, meaning we could see:

- **2°C rise by 2030s to 2050s**
- **4°C rise by 2070s – 2090s**

[RCP 8.5 Median values]



# Annual Average Temperature (°c)

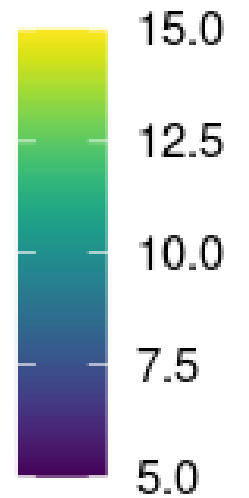
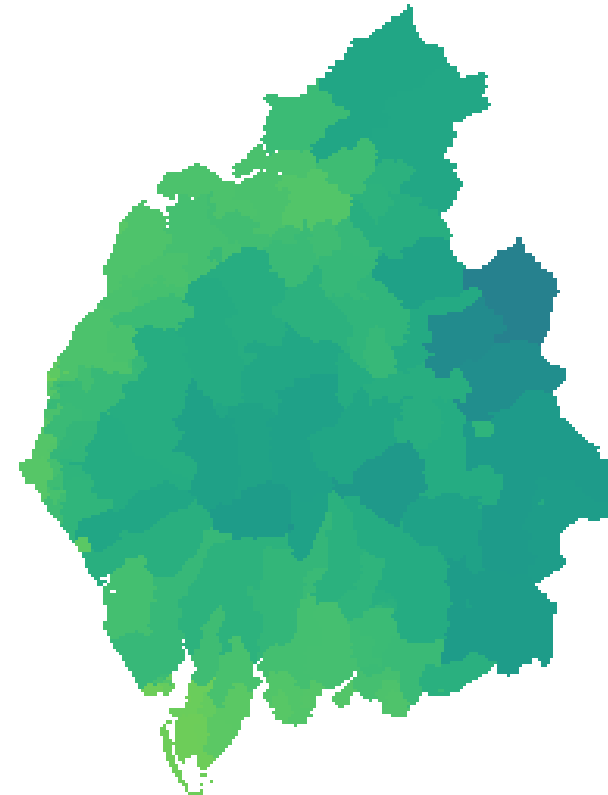
1981-2000 Baseline



2° Warming



4° Warming



Climate Data	Cumbria		
	Baseline	2030-2050 2°C GWL	2070-2090 4°C GWL
Avg. Annual Temperature (°c)	8.0	9.7	11.2
Avg. Summer Temperature (°c)	13.4	15.3	17.3
Winter Average Temperature (°c)	3.1	4.5	6.0
Max. Summer Temperature (°c)	25.9	28.9	32.0
Min. Winter Temperature (°c)	-8.5	-4.9	-2.8
No. Hot Summer Days (30°C+)	0.0	0.9	3.9
No. Extreme Summer Days (35°C+)	0.0	0.0	0.4
No. Icing Days (below 0°C)	3.7	1.1	0.2
Summer Precipitation (mm/day)	3.2	2.9	2.3
Winter Precipitation (mm/day)	5.0	5.3	5.9
Avg. Spring Windspeed (m/s)	4.4	4.3	4.3
Avg. Summer Windspeed (m/s)	3.7	3.4	3.3
Avg. Autumn Windspeed (m/s)	4.2	4.1	4.1
Avg. Winter Windspeed (m/s)	5.0	5.0	5.0
Climate Change Allowance Peak River Flow (%)		14-30	25-49
Climate Change Allowance Peak Rainfall (%)		25-30	30-35
Sea Level Rise (cm)		33	69



	2030-2050 (2°C Global Warming)	2070-2090 (4°C Global Warming)
<b>Temperature</b>	Increase in annual, summer and winter temperatures across Cumbria	Large increase in hot summer days (30°C+) and a large reduction of icing days (below 0°C)
<b>Precipitation</b>	Decline in summer precipitation alongside a increase in winter precipitation.	Continued decline in summer precipitation alongside a continued increase in winter precipitation.
<b>Wind</b>	Small decreases in average windspeed in Spring, Summer and Autumn (winter unchanged)	Small decreases in average windspeed in Spring, Summer and Autumn (winter unchanged)
<b>Sea Level</b>	Sea-level rise of 33cm.	Sea-level rise of 69cm.

