Introduction to Natural Capital

Jenny Phelps MBE

Farming and Wildlife Advisory Group Southwest

The land app

ROTHAMSTED RESEARCH

eCountability
Biodiversity and ecosystem services solutions

Ordnance Survey

FWAG SouthWest

UK CLIMATE RISK

14/09/2021

Climate Change Risk Assessment 3
Chapter 3 – Natural Environment and Assets

Urgency: MORE ACTION NEEDED

Soils

- Changes in land use / land mgmt. required
- Spatially targeted support schemes & advice
- More investment in large-scale monitoring data/indicators linked to actions & functions
- Recognise that soils are complex and variable
- Integrate adaptation / mitigation

https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/

Urgency: MORE ACTION NEEDED Agriculture and Forestry

- Targeted advice & outreach on evolving risks/opportunities
- Encourage innovation/diversification
- Dissipate agric/forestry sector boundaries & develop integrat strategies, incl. agroforestry etc.

Terra Carta the need for International Metrics

COP 27

"The 'Terra Carta' offers the basis of a recovery plan that puts Nature, People and Planet at the heart of global value creation – one that will harness the precious, irreplaceable power of Nature combined with the transformative innovation and resources of the private sector."

– THE FORMER PRINCE OF WALES

Sustainable Markets Initiative

Accelerating Regenerative Agriculture

Future of Farm Support – 6 years on from Brexit

We need to design and develop Locally resilient integrated solutions

With integrity

What is Natural Capital?

- Natural Capital are natural assets in their role of providing natural resource inputs and environmental services for economic production.
- Context: Natural capital is generally considered to comprise three principal categories: natural resource stocks, land and ecosystems.

- Public Money for Public Goods. We need an environmental base line and common mapping system for investment

UK Habitat Classification

"The UK Habitat Classification is a new, free-to-use, unified and comprehensive approach to classifying habitats, designed to provide a simple and robust approach to survey and monitoring for the 21st century".

- Merges current mapping systems:
  - **FEP + Phase 1 + EUNIS + NVC = UKHab**
- Hierarchical – can go into as little or much detail as necessary.

UK Habitat Classification

Farming & Wildlife Advisory Group
FWAG

Provisioning, regulating and cultural ecosystem services

Level 1	Level 2 code	Level 2 Label	Level 3 code	Level 3 Label
Terrestrial	g	Grassland	g1	Acid grassland
			g2	Calcareous grassland
			g3	Neutral grassland
			g4	Modified grassland
	w	Woodland and forest	w1	Broadleaved mixed and yew woodland
			w2	Coniferous woodland
	h	Heathland and shrub	h1	Dwarf shrub heath
			h2	Hedgerows
			h3	Dense scrub
	f	Wetland	f1	Bog
			f2	Fen marsh and swamp
	c	Cropland	c1	Arable and horticulture
	u	Urban	u1	Built-up areas and gardens
	s	Sparsely vegetated land	s1	Inland rock
			s2	Supralittoral Rock
			s3	Supralittoral Sediment

Farming & Wildlife Advisory Group
FWAG

Data codes – codes for land management

UKHab Poly	**Arable and horticulture**	**Cropland**	**c1**
UKHab Poly	**Arable field margins**	**Cropland**	**c1a**
UKHab Poly	**Arable margins sown with tussocky grasses**	**Cropland**	**c1a5**
UKHab Poly	**Arable margin sown with wild flower or pollen & nectar mix**	**Cropland**	**c1a6**
UKHab Poly	**Arable margins cultivated annually with annual flora**	**Cropland**	**c1a7**
UKHab Poly	**Game bird mix strips and corners**	**Cropland**	**c1a8**
UKHab Poly	**Temporary grass and clover leys**	**Cropland**	**c1b**
UKHab Poly	**Cereal crops**	**Cropland**	**c1c**
UKHab Poly	**Winter stubble**	**Cropland**	**c1c5**
UKHab Poly	**Game bird mix fields**	**Cropland**	**c1c6**
UKHab Poly	**Other cereal crops**	**Cropland**	**c1c7**
UKHab Poly	**Non-cereal crops**	**Cropland**	**c1d**
UKHab Poly	**Miscanthus**	**Cropland**	**c1d5**
UKHab Poly	**Short-rotation coppice**	**Cropland**	**c1d6**
UKHab Poly	**Vineyards**	**Cropland**	**c1d7**
UKHab Poly	**Other non-cereal crops**	**Cropland**	**c1d8**
UKHab Poly	**Intensive orchards**	**Cropland**	**c1e**
UKHab Poly	**Horticulture**	**Cropland**	**c1f**

Farming & Wildlife Advisory Group
FWAG

Secondary codes – provide further context

Habitat Mosaic	
10	Scattered scrub
11	Scattered trees
12	Scattered bracken

Habitat Complex	
19	Ponds (Priority Habitat)
20	Wood-pasture and parkland
21	Traditional orchards
22	Juniper on heaths or calcareous grasslands (H5130)

Origin	
33	Ancient woodland site
34	Arable reversion grassland
35	Biodiversity offset
36	Plantation
37	Semi-natural woodland
38	Secondary woodland
39	Freshwater - man-made
40	Freshwater - heavily modified

Land Use	
86	Accessible natural greenspace
88	Barn
89	Car Park
90	Commercial building
91	Development site
92	Educational building
93	Fish farm
94	Green lane

Management	
51	Coppice
52	Coppice with standards
53	Felled
54	Ground prepared for planting
56	Young trees - planted
57	Young trees - self-set
58	Grazed
59	Cattle-grazed

