



West Yorkshire Flood Innovation Programme (WY FLIP)

Annual General Meeting 03.05.23



Key note
speaker:

Clr Scullion



Partnership Reflections



- University of Leeds



UK Government

**LEVELLING
UP**

**West
Yorkshire**
Combined
Authority

 **Tracy Brabin
Mayor**
of West Yorkshire

Combined Authority Reflections on the benefits of the Flood Innovation Programme (FLIP)

Justin Wilson / 03 May 2023

West Yorkshire Strategy and Policy Context

The Mayor has made the following ten pledges as part of her manifesto:

- 1. Create 1000 well paid skilled jobs for young people**
2. Prioritise skills and training to ensure everyone in West Yorkshire has the skills they need to secure work
- 3. Support local businesses and be a champion for our regional economy**
4. Lead a creative new deal to ensure our creative industries are part of the broader recovery strategy
5. Appoint an inclusivity champion to work to ensure the region's recovery benefits us all
6. Recruit 750 more frontline police officers and staff to fight crime
7. Put keeping women and girls safe at the heart of the policing plan
8. Bring buses back under public control, introduce simpler fares, contactless ticketing and greener buses
9. Build 5000 sustainable homes including council houses and affordable homes
- 10. Tackle the climate emergency and protect our environment**



West Yorkshire Strategy and Policy Context

West Yorkshire Investment Strategy & Investment Priorities: The WYIS sets out the Investment Priorities for the period 1 April 2021 to 31 March 2024 which are framed across six areas.

- **Investment Priority 1: Good Jobs and Resilient Businesses (including entrepreneurialism)**
- Investment Priority 2: Skills and training for people
- **Investment Priority 3: Creating Great Places and Accelerated Infrastructure**
- **Investment Priority 4: Tackling the Climate Emergency and Environmental Sustainability**
- Investment Priority 5: Future Transport
- Investment Priority 6: Culture and Creative Industries

The Combined Authority has declared a climate emergency and has a commitment to be net zero carbon by 2038 at the latest. The [West Yorkshire Climate and Environment Plan \(CEP\)](#) - is the Mayor's and Combined Authority response to tackling the climate emergency, protecting the environment and achieving a net zero West Yorkshire. The following critical action areas are identified:

- **CR01 Climate Ready Strategy**
- **CR02 Embedding Climate Readiness**
- **CR03 Flood Risk and Drainage**
- **BI01 Business Sustainability Support**





Combined Authority Flood Risk Management Investment Programme

The Combined Authority has already made significant investment following the Boxing Day floods, but more must be done.

Our flood programme includes:

- **£161.9m Capital Infrastructure Flood Programme** (£72.5m additional investment required) - currently going through the Assurance. £10m of Authority funding is being utilised in order to engage and leverage funding from other funding sources. Delivering 23 scheme protecting approximately 4,831 properties.
- **£7.1m Natural Flood Management (NFM)** programme - being supported through the Authority's Gainshare funding and individual schemes are progressing through the Assurance Process this year. Delivering at least 4,000 natural flood management interventions through nine projects by March 2028.
- The West Yorkshire Flood Resilience Programme (WY FLIP) has received **£310,000** from the UK Government through the **UK Shared Prosperity Fund**, which will be used to develop research around six work streams.
- **Business Sustainability Fund Support** - Supporting up to 100 business with a capital grant of £10k to £100k at (50% intervention rate) to improve the flood resilience from a **funding pot of £5m**. Via partner flood teams and our new business sustainability service teams we will work closely businesses and provide revenue grants, where we are able, towards identifying, assessing and developing plans.

Combined Authority Benefits from FLIP Workstreams

FLIP is a significant benefit for the Combined Authority in the following ways:

Collaborate

- Allowing space for collaboration and innovation to consider different approaches to achieve mutual goals.
- Draws in a wide range of partners – allow us to articulate the wider benefits of flood mitigation – underpinning conversations with potential new investors and government departments
- Provides 'thinking time' away from other work pressures – due to silos/time/funding etc.

Accelerate

- Accelerating business case development and providing confidence to the Combined Authority when prioritising Gainshare funding for flood risk management.

Support

- Supporting the Combined Authority's work to develop a pipelines of 'investment ready' flood projects.
- Thinking ahead to the next rounds of funding & Devolution – we need to demonstrate the scale of our ambition and what can do more with additional powers and funding.