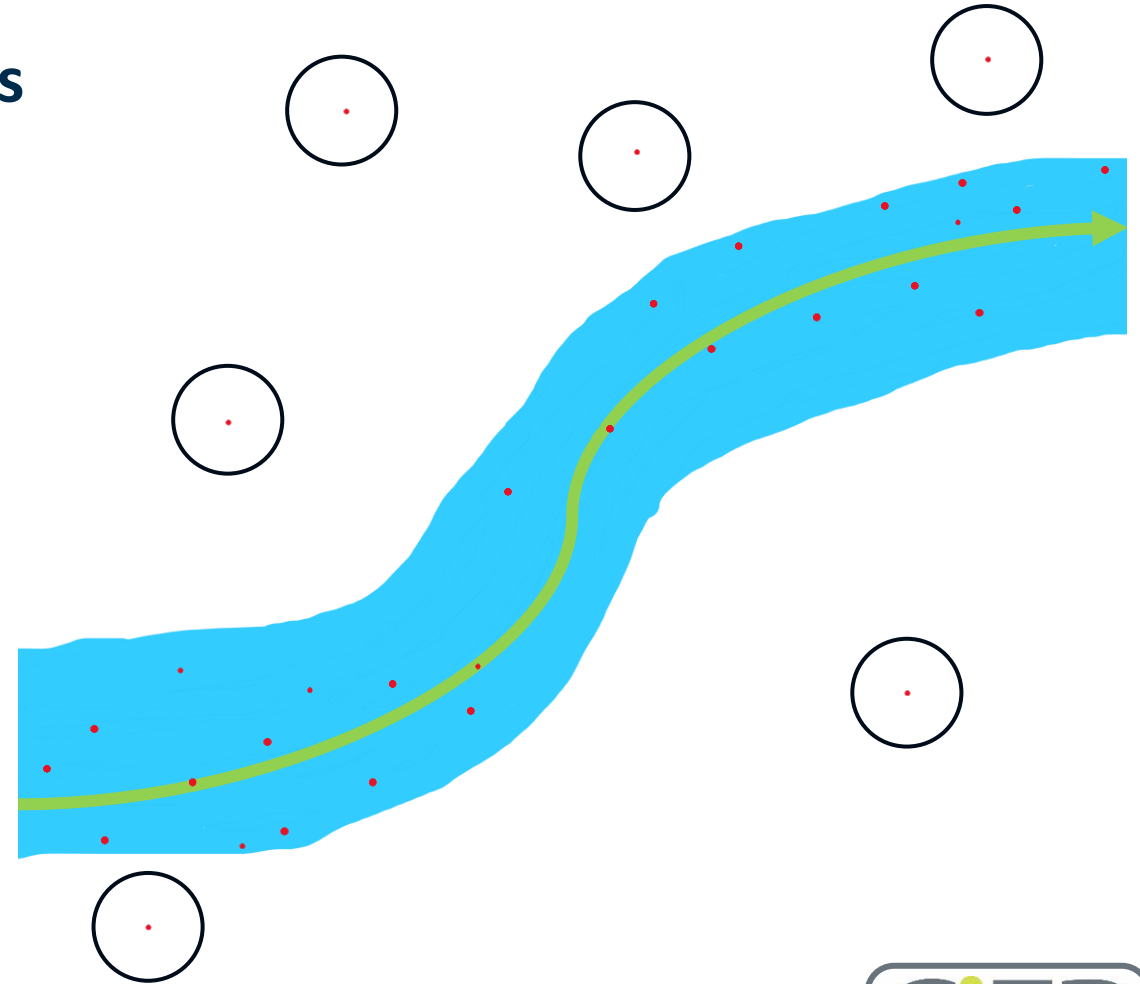
# Averages and the extremes

**UKCP18 data sets primarily look at averages**

- Average daily seasonal rainfall
- Average seasonal windspeed

**These median values hide the outliers**  
(severe weather events), which are both

- Likely to become more extreme
- Likely to become more frequent





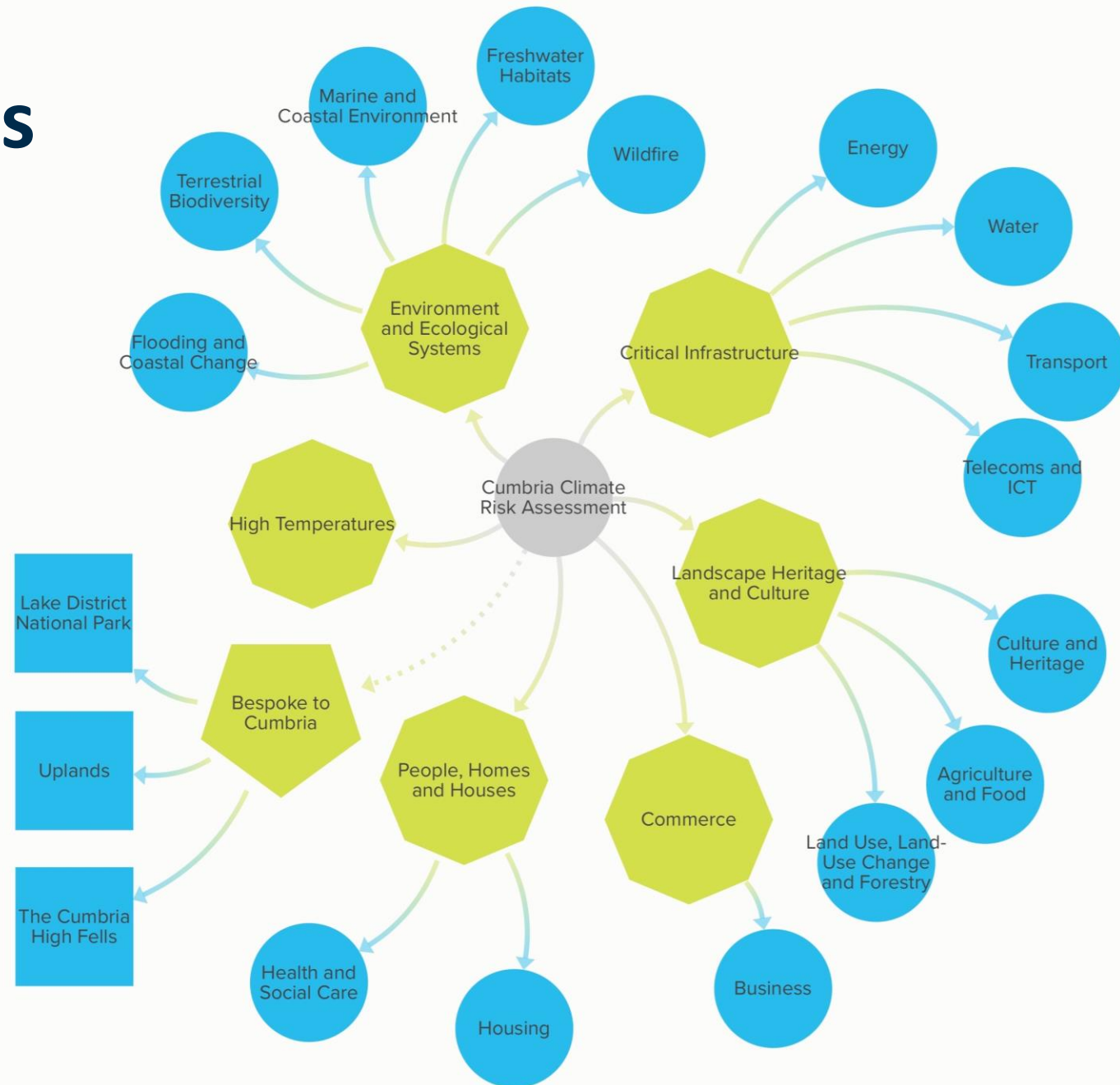
# Averages and Extremes

You can see hints of this in the data.....

	Baseline	2°C GWL	4°C GWL
Avg. Annual Temperature (°C)	8.0	9.7	11.2
Avg. Summer Temperature (°C)	13.4	15.3	17.3
Max. Summer Temperature (°C)	25.9	28.9	32.0
No. Hot Summer Days (30°C+)	0.0	0.9	3.9
No. Extreme Summer Days (35°C+)	0.0	0.0	0.4

# Risk Assessment Themes and Sub-Themes

- Environment and Ecological Systems
- Landscape Heritage and Culture
- People, Homes and Houses
- Critical Infrastructure
- Commerce
- High Temperatures
- *Specific to Cumbria*



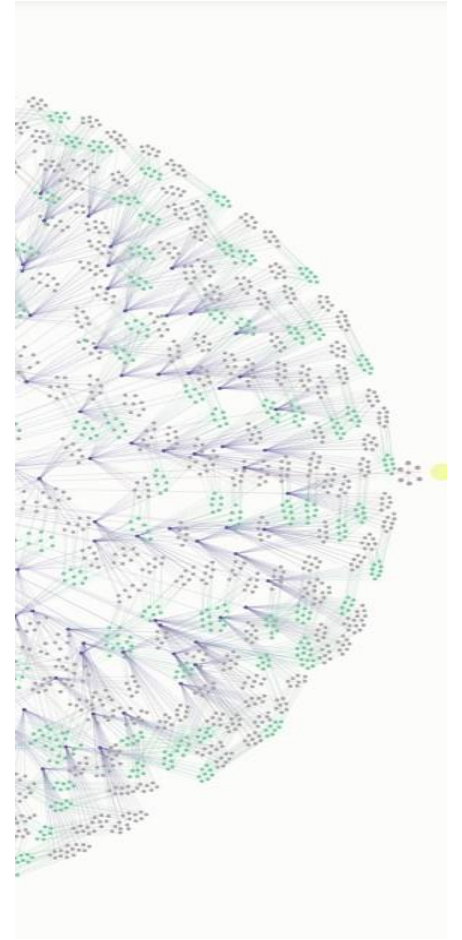
# Interconnectivity, cascades and pathways

Many of the risks link to each other, and cascade to cause other risks.....

Some risks will be more important to a specific organisation (or community) than others.

The Cumbria Climate Risk Assessment will help us start conversations about the risks, and how we might adapt to them.

**We still need to reduce carbon emissions** to limit climate change (and so reduce these risks)



# Some key risks to consider (beyond flooding)?

**Hotter, drier summers**, leading to:

- Drought (and how we manage water)
- Wildfires (and damage to the landscape, particularly peat)

**More frequent (and extreme) swings** between hot/cold and dry/wet, leading to:

- Landslips (causing disruption to travel)
- Damage to underground infrastructure (cables, pipelines)

**Loss of communications**, leading to:

- Difficulties receiving warnings
- Challenges coordinating response

# Stockdalewath Flooding – 22/23 May 2024

## Yellow warning for rain (Amber over Preston)

- Over 100mm of rain in 24 hours (9 hours, overnight)
- Severe Flood Warning and Emergency Alert issued
- Highest river levels ever recorded (off gauge)
- Property flood defences overtopped; 48 properties flooded

## Flooding caused a loss of power.....

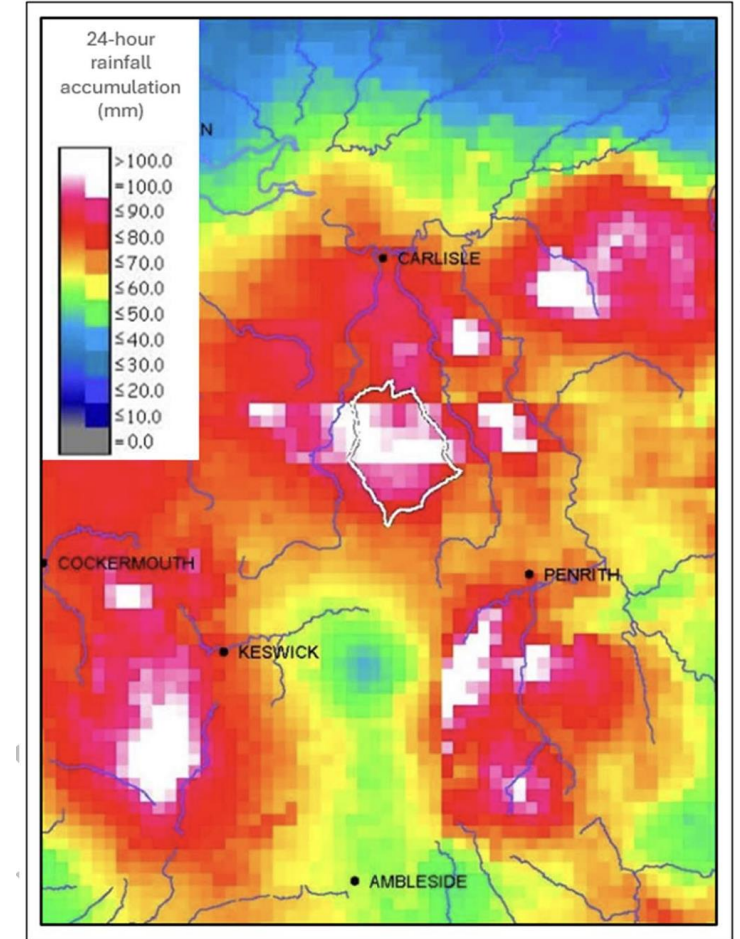
## and loss of power caused a loss of comms

- Digital phone lines failed; no mobile reception

## Season/land use had an influence

- Recently ploughed; much of land is compacted

## Can we protect these homes in the future?





*This project is funded by Defra as part of the £200 million Flood and Coastal Innovation Programmes which is managed by the Environment Agency. The programmes will drive innovation in flood and coastal resilience and adaptation to a changing climate.*