Farming & Wildlife Advisory Group
FWAG

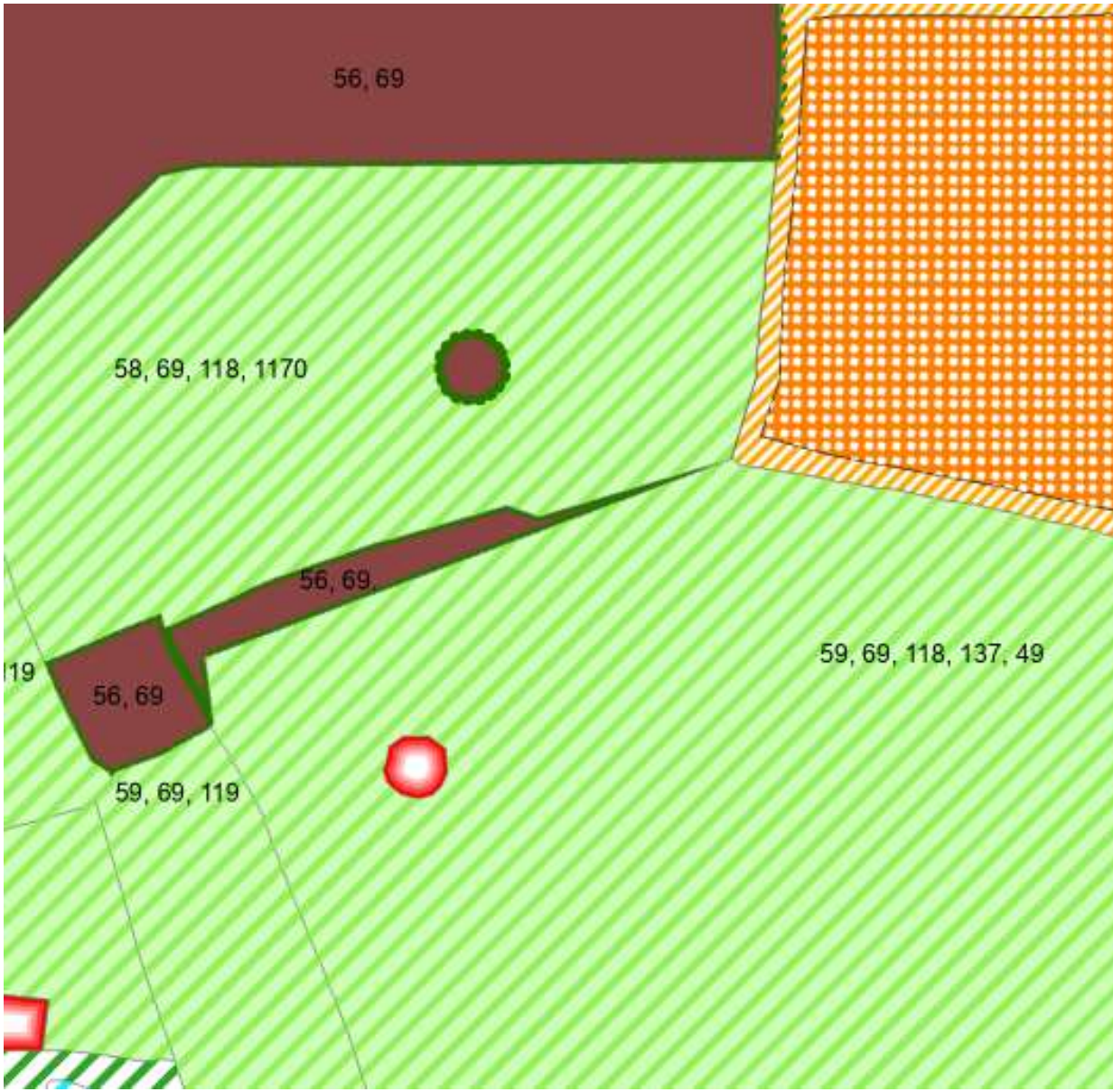
Complete:

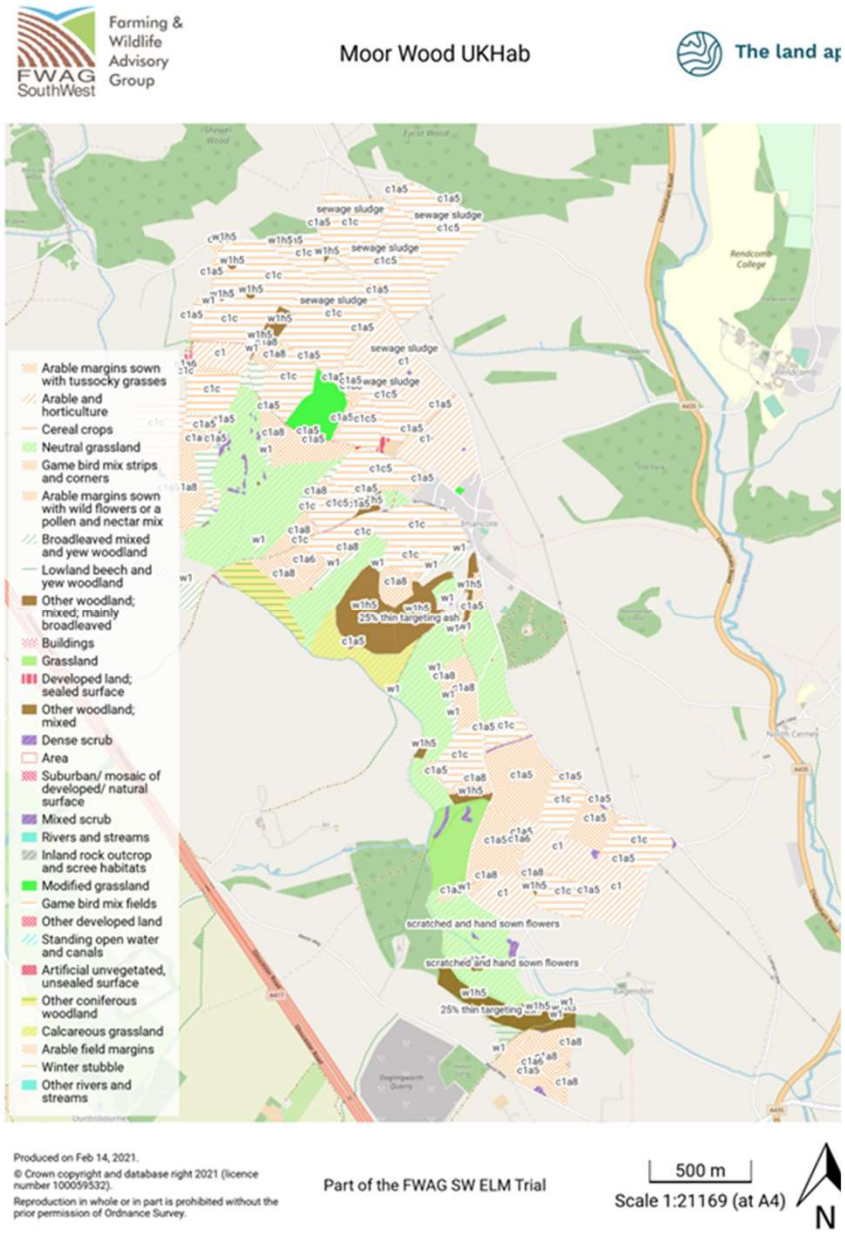
Habitat map is produced and colour coded.
Secondary Codes Added.