Partnership Reflections

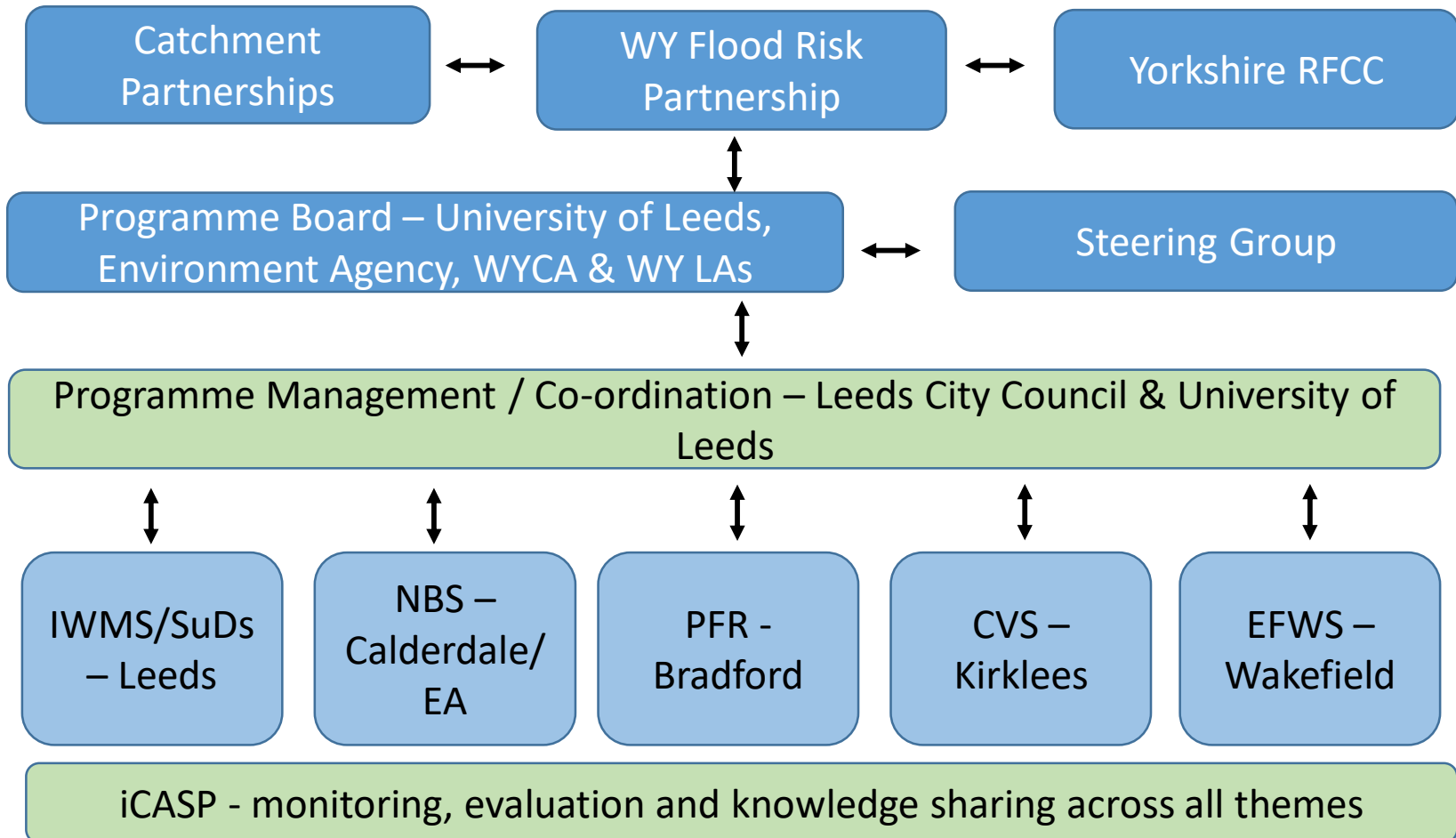


- Environment Agency

18-months on: What have the WYFLIP achieved?

- **Collaborative programme;** local authorities working with academia, industry and third sector
- Focus on **innovative solutions** using the latest research to embed **climate resilience**
- **Five key themes**
 1. Integrated water management solutions/Sustainable Urban Drainage systems
 2. Nature-based solutions
 3. Property flood resilience
 4. Community and voluntary sector
 5. Enhanced flood warning systems.

Governance



WFLIP bids

- To generate innovative solutions, the WYFLIP collaboratively produces grant applications for projects
- 14 projects total:
 - 5 Complete/Active/Approved waiting to start
 - 4 funding applications under development
 - 4 scoping stage
 - (1 funding unsuccessful)
- We use a range of funding sources

Financial overview

- 2 years funding from YRFCC (October 2021 – 2023)
- Total funding applied for: £696,645.23
- Total funding received: £616,766.23
- Value of bids in development: £820,000.00+

Current projects (1)

- Projects bring together partners across all sectors, seeking funding from multiple sources
1. **PFR Assured:** A Yorkshire-wide GIS database of PFR installations, collating existing knowledge to enable effective maintenance and increase community engagement
 2. **LoRaWAN networks:** Linking data from sensors to existing and forthcoming Smart City infrastructure
 3. **Prototype surface water flooding service.** Collaboration with the Met Office.
 4. **Communicating flood risk** [*project complete – potential to extend with future funding*]

