





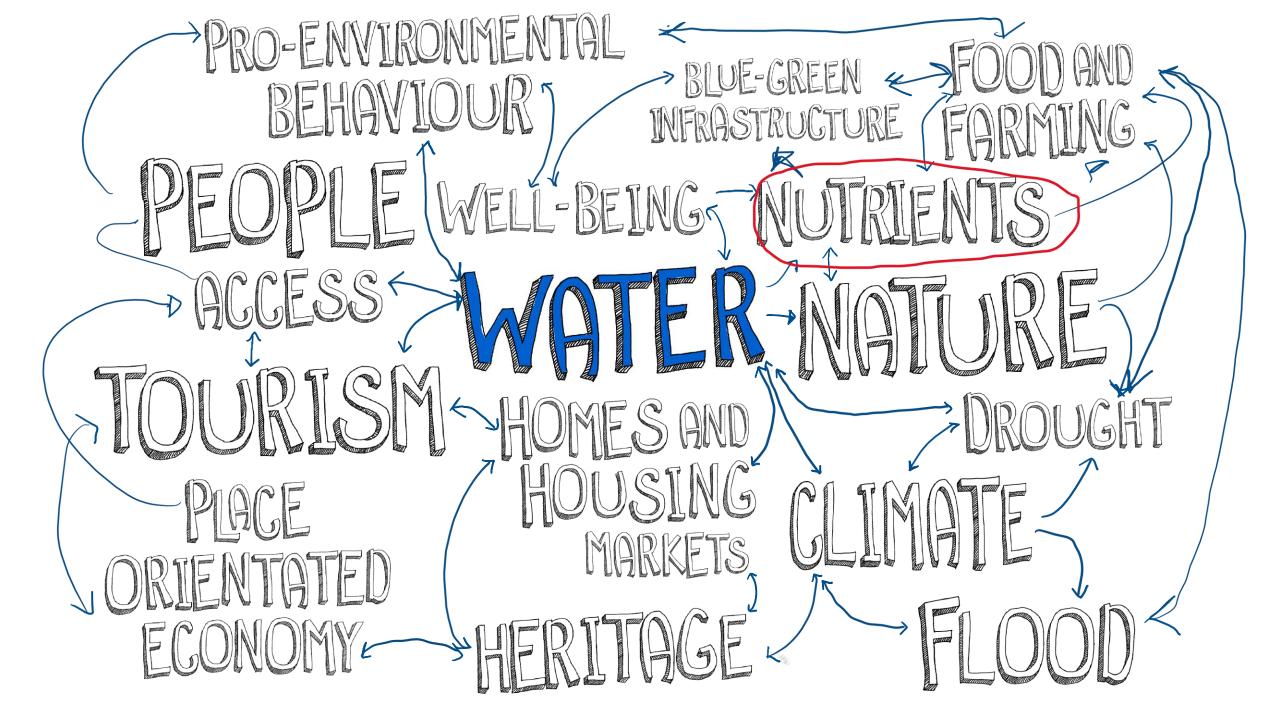


PHOSPHAGEDDON



Key Message: Phosphorus is widely agreed to be the nutrient most likely to harm freshwater systems

 Climate change is increasing these risks, because more drought and sunshine provides better growing conditions for algae.





"Environmental problems have traditionally been addressed at the level of the direct drivers of change, taking the pressures as they appear on the ground, in the ecosystem sphere. For example, solutions to diffuse water pollution from agriculture are sought at the farm scale, with different land management and improved storage of potential pollutants.

