

Interreg



2 Seas Mers Zeeën

PROWATER

European Regional Development Fund





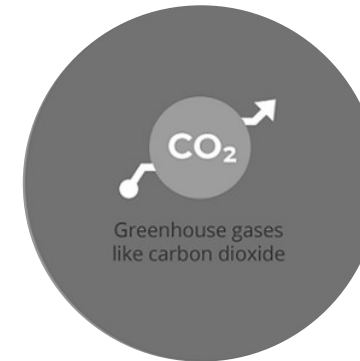
Integrated Catchment Management and the role of Payments for Ecosystem Services

Dr Laurence Couldrick – Westcountry Rivers Trust – @LaurenceWRT



How has the climate changed?

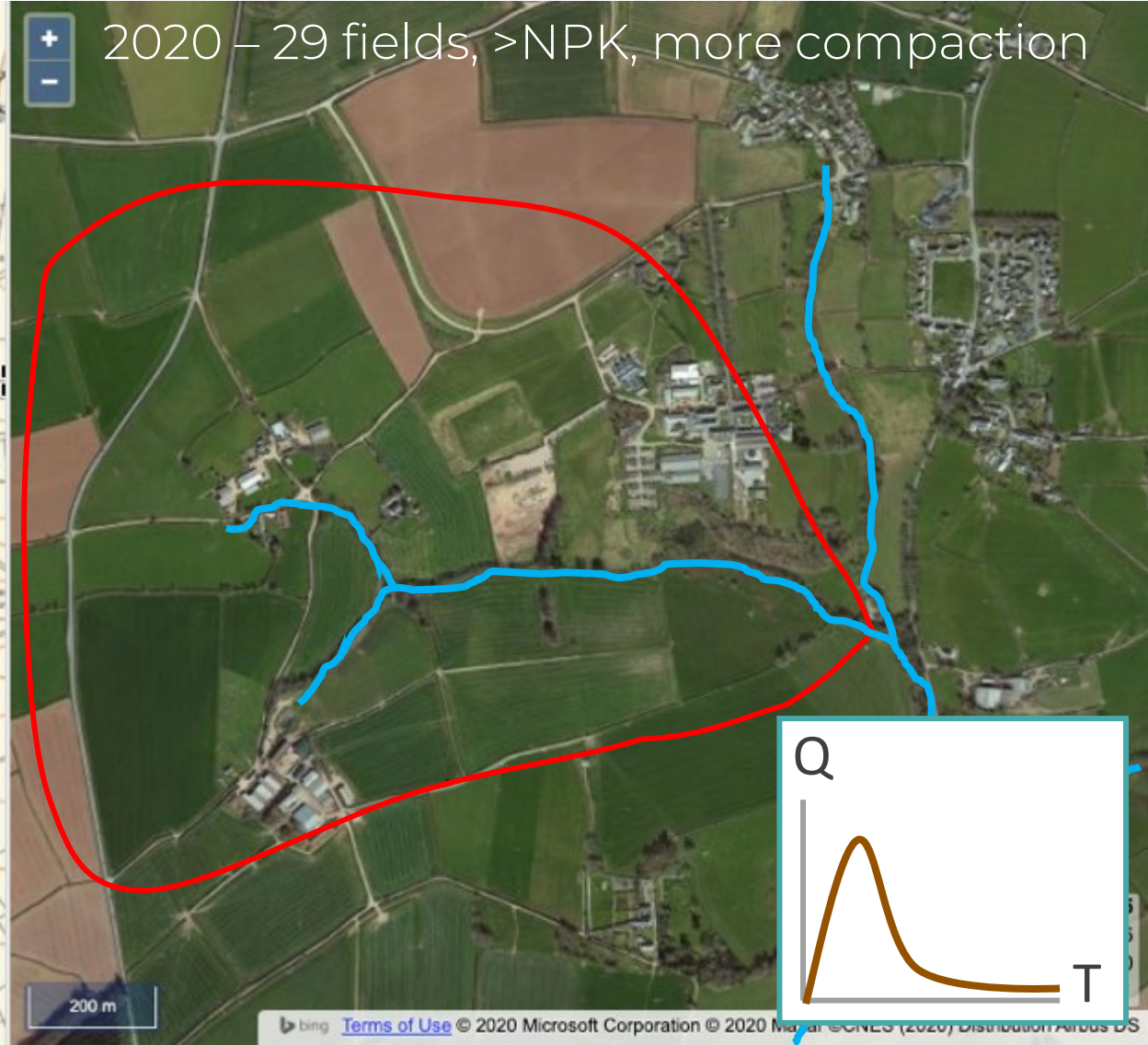
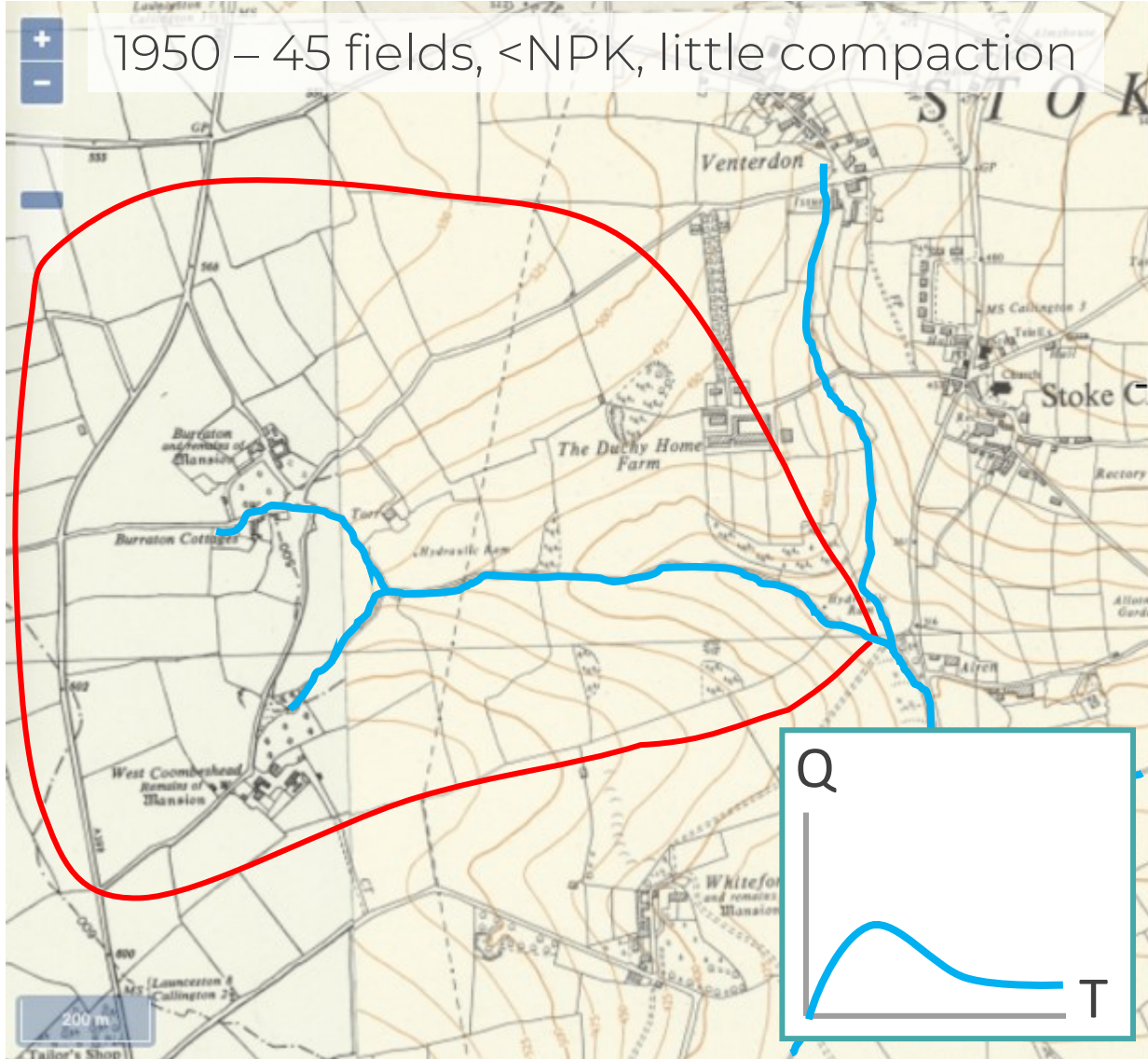
-  Drivers of climate change
-  Changes to the climate system
-  Impacts on plants, animals and humans



