

LOCAL ACTION PROJECT

Turning policy into practical community action:
a local collaborative natural capital approach



Turning Policy into Practical Action

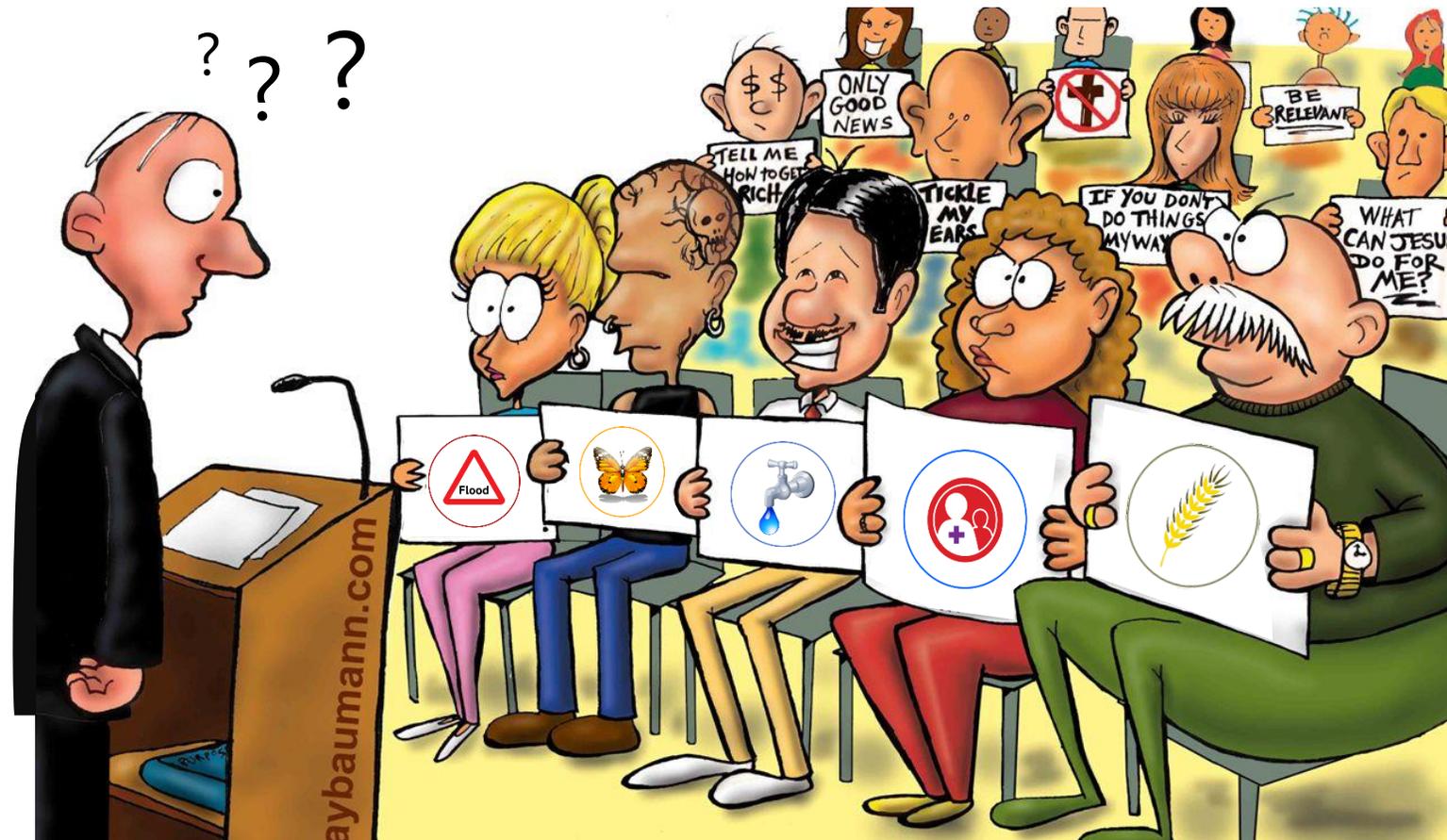
Our approach aims to create an evidence-base that facilitates local decision making and must therefore take a number of factors into consideration:

- 'Needs' of the community
- 'Wants' of the community & local policy-makers
- Where are there opportunities for action,
- Suitability/capacity of the landscape to receive interventions



“...Environmental planning is about talking to real people with different needs and wants from the environment...

...our aim should be to understand these needs, build a shared vision and then do something ‘intelligent’ that benefits as many people as possible...”





“BUILD IT [A SHARED VISION] AND THEY WILL COME”

Working with local communities to enhance the value of natural capital in our towns, cities and other urban spaces to improve people's lives, the environment & economic prosperity...

STRATEGIC DATA, EVIDENCE + INFORMATION

Present robust evidence in a clear way to help build consensus, facilitate local decision-making & secure funding

LOCAL CHOICES, PRIORITIES + AMBITIONS

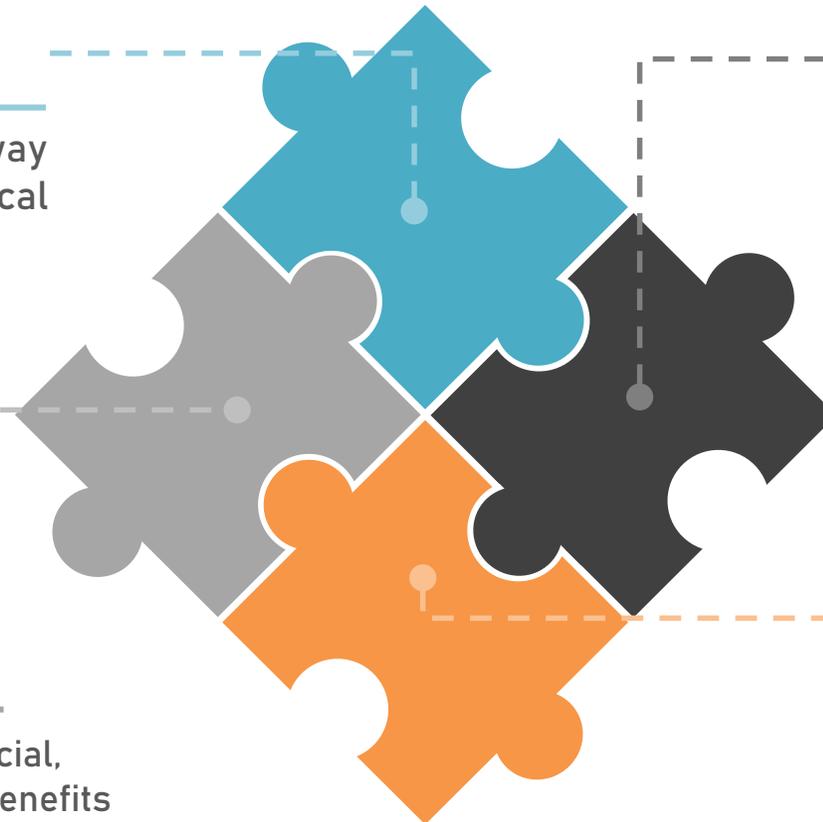
Talk to the local community and civil society groups to discover their future vision and ambition for where they live

VALUING THE BENEFITS FROM NATURAL CAPITAL

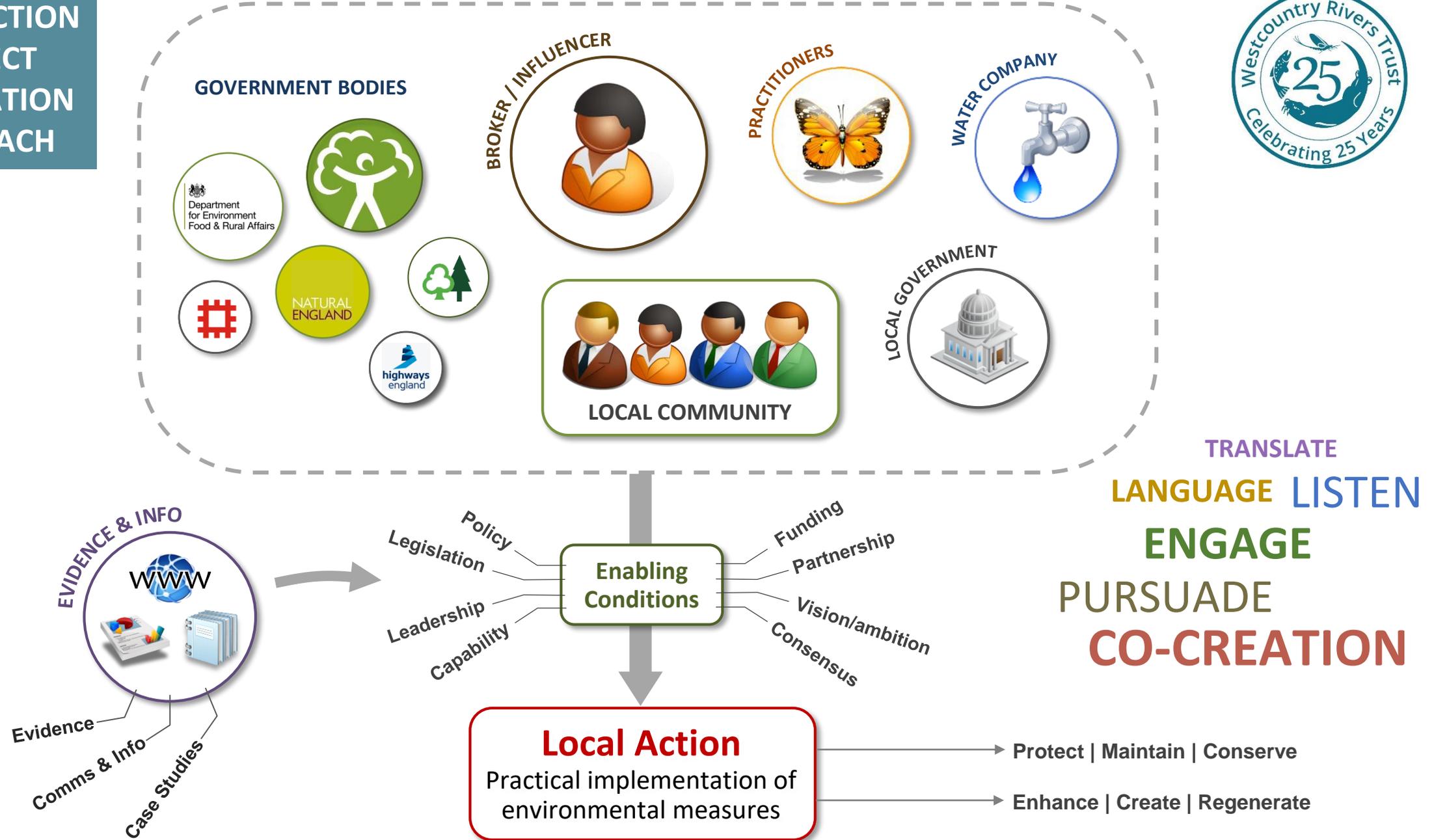
Develop a clear understanding of the social, cultural, environmental and economic benefits provided by natural capital in urban landscapes and estimating potential improvements