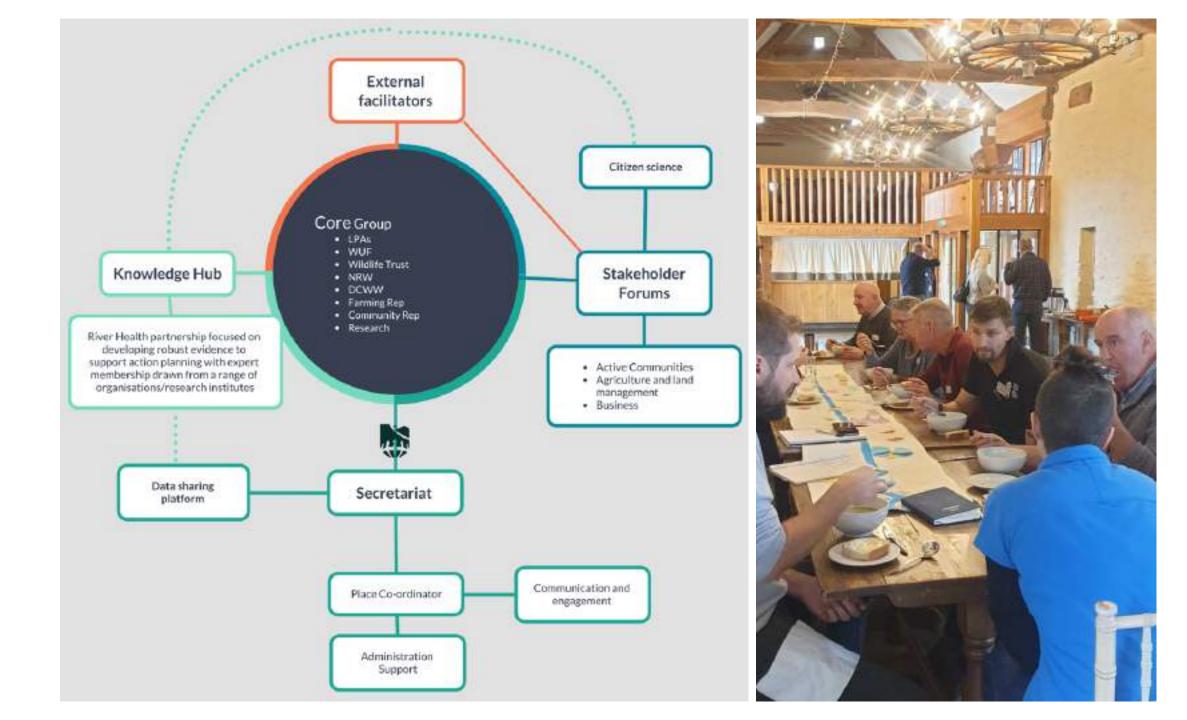
But taking action at this level cannot change the systems and the behaviours driving the pressures on the environment. The indirect drivers of pollution within the food system, such as the demand for cheap food and farm incomes squeezed by the retail sector are not addressed by action within the ecosystem sphere. The solution is to transform the food system at a high enough level to design out the pressures at source."

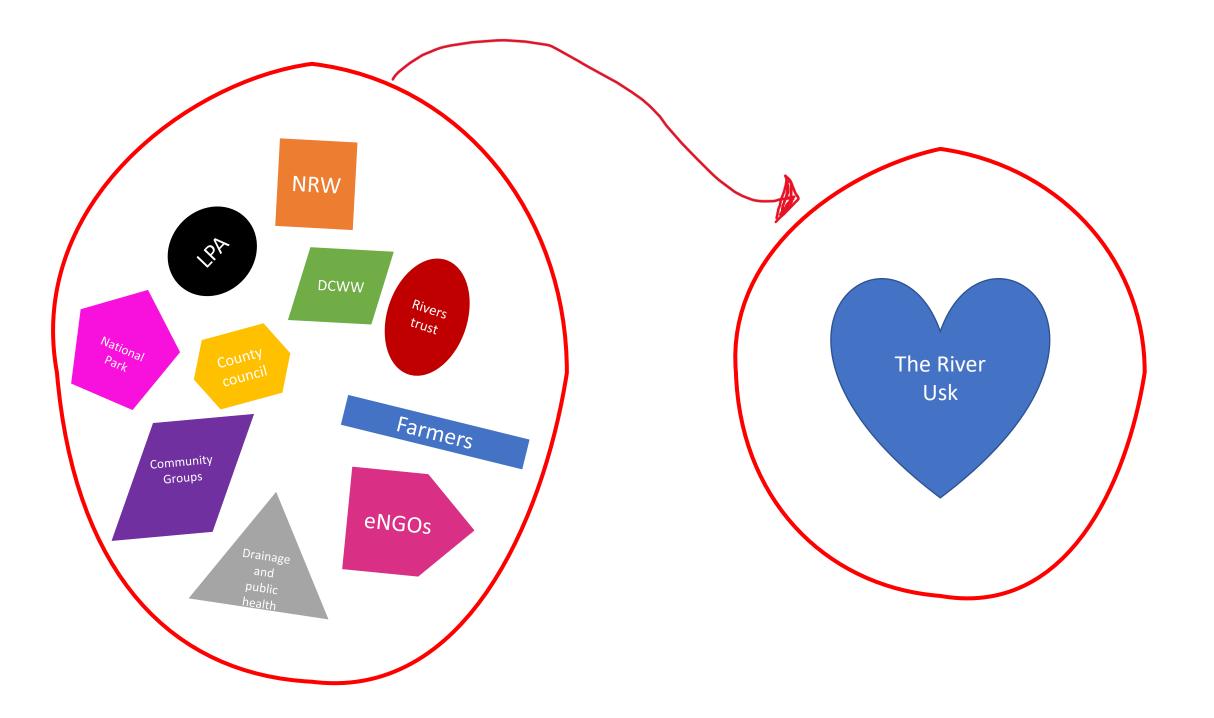
NRW State of Natural Resources Report (2020)