Westmorland  
& Furness  
Council

Working for Cumberland Council and  
Westmorland & Furness Council



Department  
for Environment  
Food & Rural Affairs



Environment  
Agency

## Contact:

# CiFR@WestmorlandAndFurness.gov.uk



Nottingham Trent  
University





# Agenda Item 5

## **Peatland Restoration for flood risk management in the North West**

Presented by Kate Morley, Dave Brown, Dewi Jackson and John Gorst



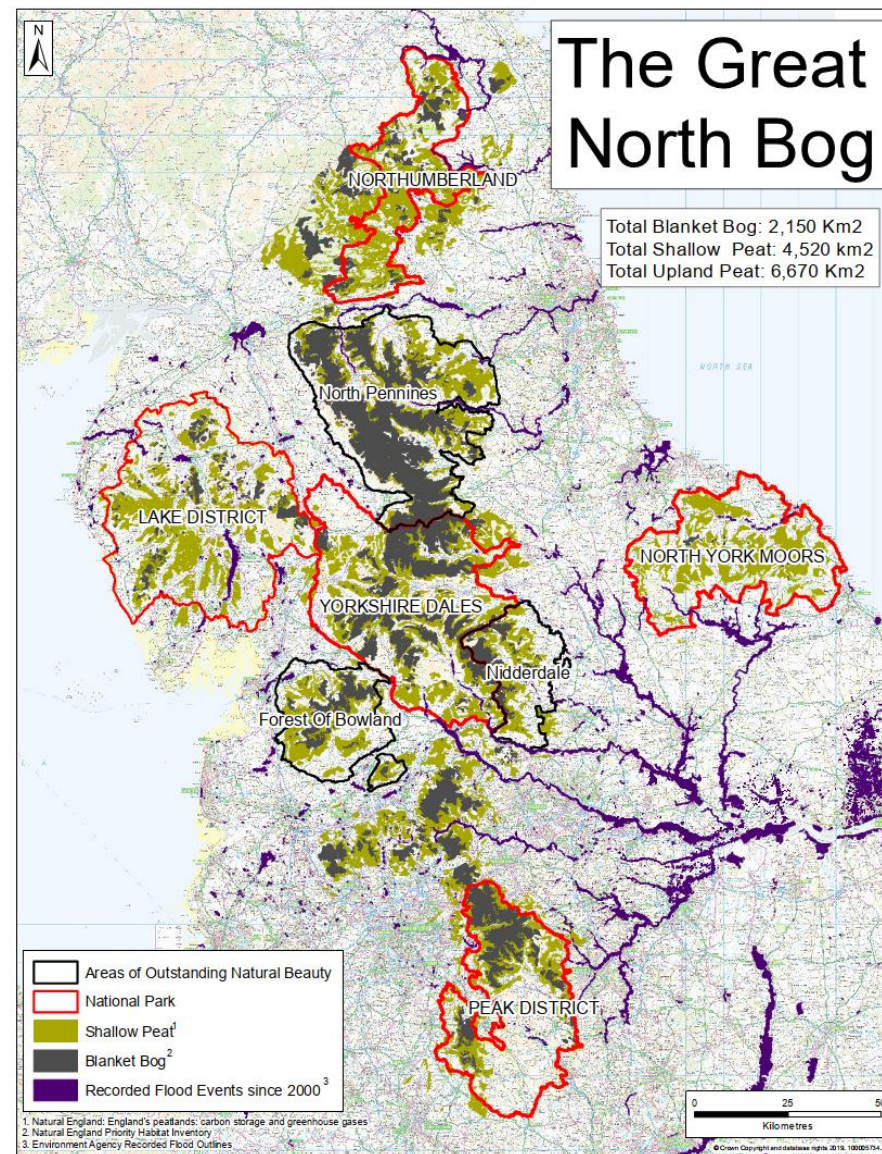
# Intro

- What peat restoration has already been done in the North West?
- What plans do partners have in the coming years?
- What is the scale of the need or opportunity for peat restoration going forwards, primarily in relation to reducing flood risk, but also acknowledging the wider benefits?
- What is our ambition for the years ahead, how do we take this forward and what are the barriers to be addressed?

# **Our shared Vision for the Dark Peak and South Pennines**

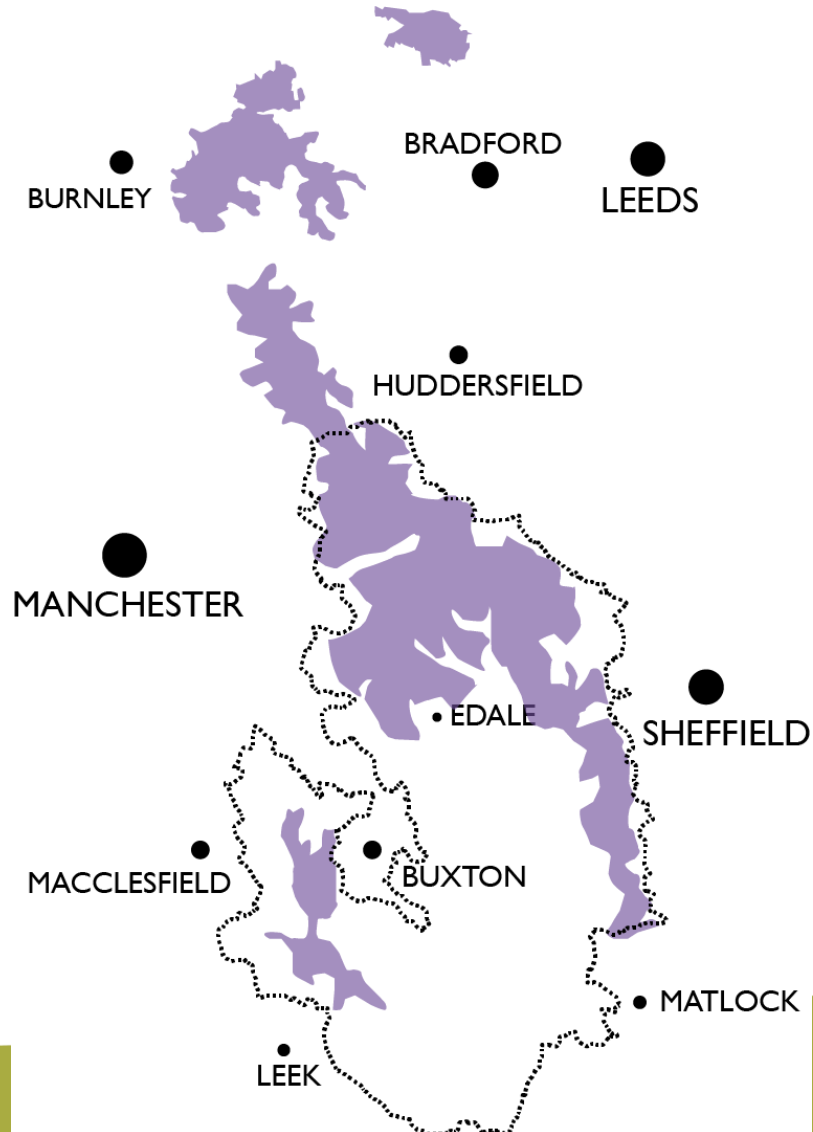
By 2050 the upland landscape of the Dark Peak and  
South Pennines will be sustainable and resilient.





# South Pennine Moorlands

Our working area





# Drivers of moorland degradation

- Air pollution
- Wildfires
- Weather
- Drainage
- Access by people
- Competition from non-native plants
- Grazing levels, particularly on damaged land









