
Revere Windermere Water Quality Finance Model

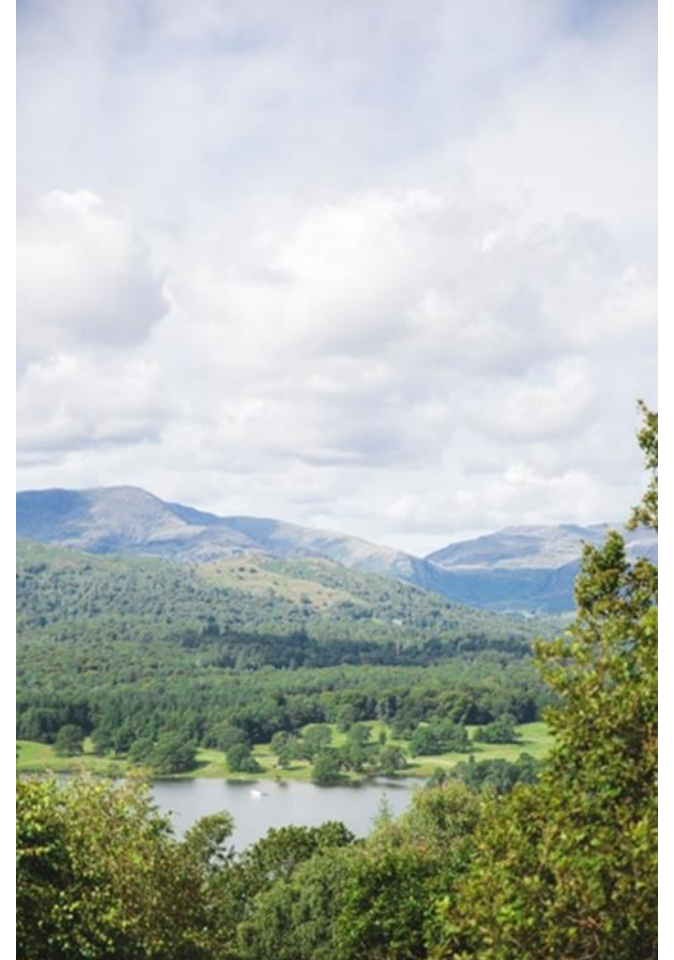
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Revere Windermere Water Quality Finance Model

A feasibility study (phase 1)

- Created a baseline assessment with modelled data to identify key priority areas for intervention
- Nature-based solution recommendations
- Draft commercial model



Baseline assessment

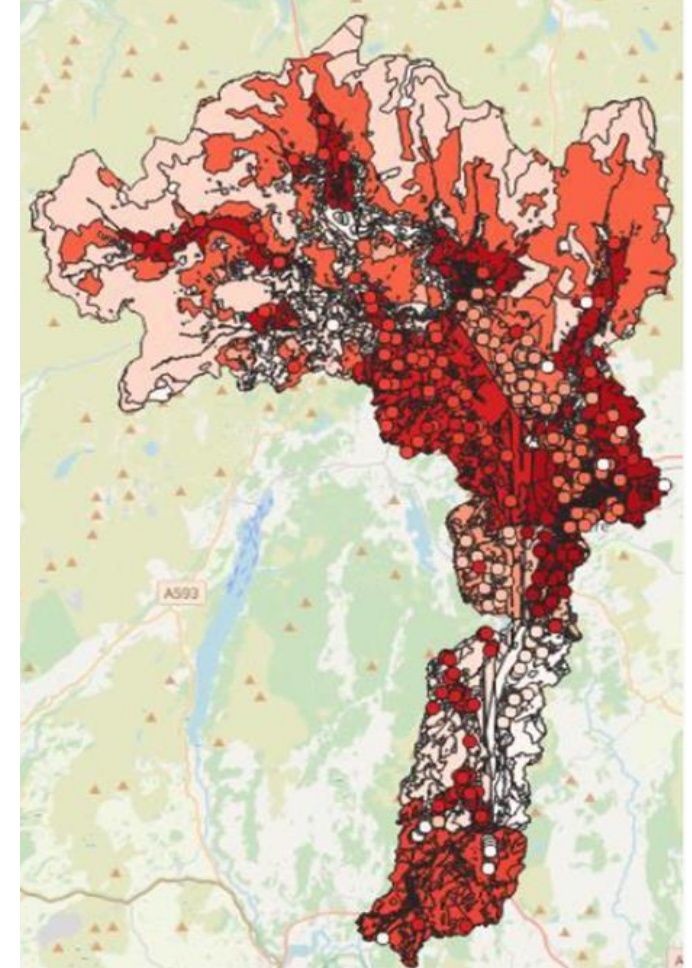
Phosphate exports in the Windermere study area