FUNDING + RESOURCES FOR LOCAL ACTION

Support the formation of effective stakeholder-led partnerships by increasing engagement, mobilising local delivery organisations and tapping into funding sources



LOCAL ACTION PROJECT CO-CREATION APPROACH



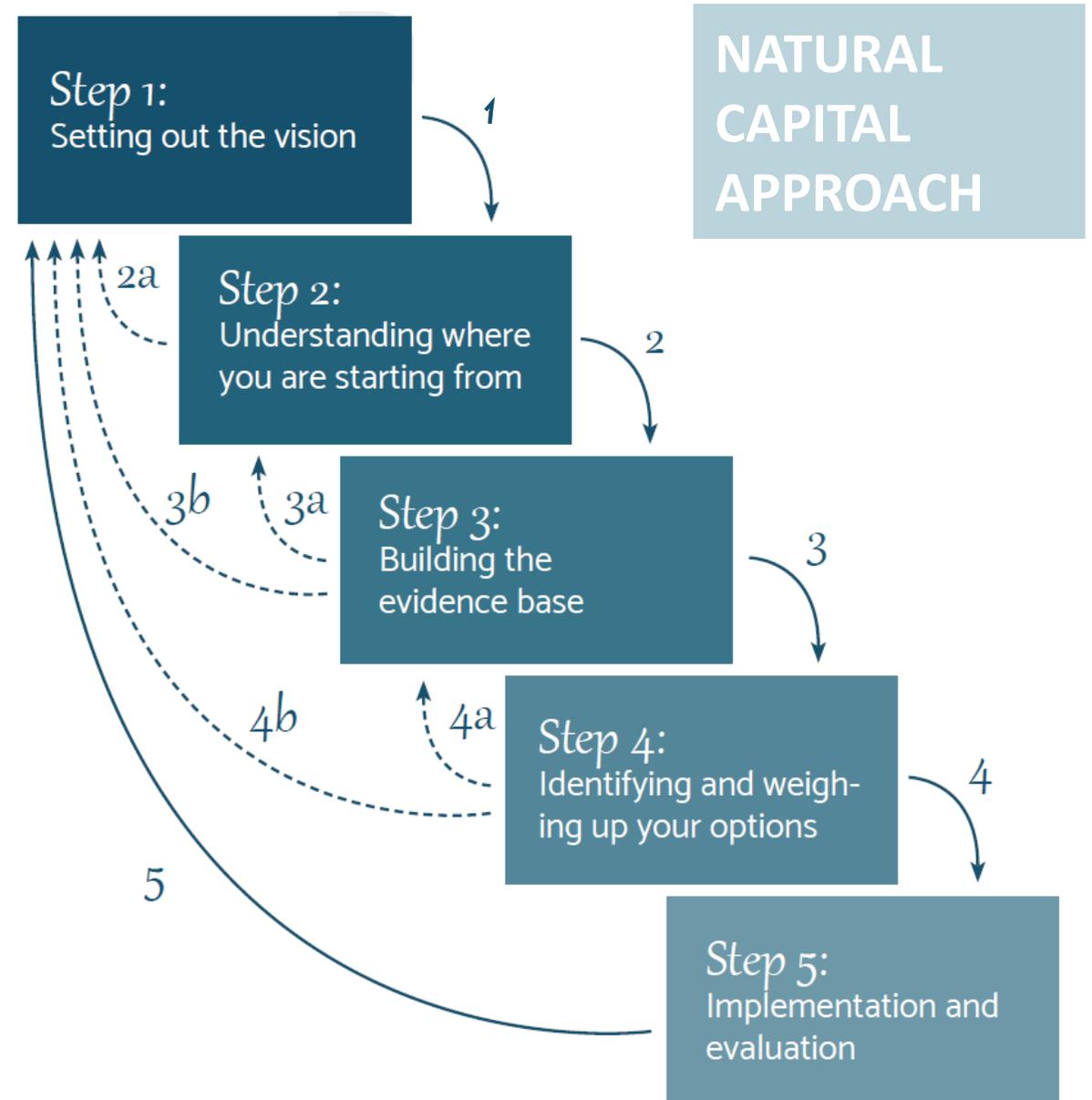
LOCAL ACTION PROJECT 3: OBJECTIVES



- Develop an adaptable, scalable & universally applicable NC-based framework for environmental partnerships (local, regional & national)
 - to support the creation of consistent & robust natural capital-based action plans
- Further development of NBS 'Toolbox'
 - to include urban & rural natural capital typologies/interventions (CSF, NBS, NFM, etc)
- 'Learning through doing' demonstration areas
 - city-scale (Manchester), whole-catchment (Medway), strategic masterplan (GESp), neighbourhood (Hulme), community (Taunton and Millbrook)



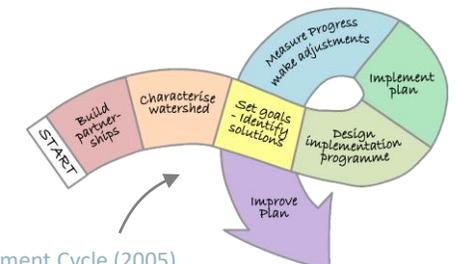
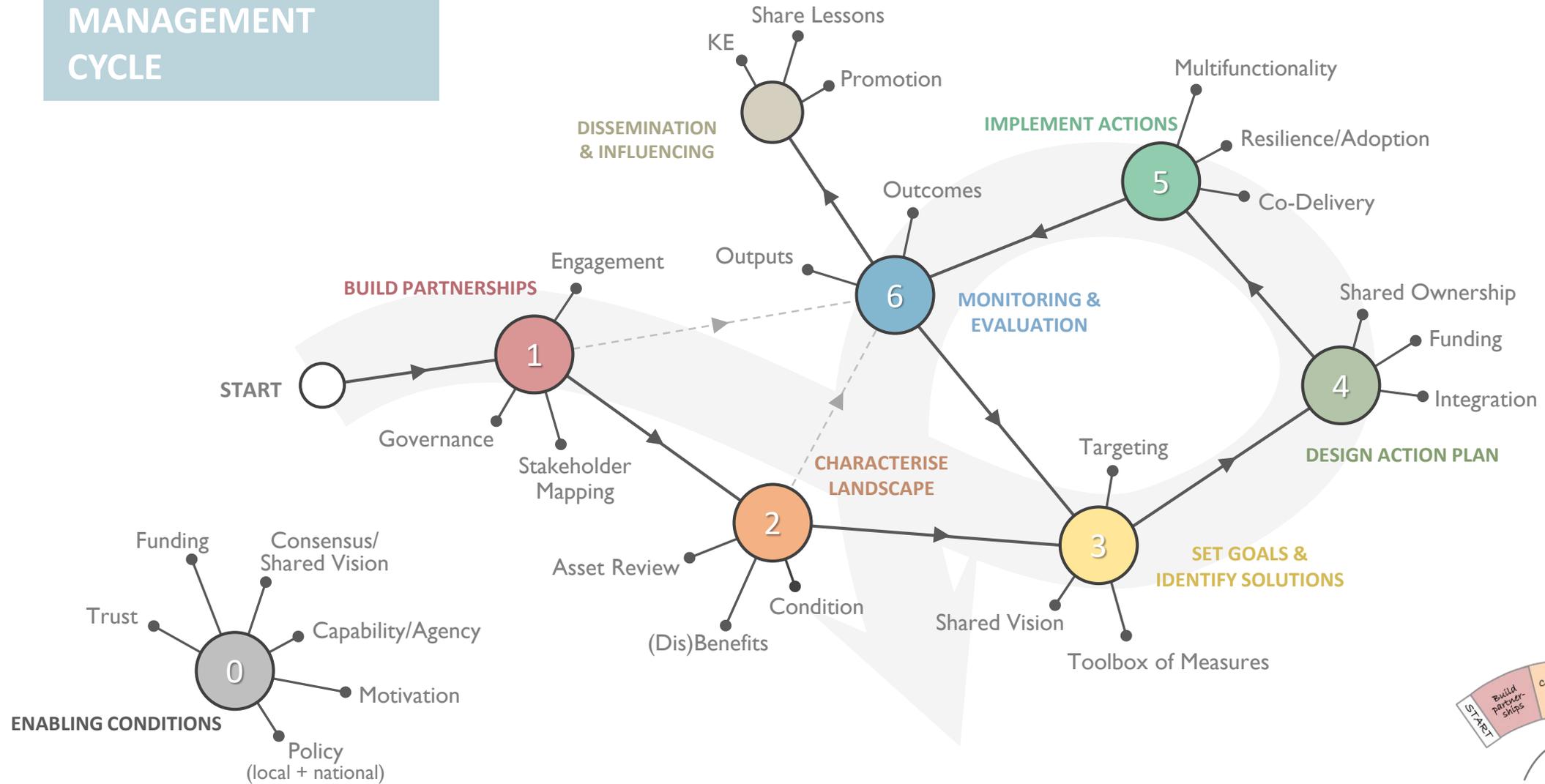
A scalable framework for informed, integrated & **truly** collaborative environmental strategic planning...
(at right scale & with right people)