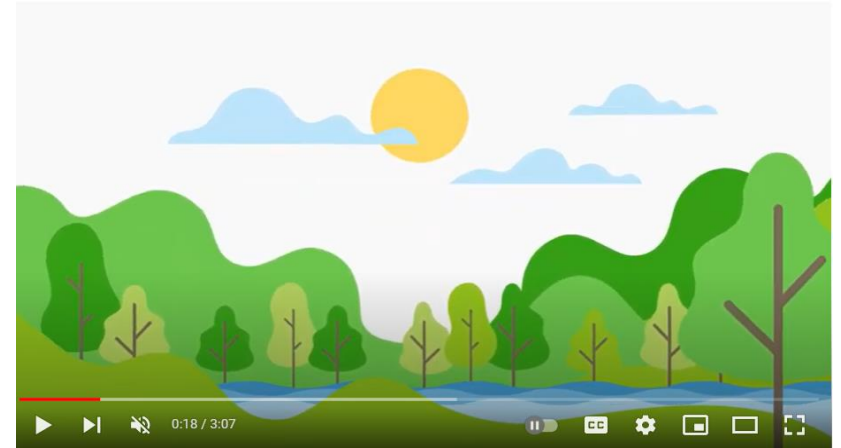
Current projects (2)

5. Accelerator project workstreams:

- **Green financing:** Bringing partners together in workshops to create links between FRM projects and sources of green finance
- **Early flood warning systems:** Drawing on existing systems and community feedback to design local EFWS that link with real-time data
- **Land use:** Monitoring trials to produce evidence about the effect of land-use and agriculture on flooding, which can inform discussions & planning
- **Systems-based climate readiness:** Collating mapping of Wortely & Wyke Beck to identify new areas of flood risk and integrate with existing data around planning & finance
- **Green social prescribing:** Linking the existing NHS referral pathways to community projects, with community-based NFM/SuDS
- **Enabling joint benefits:** Mapping multiple data sources such as environmental, economic and health together, using existing data to produce enhanced benefits across multiple sectors

Communicating our success

- Twitter 2 week campaign
Nov 22 achieved 11,644 impressions & 294 engagements
- Issued 4 press releases –
3 within the last 3 months
- Produced one animation -
& now a video



West Yorkshire Flood Innovation Programme Timeline

Active projects

Oct 22 March 25
 All themes: WYCA Accelerator

Accelerator workstreams: 1) Early flood warning systems, 2) Green social prescribing, 3) Green financing, 4) System-based FRM for climate ready planning, 5) NBS Data synthesis, 6) Land use data and evidence.

March 23 March 24
 PFR: PFR Assured

April 23 Oct 23
 EWFS: LoRaWAN networks

NBS projects
 Multiple active NBS projects receiving WYFLIP input, including; Baseline monitoring, Moorland resilience, Opportunity assessment, Farmer networks



Under development

CVS: Flood recovery & Mental Health

IWMS: SuDs in schools/SuD governance

All themes: Skills Capacity and Resilience Improvement (SCRIMP)

All themes: Use of AI to coordinate climate response

BRADFORD



CALDERDALE

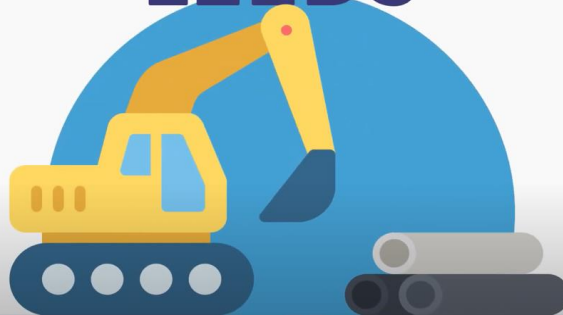


A Reflection from our theme leads

KIRKLEES



LEEDS



WAKEFIELD



WYFLIP AGM
Q&A
Discussion

WYFLIP AGM Agenda – 3rd May 2023

| | | |
|---------------|--|-----------------------------|
| 09:30 – 10:00 | Arrival and welcome coffee | Room 1 |
| 10:00 – 11:00 | AGM | Room 1 |
| 11:00 - 11:15 | Break | Room 1 |
| 11:15 - 12:00 | Technical theme workshops: <ol style="list-style-type: none">1. Nature Based Solutions – Landowner and Farmer Engagement in the Aire and Calder catchments2. Property Flood Risk – PFR into the future | NBS: Room 1 PFR: Room 2 |
| 12:00 - 12:45 | Community-focussed theme workshops: <ol style="list-style-type: none">1. Community Voluntary Sector – Flood recovery and Mental health2. Enhanced Flood Warning Systems – LoRaWAN networks | CVS: Room 1 EFWS: Room 2 |
| 12:45 - 13:00 | Theme workshops round-up session | Room 1 |
| 13:00 - 14:00 | Networking lunch | Rooms 1 & 2 |
| 14:00 - 15:00 | WYCA Accelerator project inception workshop | Room 1 |
| 15:00 - 15:30 | Feedback, conclusions and the future | Room 1 |

15 minute break

If you have any questions about the programme, potential ideas, or would like to get involved, please email iCASP via iCASP@Leeds.ac.uk

Thank you for listening!