SOUTH WEST

- milder, wetter winters
- rises in sea level around coastline
- hotter, drier summers, but when rain does fall, it could be much more intense in nature

How have catchments changed?



Impacts on river ecosystem health



Cost Benefit Analysis and decision making

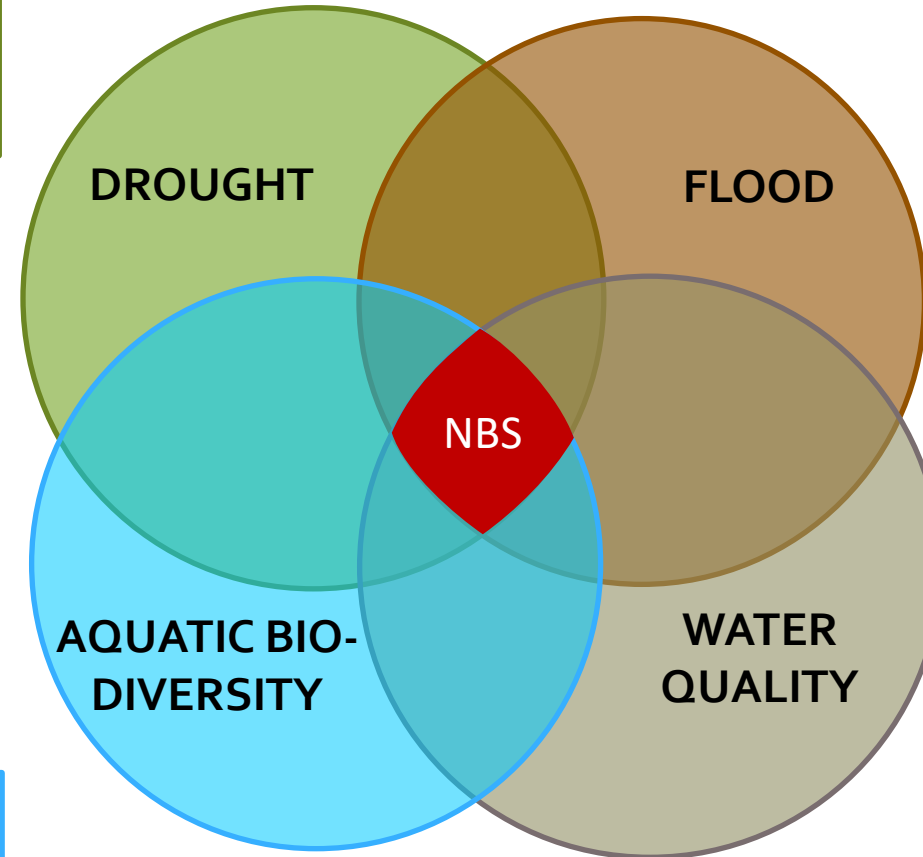
Cost



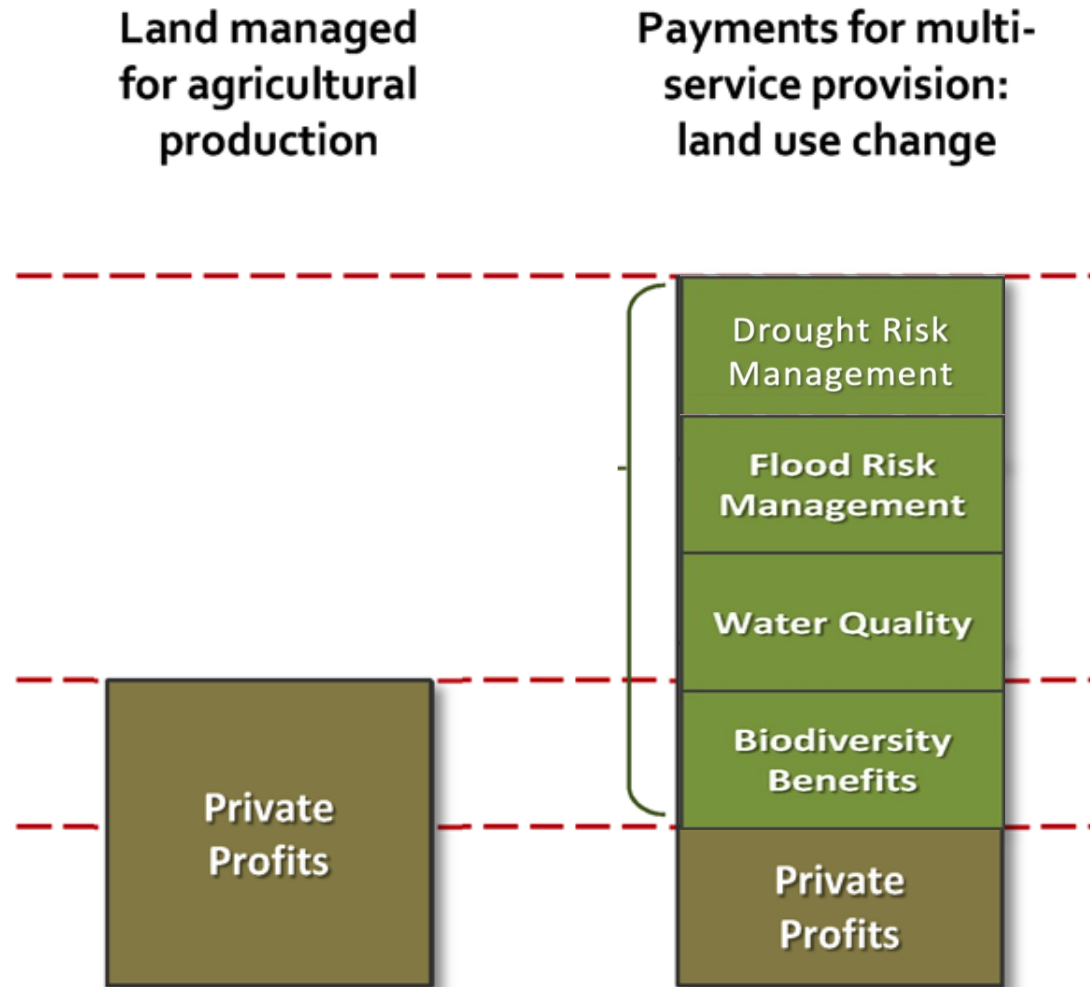
Benefit



Breaking down silos - Integrated Catchment Management



Payments for Ecosystem Services



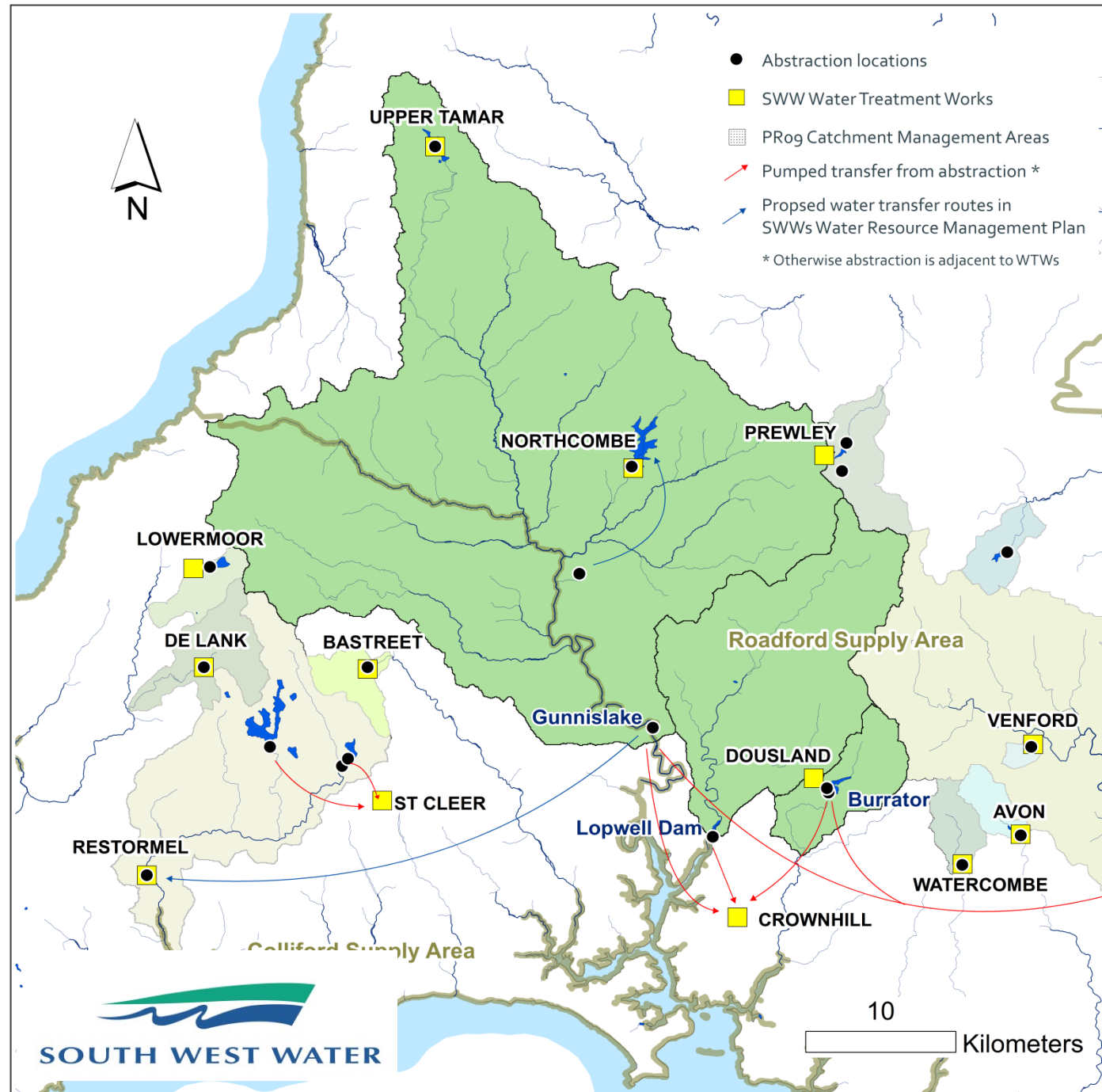
1. A voluntary transaction where,
2. a **well-defined ES** (or a land-use likely to secure that service),
3. is being 'bought' by an (minimum one) **ES buyer**