Produce [a] Nutrient Management Plan [which in implementation] will provide the mechanisms by which NMBs progress action to improve water quality so we can restore and conserve favourable condition status on our SAC rivers, whilst allowing development to continue within these catchments without increasing phosphorus loading...I believe these twin aims are important and working towards that bigger picture will open up a wider range of solutions to address the pressing need to enable the construction of more affordable housing now while, at the same time making progress on improving river health and achieving favourable conservation status. I anticipate NMBs developing plans which identify measures which will make a difference in the short, medium and long term. These will provide the foundation for longer-term improvements with the aim of achieving and maintaining SAC compliance but with early priority given initiatives to unlock affordable housing over the next two years.

Letter to NMB leads from Julie James MS 27th October 2023

(JJ/PO/359/2023)





A vision for the Usk Catchment

By 2043 everyone will be able to enjoy a river full of

thriving wildlife, sheltered by trees, bordered by a

diverse mosaic of thriving habitats where regenerative

practices produce high quality foods, manage the

flows of water whilst storing/managing carbon and in

so doing supporting a sustainable local economy.

a collective aspiration for the catchment's future. Not a single person's idea, but a tapestry woven from the desires, hopes, and values of all those who care for this place. OUTCOMES Statements Create a clear, adaptable, and accountable framework that aligns us all toward a shared vision. They answer the question, "What do we want to achieve?" rather than focusing on how to get there.

A bridge between The dream and reality. The how to guide for each outcome. These should be organised by urgency, importance and feasibility. They are direct things to do like wetland creation or softer like awareness raising.

Nature Outcomes Statements:

- a. An environment where nature and people thrive together.
- b. Where environments are managed sustainably and regeneratively

and the intrinsic benefit of nature is recognised by all

c. All actions that the partnership support being undertaken to achieve nature's recovery and a stable climate.

([],

d. This means a nature-based, climate aware solution first approach to action planning.

Community Outcomes Statements:

- a. A river which is accessible and enjoyable to all
- b. A clean and nature rich river to which we feel deeply connected, and those connections are celebrated in the culture and story of our place.
- c. Where through concerted action we collectively become stewards of our river actively managing flood and drought risks and eliminating waste and pollution in our homes, communities and businesses
- d. Where we work with service providers to ensure that the best standards are applied and we as a community, build mutual trust by taking responsibility for our part in making that happen .

Farmers and Land Managers Outcomes Statements:

A financially resilient network of farmers and landowners - celebrated and rewarded for

their regenerative practice - with strong, viable and diverse businesses and who inspire

action in others.

An evidence base that allows for external businesses and finance to support natures' recovery in a socially and environmentally just way.

A farming community of environmental stewards, who in their action generate clean plentiful water, clean air, sequester carbon and produce good quality wholesome and

healthy food, at a fair price .