Workshop 1a: Nature-based solutions



Video presentation

Calder Catchment Landowner Engagement Cooperative

A model approach?



Calder Catchment Landowner Engagement Cooperative – what is it?

- Delivery of landscape restoration, NFM and other ecosystem services requires strong relationships with landowners/farmers
- The CCLEC sets out advisory instructions on how organisations should engage with landowners/farmers
- Linking opportunities, expertise, and services across organisations and landowners/farmers

Why?

Better informed and support rural communities working in partnership to deliver landscape scale change

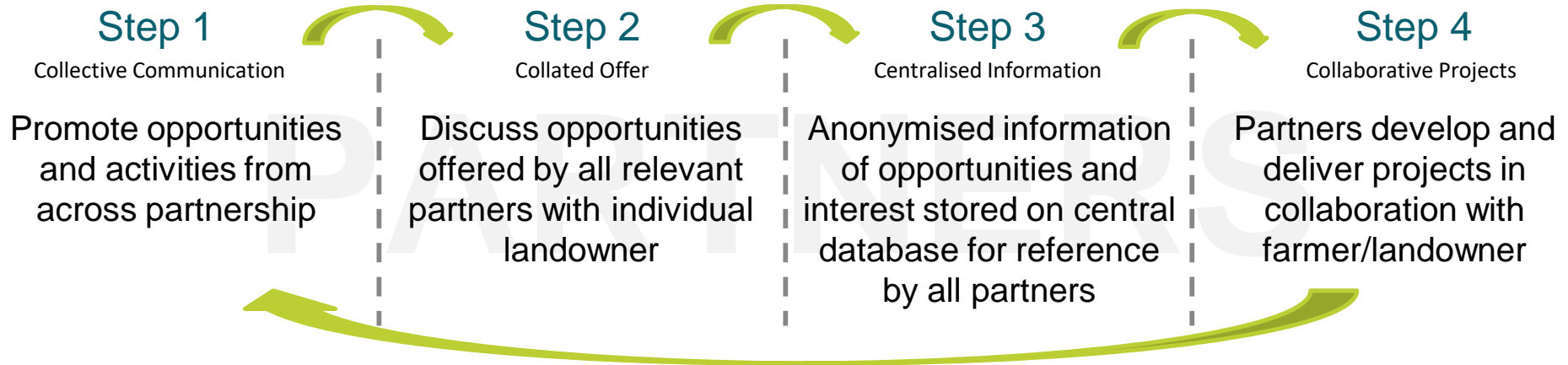


Organisations involved

- Calder Rivers Trust
- Calderdale Council
- Kirklees Council
- Environment agency
- National Trust
- Yorkshire Wildlife Trust
- River Holme Connections
- Forus Tree
- Colne Valley Tree Society
- and others



Engagement Protocol



What we need:

- Collective buy-in
- Collated opportunities and offers
- Shared information

Item:

- Landowner Engagement Cooperative Agreement
- All partner services portfolio
- Landowner contact & opportunities form, Data Sharing Agreement

Guidance/Advice

- Whole farm advice
- Tree/hedge planting
- Woodland creation/management
- INNS control
- Natural Flood Management
- Habitat creation/improvement
- Soil Management
- Funding opportunities.





West Yorkshire Flood Innovation Programme (WY FLIP)

Workshop 1b: Property Flood resilience





Property Flood Resilience

What next.....

Challenge 1



Burden of one to one consultations with home owners

- Who is best to undertake these discussions?
- How can we engage with our local communities better?
- How do we develop social innovation and resilience?

Challenge 2



Property flood resilience is second best

- When a capital scheme is not possible how do we best communicate the message?
- Deployment of measures- current manually in some cases. Does this impact reliability and perception?
- How to achieve social acceptability of PFR?
- Multiple flood cells- property to property flooding can concern communities.

Challenge 3



Is the insurance industry ready to accept PFR as a meaningful Flood Risk Management measure?

- Build back better scheme (Flood RE)
- Can PFR be relied on to completely prevent flooding and resulting claims?
- Some early installations not fit for purpose.
- Insuring properties that are designed to flood
- How to monitor the standard of protection- who should do this?