g4 – modified grassland

w1h5 – other broadleaf woodlands (>80% cover).

49 – Veteran Trees
56 – Young Trees - planted
59 – Sheep grazed
69 – Fenced
118 – Mesic
137 – Ridge and Furrow





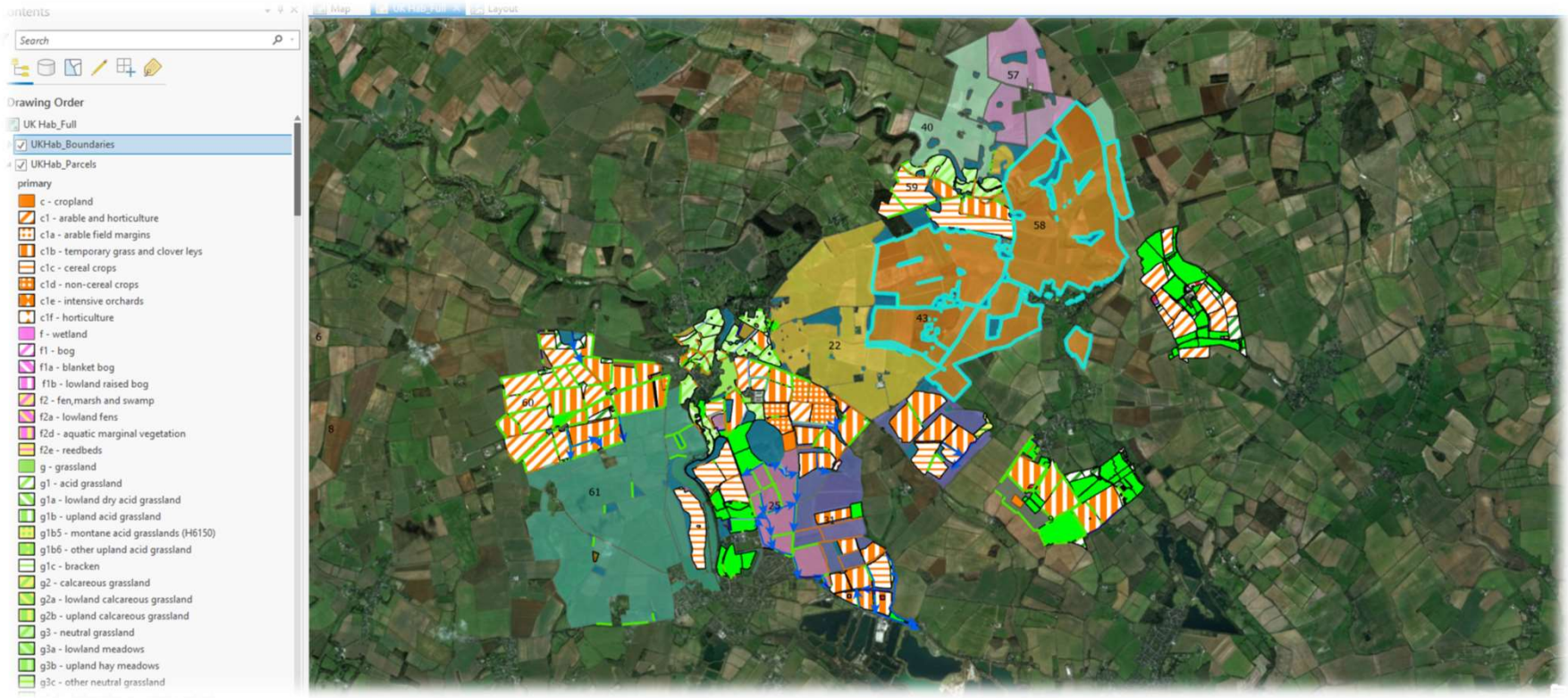
Context

- In previous trials, FWAG found that collecting and storing robust on-farm habitat data was an essential step in the delivery of public goods, in addition to making farms ready for private investment in nature recovery.
- We found a requirement to integrate the knowledge and experience of land managers, farm advisers, farmer collaboration networks and local stakeholders, for the most robust results. We continue to test how an integrated delivery model can work on a landscape scale - to support the development of baseline data sets and blended finance opportunities.

