Engaging with Landowners to manage land differently on the Tatton Estate, Cheshire.

Action C10: Cheshire Hub

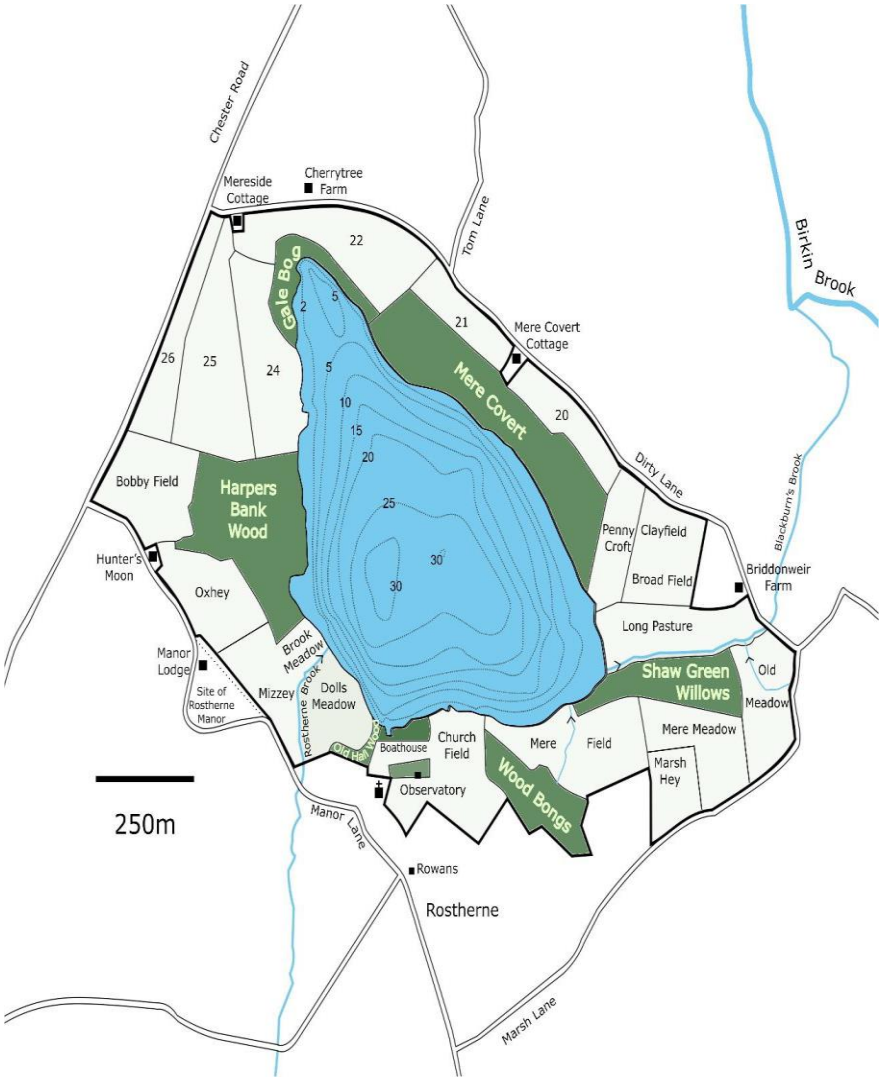
Northern Meres: Rostherne Mere Case Study

Reducing the impacts of rural diffused water pollution

- Rostherne Mere – Ramsar, SSSI and NNR
- Nutrient annual load:
  - Phosphate 390kg
  - Nitrogen 11,710kg
- Approximately 54% of source apportionment from Agriculture
- Sewage discharges redirected from 2018
- Nutrient Targets:
  - Phosphate = <0.03mg/l
  - Nitrogen = <0.6mg/l
- WFD status: Ecological (bad), Biological (bad), TP (bad), Macrophytes (bad), DO (poor)