Mapping phosphate entering Lake Windermere

- Septic tank point sources – there are 1,904 septic tanks, 80% are modelled to be failing, exporting a range from 0.39 – 43.21 kgP, per septic tank
- Farmyard point sources – from 43 farms showing a loose correlation between their location and the overall concentration of phosphorus exports, in a range from 0 – 10 kgP, per farmyard
- Diffuse pollution sources – higher export rates typically contain large coverage of pasture and improved grassland. Natural inputs of phosphorus are the leading cause of P exports from moorland and heath, representing the second highest overall contribution, exporting a range from 81.7 – 527.0 kgP, per sub-catchment
- Estimating 6,000kg of phosphorus exported into waterbodies

Windermere water quality

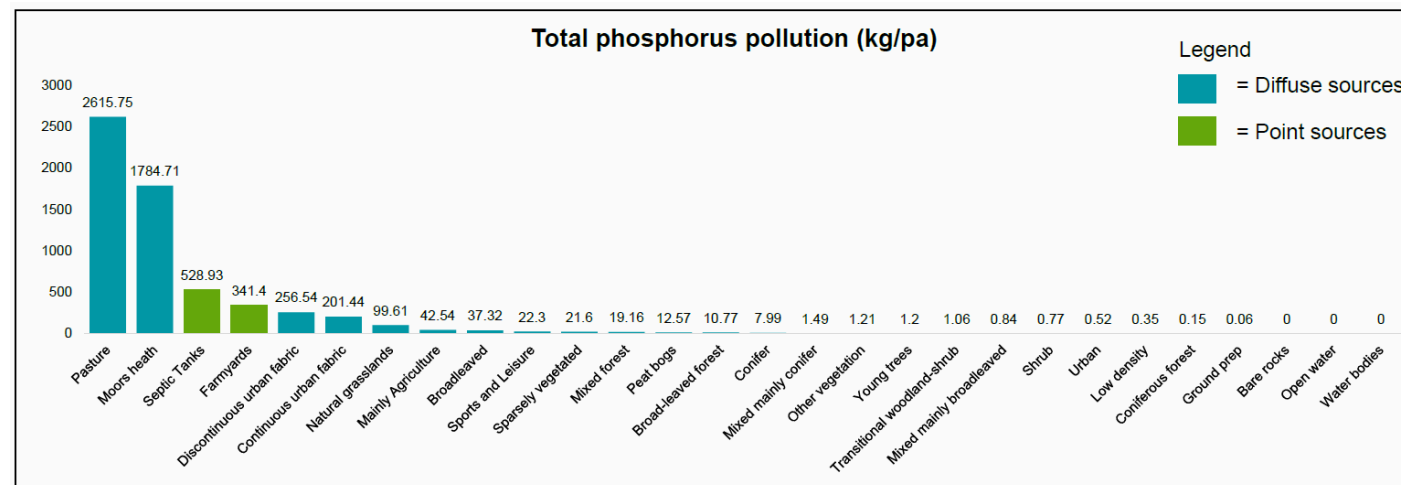
- Current phosphorus levels 0.013mg/L



Baseline assessment

Phosphate in the catchment study area

- Approximately 6,000kg of phosphates are reaching waterbodies from the Windermere catchment study area every year
- The majority of phosphorus pollution comes from agricultural practices, i.e. effluent from pasture and farmyards. Moors and heathland also have high levels of phosphate run off but much of this could be due to the habitat's ability to absorb pollutants such as phosphorus from the atmosphere, so may not be as easy to prevent.
- Septic tanks result in approximately 528kg/pa of phosphate leaching which equates to ~9% of the total phosphorus exports into waterbodies in the catchment