4. from a (minimum one) **ES seller**
5. if and only if the ES provider secures ES provision (**conditionality**).

Water Quality PES



For SWW: **↑ Population + ↓ Water Supply + ↑ Pollution = ↑ Risk + ↑ Cost**

Water Quality PES



Crownhill WTWs

60 Ml/day

80,000 households in Plymouth & South Hams

3 raw water sources

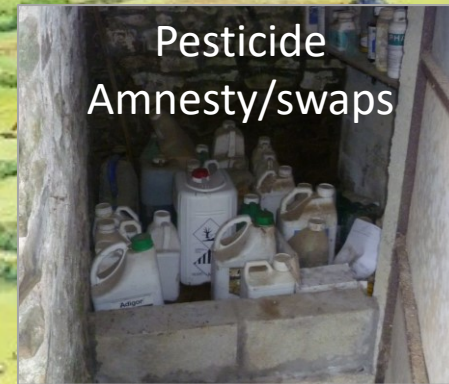
- Burrator Reservoir
- Tamar at Gunnislake
- Tavy at Lopwell Dam



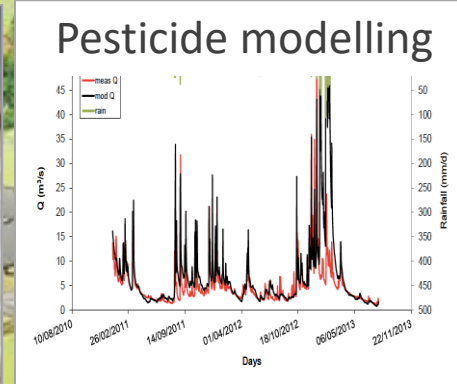
Delivering Water Quality PES Outcomes modelled & interventions monitored



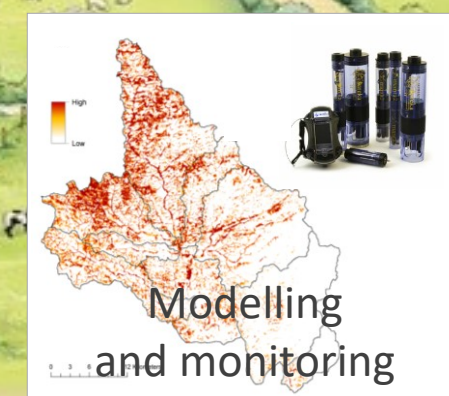
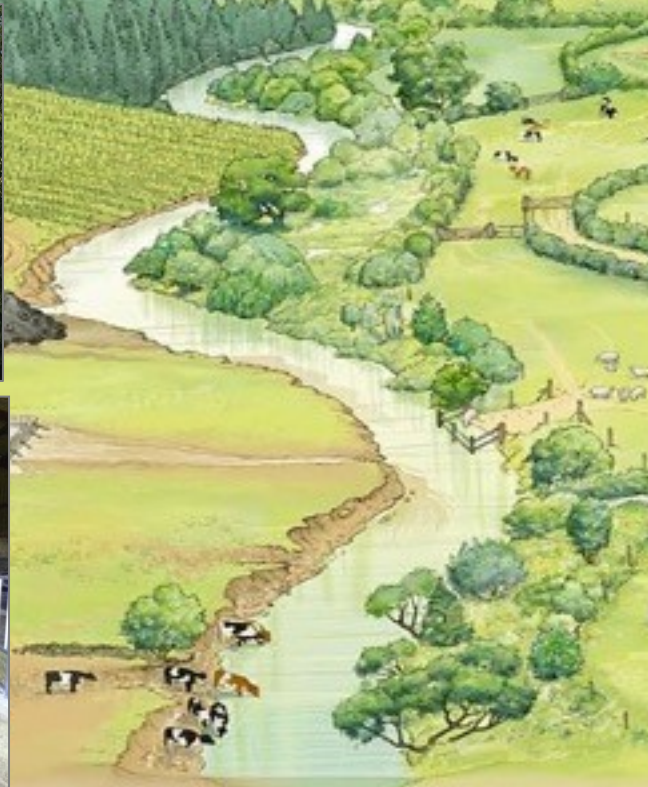
86km fencing & Reverse Auction