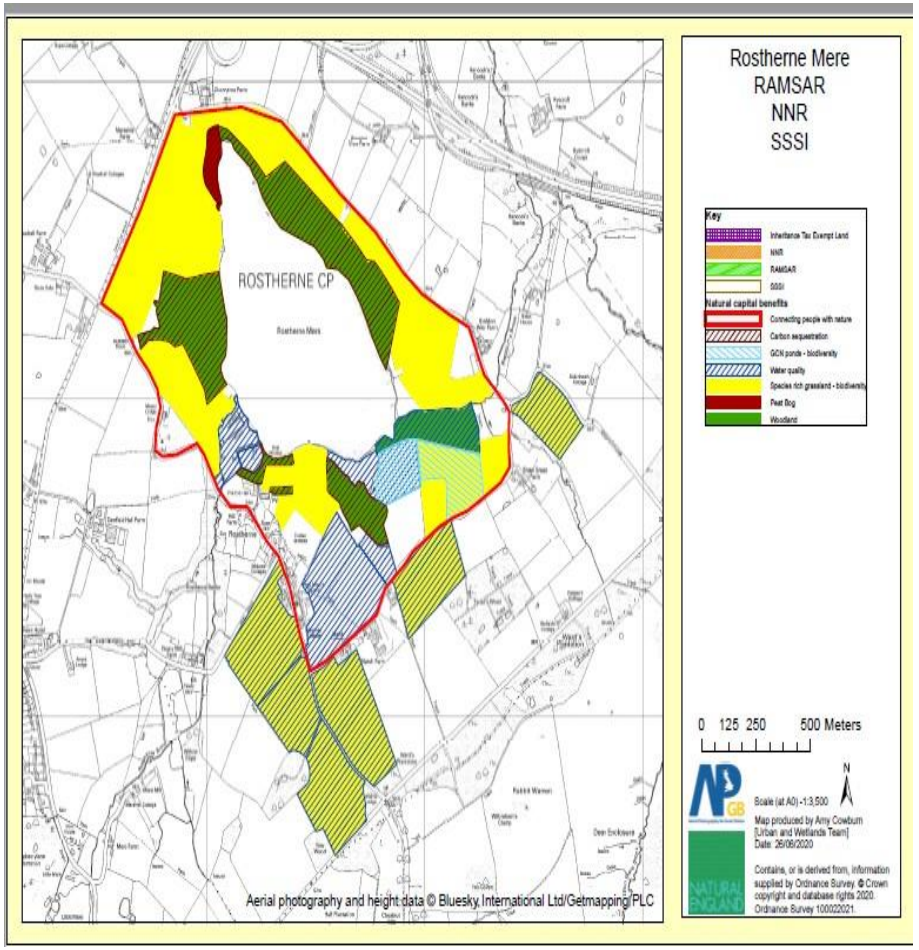
Rostherne Mere: Land Management Challenges

- NNR managed by Natural England
- Historic and ongoing issues with problematic tenants
- Environmental damage to reserve including multiple breaches of SSSI consented management activities
- Increased nutrient run-off due to poor soil management
- Additional pressures from live stock over stocking/grazing, poaching especially over winter months!