Where farmers are recognised and respected as custodians of the landscape and have pride in their land being in good ecological health for the benefit of future generations.







The Decision Making Process THE ADVICE PROCESS

Innovate solutions

Each sub-group will work up a series of actions to address the issues identified.

Seek advice

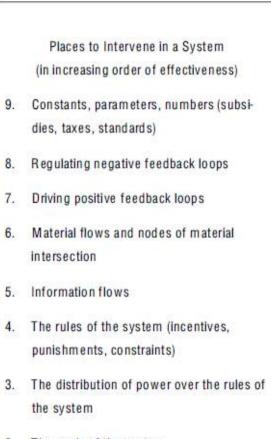
Each sub-group will seek the advice of the Knowledge hub and the engage wider communities to determine the feasibility and appropriateness of their proposed actions.

Finalise the actions

The sub group will seek to revise their proposals based on the advice received before providing to the Core Group for adoption .



Donella Meadows



- 2. The goals of the system
- The mindset or paradigm out of which the system—its goals, power structure, rules, its culture—arises.

PROVOCATIONS







nature human behaviour

PERSPECT

https://ki.org/10.1036/s41562-020-0900-

12 How to write

Why time poverty matters for individuals, organisations and nations

Laura M. Giurge 1452, Ashley V. Whillans 2452 and Colin West²

Over the last two decades, global wealth has risen. Yet material affluence has not translated into time affluence. Most people report feeling persistently 'time poor'---ike they have too many things to do and not enough time to do them. Time poverty is linked to lower well-being, physical health and productivity, individuals, organisations and policymakers often overlook the permicious effects of time poverty. Billions of dollars are spent each year to alleviate material poverty, while time poverty is often ignored or exacerbated. In this Parasective, we discuss the societal, organizational, institutional and psychological factors that explain why time poverty is often under appreciated. We argue that scientists, policymakers and organisational leaders should devote more attention and resources toward understanding and reducing time poverty to promote psychological and economic well-being.

by crises such as plagues, farring and drought. Consistent with our species' struggle to obtain enough tangible assets to survive, policy decisions have primarily focused on increasing material prosperiny'. Historically, this focus has been driven by the general belief that material wealth results in greater welfare", a perspecifie that is exemplified by the fact that the gross demostic product has been used as the primary tool for measuring country-level welfare store its development in 1934?

More recently, however, this surrow focus on staturial sosourcas has been challenged". In the 1970s, the economist Richard Easterlin discovered a periodor: while economic growth in the US had studily increased over the previous decades, citizens' happiness had remained largely unabased', initially debated by some scholars", the 'Easterlin Paradat' was confirmed in montt years and across countries". Following from these findings, policymakers have come to recognise that non-monetary factors, such as societal trust and optimism, are also critical in shaping citizens' well-being and societal progress """. In this Perspective, we argue that policymakers also used to consider the role of time affluence. Although wealth has risen around the world, material prosperity has not transloted into an abundance of time; in the contrary, ming wealth often exacerbates furlings of time povarts?

Defined as the chronic feeling of having too many things to do and net arrough time to de them¹⁰¹, time potenty is increasing in society. Data from the Gallup US daily poll-a nationally representative sample of US residents--shows that, in 2011, 70% of employed Americans reported that they "never had enough time," and in 2018, this proportion increased to 80% (ref. 7). Coinciding with fluse societal trends, researchers across seaderrise fields have started to systematically study this phenomenon. In social psychology, a growing body of literature finds that people who are more time-affhanti experience greater psychological well-being ***. Organizational behaviour mounth docaments the role of workplace structures in shaping how people think. about and use their time"...", Legal scholars are starting to consider the full welfare costs of the time burdens imposed by social structures (i.e., unpaid labour bardens incurred by seamen²⁰) and government processes (i.e., paperwork and administrative burdens"). Political and its relationship with time contribute to time powents". Marx"

uman beings have always faced resource commainto driven theorists are angling scholars to study wasted time in political issistafirm, such as how wait-times at voting booths or in court influence. democratic processes". Developmental recomments are advocating far the systematic study of time-ass and associated stressors among the working poor".47. The common thread across these diverse disciplines is that time powerty may be as important as material powerty in shaping harman welfare.