* Adapted from the USEPA Adaptive Watershed Management Cycle - 2005

COLLABORATIVE ADAPATIVE MANAGEMENT CYCLE

A framework supporting informed, integrated & truly collaborative environmental decision making (at right scale & with right people) – a natural capital approach



Adapted from the US EPA Adaptive Watershed Management Cycle (2005)

The Nature of Manchester: EnRoute City-Lab

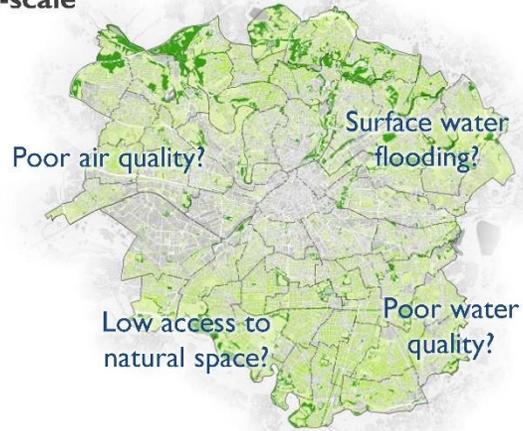
A collaborative co-creation approach aiming to create an evidence-base that facilitates local decision-making and must therefore take a number of factors into consideration: stakeholder needs, stakeholder wants, opportunities for action & the suitability/capacity of the landscape to receive interventions...

<http://science.wrt.org.uk/docs/LAP-EnRoute-MCC-Nature-of-Manchester.pdf>



Strategic Targeting

Assessment of benefits and needs at city-scale



Identification of target area



Assessment of opportunity and feasibility



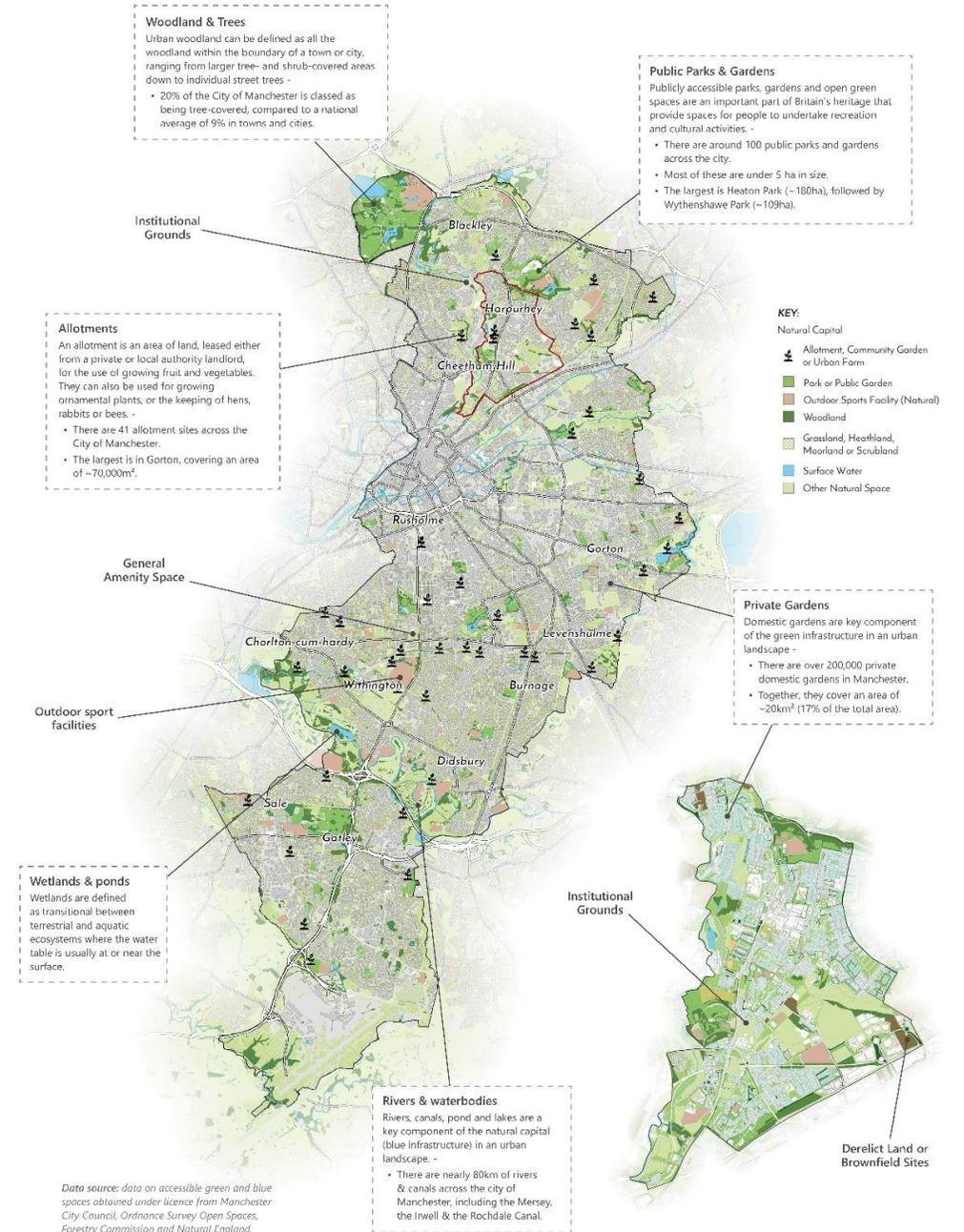
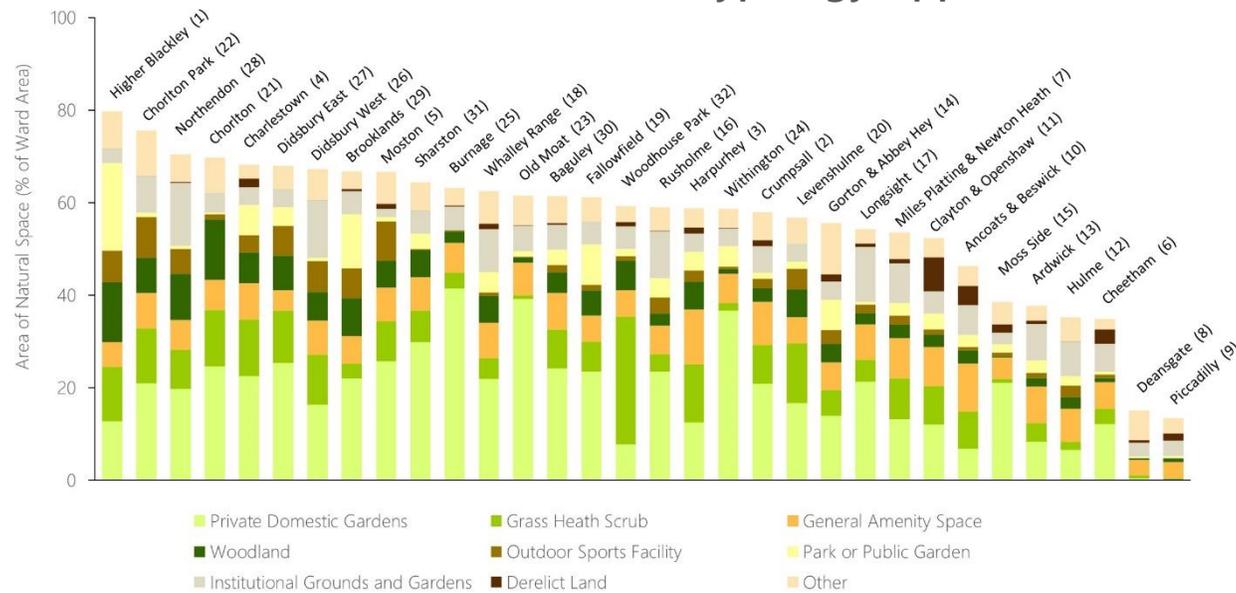
Review of toolbox



Natural Capital Review

Characterising the green & blue infrastructure assets of Manchester

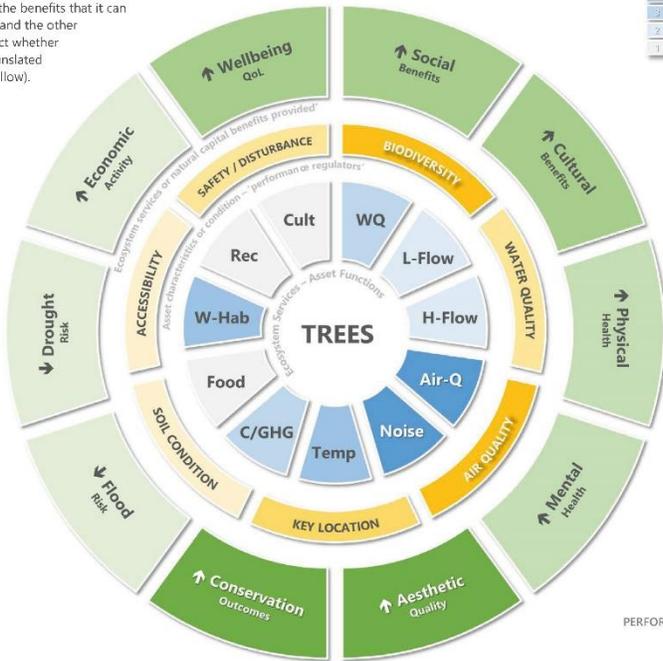
Area of GI per ward area:
Typology Appraisal



Data source: data on accessible green and blue spaces obtained under licence from Manchester City Council, Ordnance Survey Open Spaces, Forestry Commission and Natural England.