Rostherne Mere: Land Owner Engagement - The Tatton Estate

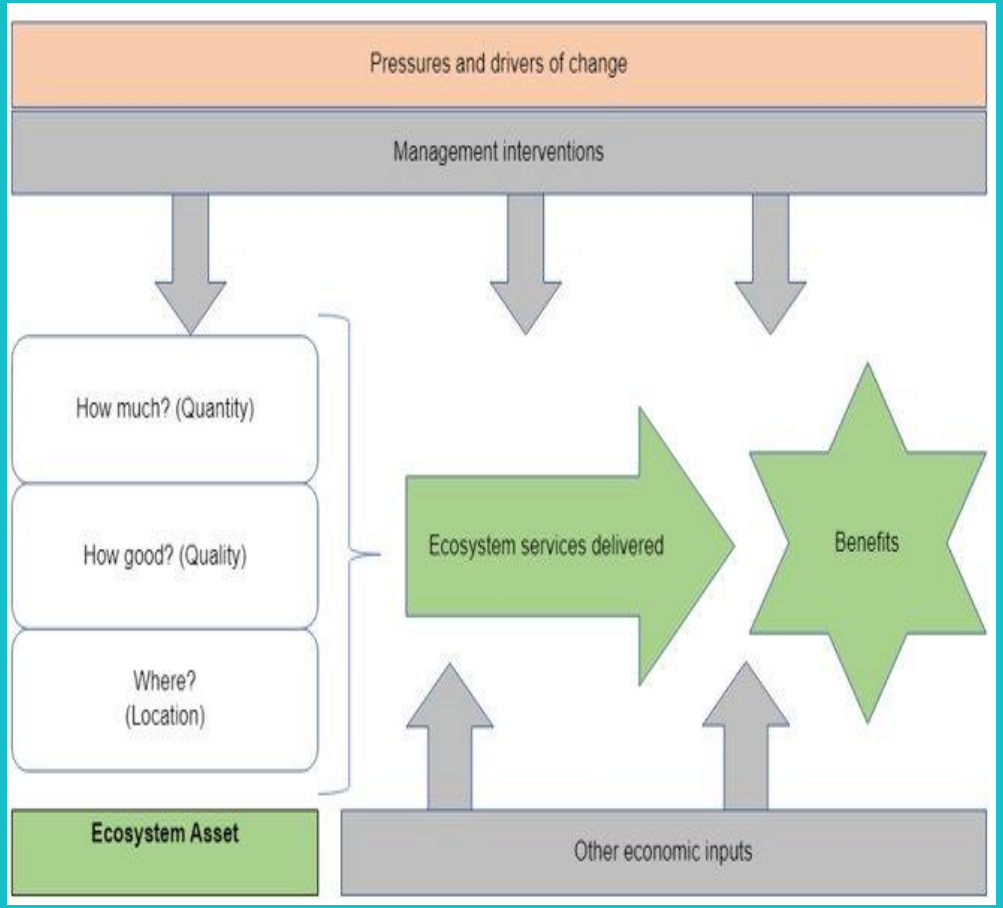
- Proactive early engagement with the Estate
- Understanding environmental impacts of current practices
- Proposed land management changes based on a Natural Capital approach to deliver multiple environmental improvements
- Cleaner water
- Thriving plants and wildlife
- Resilient to climate change
- Sustainable land management