Todo, time poverty and 'busyness' are often seen as signals of productivity, success and high status"17. Yet, recent scientific evidence provides compelling evidence that failing time-poor cas adversely affect subjective well-being (for example, life satisfaction, positive affect), mental health, work performance, creativity and relationship quality (see Table 1 for some of the documented negathe consequences of time poverty). Building on this work, the aim of the carrent paper is to analyse the causes of time powerty and discuss potential solutions.

First, we focus on the societal, institutional, organisational and psychological factors that contribute to time poverty at work and outside of it. In doing so, we provide an explanation for why policymsken, companies and individuals tend to eventook or exacerhate time powerty. Second, we discuss the potential role of social scientists, policymalars and organisational leaders in revening the upward word in time powerty worldwide.

Societal drivers of time poverty

There are two important changes in society that have contributed to increased time poverty". First, changes to social structures that shape time have accelerated the speed of life". Family structures are no longer stable: they are increasingly punctuated by divorce14. Carpers are no longer passed down from generation to generation people now change jobs an average of 11 times". Second, the Internet and netbile phones provide people with access to an infinite number of experiences and the opportunity to "live a sultiplicity of lives within a single lifetime."121 Thus, people increasingly werry about mixing out, which can increase failings of time poverty^O.

Along with the acceleration of time, the shifting nature of work



Organizational Behaviour Department: London Basimers School, London, UN. "Negatizations, Organizations, and Manaetra Link: Harver'd Busineer School: Bostan, N.A. USA. "Anderson School of Management, University of California, Los Angeles, Los Algeles, CA, USA. "These authors contributed equality Laure M. Olarge, Acheley V. Whitlens, Romall tourged Noteton which will land this ada



"But now," says the Once-ler, . "Now that you're here, the word of the Lorax seems perfectly clear. UNLESS someone like you cares a whole awful lot, nothing is going to get better. It's not.

Our Living Levels





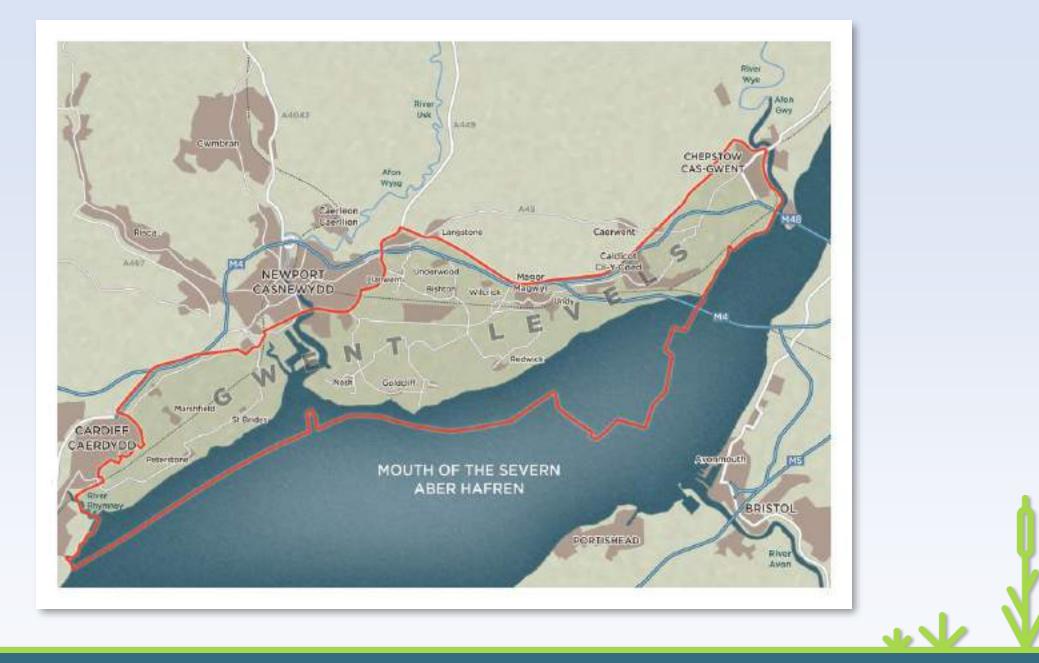
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Our Living Levels