Landscape scale habitat mapping

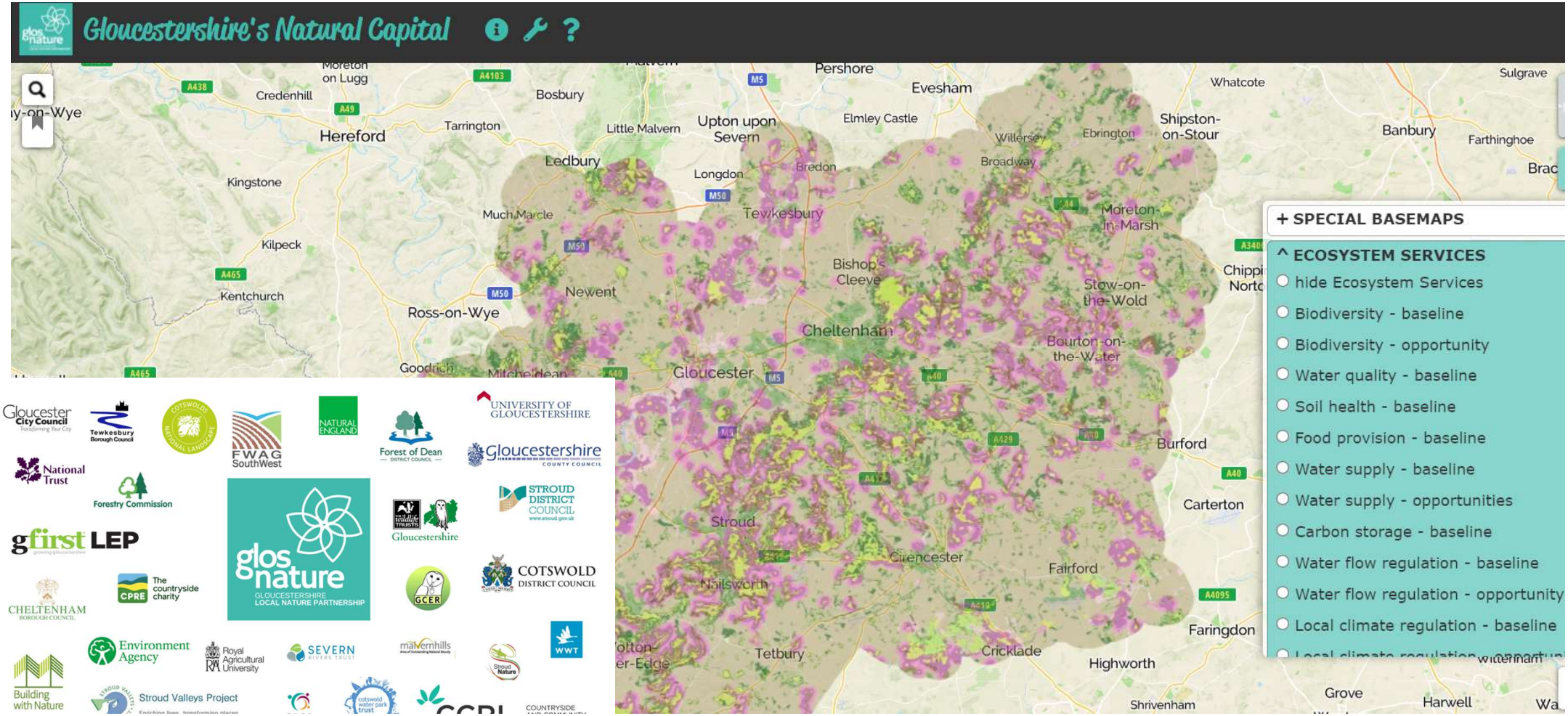
Farmer verifying and owning data

Contributing to an environmental baseline for co-investment



Farming & Wildlife Advisory Group
FWAG

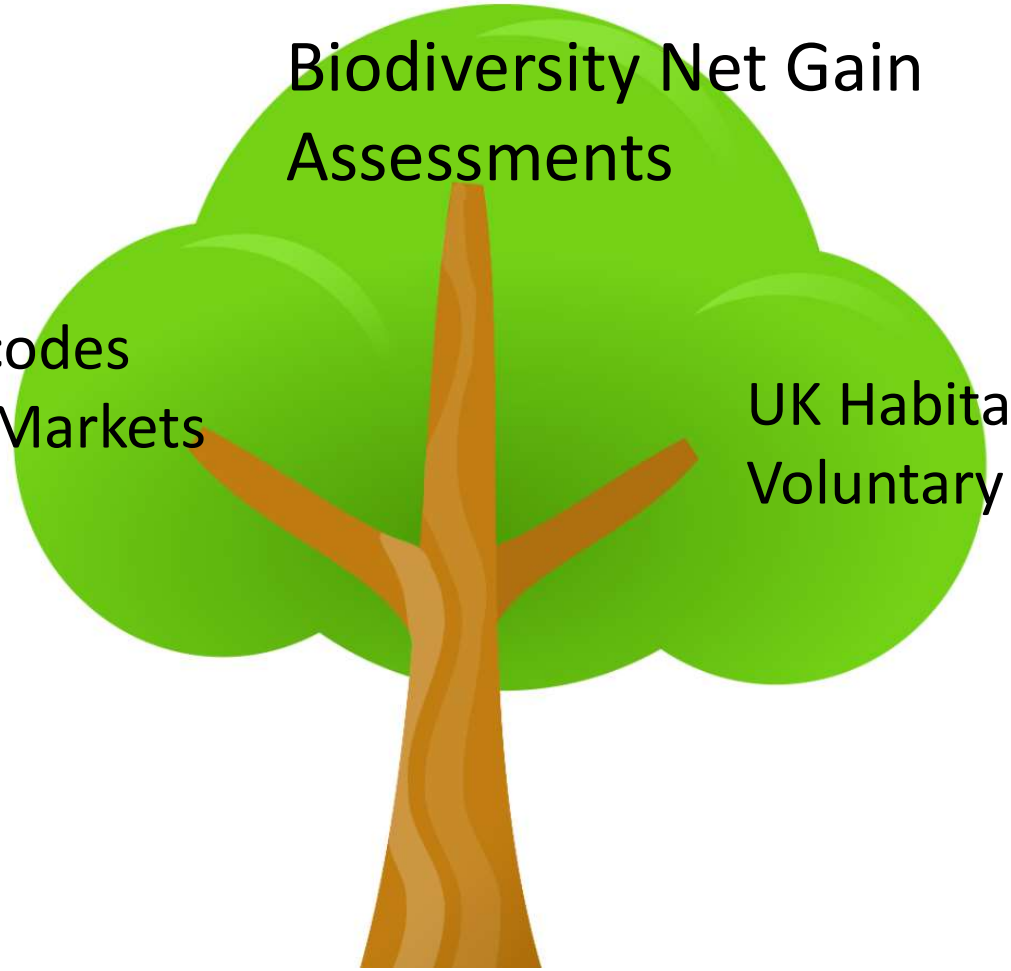
Land managers helping to build a verified baseline for co-investment at a county level for blended finance and local action….