Pesticide Amnesty/swaps



184 projects & 25yr covenants

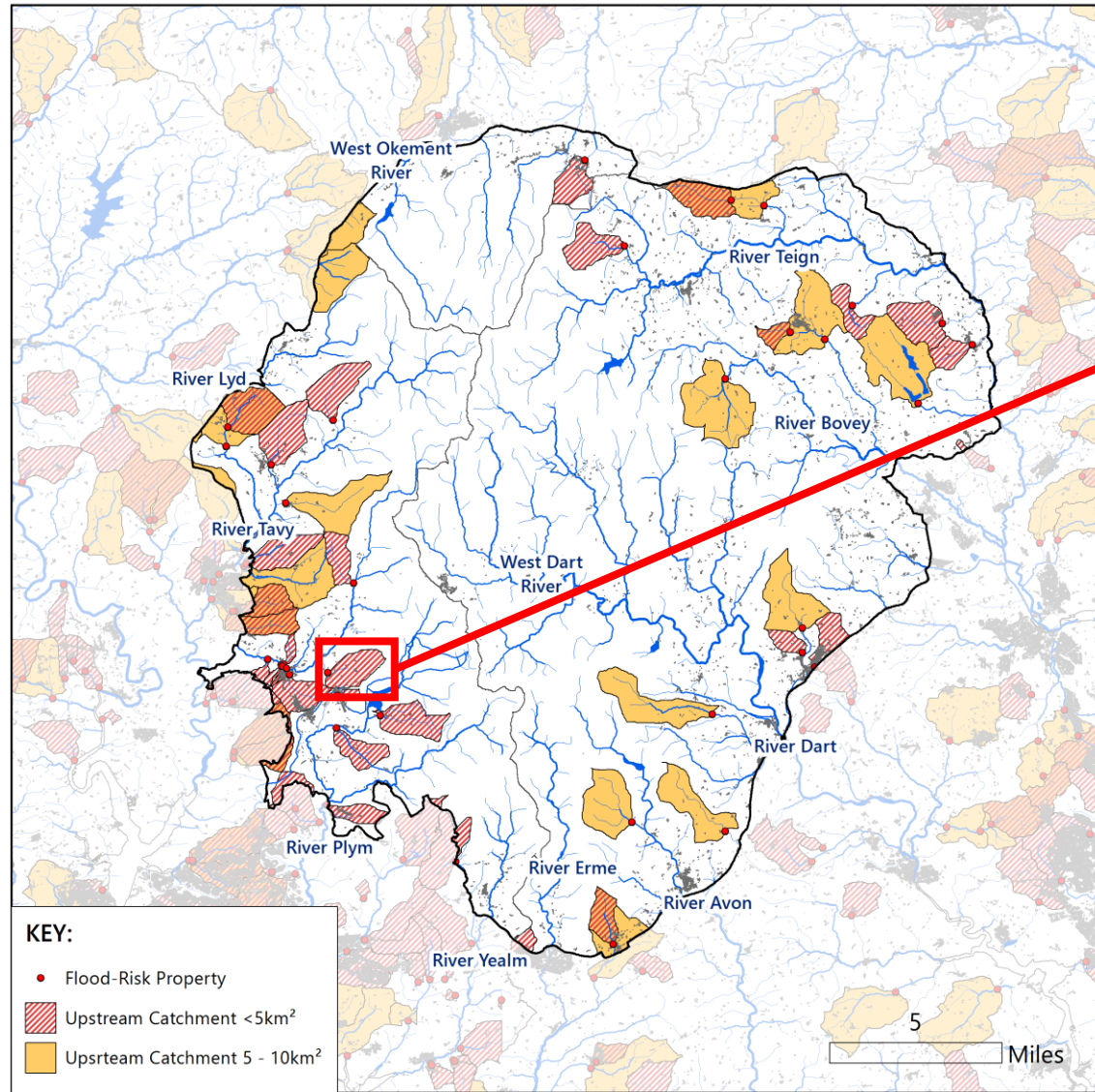


Modelling and monitoring

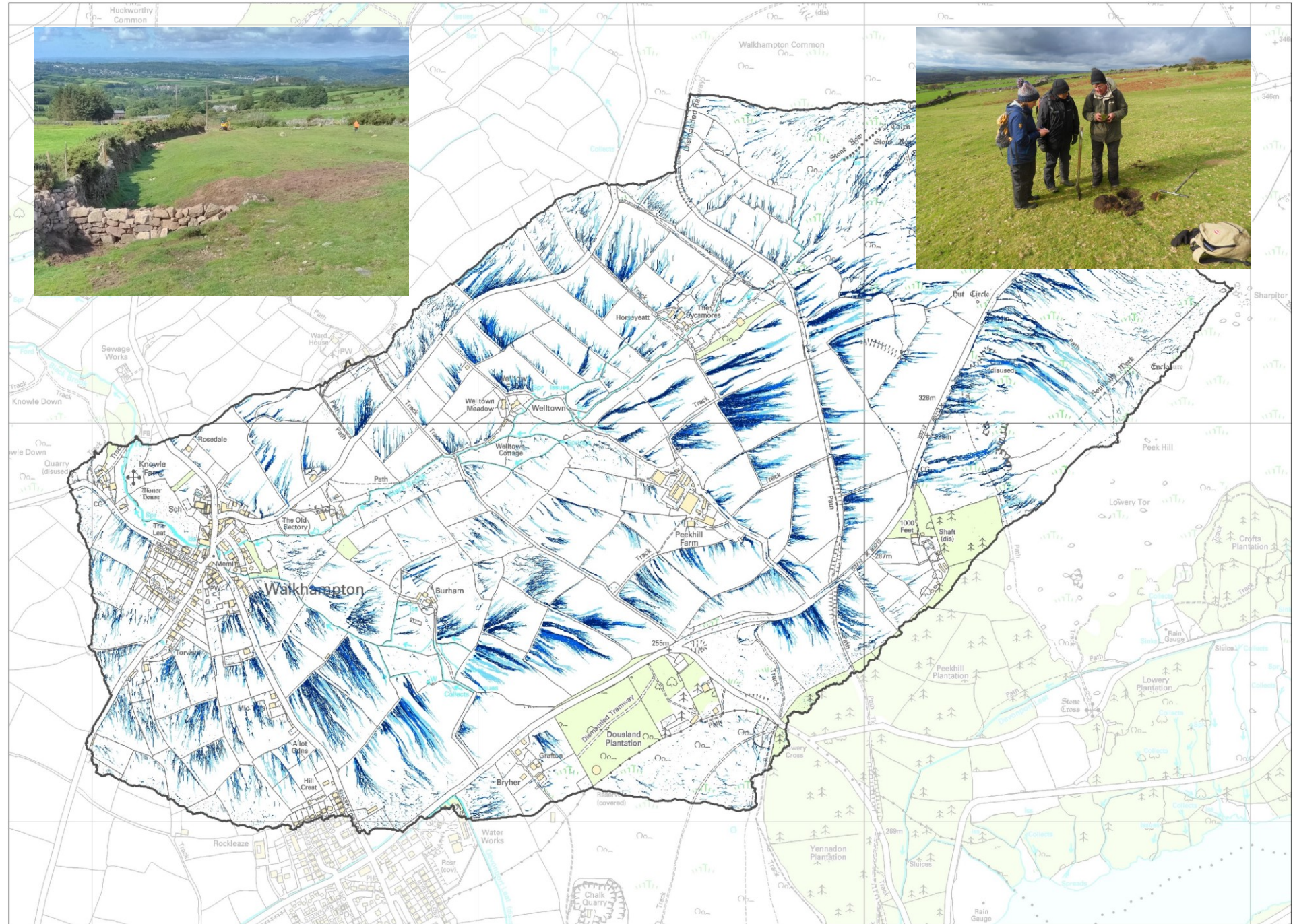


3D imaging
flowacc500