Thank You

Cronfa Treftadaeth Heritage Fund

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Linking the Levels Project



- 2 years development funding secured. £370K from the West of England Mayoral Combined Authority plus 304K partners match funding
- Funding secured to help restore nature along the Severn Estuary | Newsroom (southglos.gov.uk)



Linking the Levels Project Partners



Linking the Levels Partners workshop, Bear Wood, Bristol Zoo Project, May 2024

Partners include:

- South Gloucestershire Council
- Bristol Avon Rivers Trust
- Bristol Zoological Society
- Avon Wildlife Trust
- Natural England
- Environment Agency
- Severn Estuary Partnership, SECG, ASERA
- West of England Nature Partnership
- Wessex Water, BACP
- and more....

We would love to hear from you if you are interested in hearing more or getting involved

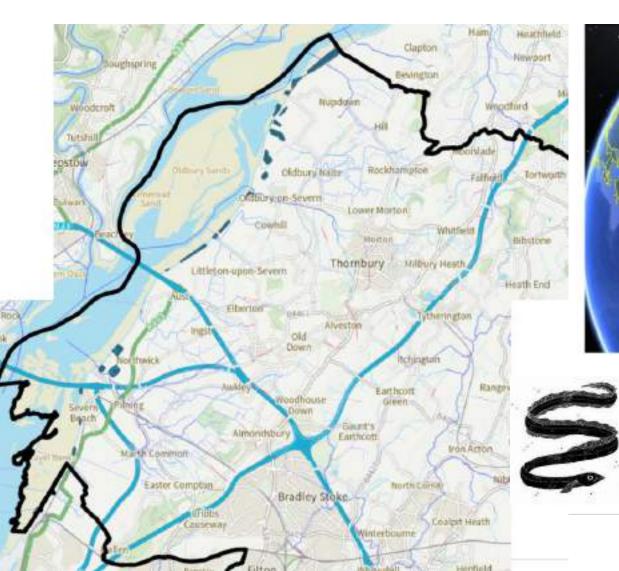
th Gloucestershire

Delivering climate action

A local project supporting global nature

17,230 hectares between the M5 corridor and the Severn Estuary across the Lower Severn Vale, Levels and Shore of South Glos, which includes the 7km buffer for the **Severn Estuary European Marine Site (EMS)**





Thousands of birds, wildfowl and waders migrate to the Severn estuary from Alaska, Greenland, and Russia each winter

European eel swim up to 10,000km to spawn in the Sargasso Sea and spend their adult lives in our lakes, streams and ditches, and can live for over 150 years! Other migratory fish seek refuge in coastal catchments as they migrate along the estuary

www.southglos.gov.uk

Strategic links and partnerships



South Gloucestershire

- Local Flood Risk Strategy
- Adaptation Plan (in preparation) and RAPA pilot project
- UKHSA vulnerabilities mapping
- Local Plan
- Severnside and Thornbury Master Plans
- Community Engagement Forums
- Town and Parish Council Local Climate and Nature Action Plans

West of England

- West of England Nature Partnership (WENP) Strategy and Portfolio
- Climate and Ecological Emergency Strategy and Action Plan,
- Local Nature Recovery Strategy (launch Nov 2024)
- Joint GI Strategy
- Adaptation Plan (being prepared)
- WENP Nature and Health Strategy

Bristol Avon Catchment

- Bristol Avon Catchment Partnership and Plan (BACP)
- Bristol Avon Fish Recovery Strategy

Severn Estuary

- Severn Estuary European Marine Site SCA, SPA, RAMSAR and SSSI
- Severn Estuary Strategy and Partnership (SEP)
- ASERA Management Plan for the EMS
- Severn Estuary Coastal Group SECG Shoreline Management Plan
- Severn Estuary Adaptation Pathway Project (SEAP)

Wider plans and partnerships

- Wessex Water Drainage & Wastewater Management Plan
- Western Gateway strategic infrastructure projects

And more....