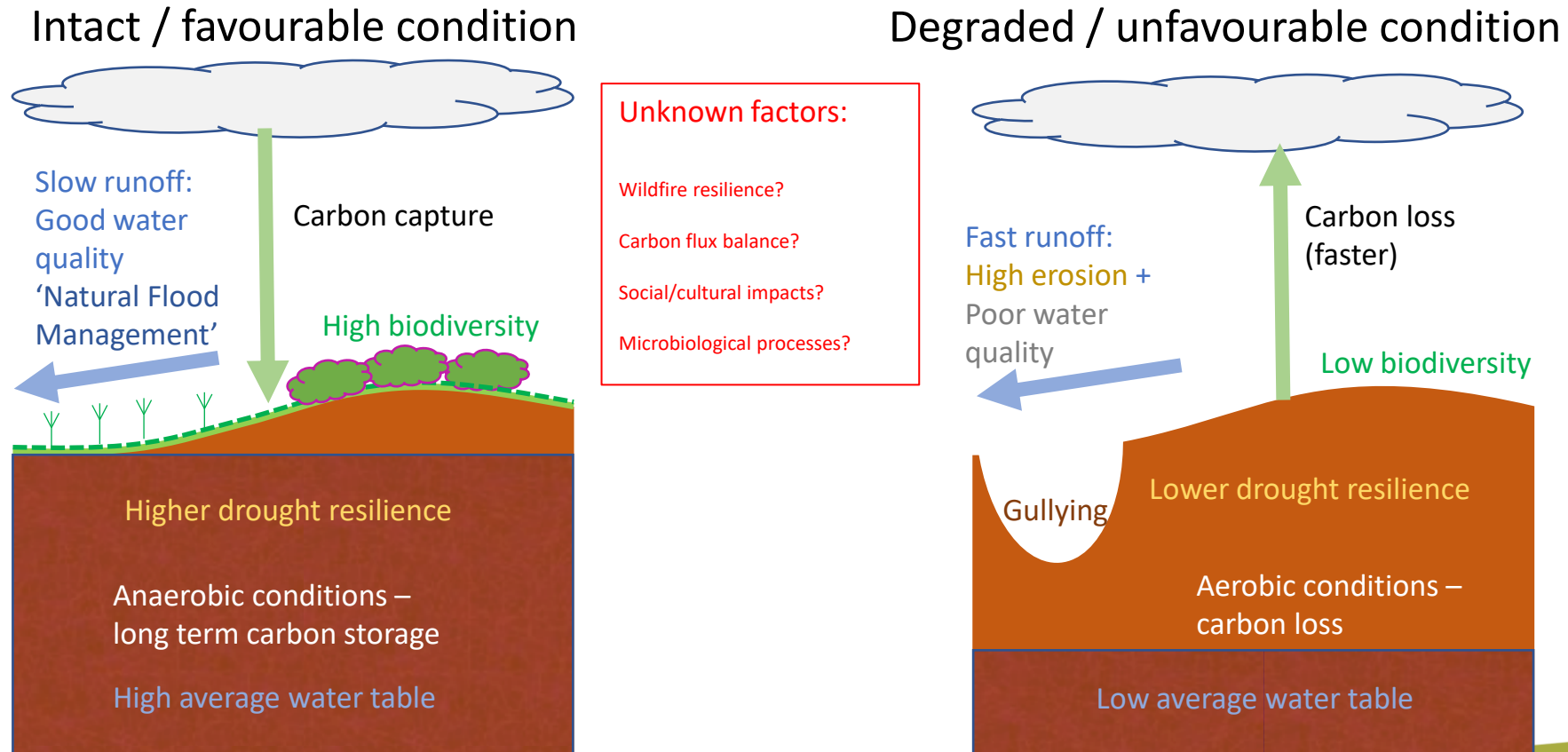
# Restoring damaged blanket bog





# Ecosystem services

Healthy peatlands provide important ecosystem services





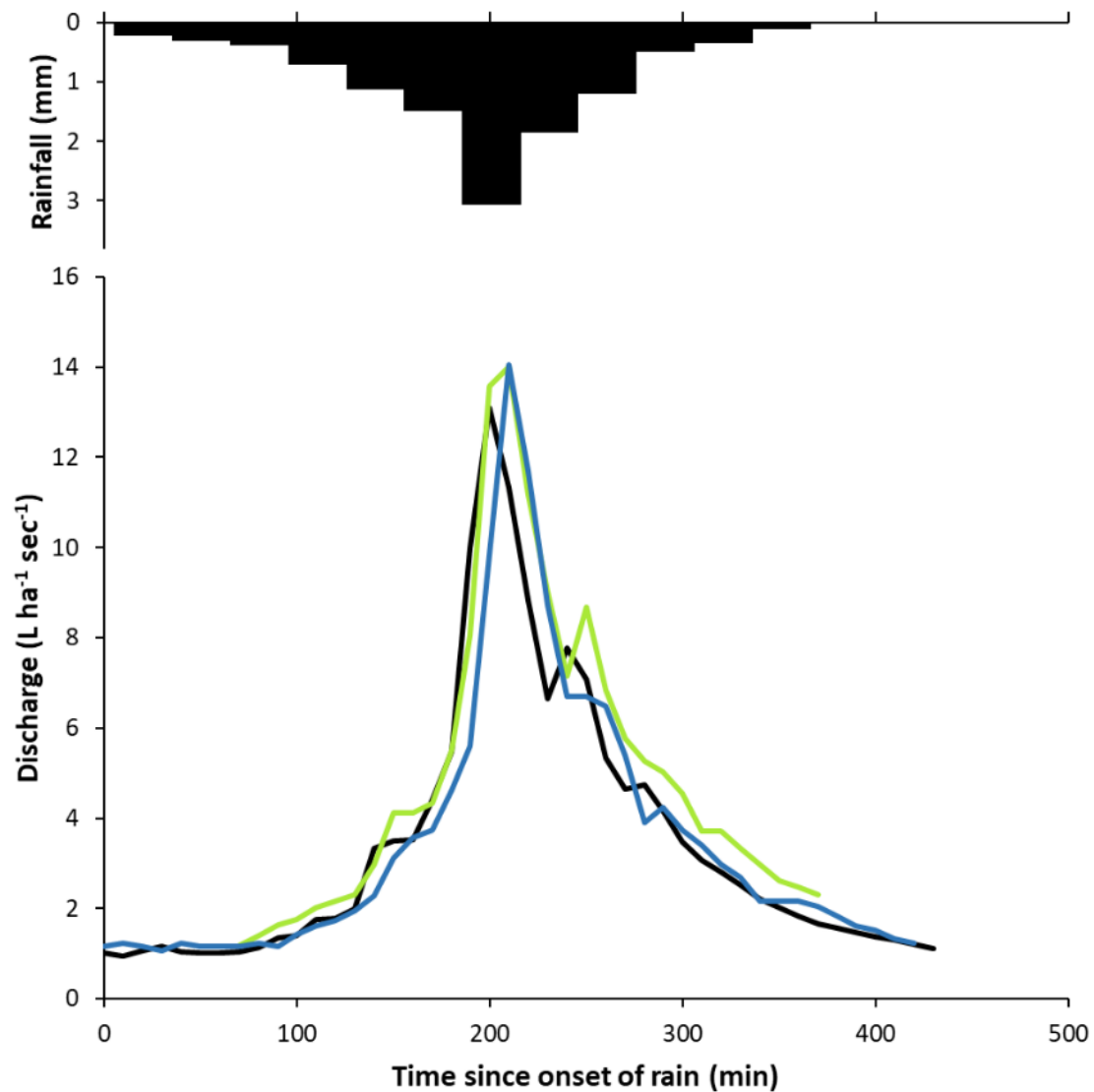
# Bare peat revegetation



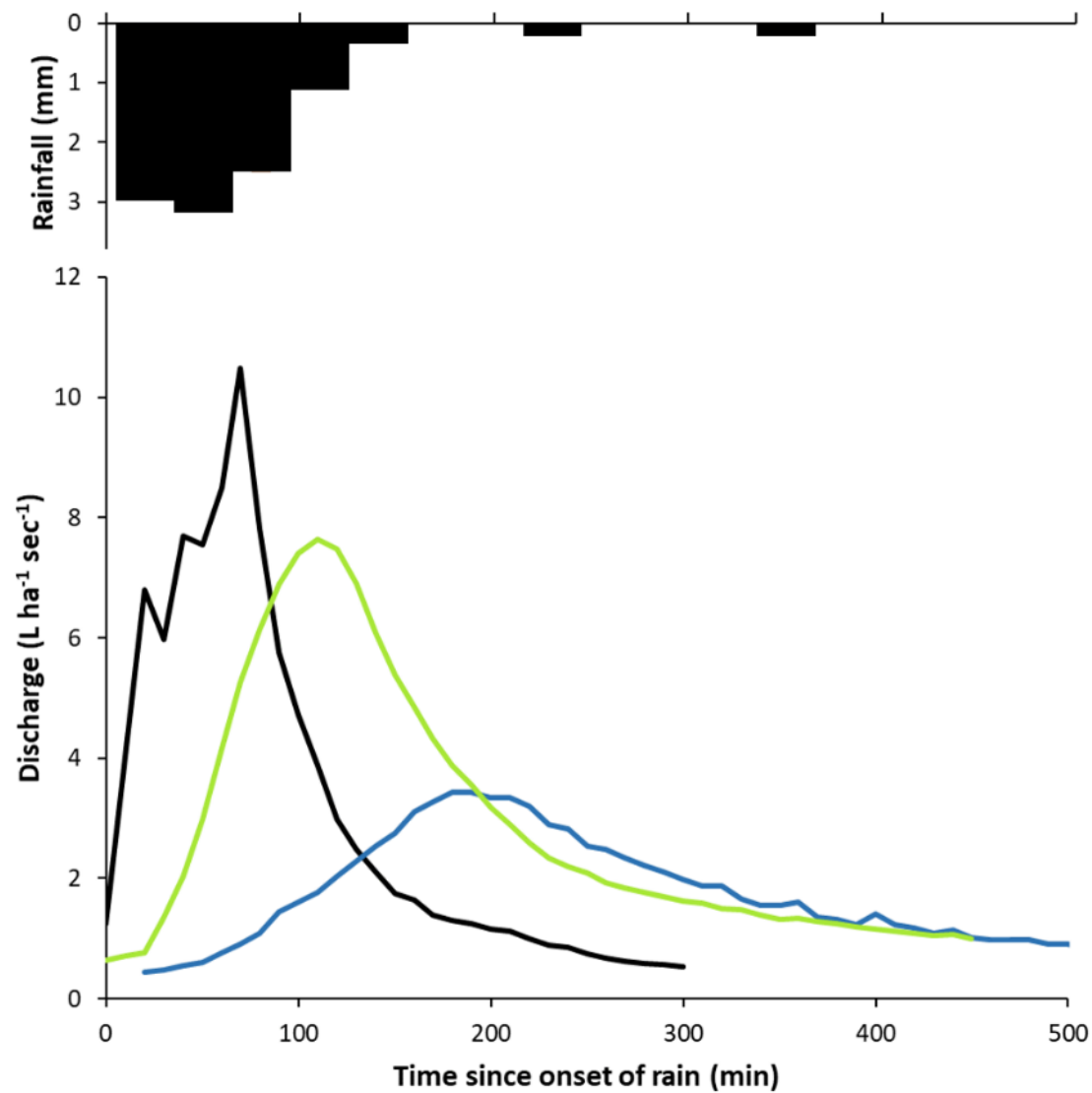