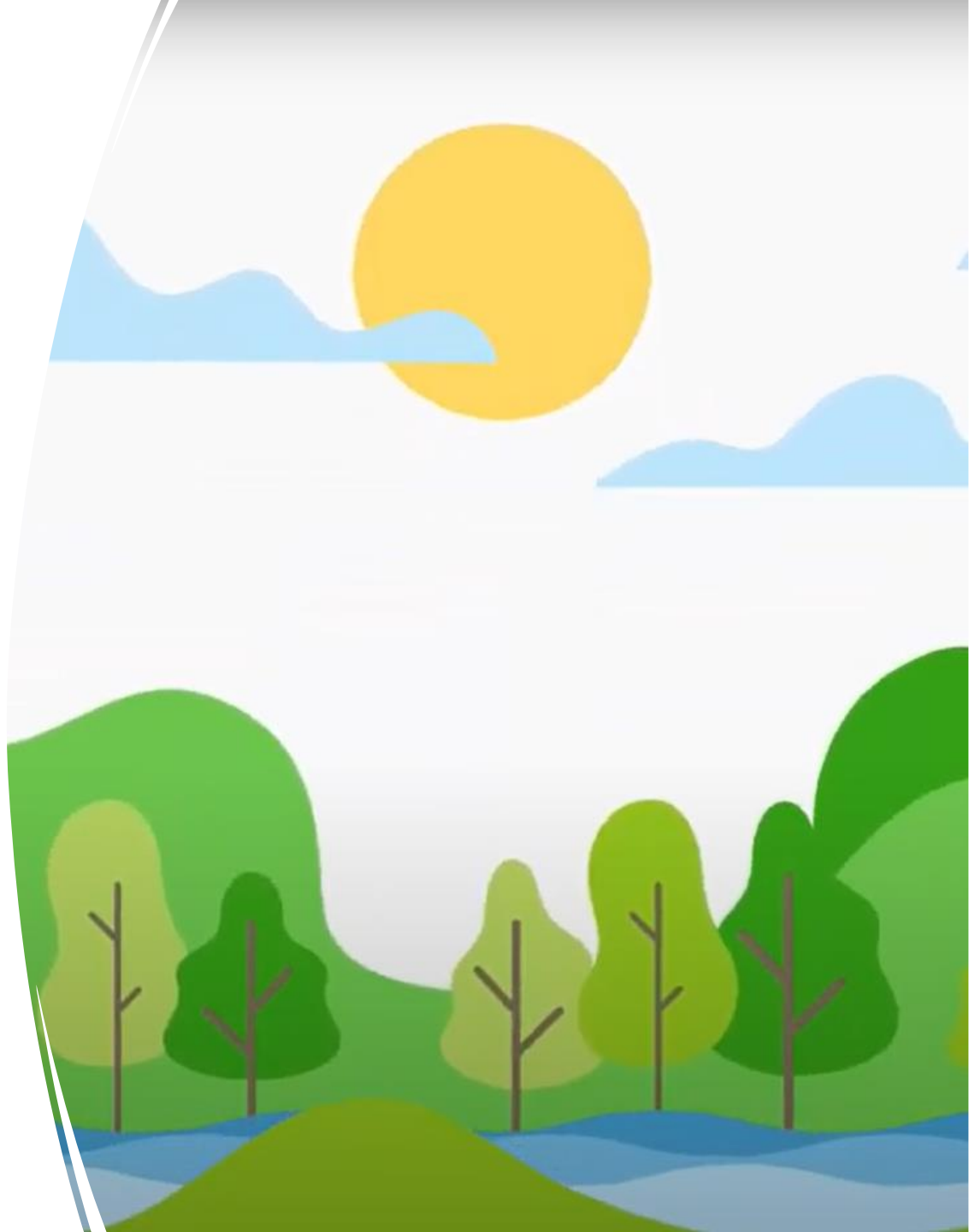


Workshop 2a: Community and Voluntary Sector



Welcome

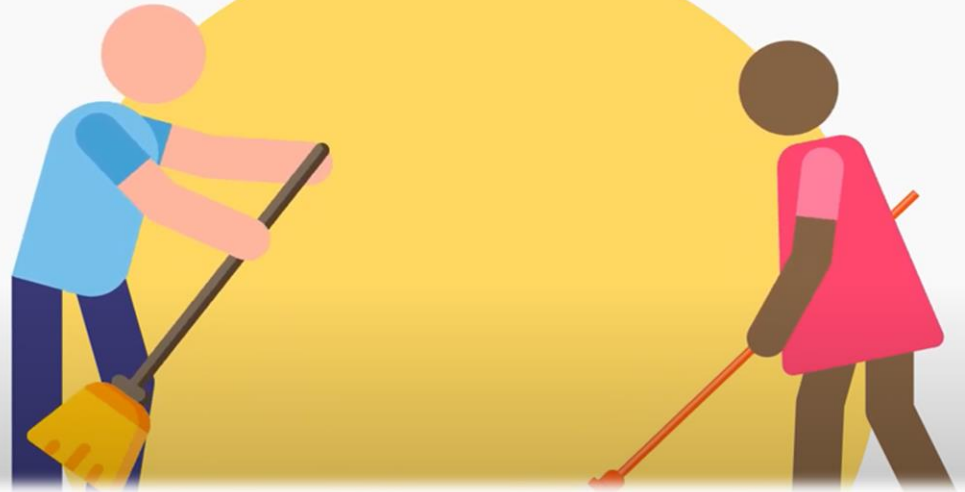
Community and
Volunteer Theme
Workshop



KIRKLEES

Community and Voluntary Theme

'Helping the community and voluntary
sector to be better prepared and
recover more quickly'



Why is the project needed?