Biodiversity Net Gain
Assessments

UK Hab secondary codes
Ecosystem Service Markets

UK Habitat link to
Voluntary carbon markets



UK Habitat Classification
https://ukhab.org/

What is the Global Farm Metric?

Our mission is to **enable the transition** to more sustainable food and farming.

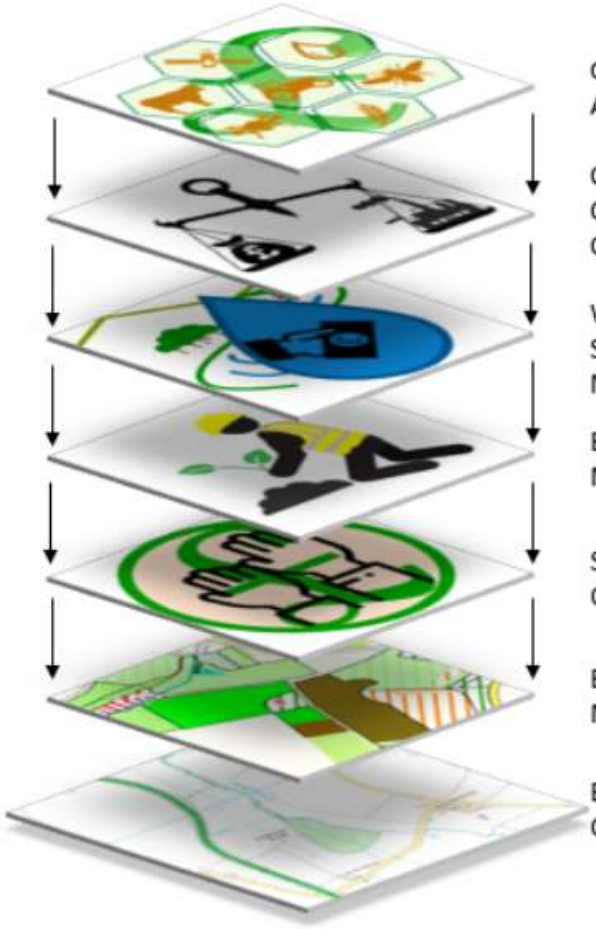
A common framework to **understand, identify and assess whole farm sustainability** Drawing on economic, social and environmental data from the farm.

A **standard for measuring sustainability** on all farms globally. Enabling farmers to identify areas for improvement, support decision making, reduce negative impacts and unintended consequences.

Designed to support the harmonisation of **existing metrics and definitions** around a holistic set of categories, sub-categories and indicators.

A **baseline of data** for farmers to make informed decisions about the whole farm and connect food and farming stakeholders around the world to enable collective action.

Baseline for developing Blended Finance



Green Finance /
Advanced Agri-tech

Carbon Offsetting /
Carbon Payments /
Carbon Tax

Water – Payments for Ecosystem
Service/ Reverse Auctions/
Natural Flood Management

Biodiversity Net Gain /
Nature Recovery Networks

Social Capital / Volunteer
Contribution

Environmental Land
Management Scheme (ELMS)

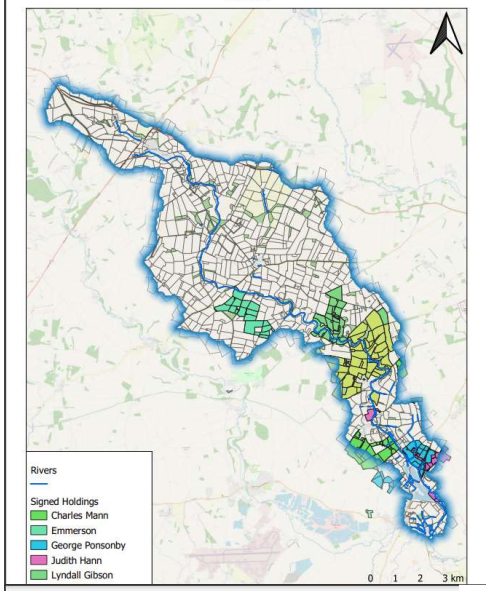
Base Layers / Natural
Capital Assessment