11 years



Before restoration



End of Phase 2

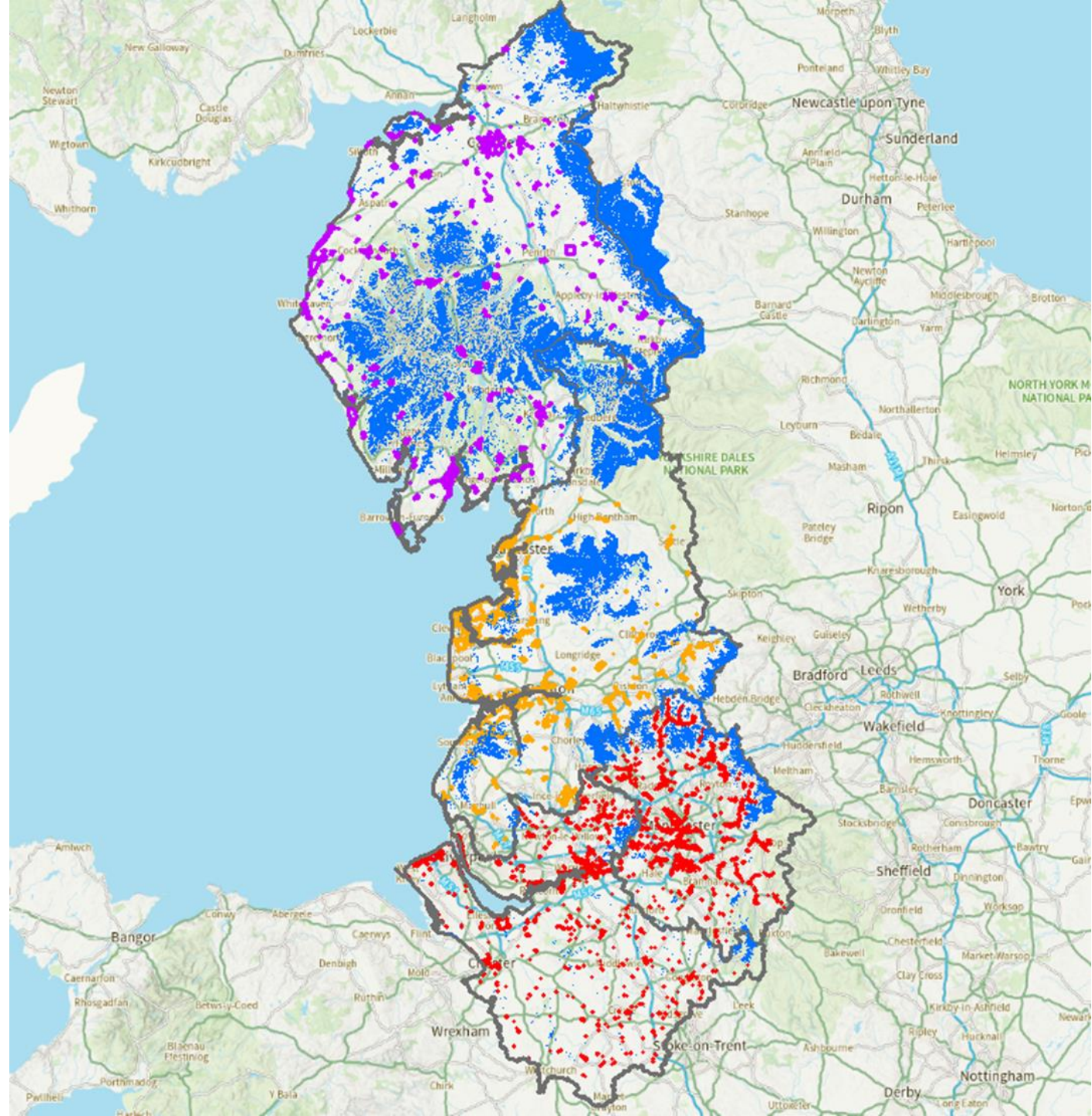


— Site F (control)

— Site O (revegetation)

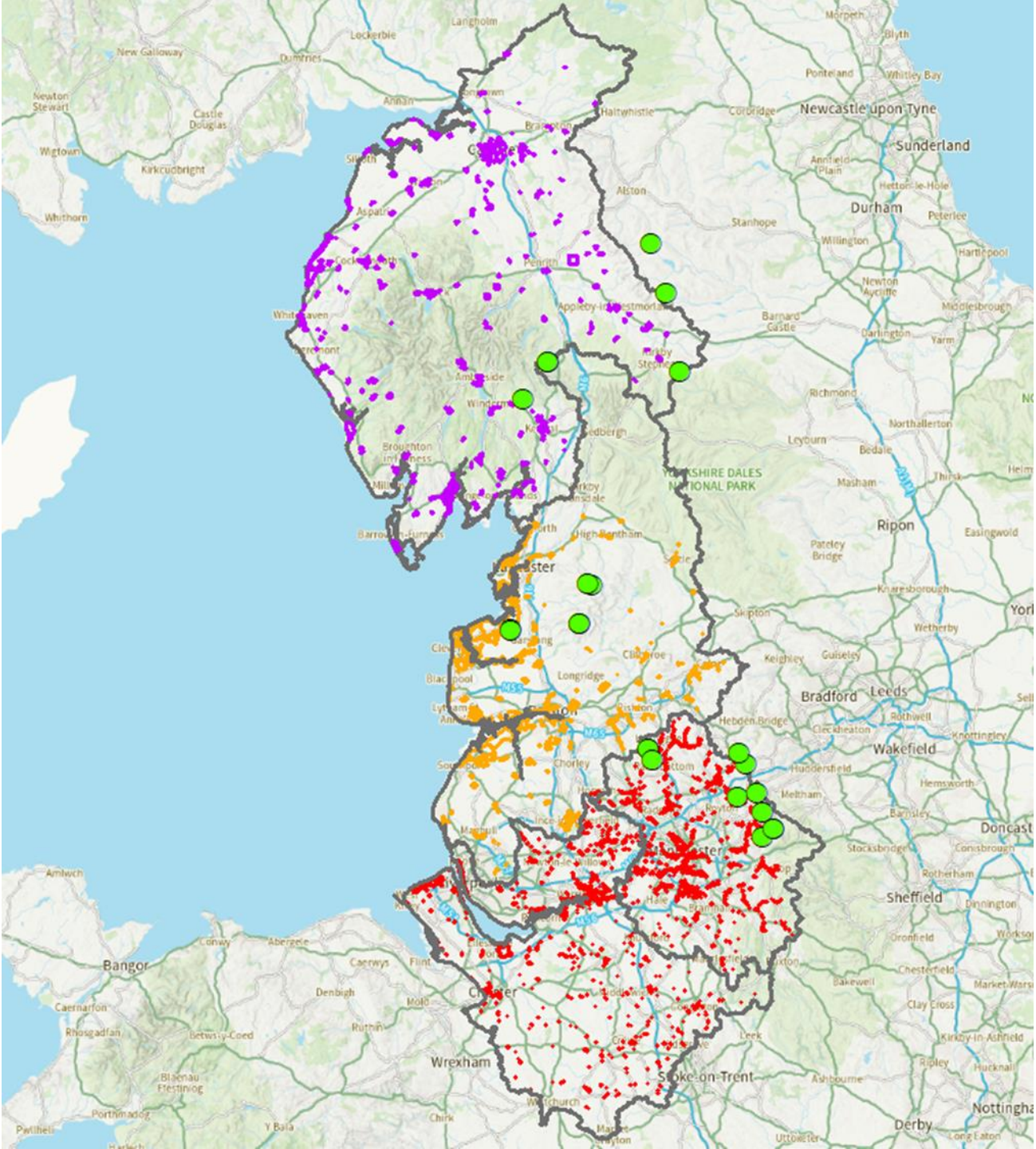
— Site N (revegetation, gully  
blocking and *Sphagnum*)