Nature based solutions

Top 5% most effective nature-based interventions

Riparian woodland

- 265 hectares of riparian woodland reducing phosphorus pollution by 484.6kg annually

Wetland

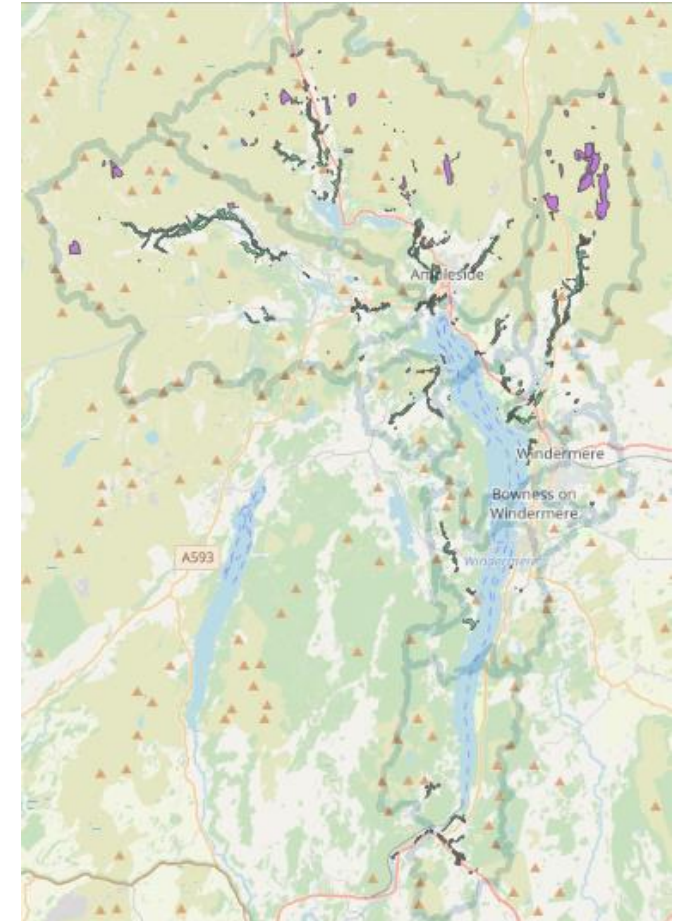
- 168 hectares of wetland creation reducing phosphorus pollution by 207.5kg annually