- People whose homes had been flooded were up to 6 times more likely to have probable PTSD, depression and/or anxiety than people who had not been flooded.
- This study found that people who had experienced flooding were more likely to have symptoms of post-traumatic stress disorder (PTSD), depression and anxiety between 6 months to 3 years following the event.
- The study also found elevated symptoms of mental health disorders in those who lived in the vicinity of flooded homes or in a community affected by a flood event



Project Aims



The purpose of this project is to raise mental health awareness amongst flood communities and address mental health issues by

- providing prevention measures
- educational support
- check in services
- psychosocial first aid support



Project Details

Immediate Response – Reactive – Kirklees Led

- Kirklees Council react to when flooding occurs (often with pre-warning). An internal community support group are onsite and can provide psychological first aid. This can be during, immediately after and/or in the subsequent days.
- In the following days/weeks of a flood a targeted letter drop (potentially email) aimed at detailing support after a flood, including links to Mental Health Resources.
- GPs and other medical practices in the local vicinity to the high risk flood communities are set up are aware of this scheme and can refer residents to MH Charity led 'Community Wellbeing Sessions' and One on One Services. Residents can Also self refer.
- Working in conjunction with the setting up of the Community Flood Groups and already existing ones. Information packs will be provided to residents in the community, included in this can be a section dedicated to mental health wellbeing and include contacts to MH Charity.

Ongoing Response – Proactive – MH Charity Led

- A biannual community event in each flood risk community. With mental health wellbeing and signposting to services imbedded into the event. Events should also be tailored to provide benefits to the community where possible.
- At community events the MH Charity can signpost residents to professional mental health support if they deem appropriate.
- School Visits – A programme of school education classes, with embedded sections around the mental wellbeing.
- Funded counselling services for residents in these high risk areas.



Mental Health and Wellbeing Support for Flood Risk Locations



What we aim to Achieve Today

To further develop the MHW Support Scheme

- The Where – Prioritising Locations
- The Who – Targeted Communication
- The What - To highlight new areas of opportunity





The Where

How should locations be selected for this scheme?

Please consider the potential scale of the scheme.

How best to prioritise locations.



The Who

- How should the scheme target residents?

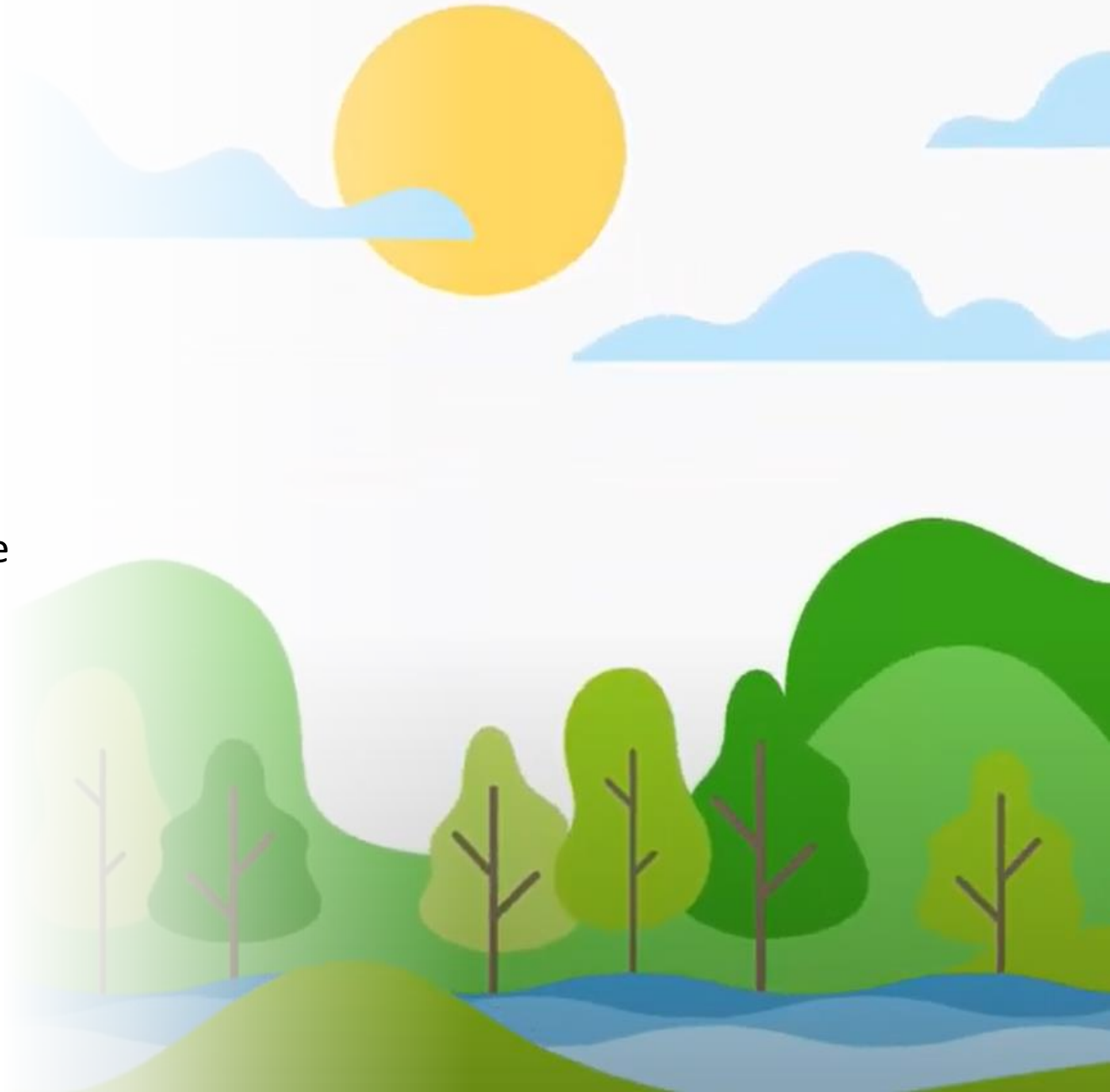
Please consider how this scheme can be communicated with the potential beneficiaries?