Peatland habitat  
and  
Communities at  
risk of flooding



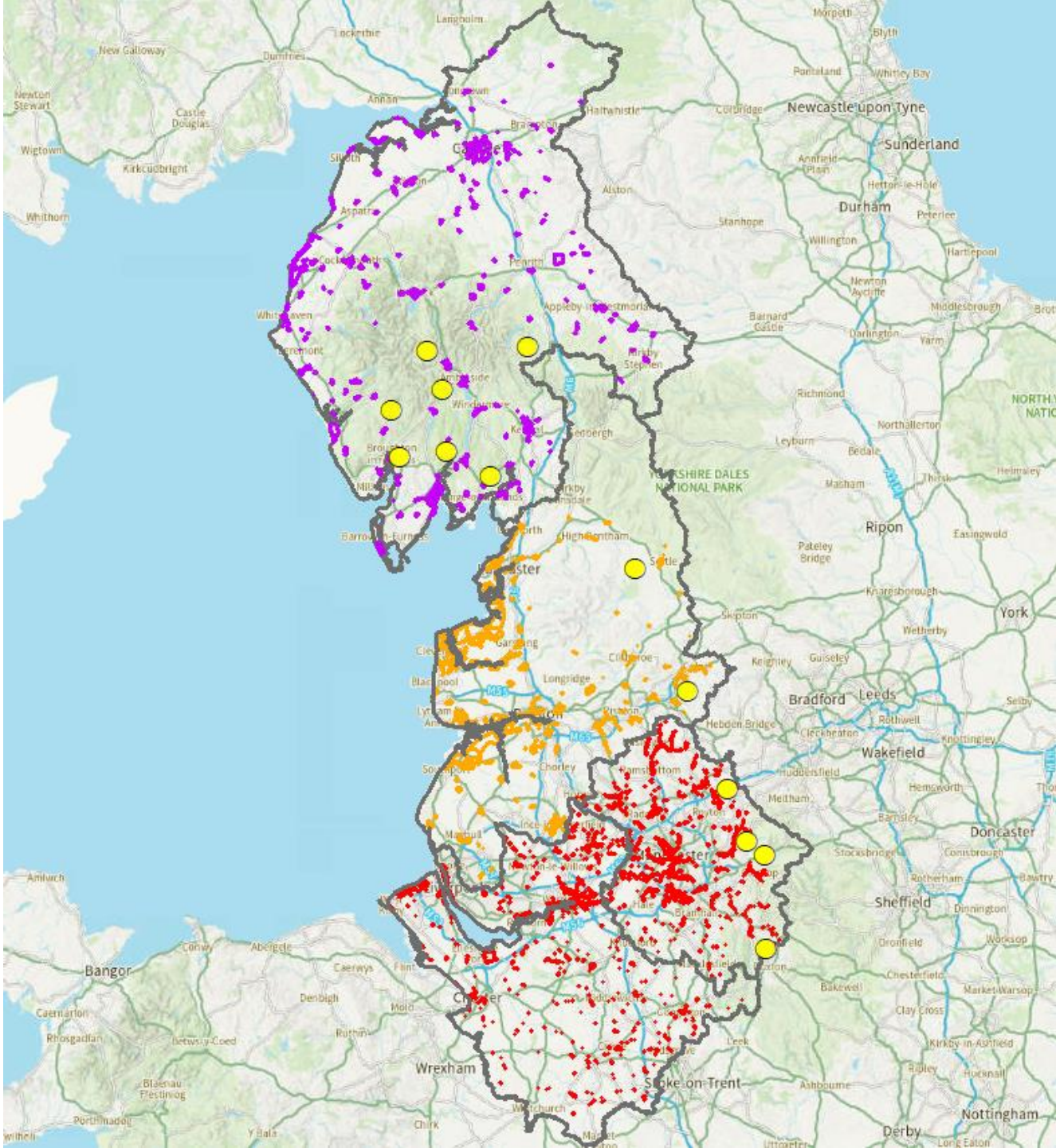


# Completed Restoration Works and Communities at Risk





Future potential  
work areas and  
communities at  
risk

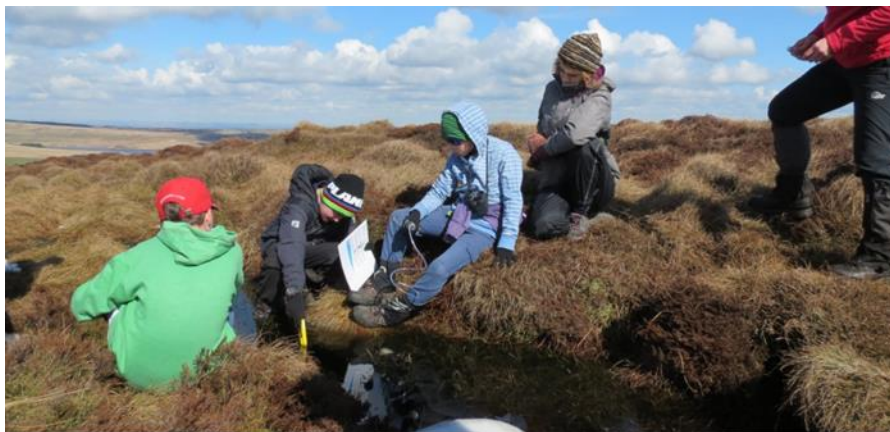


# Flood risk evidence for upland peat restoration

University of Manchester (and Moors for the future) have been monitoring the benefits.



Monitored rainfall, flow, levels, Groundwater levels, chemical samples, colouration downstream of a control site (eroded peat) to a restored site.





# Flood risk evidence for upland peat restoration

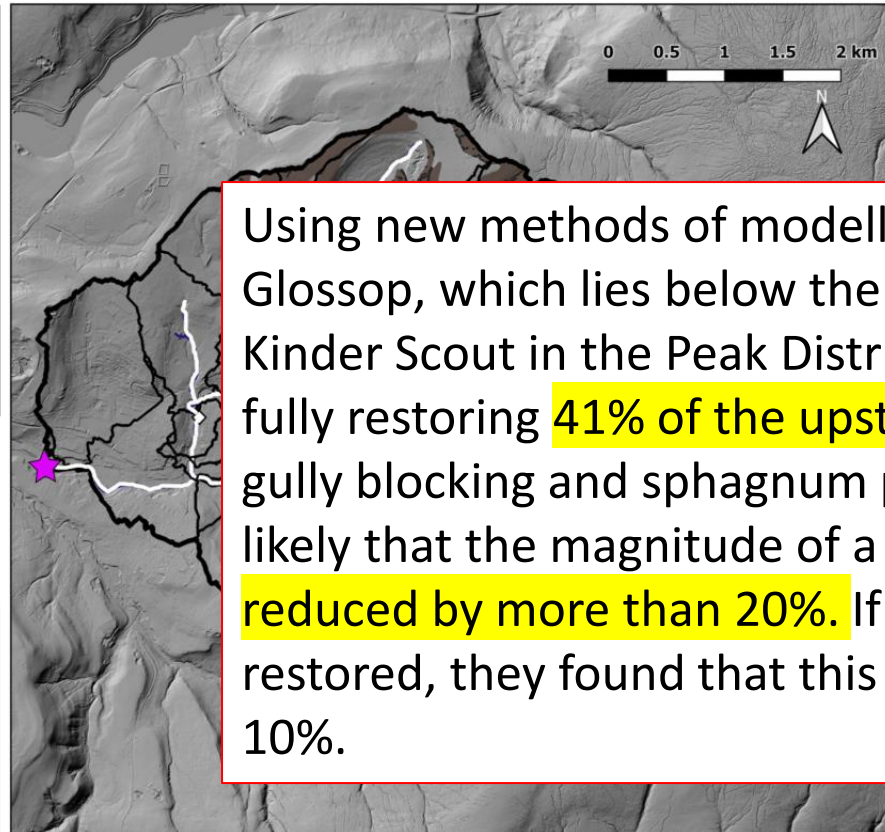
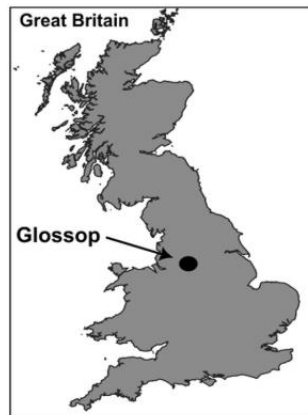
Research published in peer-reviewed journals



## Results

- Re-vegetation of bare peat leads to significant reductions in depth to water table.
  - Re-vegetation **reduced peak storm flows by 27%** and increases lag times by 106% (**doubles it**)
  - Gully blocking enhances the benefits of re-vegetation.
  - Increased surface roughness is the key driver of runoff change.
  - Peat restoration can contribute to Natural Flood Management and reduce downstream flood risk.
- 
- These are from small field plot sites.
  - Actual restoration is significant in area in the Pennines but can we be sure the effects scale-up ?
  - What impacts on our downstream communities at risk ?

# Flood risk evidence for upland peat restoration



Using new methods of modelling flood levels in the town of Glossop, which lies below the moorland peaks of Bleaklow and Kinder Scout in the Peak District, the team have demonstrated that fully restoring **41% of the upstream catchment** via re-vegetation, gully blocking and sphagnum planting makes it more than 90% likely that the magnitude of a **100-year flood event would be reduced by more than 20%**. If only 20% of the catchment is restored, they found that this would be 66% likely to reduce it by 10%.

## Water Resources Research

Research Article | [Open Access](#) | [CC](#) [i](#)

### Natural Flood Management Through Peatland Restoration: Catchment-Scale Modeling of Past and Future Scenarios in Glossop, UK

Salim Goudarzi [✉](#), David Milledge, Joseph Holden, Martin Evans, Tim Allott, Adam Johnston, Emma Shuttleworth, Martin Kay, David Brown, Joe Rees, Donald Edokpa, Tom Spencer

First published: 26 August 2024 | <https://doi.org/10.1029/2024WR037320> | Citations: 1

SECTIONS

[PDF](#) [TOOLS](#) [SHARE](#)

#### Abstract

FM) potential of at scales and e upscale a rare ent with >600 riod (RP). Under ay the outlet flow- rage, for example, ut detectable restoration area years, longer- FM, but at e challenging. In s in 15% of the ting & damming e peak-flows by % of the

# Flood risk evidence for upland peat restoration

NFM Restoration plus. Some gullies too big for conventional small cobble dams, but have good flood storage potential



Dave Milledge: Newcastle University Optimising Stone Dam design.

# Flood risk evidence for upland peat restoration

- Growing, good evidence base of benefits of peatland restoration
- Wider habitat benefits of peat moorland restoration
- Wider Carbon benefits of sequestration
- Wider water quality benefits too