Vision and objectives

Restored, connected, thriving and resilient nature across the Lower Severn Vale, Levels and Shore of South Gloucestershire



- Habitat creation and restoration
- Water catchment restoration and fish recovery
- High tide roosts for wildfowl and waders
- Improved biosecurity and species recovery

- Visitor Impact Assessment and Mitigation Plan
- Working with local communities
- Linking the Levels Full Delivery Programme prepared
- Nature informed decision making and sharing learning





Programme development and delivery



During the 2-year GRF funded period, work delivered and developed will include:

- Data and evidence gathering on site survey work including ecological data on protected species, invasive species (INNS), fish species, fish barriers, birds, and visitor surveys. Desktop data and evidence gathering.
- Stakeholder engagement including with partners, landowners, communities. We welcome your comments and suggestions.
- **Develop Action Plans** informed by data and evidence gathering, stakeholder engagement and strategic links including
 - Biosecurity Action Plan to find, remove and stop the spread of invasive plants and animals
 - Fish Recovery and Catchment Restoration Action Plan to improve the health of our water catchments
 - Visitor Mitigation Plan to help reduce disturbance by human activities for wildlife
 - High Tide Roosts Action Plans so that birds have more safe places to rest and feed in land when the tide is high
 - South Gloucestershire European Marine Site (EMS) Management Plan.
- **Deliver initial work and 'quick wins' on the ground** including habitat and water catchment improvements, invasive species removal, visitor mitigation, species recovery
- Linking the Levels Full Delivery Programme will be prepared, costed, and agreed which sets out an integrated programme of work and projects informed by the GRF funded data and information gathering and Action Plans prepared, ready for seeking delivery funding from a range of sources for implementation

BRISTOL Zoological Society

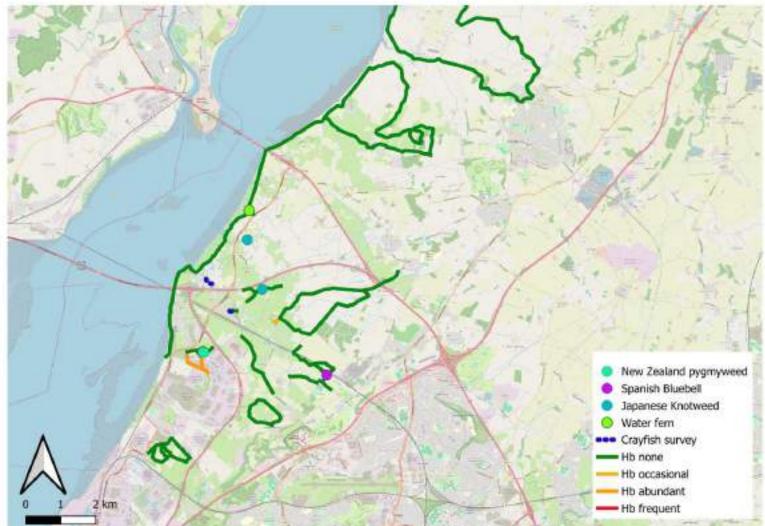
Invasive Plant Species

Invasive plants

- 55 kilometres surveyed 2023 & 2024.
- Himalayan balsam 90% managed summer 2024 – 12 events with 40 volunteers
- Japanese knotweed at 2 sites and both under management.
- *Azolla* (water fern) at 2 sites and both sites under management.
- Crassula helmsii at one site and method statement and management plan in process of being written for spring 2025.