Detailed GI asset appraisal: Trees

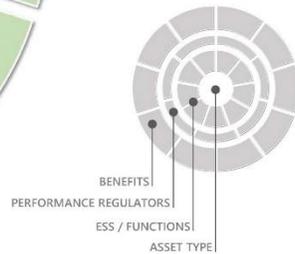
This wheel shows the ecosystem services that a GI typology or nature-based solution (NBS) can regulate (blue), the benefits that it can provide (green) and the other factors that effect whether functions are translated into benefits (yellow).



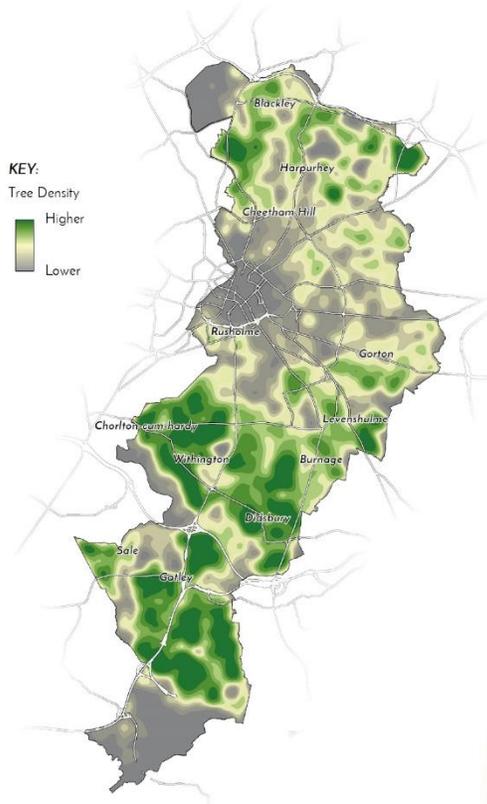
ECOSYSTEM SERVICE CODES

- | | | |
|--|---|---|
| WQ Regulation of water quality | Noise Reduction of noise/light pollution | W-Hab Habitat for wildlife – pollinators & pests |
| L-Flow Regulation of water quantity – low flows | Temp Regulation of local temperatures | Rec Opportunities for recreational activities |
| H-Flow Regulation of water quantity – high flow | Food Production of food | Cult Opportunities cultural activities |
| Air-Q Purification of air | C/GHG Carbon/GHG/climate regulation | |

- Ecosystem Services or Functions**
Indicates the degree to which assets of this type are known to play a role in regulating ecosystem services or providing environmental functions
- Performance Regulating Factors**
Shows the degree to which the characteristics or condition of the assets or the landscape around them regulates their ability to provide ecosystem service benefits
- Benefits Provided**
By changing the level of ecosystem services provided by a landscape, either creating new assets or changing the condition of existing assets, a number of benefits are produced.

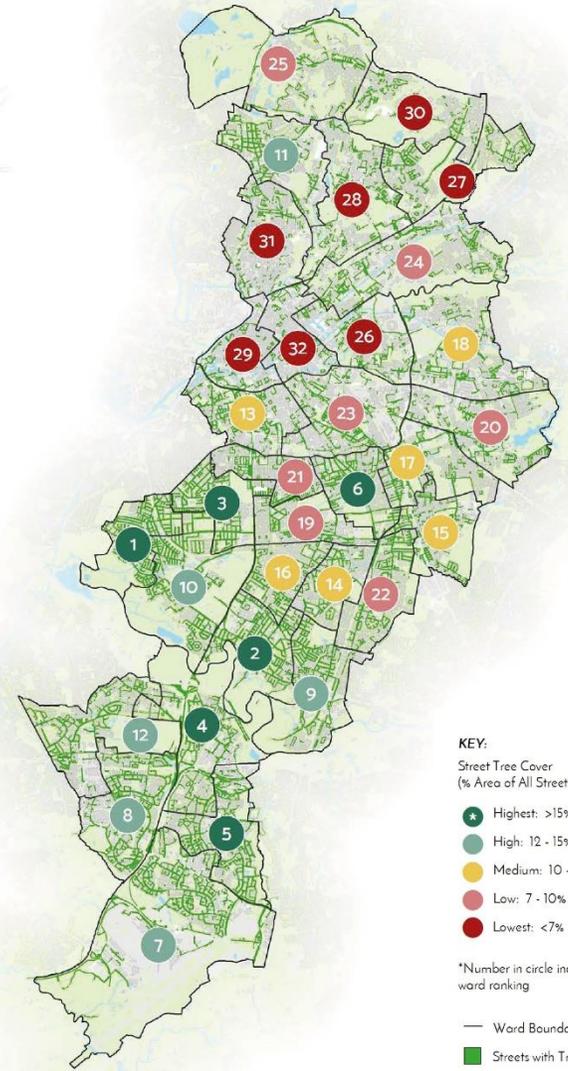


KEY:
Tree Density
Higher
Lower



Tree density
The density of trees across the City of Manchester is shown (left).

Tree coverage by ward
This map (right) shows the 32 wards in Manchester ranked according to the proportion of their road length that has street trees present. The streets with trees present are shown. The highest ranked wards were found to have >15% of their streets with trees present, while the lowest (in the city centre) were found to have <7% of their streets with trees



KEY:
Street Tree Cover (% Area of All Streets in Ward)
● Highest: >15%
● High: 12 - 15%
● Medium: 10 - 12%
● Low: 7 - 10%
● Lowest: <7%

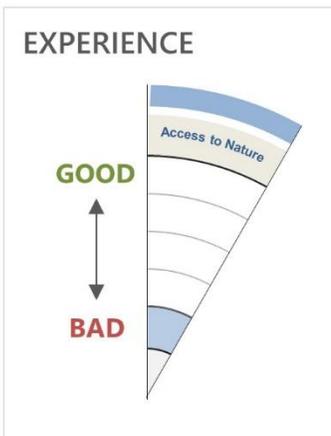
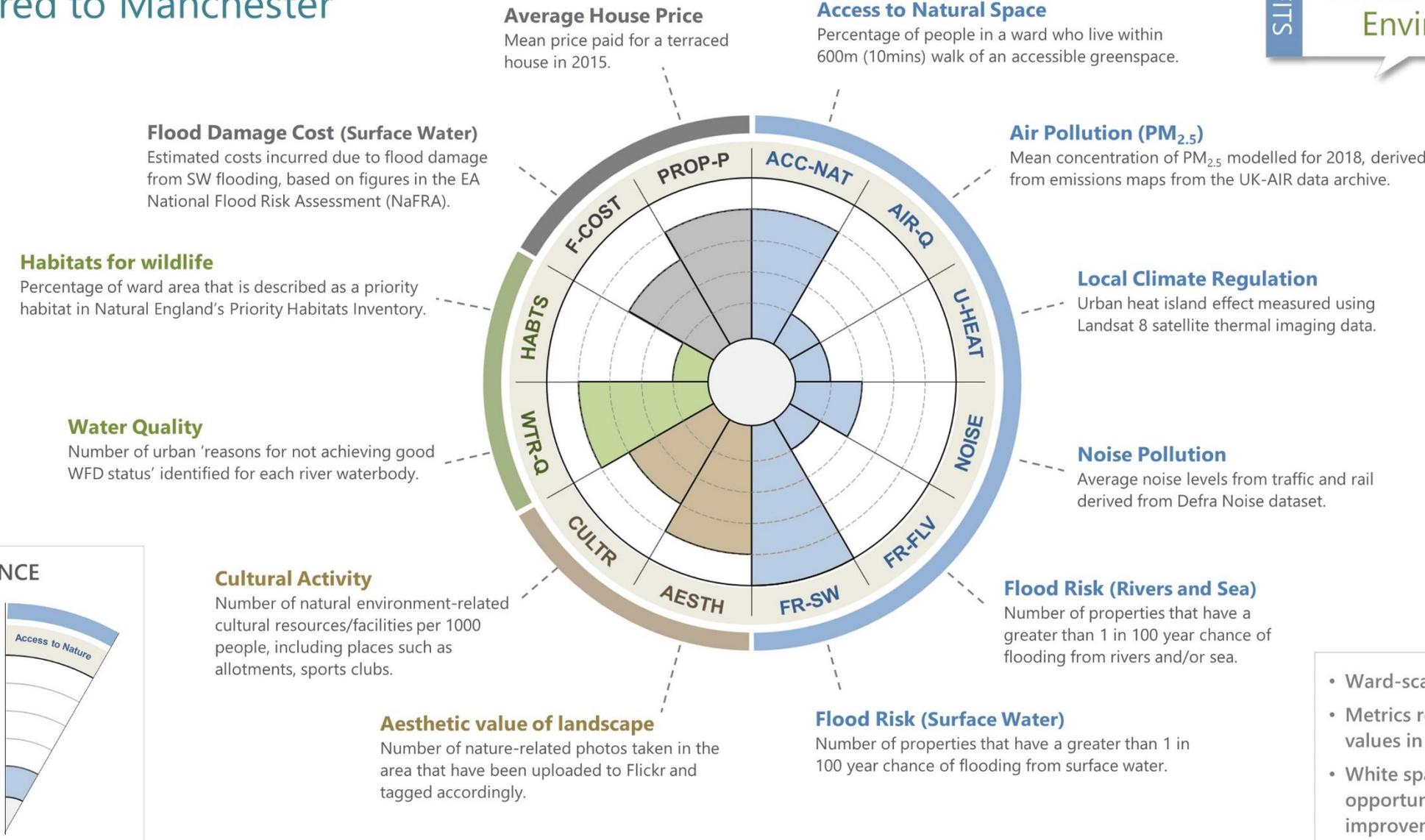
*Number in circle indicates ward ranking
— Ward Boundary
■ Streets with Trees