Plans in place for peat restoration



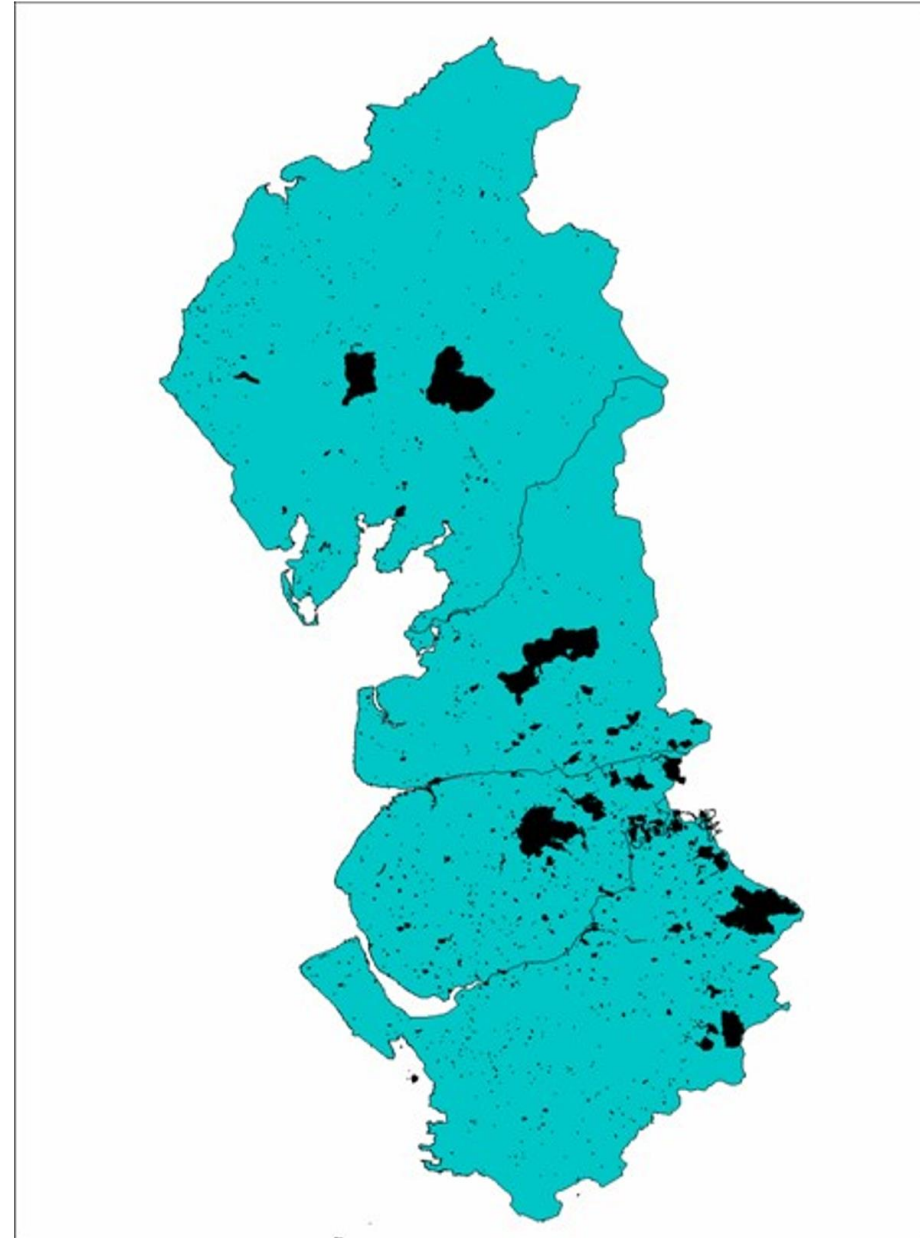
# United Utilities Catchment Land

- UU own 57,000 Ha catchment land
- 1980 ML average daily water supply

65% upland reservoirs

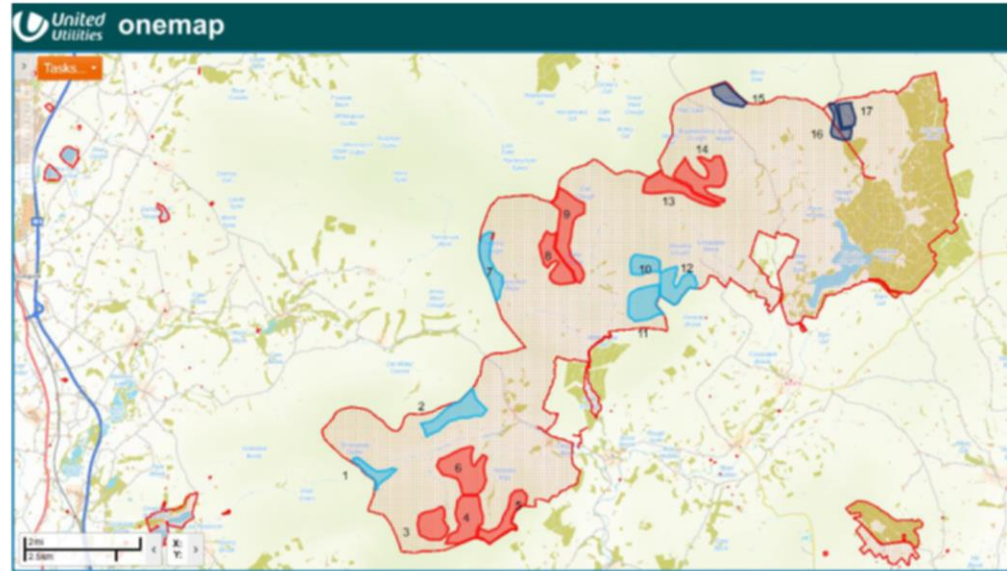
25% river and stream

10% ground water



## Bowland and West Pennine Moors

Bowland Catchment  
C 1125 Ha Peatland  
restoration



West Pennine Moors  
C 395Ha Peatland restoration



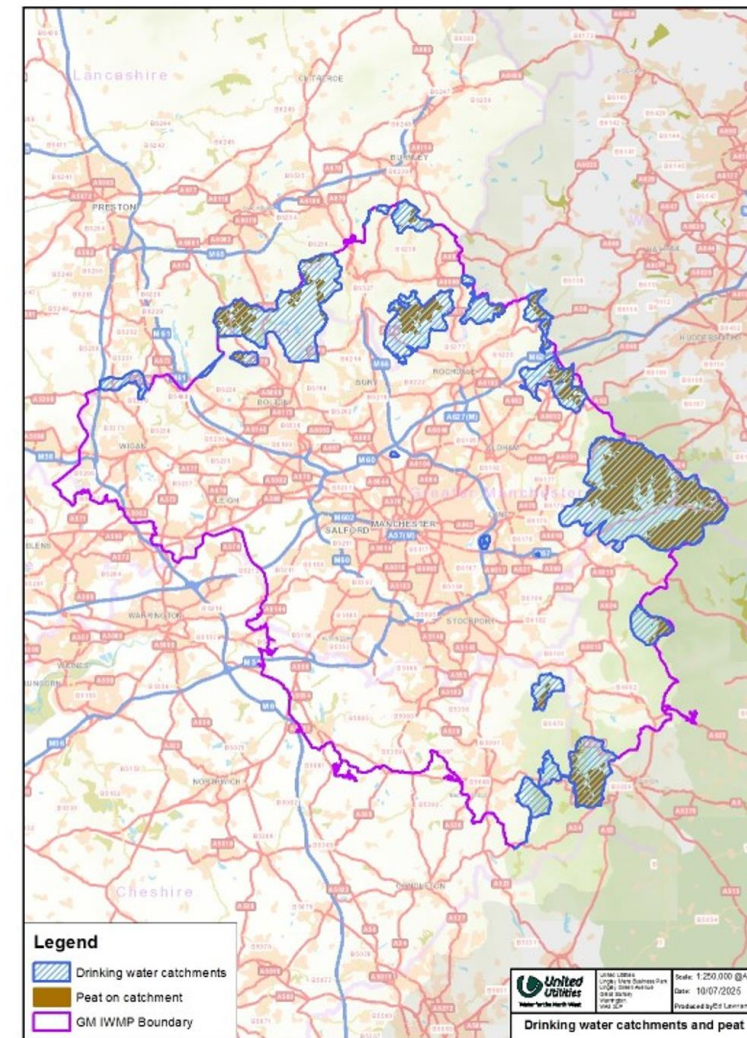
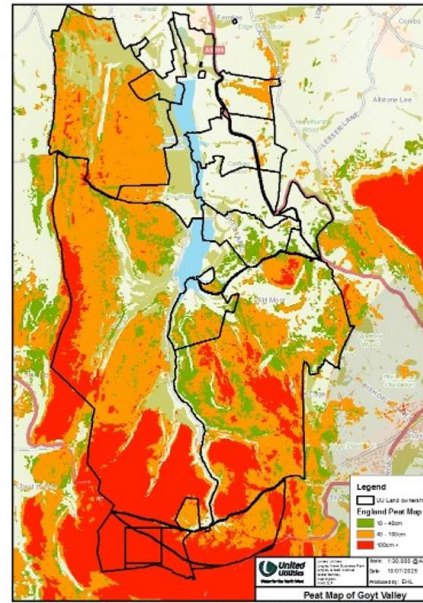


# South Pennines

C 352 Ha of non-SSSI Peatland restoration across several sites including Haslington, Castleshaw and Lamaload.

C 2500 Ha of Peatland restoration in the Dark Peak SSSI including UU RSPB Dovestones site.

C 2000 Ha of Peatland restoration in the Goyt catchments





# Cumbria



C 300 Ha of Peatland restoration  
across the Thirlmere and  
Haweswater catchments.







2007





2008





2008





2010













2014





2023





2007





2023





2005





2008





2008





2010





2013





2014





2023





2005





2023





2010





2010





2010





2010





2012





2013





2014





2023





2010





2023

# EA approach to peat restoration

- Opportunistic
- Desire to do more
- Potential limit is need for sustainable organisation size for delivery



# What do we need to make peatland restoration happen?

## **Recipe includes:**

- Delivery mechanisms
- Funding
- Strategic drivers
- Location
- Permissions and consents



# Contributing partners



WONDERFUL ON TAP



National  
Trust



The Farming  
& Land  
Managing  
Community



# Delivery mechanisms

## Potential funding sources

- Water company AMP funding
- Environment Agency
- Defra/Natural England
- National Highways
- Nature-based solutions/payments for ecosystem services

## Potential project types

- Projects with single-source funding
- Match-funded grant schemes
- Blended finance

## Potential locations

- Opportunity mapping
- Desk surveys
- Site knowledge and experience

Forward programme of work



# Funding peatland restoration

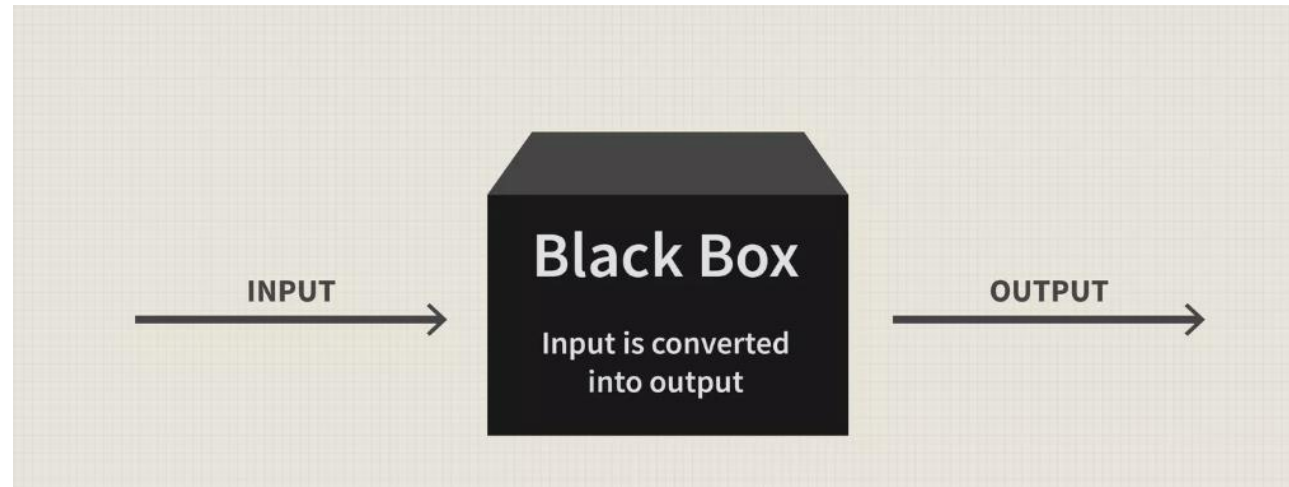
- Environmental Land Management Scheme (ELMS)
  - [Countryside Stewardship Higher Tier](#)
  - Landscape Recovery Project Development Phase [Round 1](#) and [Round 2](#)
  - [Capital Grants](#)
- [Nature for Climate Peatland Grant Scheme](#)
- [Peatland Code](#)
- United Utilities WINEP
- FCRMGiA Investment Reform proposal





# EA view of funding challenges

- Current rules: hard to justify sometimes in Business Case solely for flood risk funding, much better in partnership.
- Proposed changes to FCRMGiA funding rules should improve things but potential issue.
- Peat projects in the current £25m NFM programme.
- How are flood risk benefits assessed?