Natural Capital Farm Plans as an Engagement Tool

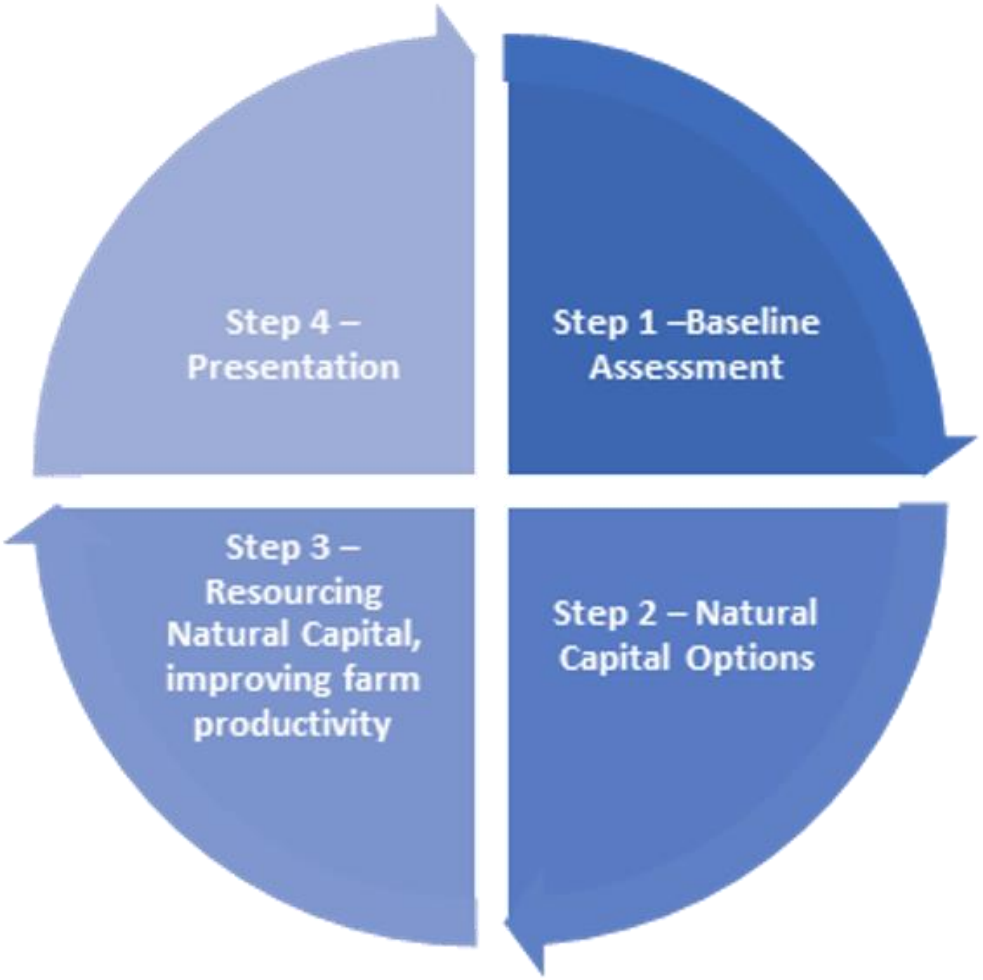
Objectives:

- Provide landowners, tenants with information about Natural Capital opportunities to improve farm environmental impacts whilst balancing profitability
- Identify the resources needed for Natural Capital interventions and how resources can help sustain long-term benefits from the natural environment
- Ensure Natural Capital is embedded in ongoing business of the farm and the wider estate