NET-BENEFITS WHEELS

Tailored to Manchester

BENEFITS

Economic
Cultural Social
 Environmental



- Ward-scale analysis
- Metrics represent range of values in Manchester
- White spaces represent opportunity for improvement

Consistent Dataset Appraisal

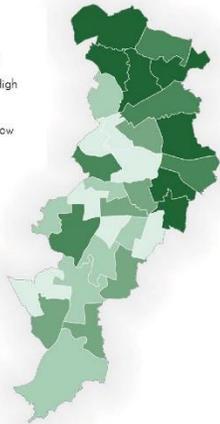


INDICATOR 1

Access to green & blue spaces

Ward-level assessment

KEY:
Benefits
High
Low



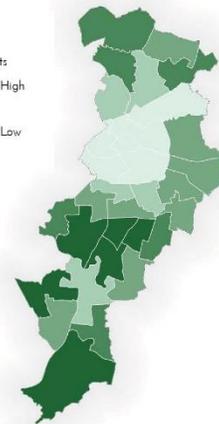
This map shows the natural spaces included in the analysis; accessible green spaces greater than 1ha, accessible water environments, and footpaths and minor roads through greenspaces.

The indicator used for this assessment shows the percentage of people in a ward who live within a short 600m (10mins) walk of an accessible green- or blue-space.



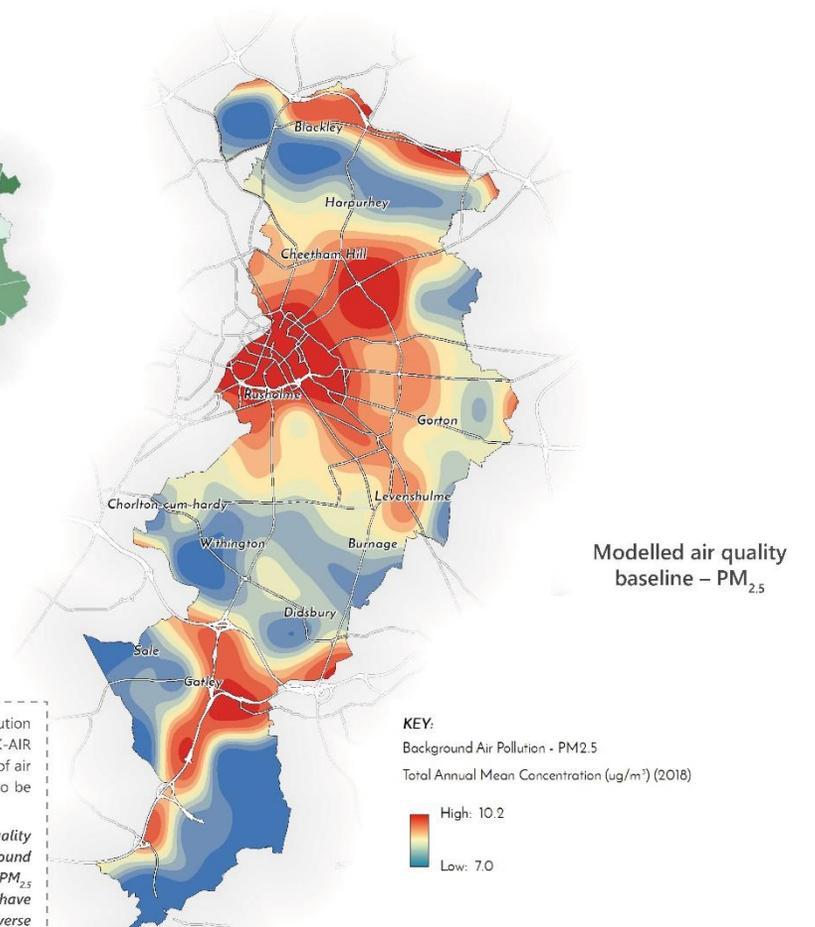
Ward-level assessment

KEY:
Benefits
High
Low



The estimated background air pollution maps available from the Defra UK-AIR website enable the concentrations of air pollutants such as PM₁₀ and PM_{2.5} to be mapped across the city.

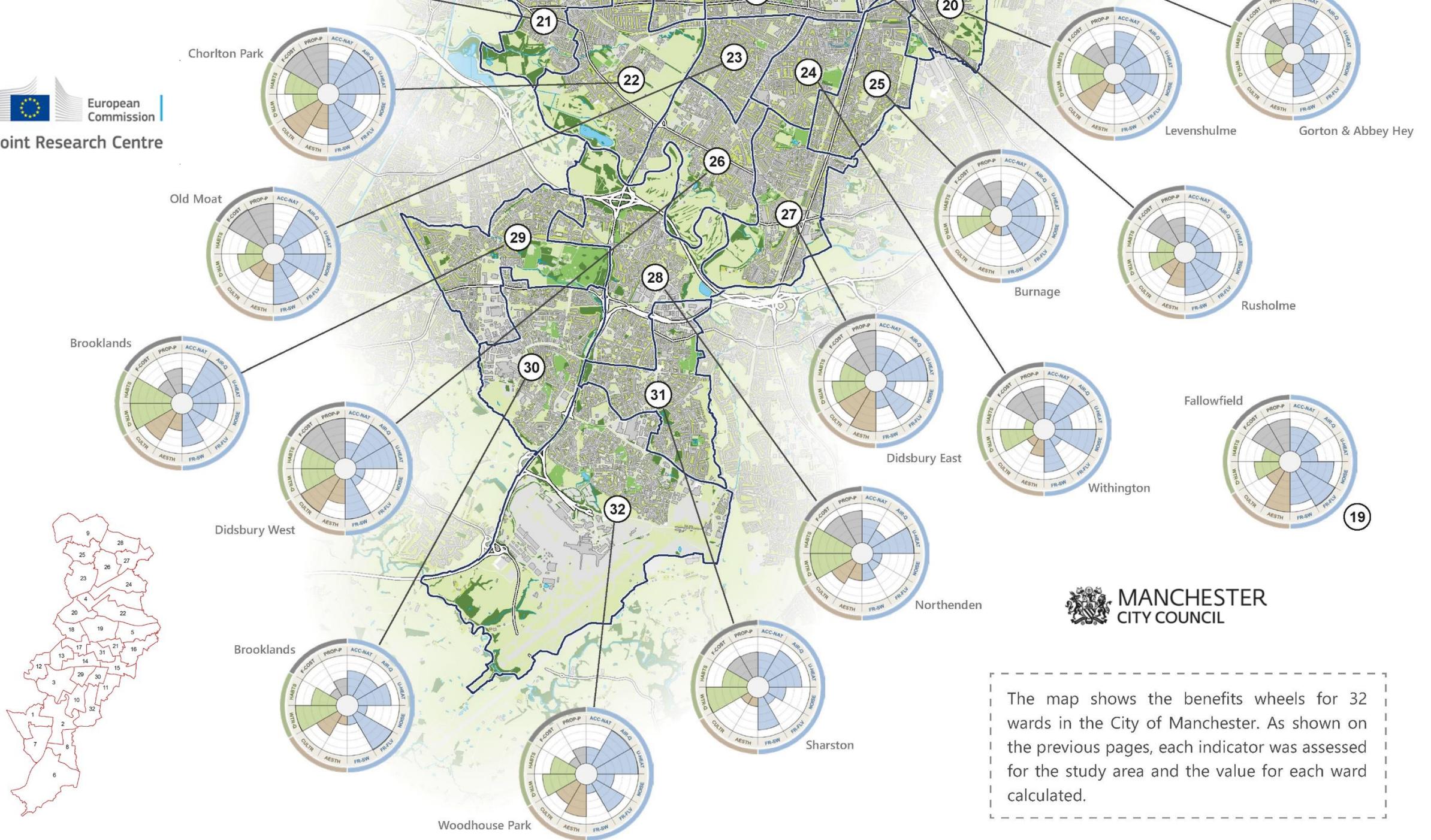
The indicator used to indicate air quality in this study is the mean background concentration of PM_{2.5} in 2018. PM_{2.5} was selected as it is considered to have the strongest correlation with adverse health impacts



INDICATOR 2

Impacts of air pollution





The map shows the benefits wheels for 32 wards in the City of Manchester. As shown on the previous pages, each indicator was assessed for the study area and the value for each ward calculated.



NATURE OF HULME

.....
Community-led action to improve access to
nature and green spaces in Hulme

The 'Nature of Hulme' Project (run between November 2017 and July 2018) undertook a comprehensive, community-led review of the value of nature in Hulme, Manchester. We have then worked together to develop a shared vision for the future of nature in Hulme and to create an action plan of ideas, next steps, actions and communications that will all contribute to the realisation of that vision.

The Project has been a pilot application of Defra's Local Action Project in collaboration with Manchester City Council: a local, collaborative, natural capital approach designed to work with local communities and practitioners to enhance the value of nature in their local landscape, build community resilience, improve people's quality of life, enhance the local environment and increase local economic prosperity.