Farming & Wildlife Advisory Group
FWAG

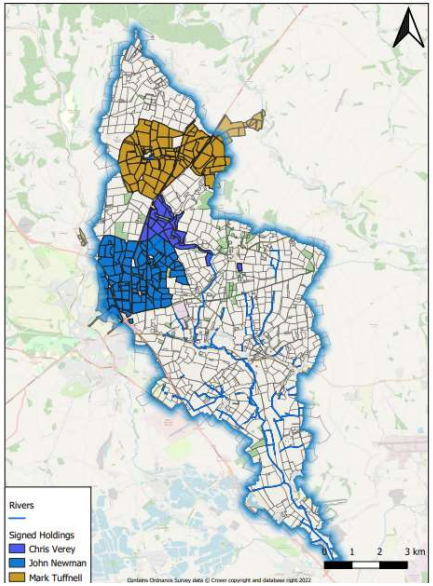
Finding partners by Scoping co-funding

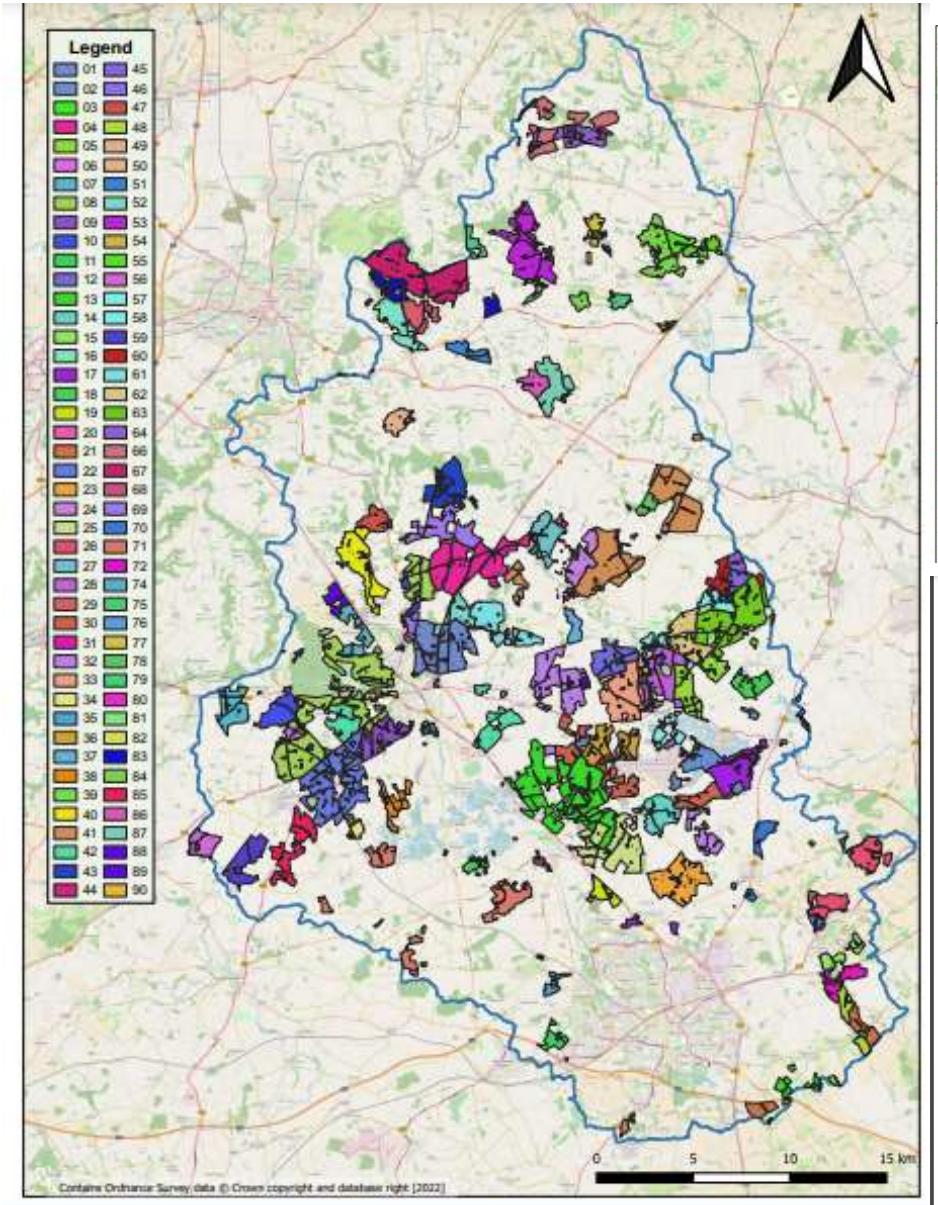
- https://magic.defra.gov.uk/
- https://environment.data.gov.uk/catchment-planning/
- https://catchmentbasedapproach.org/get-involved/
- https://www.lepnetwork.net/about-leps/location-map/
- https://www.gov.uk/government/publications/map-of-local-nature-partnerships
- https://www.local.gov.uk/
- Local and neighbourhood plans – declarations of climate emergency