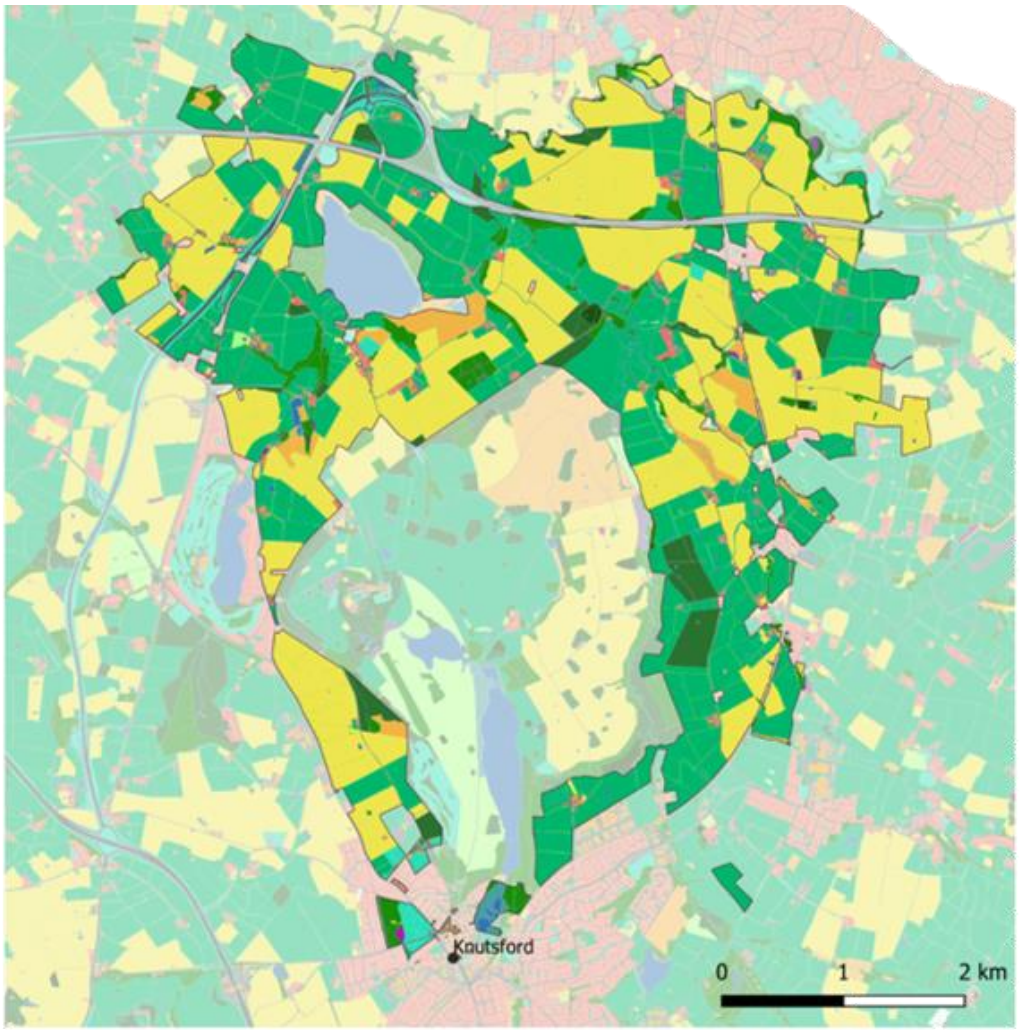
Farm Plans – Process

- 4-step process to develop Natural Capital interventions that would improve the environmental quality and support sustainable land management transition.
- Assessed 79 Natural Capital interventions, amounting to 45 ha of land use or management change.



Farm Plans – Step 1 Baseline Mapping

- Existing GI audit formed the baseline for the study.
- Natural Capital information sources brought together on GIS.
- Gap analysis of areas where Natural Capital assets are under provided based on needs.



Habitat
- Buildings
- Sealed Surface
- Roads, Paths or Railways
- Private Garden
- Garden / Brownfield
- Amenity Grassland
- Arable Land
- Unimproved / Semi-improved Grassland
- Improved Grassland
- Hedgerows
- Orchard
- Broadleaf Woodland
- Mixed Woodland
- Coniferous Woodland
- Parkland / Scattered Trees
- Scrub
- Mosaic
- Bogs, Fens and Swamps
- Water
- Other

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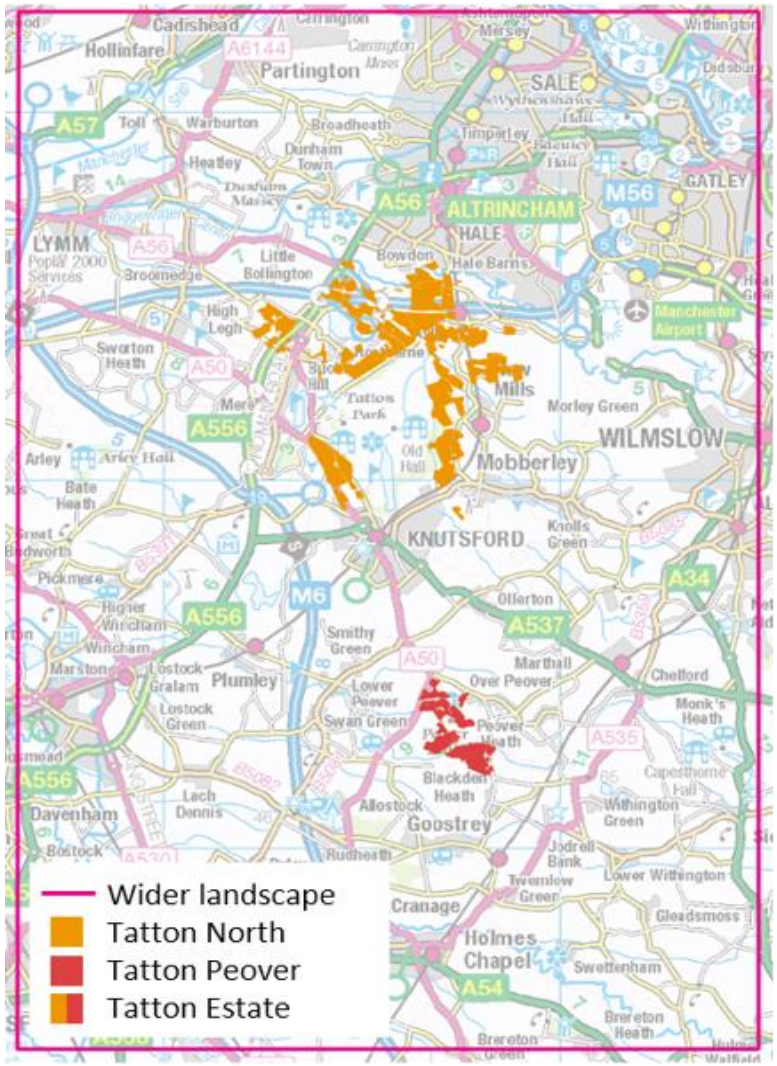
Farm Plans – Step 2 Natural Capital Assessment