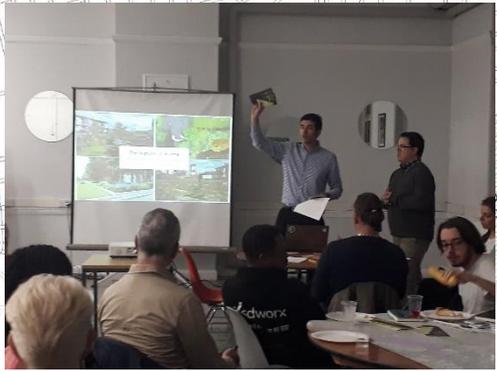
NATURE OF HULME

.....
Community-led action to improve access
to nature and green spaces in Hulme

NoH COMMUNITY WORKSHOPS

“Seeing a bank of wildflowers germinate in Hulme Park”

“Picking wild garlic on Leaf Street”



- Street Trees
- Park - natural landcover
- Outdoor sports ground - natural
- Park or outdoor sports ground - mixed
- Outdoor sports ground - manmade
- General amenity space
- Institutional grounds
- Private domestic garden
- Residential flat garden
- Allotment, community garden or urban farm
- Grassland, heathland, moorland or scrubland
- Woodland
- Waterbody
- Green space outside Hulme



- Positive memory or special place
- HCGC project

The Nature of Hulme

The best features in the natural environment – memories & stories

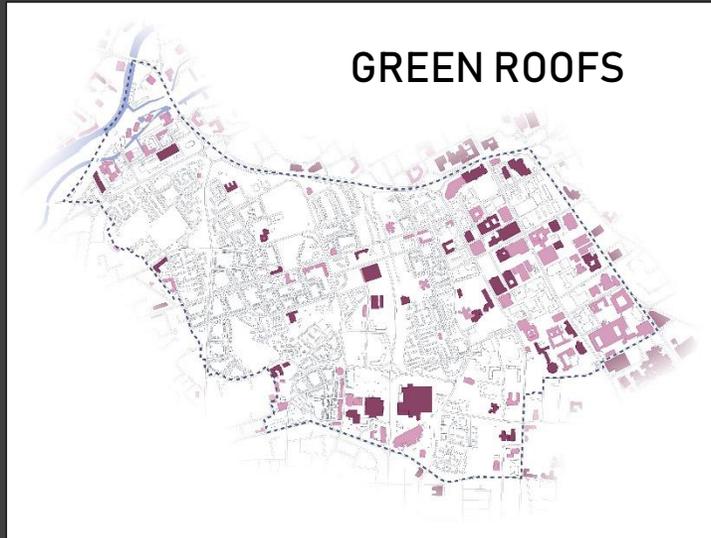
GREEN BUS STOPS



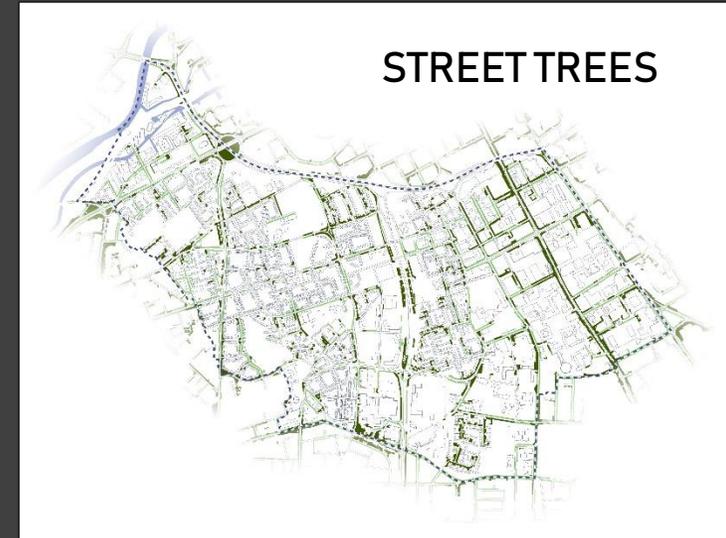
COMMUNITY RAINGARDENS

NoH: Opportunities for New Assets

GREEN ROOFS



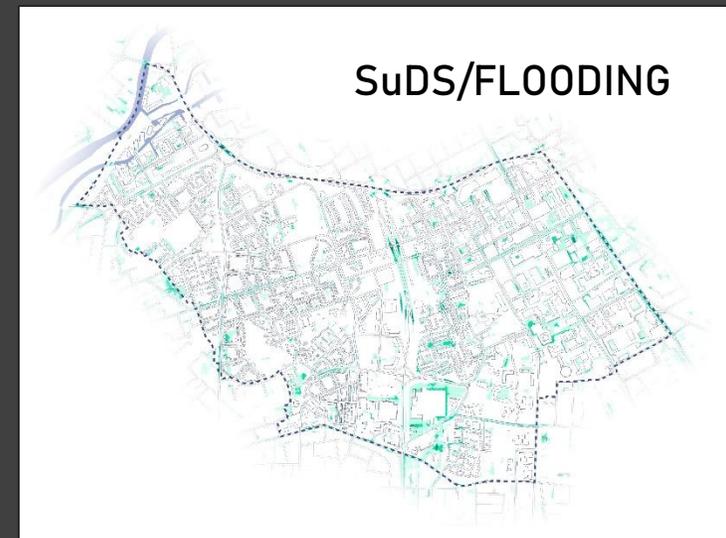
STREET TREES



GREEN BUS STOPS



SuDS/FLOODING





SPONGE 2020 LOCAL ACTION PROJECT

Using nature-based solutions to reduce surface water flooding & deliver multiple benefits

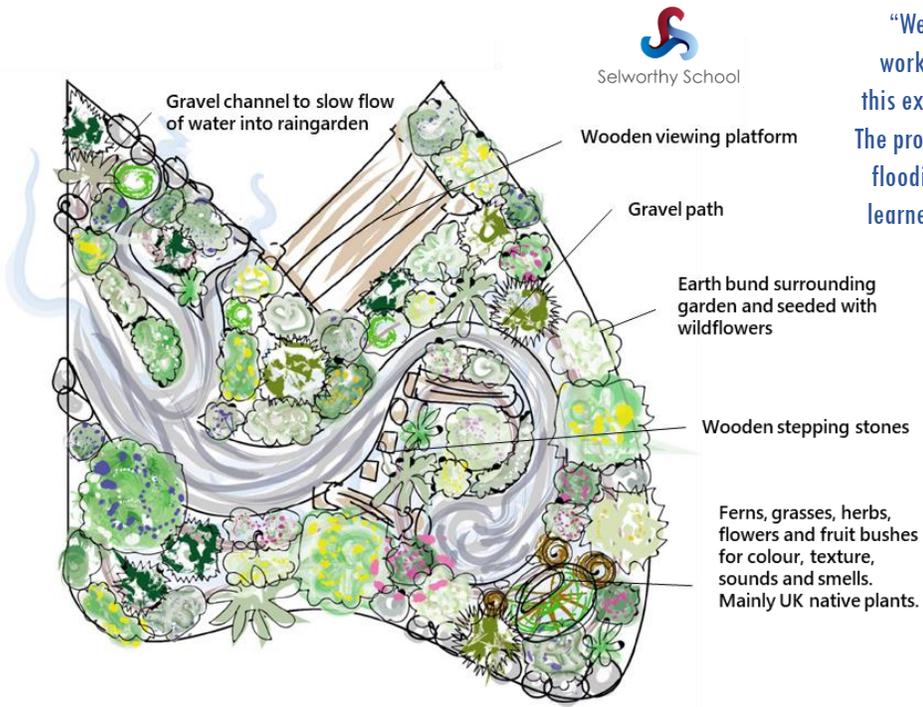
“...Developing a comprehensive, practice based Toolbox and Guidance Pack for effective participatory climate adaptation through community based co-creation pilots...”



Interreg 
2 Seas Mers Zeeën
SPONGE 2020
European Regional Development Fund

SPONGE 2020: SELWORTHY SENSORY RAINGARDEN

A sensory raingarden was co-created with parents, staff and learners at Selworthy Special School in Taunton. Children, parents and staff were involved in designing as well as planting the raingarden. In addition, workshops and interactive lessons were used to educate and engage those taking part in issues around flooding and climate change. The work was funded through SPONGE 2020 (European Regional Development Fund) and Postcode Local Trust.



“We are incredibly excited to work with Kathi and Shona on this exciting raingarden project. The project will ... reduce on site flooding and ensuring that our learners can continue to access outdoor spaces”

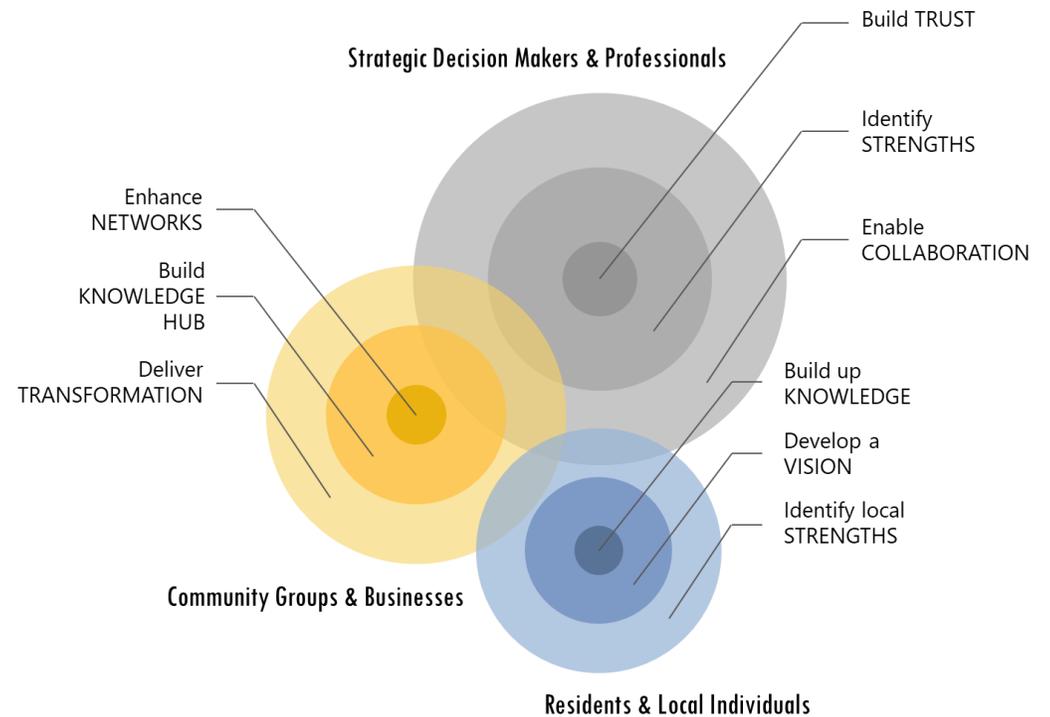
Cameron Merry, Selworthy Fundraising Lead



CO-DESIGN & CO-CREATION

An important part of SPONGE 2020 is getting local stakeholders involved with Sustainable Drainage Systems, to help people understand how surface water flooding affects them and how it is affecting others, and how they can take action to increase the resilience of their town or neighbourhood.