How are stakeholders made aware?



The What

- With a magic wand, what one additional aspect would you like to see in this scheme?



Summary and Future Actions

The Who

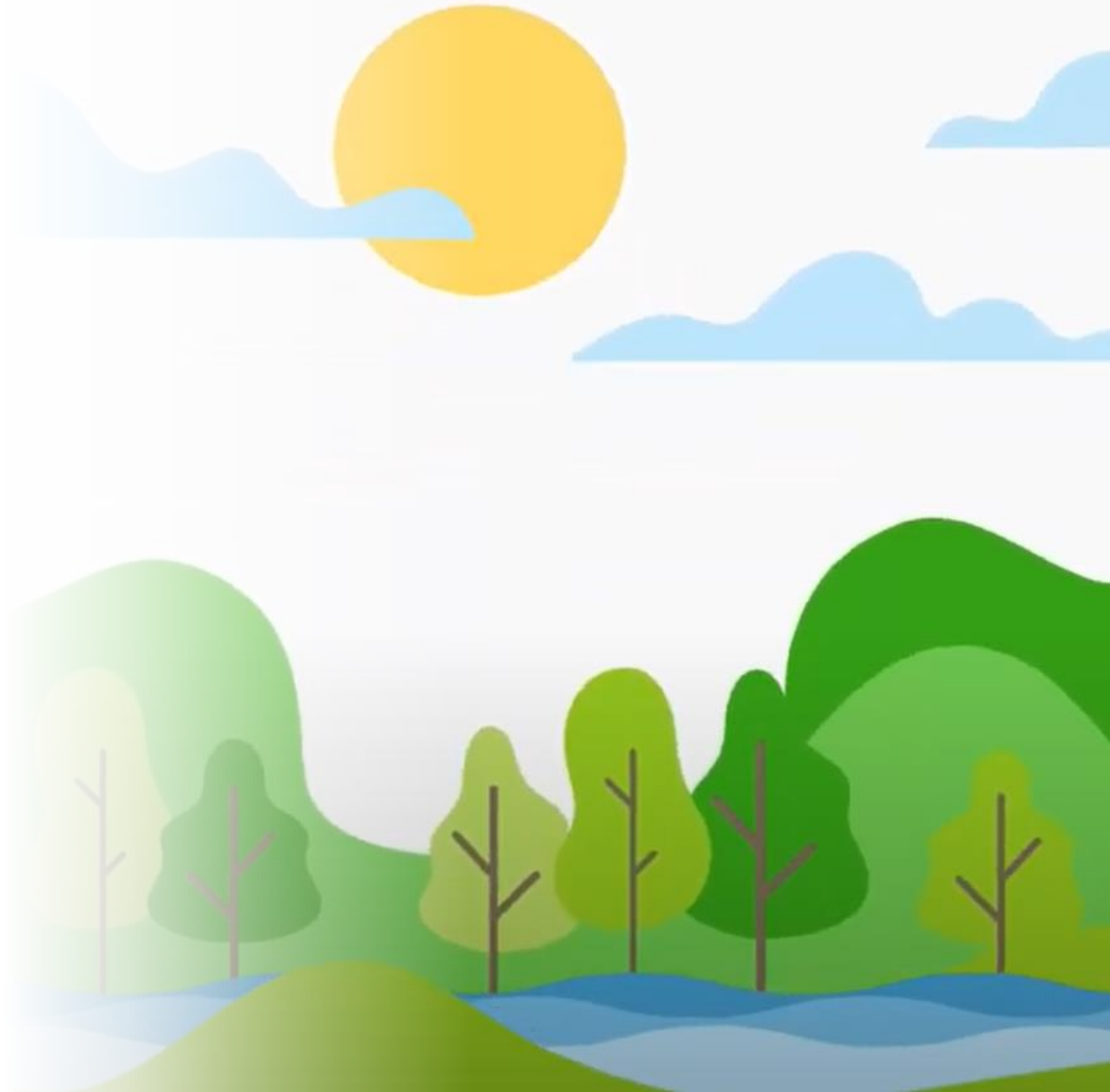
The Where

The What

We will summarise your input from today's workshop. Then put it together into a project summary and show what the project could look like. We will then circulate to the attendees.



Thank You!





West Yorkshire Flood Innovation Programme (WY FLIP)

Workshop 2b: Enhanced flood warning systems – LoRaWAN project



We've been selected!

#LocalDigitalFund



WEST YORKSHIRE FLOOD INNOVATION PROGRAMME ENHANCED FLOOD WARNING SYSTEMS

WELCOME TO THE LoRaWAN WORKSHOP

LOCAL DIGITAL FUND ROUND 6



We've been selected!

#LocalDigitalFund



WEST YORKSHIRE FLOOD INNOVATION PROGRAMME ENHANCED FLOOD WARNING SYSTEMS

- November 2022 bid submitted to the Local Digital Fund round 6 for a digital surface water flood warning system.
- Bid of £97k for the discovery phase
- All bids had to be collaborative
- Wakefield, Kirklees and Leeds are partners in the project
- The Local Digital Fund aims to help Council's transform their digital services
- If successful hope is to advance to the Alpha and Beta stages.



We've been selected!

#LocalDigitalFund



WEST YORKSHIRE FLOOD INNOVATION PROGRAMME ENHANCED FLOOD WARNING SYSTEMS

- In February 2023 we were informed that our bid had been successful
- We were one of 17 projects that had been funded out of 50 applications
- The grant was for the discovery phase
- Discovery phase – explores the problem
- Alpha phase – test the options identified at discovery phase
- Beta phase – building and refining the options
- The Local digital Fund team have shown great interest in the project.



We've been selected!

#LocalDigitalFund



WEST YORKSHIRE FLOOD INNOVATION PROGRAMME ENHANCED FLOOD WARNING SYSTEMS

TODAYS WORKSHOP

- The discovery phase project is to explore the use of a Long Range Wide Area Network (LoRaWAN) to provide a real time surface water flood warning system.