Catchment woodland / scrubland

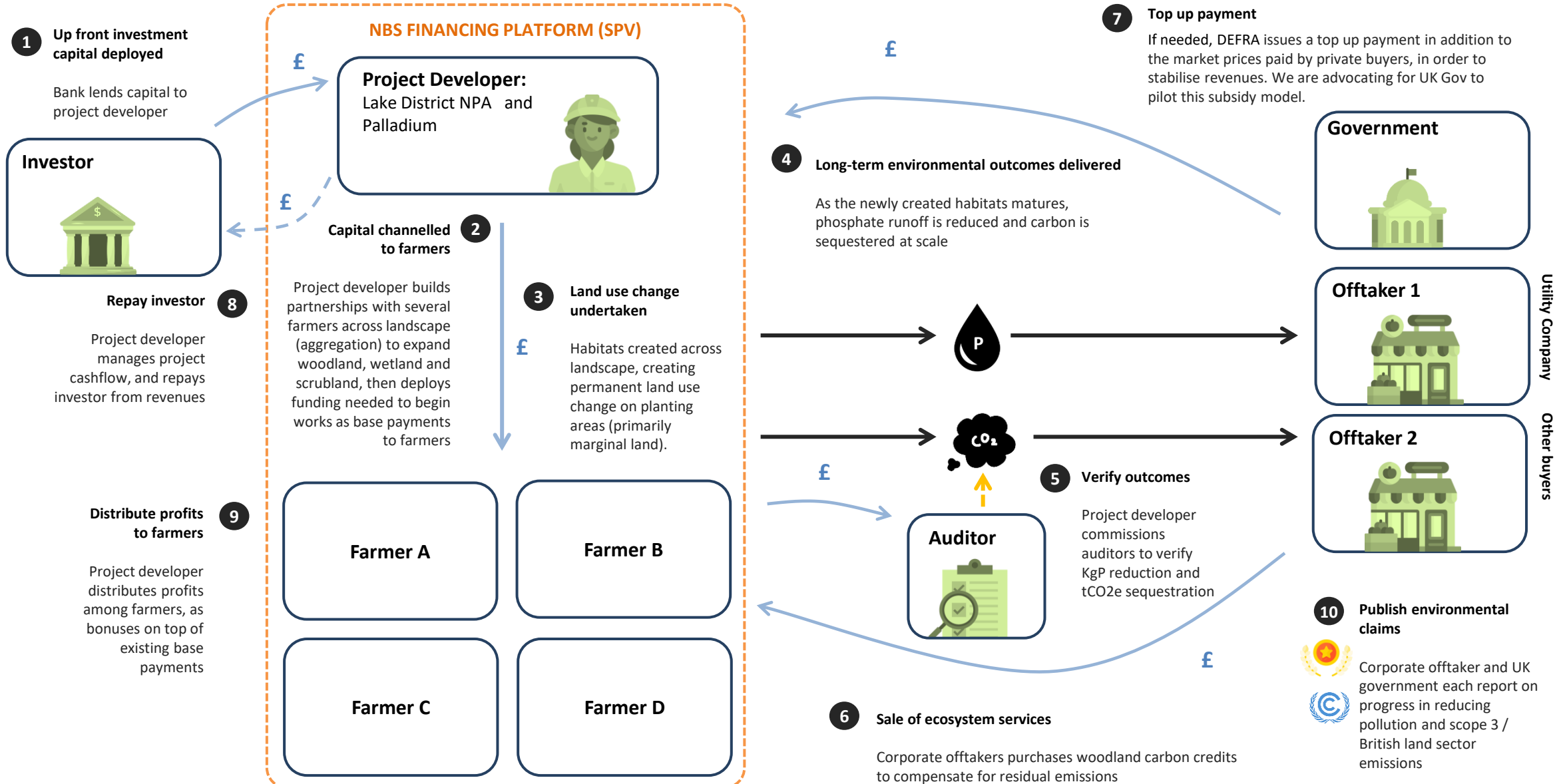
- 500 hectares of catchment woodland creation were also recommended, which could reduce phosphorus pollution by 108kg annually.
- Due to constraints we have developed the commercial model and payment mechanism under the assumption that catchment woodland / scrubland is not included

Recommendation

- Therefore, in **total** 433 hectares of riparian woodland and wetland are recommended with an annual phosphorus reduction of 692kg