The SPONGE 2020 Somerset Pilot team are working with stakeholders at all levels to get this important message across. We are working with decision-makers to promote the need for sustainable drainage and build collaborations, with local groups and businesses to share knowledge and help deliver changes across neighbourhood, and with community members themselves, to understand their needs and priorities, to gather their ideas and to get their help and support in the creation and maintenance of the SuDS features. By gaining buy-in at all these levels, we can ensure the changes we make are effective and long-lasting.



WESTCOUNTRY WOMEN WORKING WITH WATER (5W)

We are working with a group of engineers to inspire school children in Taunton to understand a little more about water management in their town. We will then use the everything the students have learnt to get their help designing SuDS to be built in both the schools. 5W is a project funded by The Royal Academy of Engineers under their Ingenious program. We are working with two primary schools in Taunton to co-create raingardens... and inspire young people, especially girls, about engineering and the problems engineering can help to solve.

TRADITIONAL DRAINAGE vs SuDS

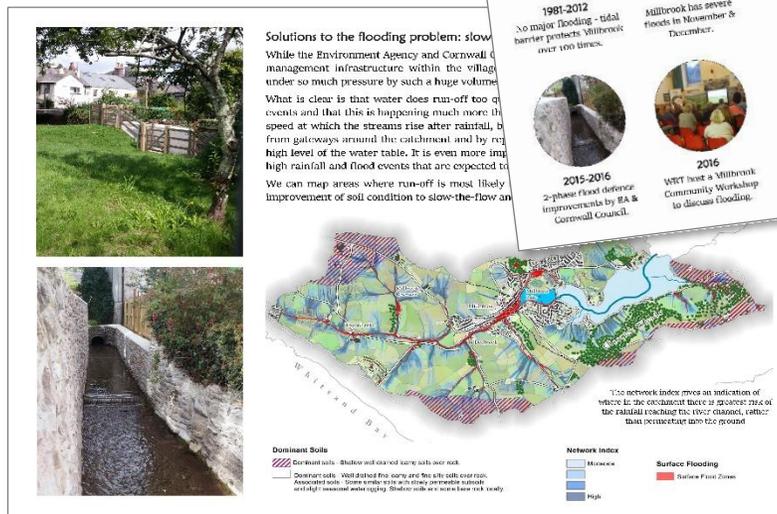
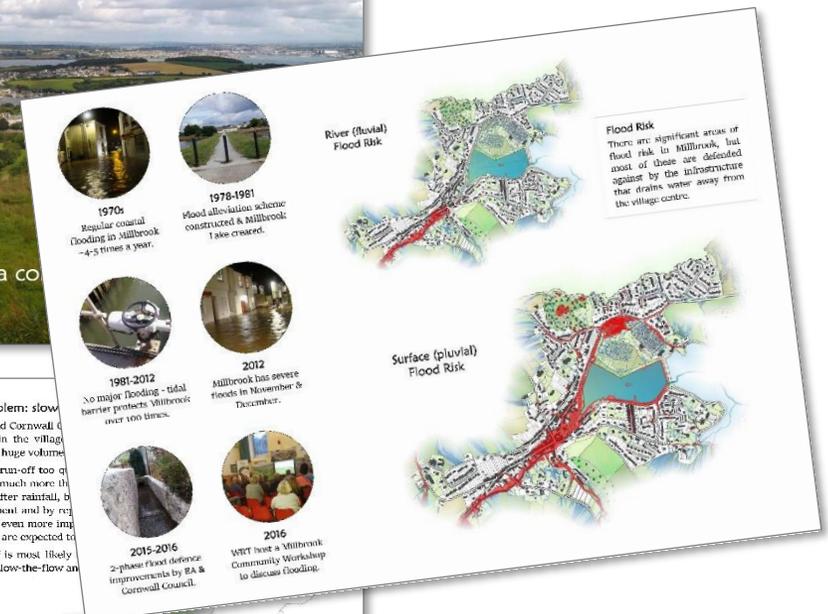
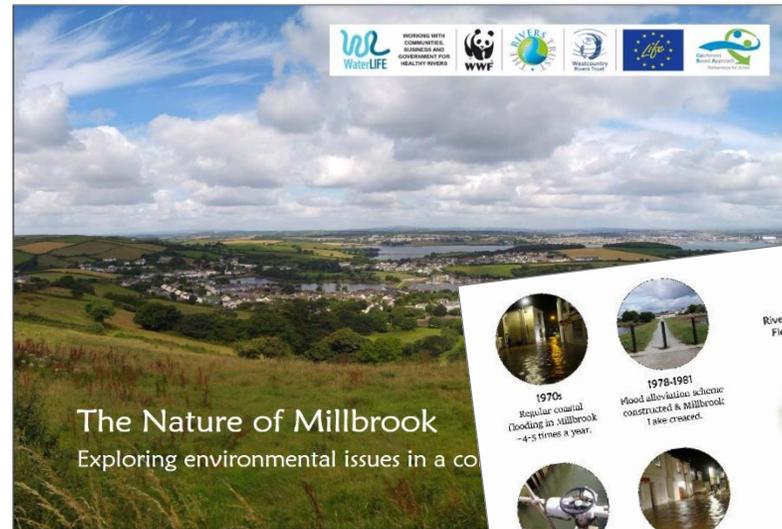
These interactive boards were used to demonstrate the difference between traditional water management systems and sustainable drainage systems. In the board to the left, water goes down a gutter, onto some hard paving, down a drain and into the 'river' below. The water ran through the system very quickly, eventually flooding the Lego house below! On the right, the water went into a bucket (acting as a water butt), through some permeable paving, into a grassy swale and then into a raingarden. The water moved more slowly, plus the board looks a lot more green and interesting!



Co-creating a community NBS & GI Plan for Millbrook



- Millbrook River Catchment, Cornwall
- 2016-2018
- Community engagement
- Evidence review
- Interactive flood modelling + a 'Serious Game'

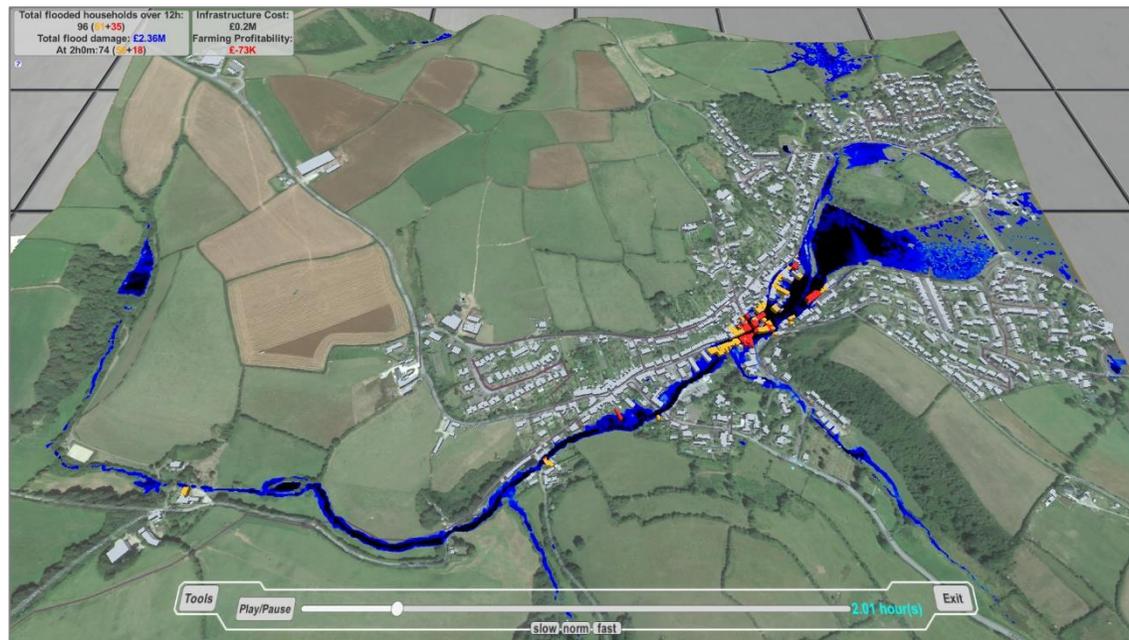


Co-creating a community NBS & GI Plan for Millbrook



Co-creation and trialling the Millbrook Serious Game -

- ⇒ Developed by Centre for Water Systems at Exeter University
- ⇒ Interactive, educational 'game' that illustrates movement of water through catchment and village over time
- ⇒ Ability to change land use and investment to drainage infrastructure within different parts of the catchment
- ⇒ Trialled by local stakeholders



Paper published in December 2018

<http://www.mdpi.com/2073-4441/10/12/1885/pdf>



Article

A Serious Game Designed to Explore and Understand the Complexities of Flood Mitigation Options in Urban–Rural Catchments