- The project will focus on surface water level monitoring, such as bollard sensors, rainfall, soil moisture and gully sensors.
- Today's workshop is to look at the potential future phases of the project to get an insight into what people would like to see and find useful when responding to a flood event.



We've been selected!

#LocalDigitalFund



WEST YORKSHIRE FLOOD INNOVATION PROGRAMME ENHANCED FLOOD WARNING SYSTEMS

TODAYS WORKSHOP

We would like you to split into three groups and look at the project from the following three viewpoints.

- **Residents in Flood Risk Areas**
- **Emergency responders**
- **Flood Risk Management**



We've been selected!

#LocalDigitalFund



WEST YORKSHIRE FLOOD INNOVATION PROGRAMME ENHANCED FLOOD WARNING SYSTEMS

We would like you to discuss how you think the project could help before/during and after a flood considering below points;

- What type of sensors would be useful.
- What information would you want to see.
- How would you like to see the information.
- When would you want to see the information.
- Should the information be shared.
- Do you think the use of smart sensors would help.
- What problems do you think there may be with smart sensors



We've been selected!

#LocalDigitalFund



WEST YORKSHIRE FLOOD INNOVATION PROGRAMME ENHANCED FLOOD WARNING SYSTEMS

- You will have 20 minutes for the round table discussions and then 10 minutes feedback.
- Please feel free to add any additional comments not covered, we will use the information gathered to help us plan the next phases.
- Please also let us know if you are aware of any existing systems or projects along these lines.
- Finally a big thankyou for attending and showing your support and let us know if you want to be involved in future workshops.





Workshop roundup
03.05.23



Workshop feedback & discussion

1 hour lunch

If you have any questions about the programme, potential ideas, or would like to get involved, please email iCASP via iCASP@Leeds.ac.uk

Thank you for listening!