Value High : 25464 Low : 501

Flood PES

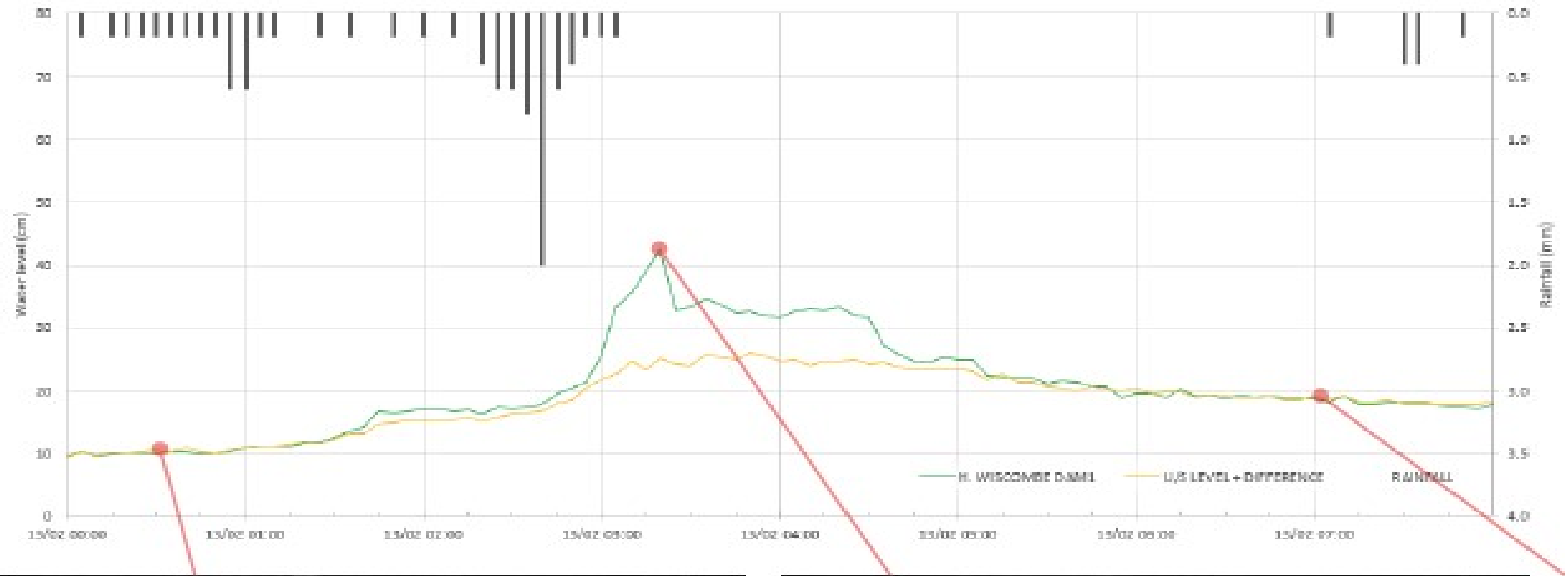


Flood PES



Flood PES

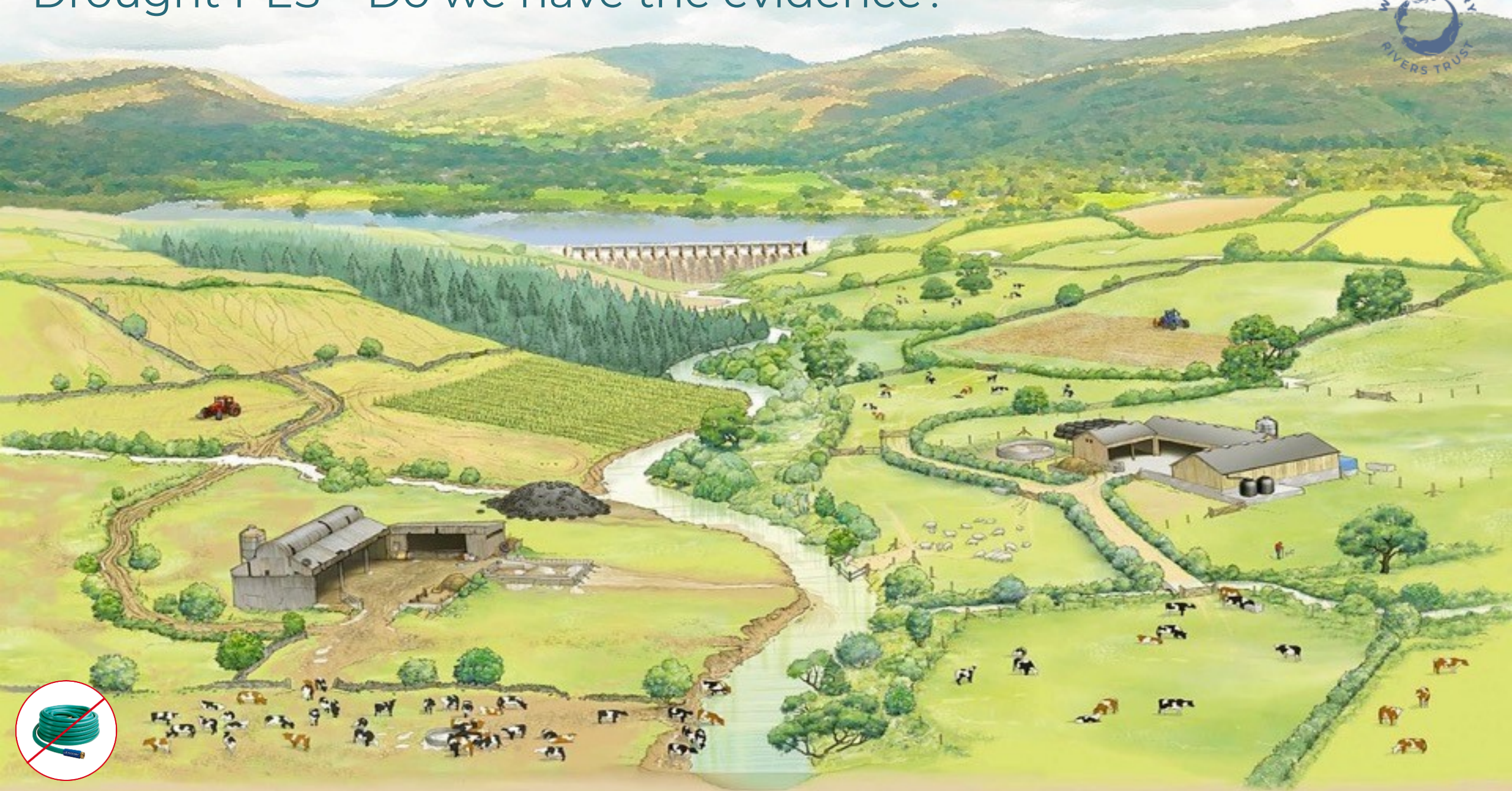
Intervention and small catchment monitored