Invasive Animal Species

American Mink Neovison vison



American signal crayfish

Pacifastacus leniusculus

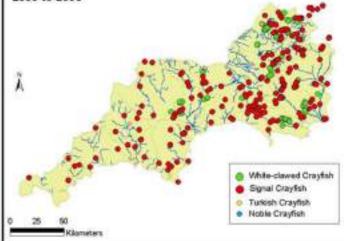






Approximate Crayfish Distribution in South West England 1975 White-clawed Crayfish Signal Crayfish

Approximate Crayfish Distribution in South West England 2000 to 2008





Priority Species

Water vole Arvicola amphibius

- Important ecosystem engineers
- 95% decline in numbers in the UK since the 1980s.
- Predominantly due to predation by mink.
- We'll be installing monitoring stations along waterways





 Citizen science surveys. <u>https://ptes.org/get-</u> <u>involved/surveys/countryside/national-water-vole-</u> <u>monitoring-programme/</u>



Priority Species

White-clawed crayfish *Austropotamobius* pallipes





SAVING WILDLIFE TOGETHER

Glow-worm Lampyris noctiluca







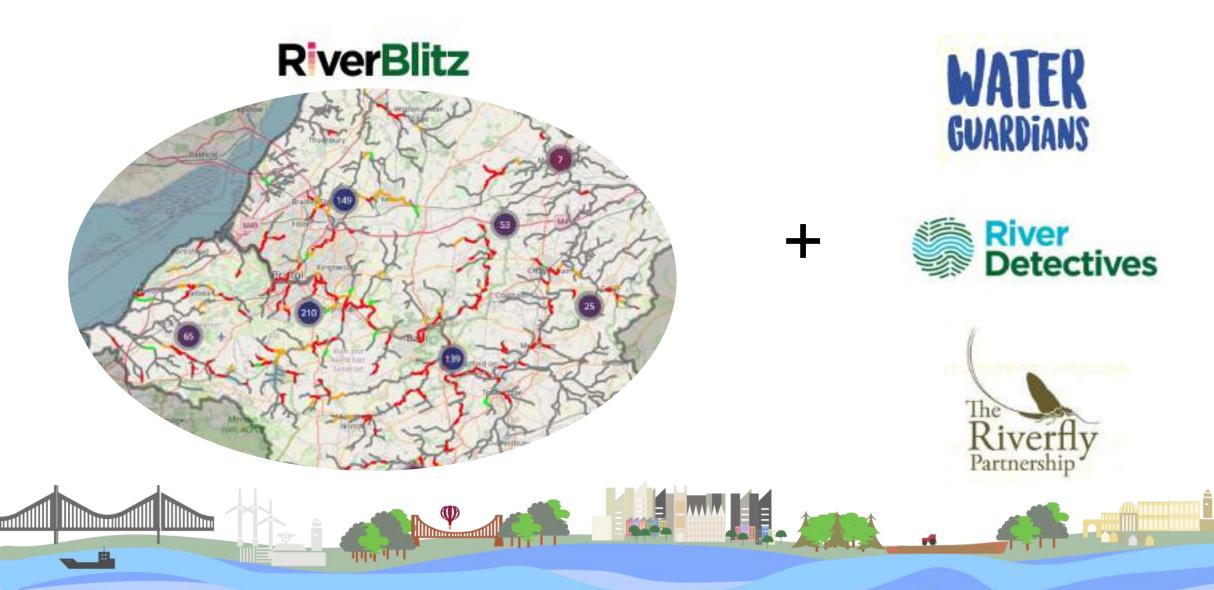
EelStream: flowing towards Eel Recovery

- 1. Gather existing data & evidence
- 2. Undertake eDNA surveys

- 3. Barrier assessment / SNIFFER surveys
- 4. Delivery of stakeholder workshops
- 4. Delivery of landowner advice and guidance across 20 Farms
- 5. The creation of a prioritised Fish Recovery & Catchment Restoration Action Plan
- 6. Delivery of "quick win" projects



Walk over surveys, assessments and citizen science



BART

Nature – Based Solutions

- Water quality
- Riverscapes diversity
- Riparian & instream habitat
- Attenuation of peak-flows













Community and landowner engagement

- Town and Parish council workshops
- Visits and advice for interested landowners rhine
- systems, invasives, high tide roosts, tree planting
- Community events including Severn Fest



- Working with existing and support setting up new community groups
- Citizen science monitoring
- promoting estuary wide comms re disturbance, litter free, INNS



Any questions...?



We would love to hear from you. Please contact:

Sally: <u>Sally.pattison@southglos.gov.uk</u> or **Rowena:** <u>Rowena.kenny@southglos.gov.uk</u>