Leach

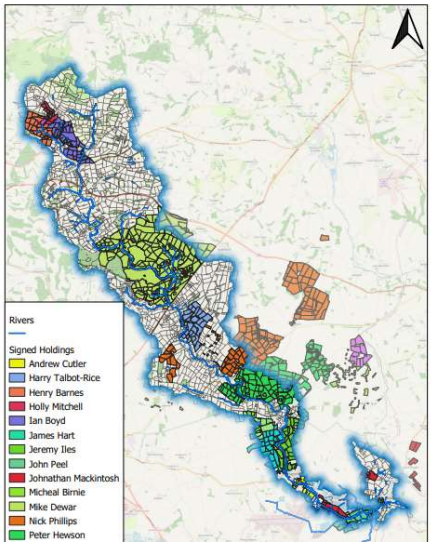


Ampney

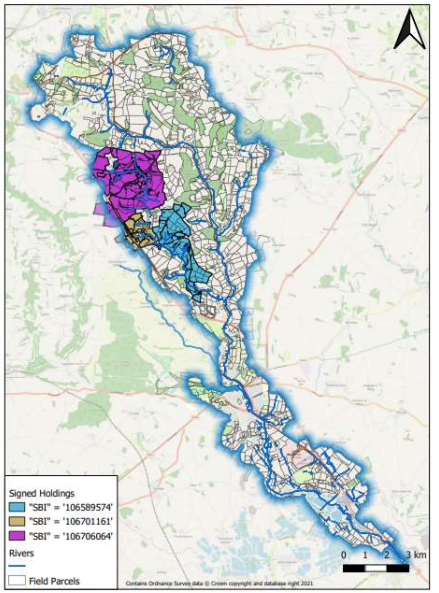




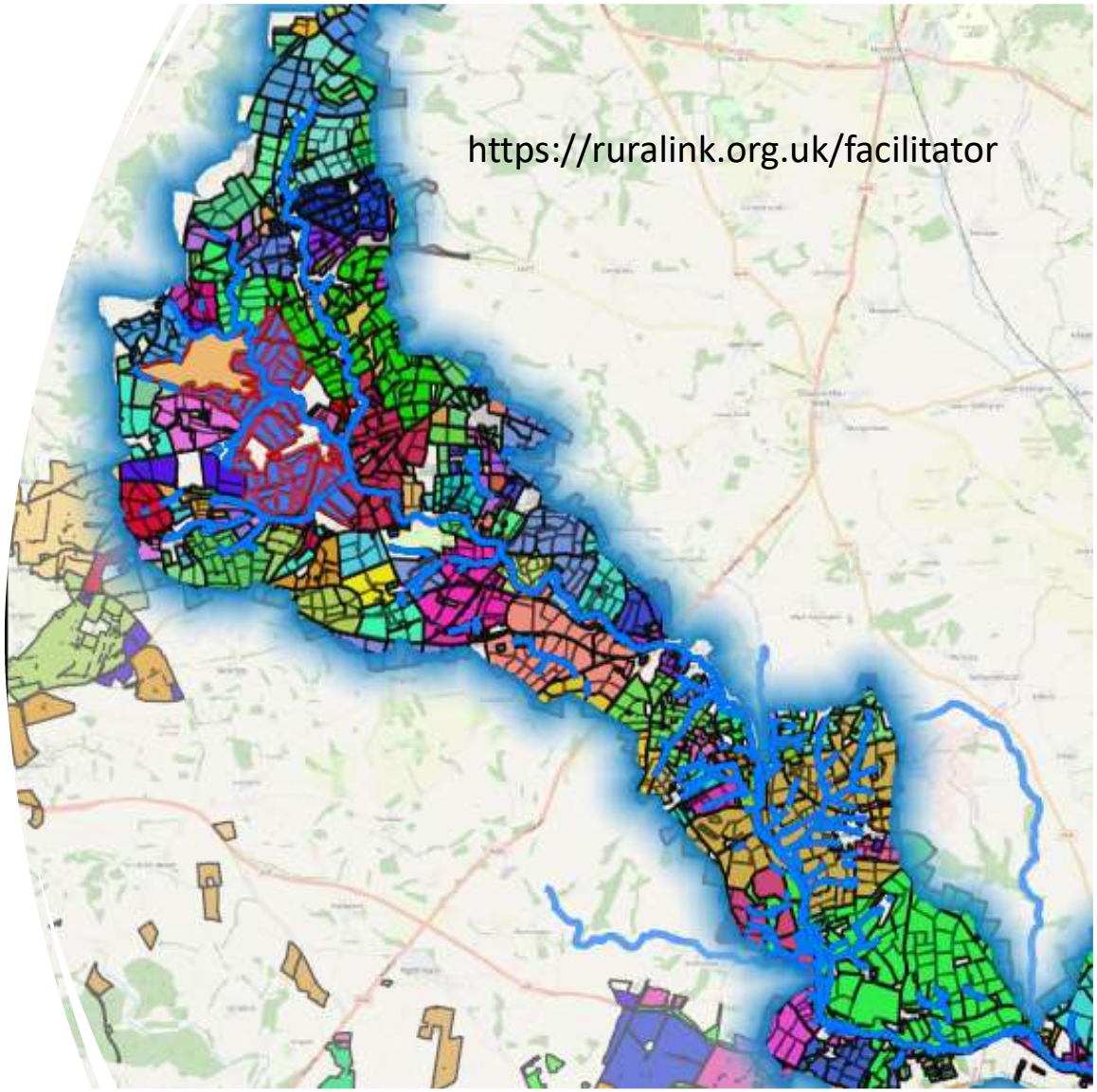
Coln



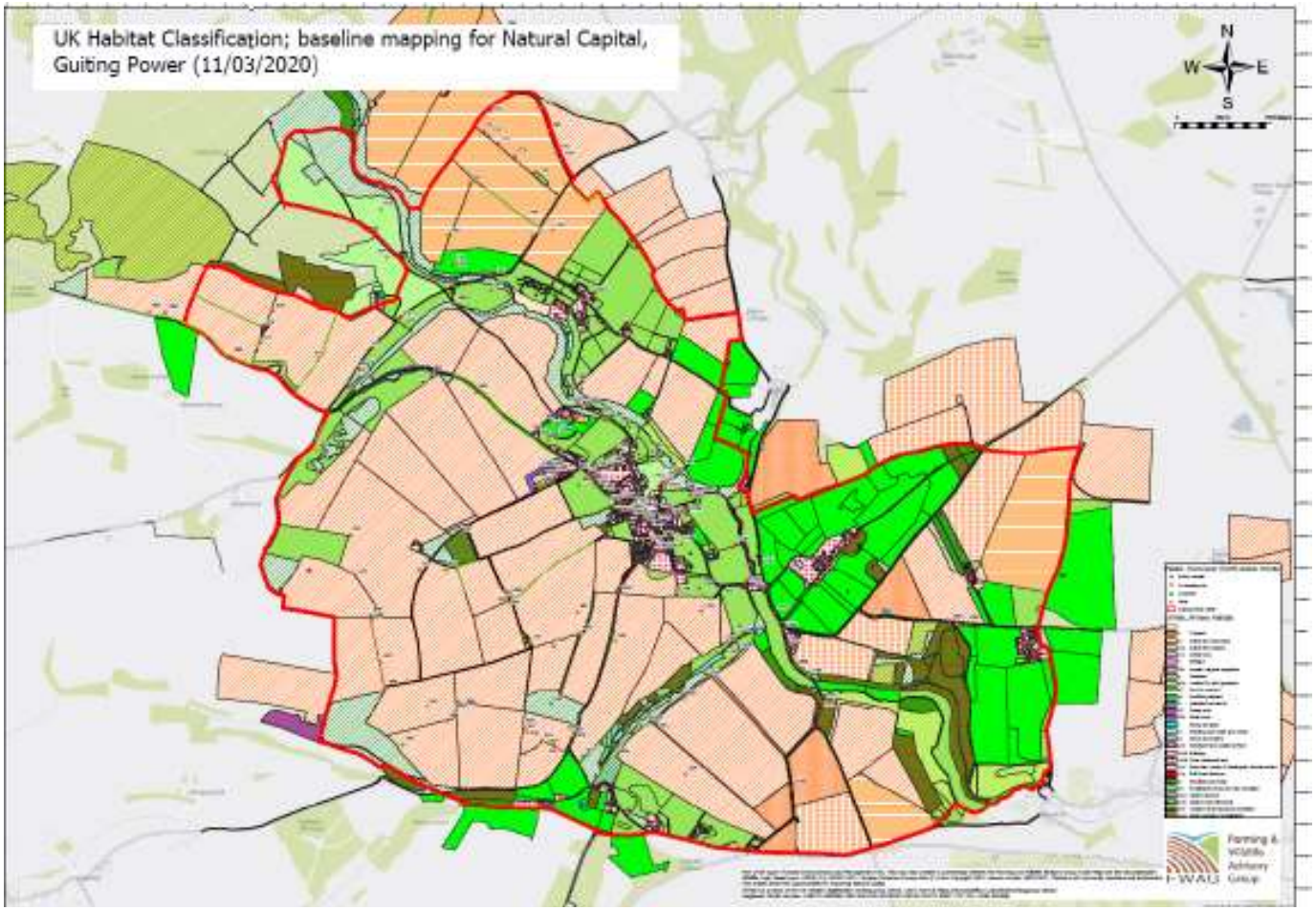
Churn



Capacity Building - Water body templates - Farmer Groups working with Groups of parishes to build resilience to climate change



Building Communities Resilience working with groups of farmers along water bodies



Community

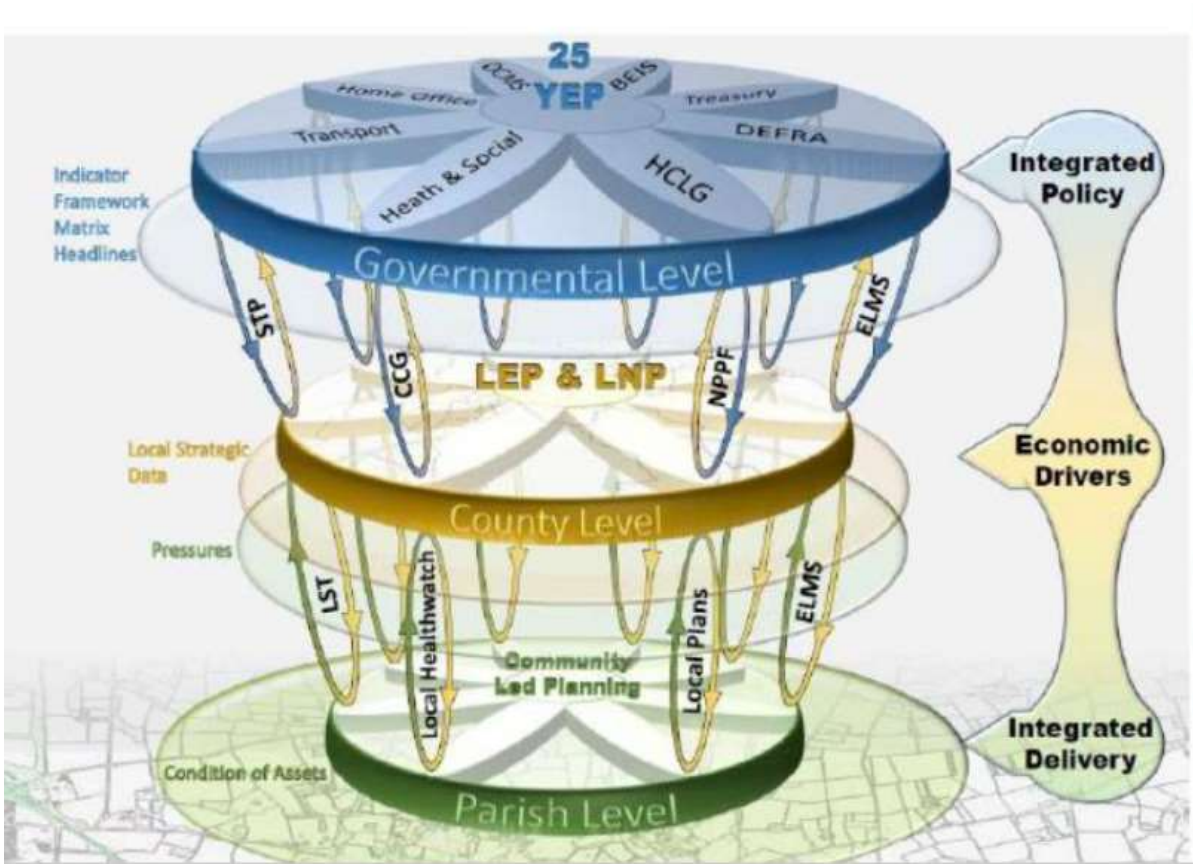
UK Habitat Map linking to:

- *Neighbourhood and Parish Planning*
- *Local Plans*
- *National Planning*
- *Policy Framework*
- *Net Gain*
- *Climate Emergency*

https://drive.google.com/open?id=1jGZOq3C8mFPWcefH9A-V3X3uPQzUEWdT

Farming & Wildlife Advisory Group
FWAG

Connecting and integrating National and Local Government to integrated local delivery



Rural Affairs

HCLG: Dept. Housing, Communities and Local Government

ELMS: Environmental Land Management Scheme

NPPF: National Planning Policy Framework

CCG: Critical Commissioning Group

STP: Strategic Transport Plans

LST: Local Sustainable Transport

LEP: Local Economic Partnership

LNP: Local Nature Partnership (under which sits protected landscapes, catchment based approach and green infrastructure.

Conclusions

- Clarity about future opportunities for investment in sustainable land management linked to the **Terra Carta** and **Taskforce for Agri business**
- The future trajectory of targeting and alignment of different funding mechanisms, including **ELM/CS; BNG** and **Carbon**
- The need to keep going to create **local solutions** linked to county, district and catchment resilience. Local project templates
- Outline the development of targeting as we currently see it in the development of local nature recovery strategies
- The need for a natural capital base line – on which to build investment – **ELM 3 and the Global Farm Metric**