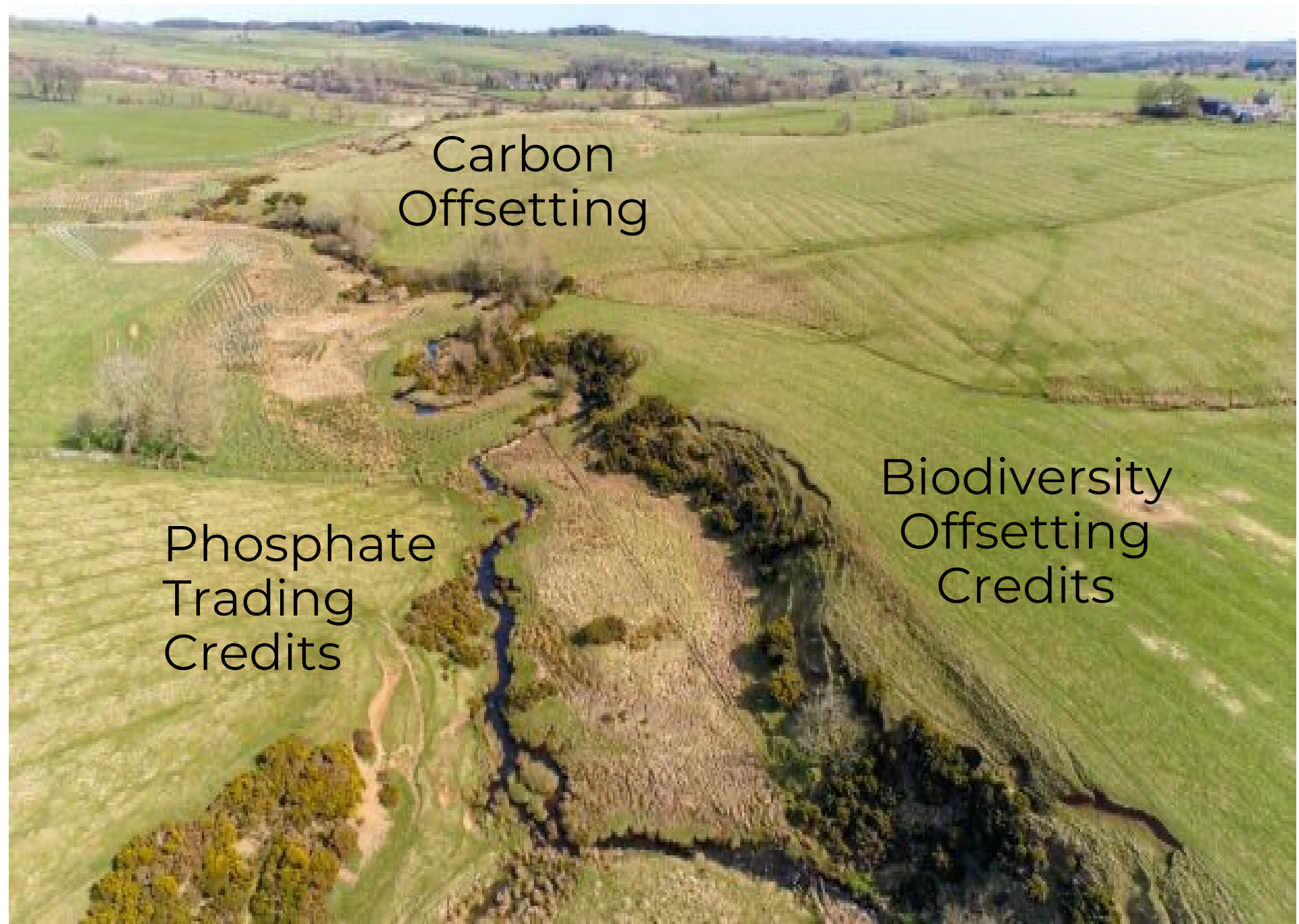
Drought PES



Drought PES – Do we have the evidence?



Aquatic
Biodiversity
PES

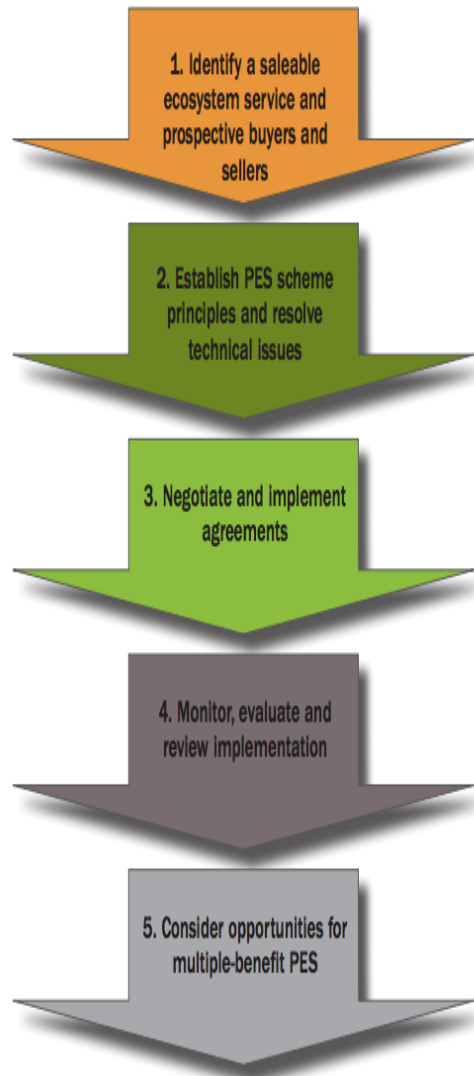


Carbon
Offsetting

Phosphate
Trading
Credits

Biodiversity
Offsetting
Credits

Blending benefits - Can we start with multiple PES?



DEFRA PES guide:

1. Identify service

- Know where, why and how you need to act to generate change
- Establish scale of benefit versus scale of action required

2. Establish PES

- Early and consistent engagement to understand business model
- Make advice on actions simple, relevant and costed