- Looked at less productive sites where:
  - Natural Capital uplift can be achieved with little impact on farm business.
  - Delivery of increased productivity alongside natural capital benefits may influence future ELM/ natural capital based payments
- Walkover surveys were conducted by Environment Land Management (ELM) Associates
  - Suggested 79 interventions, ranging from hedgerow improvements and grass margins through to wetland creations and woodland establishment identified.
- Natural Capital benefits of interventions were assessed using the Ecosevr tool developed by John Moors University
  - Benefits ranged from water/air purification, carbon storage and access to nature.
  - Suggested interventions increased the delivery of seven ecosystem services at the four geographic extents considered across wider Estate.

Farm Plans –Step 2 Natural Capital Assessment



	Percentage Change (%)			
Ecosystem Service (Capacity)	Wider Landscape	Tatton Estate	Tatton North	Tatton Peover
Accessible Nature	0.23	3.57	4.09	1.06
Air Purification	0.18	4.10	4.82	1.15
Carbon Storage	0.08	3.05	2.87	4.19
Local Climate Regulation	0.52	8.48	11.80	1.97
Noise Regulation	0.23	3.96	4.54	1.62
Pollination	0.02	0.55	0.40	1.38
Water Purification	0.04	1.23	1.44	0.01

Farm Plans –Step 3 Resourcing Natural Capital

- Assess the economic impact of interventions identified from the Natural Capital assessment on farm business
  - This was carried our using a new economic model developed by Fisher German for Mersey Forest.
  - Costs to the business - delivery costs/management of the interventions over 30 years and vs the loss of productive land capacity
    - £34K loss over a 30-year period to the farms if interventions were carried out
    - Woodland only option that showed a net benefit (£30k), but this doesn't consider potential deprecation of land value or the expected increase in carbon benefits or net gain from these projects
  - Income that could be generated via grants and other income sources or through decreased costs of farm inputs if land taken out of production.

Farm Plans – Step 4 Outcomes

- Better relationship with Tatton Estate.
- Tatton Estate have expanded Natural Capital assessment to all land holdings.
- 6.4ha of new woodland created on Tatton Estate.
- Mersey Forest secured Natural Environment Investment Readiness Fund for Bollin Valley.
- Land brought back in hand at Rostherne Mere.
- Discussions continue about other opportunities….