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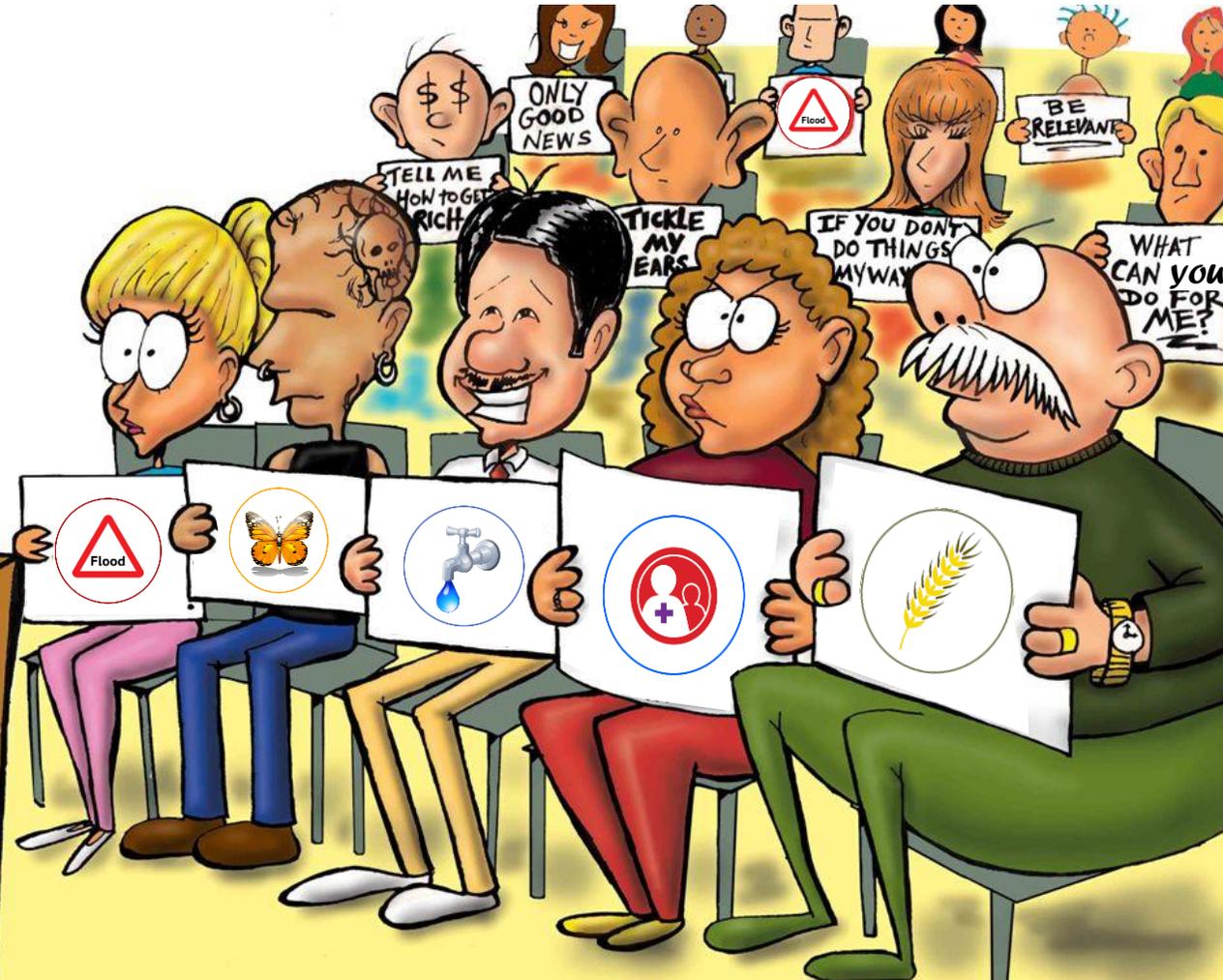


Abstract: Flood prevention in mixed urban–rural environments has become a greater concern due to climate change. It is a complex task requiring both efficient management of resources and the involvement of multiple stakeholders from diverse backgrounds. As Serious Games (games used for purposes other than mere entertainment) have emerged as an effective means of engaging stakeholders, this work proposes a new Serious Game applied to flood mitigation in the village of Millbrook in the UK. Results show that the game has both an informative and a transformative effect (statistical significance levels from 0.01 to 0.05), improving participants' understanding of the problem, and helping them to find a new and improved approach to flood risk management in Millbrook, with the potential to improve resilience significantly. Furthermore, the game successfully transformed participants into “citizen scientists” in the purest sense of the term—it led them to



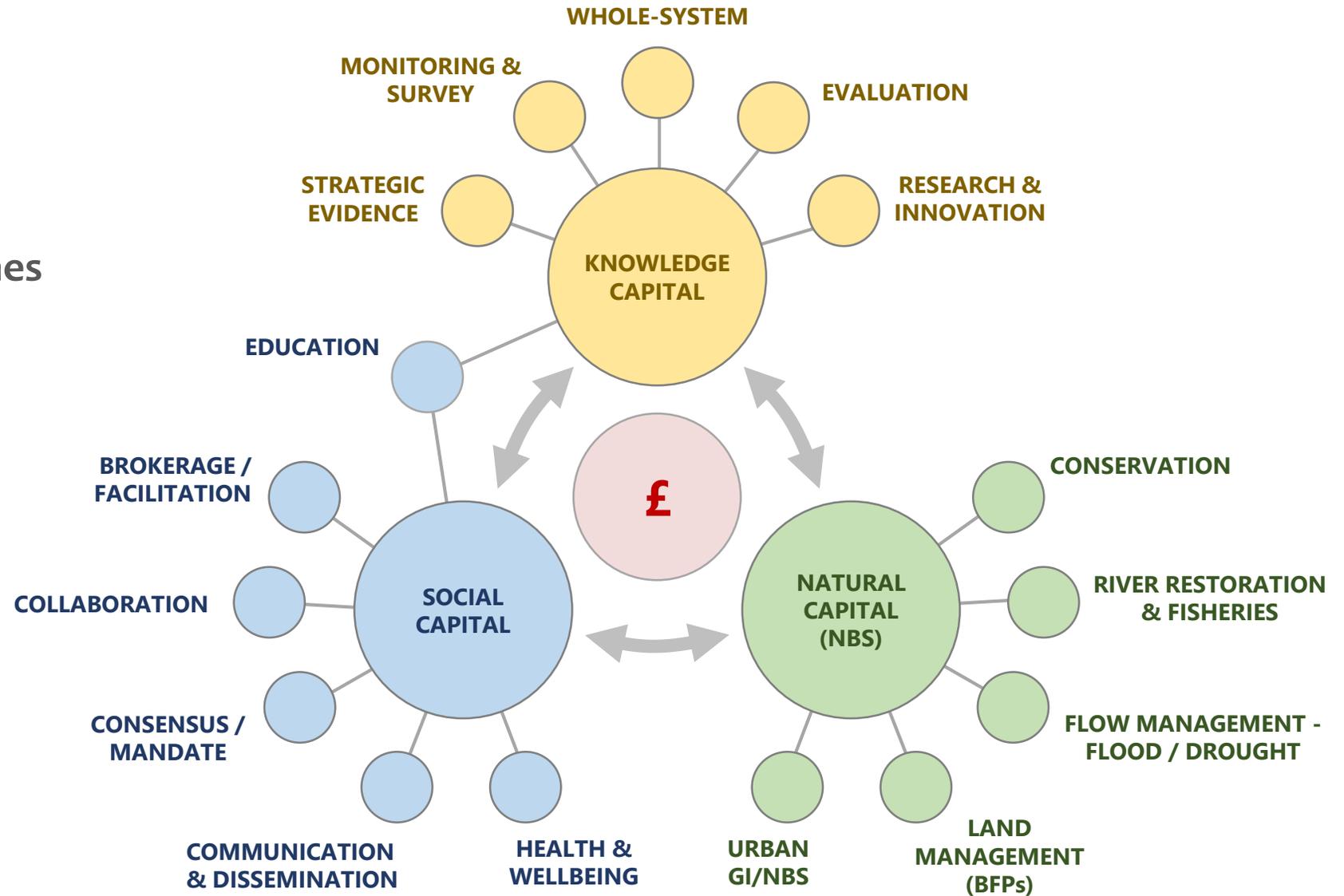
Evaluation of Co-Creation

How do we effectively monitor & evaluate collaborative approaches



Evaluation of Co-Creation

How do we effectively monitor & evaluate collaborative approaches



Example of Co-Creation M&E techniques: #1

Natural capital co-creation workshop with the Medway Catchment Partnership

In April 2018, WRT facilitated a catchment planning workshop using a natural capital approach with the Medway Catchment Partnership...

The aim of the workshop was to raise the partnership's understanding of natural capital theories & concepts, build their ambition to adopt a NC-approach and increase their preparedness to adopt a NC-approach to their CP planning, delivery and monitoring work...

We used a voting system to ask them 3x questions at the start and again at the end of the workshop...

The intended outcomes of the workshop were (at least in part) successfully realised...



Example of Co-Creation M&E techniques: #2

European Partners' Meeting and workshop for the EU Prowater Project

In September 2018, WRT hosted a European Partners' Meeting and workshop for the EU Prowater Project...

The aim of the workshop was to raise the general understanding of PES theories & concepts across the partnership ... and increase their preparedness to begin the design and implementation of their own PES-schemes during the project.....

We designed a simple evaluation using sticky dots on a visual analogue scale at the start and end to determine whether we had been successful in realising these goals...

The intended outcomes of the workshop were (at least in part) successfully realised...

Evaluation of outcomes (before and after testing of attendee perceptions) for the September 2018 Prowater Partners' Workshop on the theory and practical implementation of Payments for Ecosystem in the South of England.