3. Negotiate & Implement

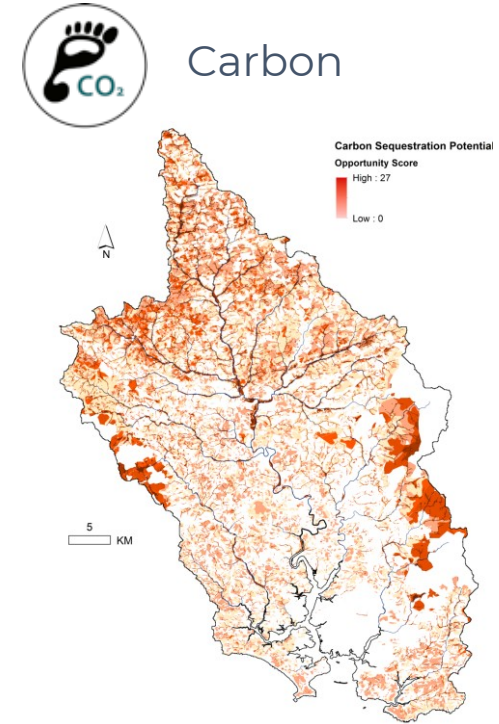
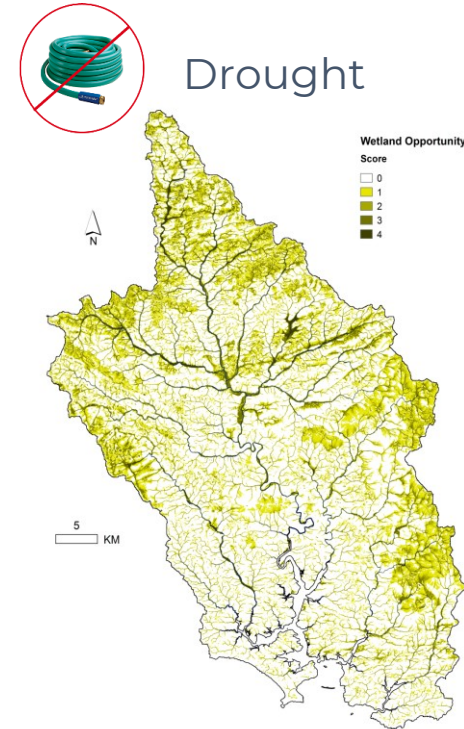
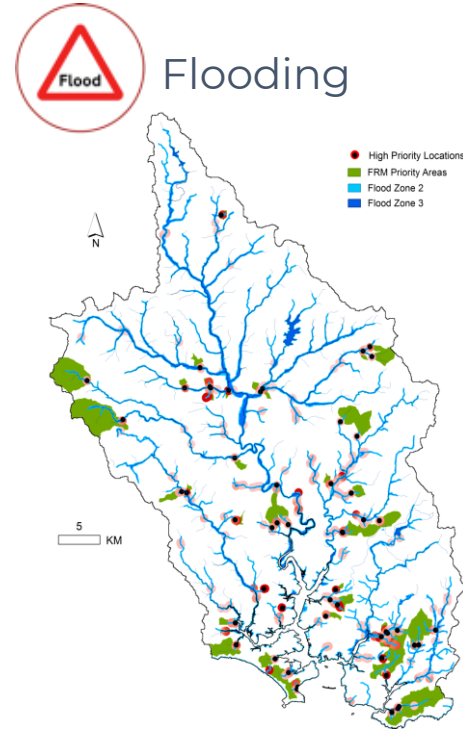
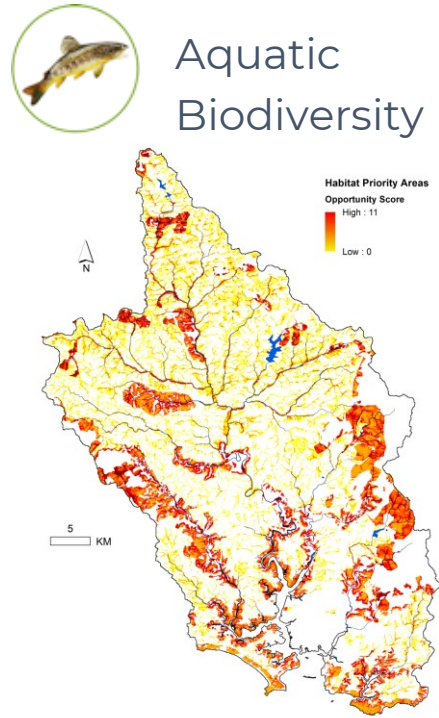
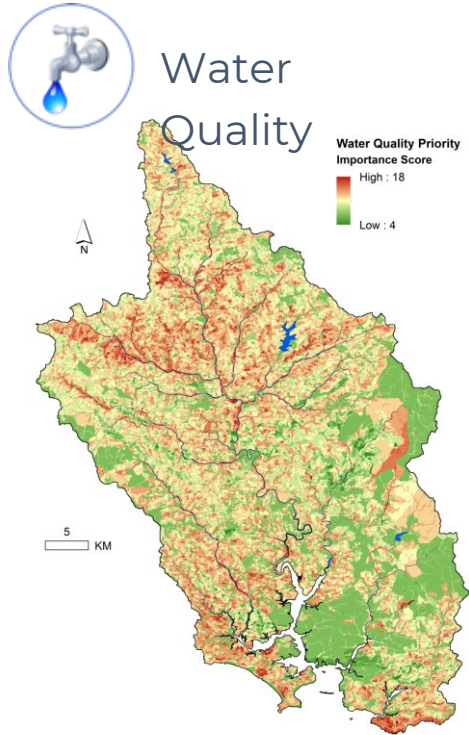
- Minimise friction costs (1 to 1 vs reverse auctions vs trading platforms)
- Simplify contracts and ensure acceptability with seller

4. Monitor & evaluate

- Install suitable measurement and verification of benefits
- Evaluate schemes cost effectiveness

5. Consider opportunities for multi-PES

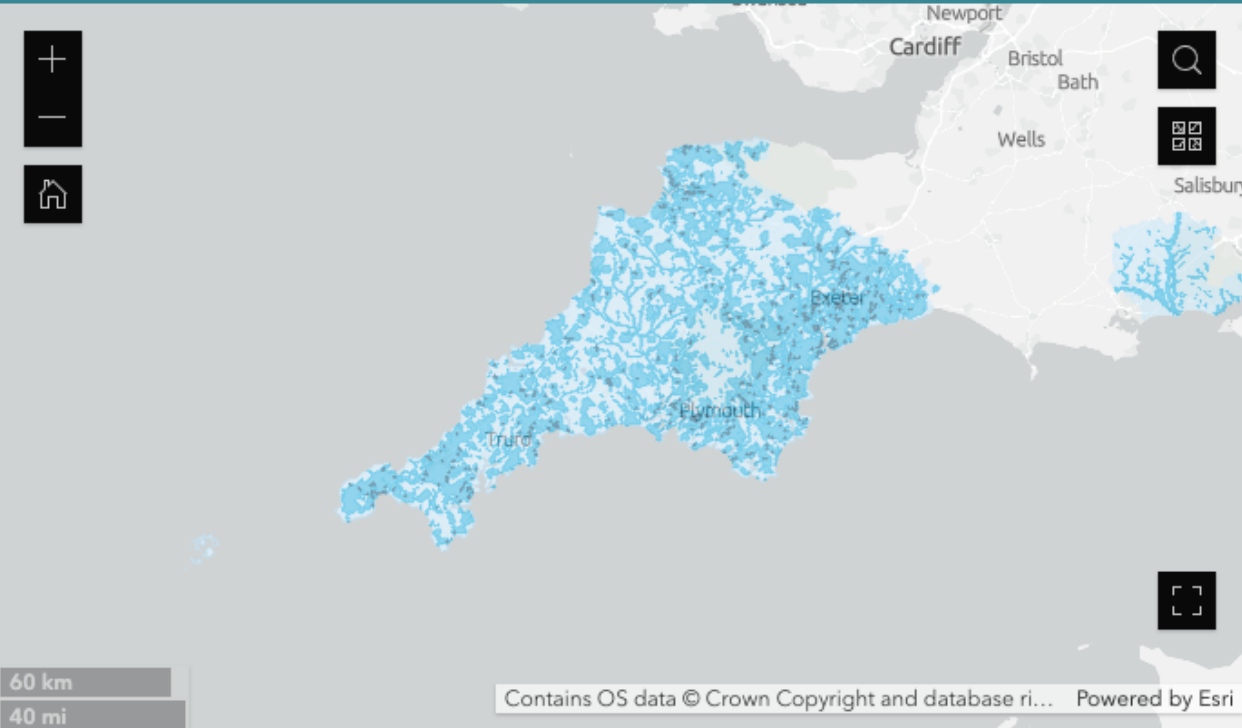
Starting with Integrated Catchment Management



Even if we could unite these buyers how would farmers react?