# Strategic drivers

- Local Nature Recovery Strategies (5 across the North West) – all have been or are currently out for consultation and contain many references to peatland as a priority habitat and restoration as a measure/action
- National FCERM Strategy – A nation resilient to climate change
- UU drivers:
  - Water quality – slowing the flow of water to reduce colour and turbidity
  - Water quantity – holding water back on the land creating a wetter landscape to increase resilience to floods and drought
  - Biodiversity – habitat improvements to protect and enhance biodiversity in line with our NERC act requirements
  - Climate mitigations – reducing carbon loss



Where are we now  
in terms of meeting  
the RFCC's  
ambition for  
managing water at  
a catchment scale  
with nature?



Photo: Moors for the Future

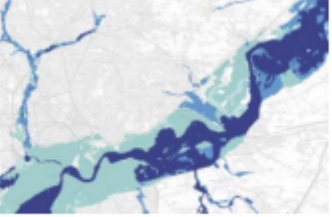
# Agenda Item 6

## North West NaFRA2 Update


Presented by Richard Knight, Marina Powell Currie  
and Chris Scott




# Our understanding of risk is changing



New national assessment and up to date local modelling

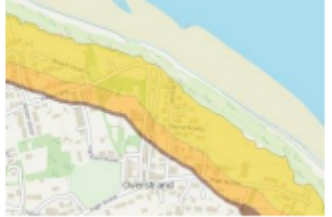


easier to update flood risk information




richer information such as climate change and flood depths


NaFRA **Flood** risk



10 years of data from the regional coastal monitoring programme



easier to access



climate change scenarios for the first time

NCERM **Erosion** risk

- New NaFRA shows that around 6.3m properties are in areas at risk of flooding from rivers, the sea and surface water
- With climate change there could be 8 million properties at flood risk by the middle of the century
- New NCERM shows that 3,500 properties are in areas at risk of coastal erosion up to 2055

We need to ensure our investments are targeted in the areas of greatest flood and coastal risk

# Overview of Data in the North West:

## Check Your Long-Term Flood Risk (CYLTFR)

- Asset Failure / Breach Scenario issues

## New National Model (NNM)

- No water level data has been provided for the New National Model
- Increase in queries around pre / post NaFRA2 changes where NNM is used

## Flood Map for Planning (FMfP)

- Issues with “with defences” and “without defences” and climate change flood risk layers
- Source of flooding unclear
- Direct Rainfall modelling possible duplication
- Functional Floodplain

## Risk of Flooding from Rivers and Sea (RoFRS)

- Risk of flooding of lakes and down stream

## Climate Change

- Tidal Interpolated scenarios



# Flood Map for Planning

## What's happening:

- based on user feedback we are making some changes to improve the customer journey
- we tested the options for changes with the PSO planning network, the DMMI community and a couple of AFCRMs
- we are removing the supplementary data layers
- we are replacing these with a new simplified layer – Flood zones plus climate change
- we will continue to encourage users to request further available data via the existing Product 4 data request

## When will this happen?

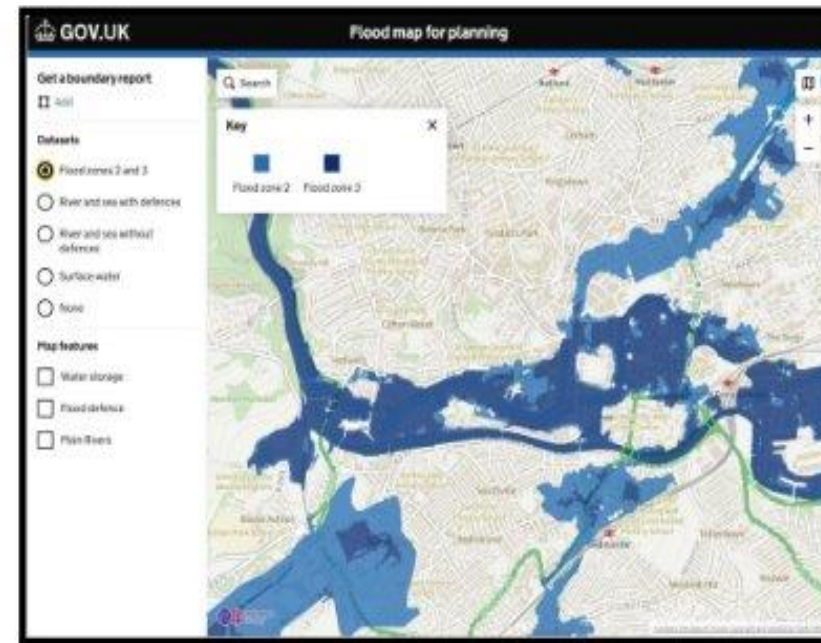
- the changes will be made at the end of July/early August

## Who are we telling?

- we will send an update briefing to all local planning authorities, lead local flood authorities and live/on-going NSIPs
- AFCRMs and SP colleagues will receive this a day or so beforehand

## What's our priorities for future FMfP improvements?

- Flood Zones retained areas
- data to support identification of functional floodplain
- depth data



# Improving our published flood risk assessment

- 1<sup>st</sup> update using updated local model and asset data. Created by EA using NaFRA2 software for 1<sup>st</sup> time. Using 'opt-in' choice: Jun-Dec 25\*
- 2<sup>nd</sup> update using targeted re-runs of some NNM domains and a further update of local model and asset data: Jan-Mar 26\*\*
- 3<sup>rd</sup> update using updated software inc targeted fixes to calculations e.g. for low-lying areas. Jun-Sep 26\*\*
- Main goal: to remove retained older FZ and RoFRS data by Sep 26
- Then move to quarterly updates as we learn and the data matures

# Retained areas in the North West:

- CLA – Ulverston / Carlisle
- GMMC –

Aim is to remove all current retained areas by end Dec 2026

Period of review for EA staff was quite short and not every location was reviewed or every data set in the timeframe we were given. As we are receiving customer queries we are starting to gather additional areas of issue.



# Expected changes to the future investment framework

Topic	Assumptions
Partnership Funding (PF) Policy Reform	<ul style="list-style-type: none"><li>• Radically simpler flood funding policy rules to speed up the delivery of projects</li><li>• Enabling more capital maintenance and smaller resilience projects to be eligible for funding</li><li>• Potential for national prioritisation to bolster specific policy priorities</li></ul>
Metrics	<ul style="list-style-type: none"><li>• New metrics to replace the 'Properties Benefitting' and 'Asset Condition' metrics</li></ul>
Alternative Sources of funding	<ul style="list-style-type: none"><li>• Same level of external funding contributions for new defence projects as for the current programme</li><li>• No new mechanisms for mandatory funding contributions</li></ul>
Devolution	<ul style="list-style-type: none"><li>• Strengthening the local choices of RFCCs</li><li>• Exploring opportunities to utilise the revenue raising powers of City Mayors</li></ul>

# Pipeline developed – an evidence-based approach to future investments



- Our new investment pipeline takes an **evidence-based** approach. It:
  - addresses all sources of flood risk (rivers, the sea and surface water) and erosion risk
  - accounts for NaFRA, NCERM and future climate change
  - identifies opportunities for investment in traditional defences, Natural Flood Management and Property Flood Resilience in unprotected areas
  - Identifies options to refurbish or replace existing flood defence assets in protected areas
  - takes account of local intelligence, place based views and wider funding opportunities
- We have applied a nationally consistent approach to **cost estimation and optimism bias** as well as environmental legal obligations (Biodiversity Net Gain and Habitat Regs)
- We have progressed the best **Value for Money** projects

# NaFRA2 data for project delivery

We are standardising project development to improve the efficiency of project delivery. As part of this we will:

- publish an evidence matrix that shows how nationally available data can be used alongside existing local information to build business cases quicker and at lower cost.
- ensure that opportunities from the PF Reform are used to minimise project development needs
- publish an affordability framework so that project development can focus sooner on affordable, deliverable options with improved clarity on sources and needs for any contributions
- explore how our improved data can be used in new tools so a wider range of different users can make robust investment decisions faster, making best use of existing data



# NaFRA2 and Flood Warning Service

- The **latest and best available published flood risk information** should underpin our emergency preparedness, planning and response
  - **FCRM Strategy Roadmap Action 3.2.2** *By Winter 2022 (and future years), the Environment Agency will maintain the flood warning service to ensure all high-risk properties have been added to the service because of changes to flood map and flood risk categories*
- A scale of change analysis has been completed to assess the impact of the new NaFRA2 flood risk data on the Flood Warning Service.
- A prioritised remapping programme is underway with subsequent updates to the flood warning service expected in 2026/27, earlier updates may happen if resourcing allows.



FLOOD  
ALERT

**PREPARE**



FLOOD  
WARNING

**ACT**



SEVERE  
FLOOD  
WARNING

**SURVIVE**

# Agenda Item 8

## AOB

Introduced by Adrian Lythgo