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THE MERSEY FOREST
more from trees

Life

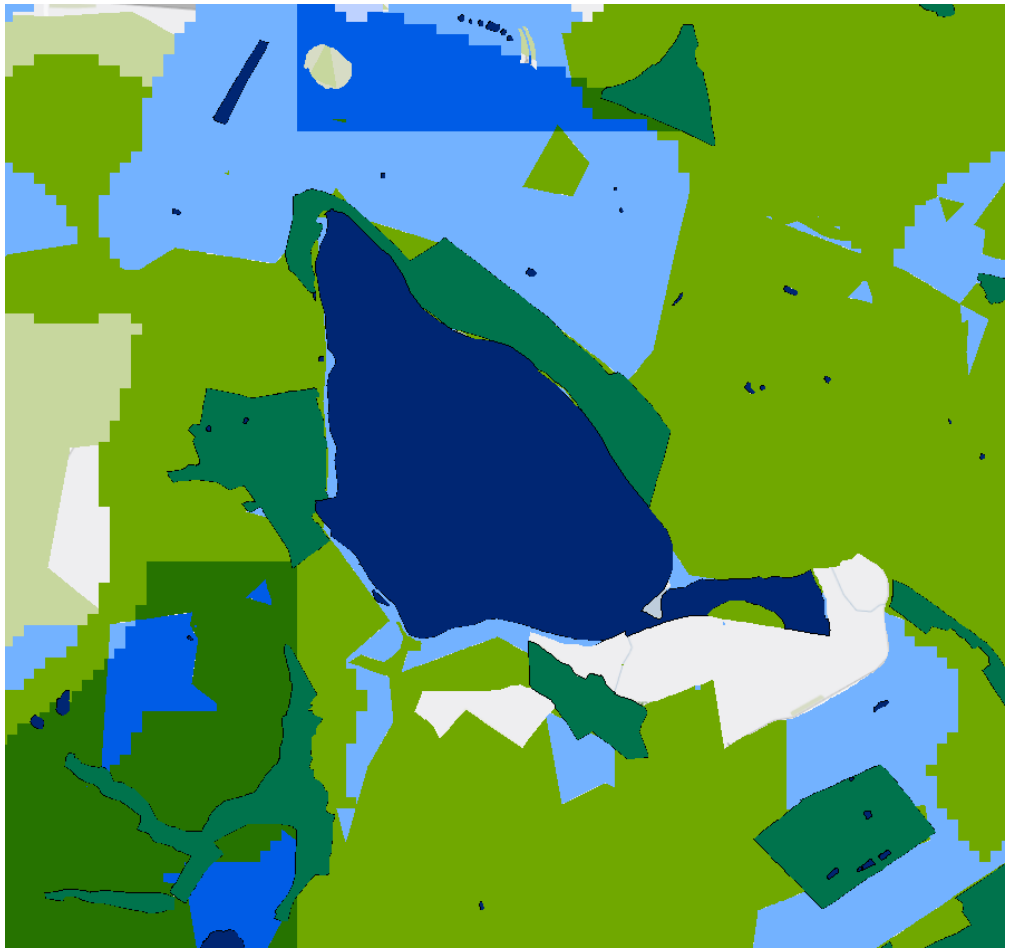
Farm Plans – Outcomes - Wetland Creation

Rostherne Mere: Sustainable Land Management

- Removal of problematic tenants from the reserve
- Arable reversion
- Lower stocking rates/seasonal rotational mixed grazing regime
- Rewilding of wildflower meadows
- Countryside Stewardship scheme for surrounding fields outside reserve to help reduce diffused water pollution
- Ongoing water quality monitoring
- A further 2 areas of wetlands been created together with a third area underway.

Rostherne Mere: Ecological Network Model

- Utilised Ecological Network Tool to identify priority wetland habitat opportunities
- Ground truth model outputs
- Identification of priority wetland habitat opportunities within the reserve
- Tool used to secure Seedcorn funding for wetland restoration at important WFD waterbody.



Landowner Engagement – Headline Lessons

- **Natural Capital Farm Plans-** Demonstrate the value (financially) of doing things differently.
- **Independent Expert Engagement** – It's not statutory agencies or regulators advising them/telling them what to do!
- **Land Agent Influence –** Need to build them into the process/conversation early.
- **Show and Tell** – Show them what their peers are doing, build confidence through facilitating mutual engagement and information sharing.
- **Show Off** – Allow them to take the credit for the changes that they have made even if you've facilitated them. This will lead to them wanting to do even more.

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