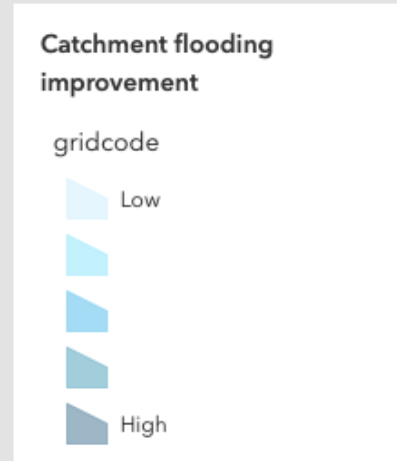


Integrated catchment planning priority areas

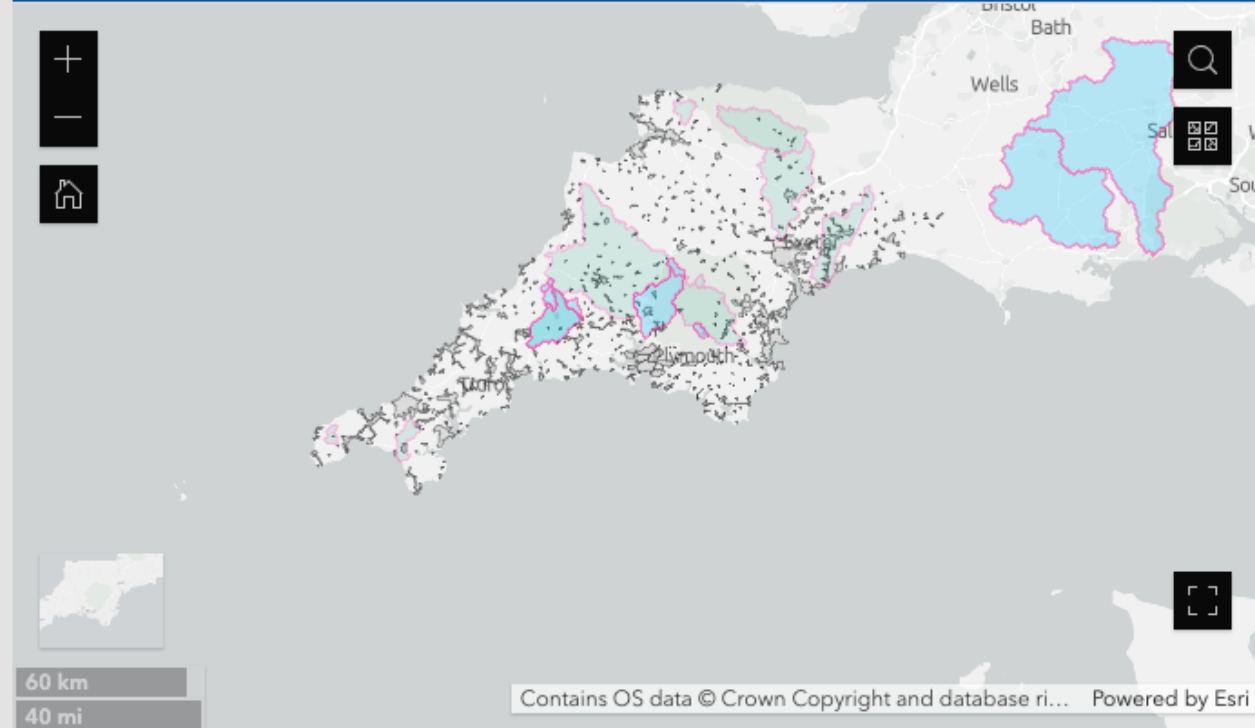


Areas of greatest need for improvement by catchment solutions

- Raw water quality improvement ...
- WFD status improvement ...
- Sewage overflow improvement ...
- Coastal receptor improvement ...
- Land management & habitats improvement ...
- Protected sites improvement ...
- Base flow resilience improvement ...

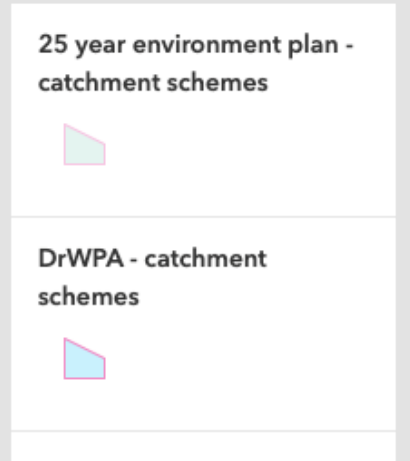


WINEP priority areas



Areas for potential catchment solutions for WINEP driver investments

- 25 year environment plan - catchment schemes ...
- DrWPA - catchment schemes ...
- Water resources ...
- Phosphate (treated wastewater) ...
- Phosphate - Nutrient neutrality (treated wastewater) ...
- Phosphate - waterbodies with WINEP phosphate issues assets ...



The broker role in Integrated Catchment Management



Commonalities to all trusted brokers bring are:

Transparency – The scheme is open to interrogation, especially over any methodologies

Scalability – The broker links sellers sufficiently to bring in larger buyers

Holistic – The scheme takes account of negative impacts on other services

Fair – The scheme rewards are clear and fair yet provision is still spatially specific

For profit 'Market' brokers

- Honesty obtained through verification and accreditation
- Ability to make profit but risk of profit marginalising/over looking negative impacts
- Usually specialised into one market so lends itself for layered markets

Charitable 'Ethical' brokers

- Honesty obtained through charitable remit but still requires a level of verification
- Any surplus bound by charitable remit but needs to be restricted to scheme area
- Easier to create bundled schemes based on mutual trust between buyers and sellers

Sometimes, even if I stand in the middle of the room, no one acknowledges me.



How do we deal with inherently un-compatible practices?

8 steps towards Integrated Catchment Management

1. We need spatial and temporal mapping and planning of ecosystem services/drivers
2. Clearer use of language in communicating multiple benefits and desired outcomes
3. Better integration of planning units to encompass water management
4. Networking between water groups (flood, drought, pollution & aquatic biodiversity)
5. New procurement/funding frameworks for joint delivery of Nature Based Solutions
6. Better partnership working with balanced risk management (not just client/contractor)
7. Increase apprentice, training and mentoring opportunities for cross partner working in Integrated Catchment Management and Nature Based Solutions
8. Acknowledgement that water management needs Systems Thinking through both inter-disciplinary and trans-disciplinary partnership working.

Interreg



EUROPEAN UNION

2 Seas Mers Zeeën

PROWATER

European Regional Development Fund



What is the Legacy of PROWATER in the South West?
Development of a significant Joined Upstream Thinking approach

Interreg



2 Seas Mers Zeeën

PROWATER

European Regional Development Fund



Integrated Catchment Management and the role of Payments for Ecosystem Services

Dr Laurence Couldrick – Westcountry Rivers Trust – @LaurenceWRT