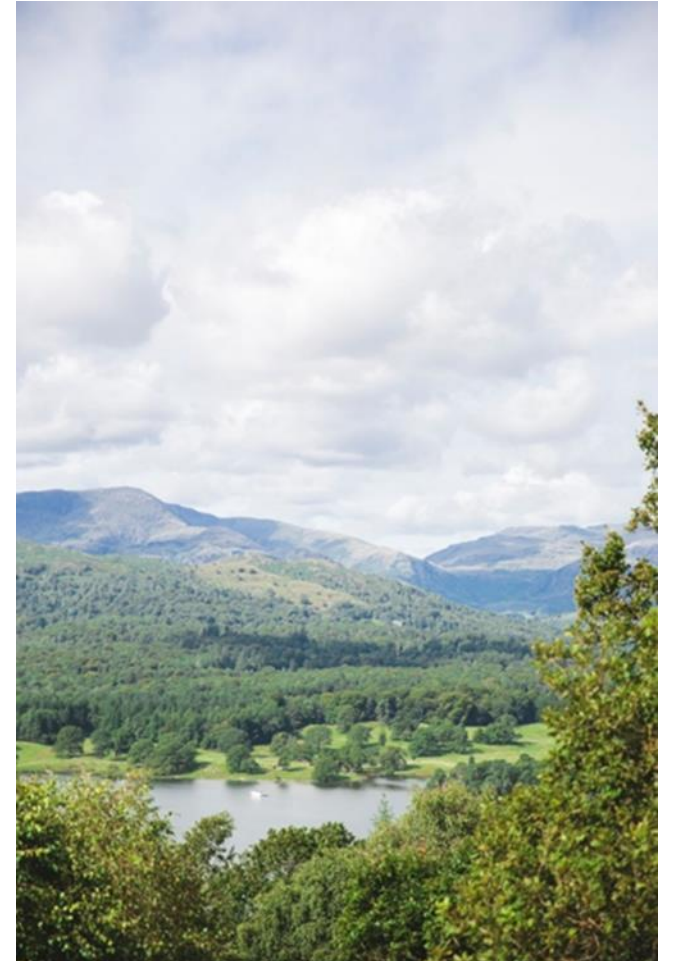


Draft commercial model



Key learning

- We have developed and agreed with Love Windermere partners a deeper understanding of the phosphate baseline
- Integration with Love Windermere workstreams
- Expertise and knowledge was shared across all the contributing partners
- Collaboration and flexibility was critical in the timescale for taking feedback to develop and deliver meaningful output
- We have a better understanding of what nature based solution is required to intercept sources of phosphate
- We understand how it relates to other nature finance codes, potentially stacking/bundling these finances
- Trust in Revere's approach is now high

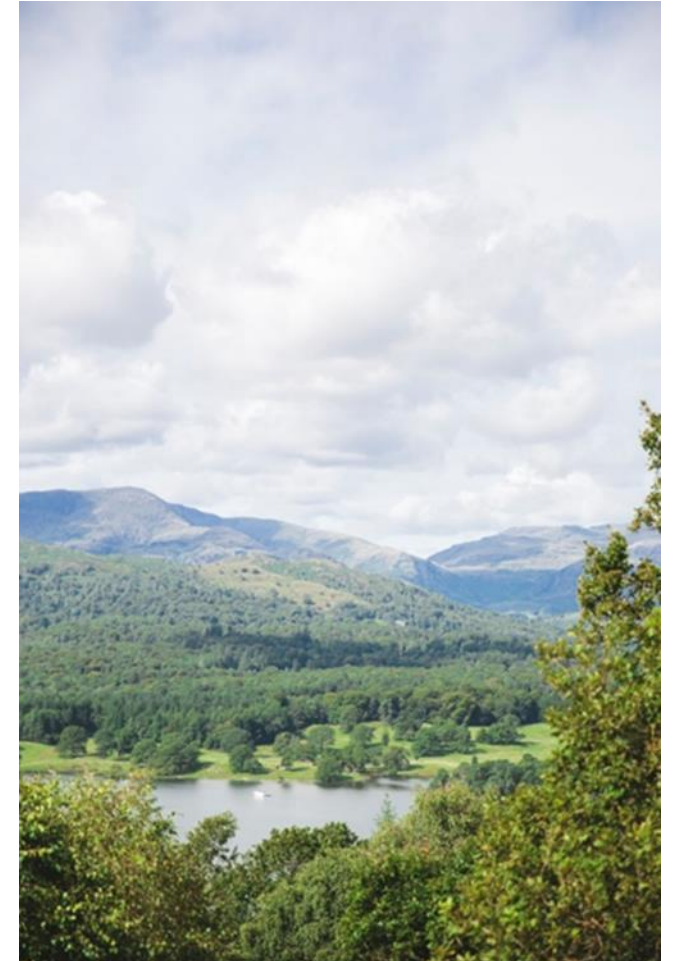


Next steps

Designing nature based solutions (phase 2)

Design a platform that enables a landscape-scale approach to developing long-lasting nature-based solutions which contribute to the improvement of water quality of Lake Windermere

- Using the outputs from the feasibility study create the project conditions for managing the design phase to:
 - Validate Phase 1 findings with on-the-ground data
 - Define site specifications for interventions
 - Identify viable sites and map them
 - Design a special purpose vehicle to deliver the recommended interventions
 - Seek to understand Defra's role in supporting landscape scale recovery alongside nature based finance
 - Create a market ready pipeline of phosphate intervention sites



Thank you

Any questions?

