Net zero and nature recovery in the Shropshire Hills – a brief overview

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PM calls for climate and biodiversity link

ZERO CARBON BRITAIN

Making it Happen

Centre for Alternative Technology
Canolfan y Dechnoleg Amgen

Quick guide What zero emissions in 2050 would mean for the UK (CCC)

- Petrol and diesel cars banned from sale ideally by 2030 or 2035.
- Quadrupling electricity production from wind, solar and perhaps nuclear.
- No new homes connected to the gas grid from 2025, boilers using clean hydrogen or replaced by electric powered heat pumps.
- Beef, lamb and dairy consumption falling by 20% (a bigger shift to plant-based diets would make the zero target easier).
- Increasing UK forestry cover from 13% to 17% through 30,000ha/year of new woodland, plus restoration of peatlands and growing bioenergy crops.

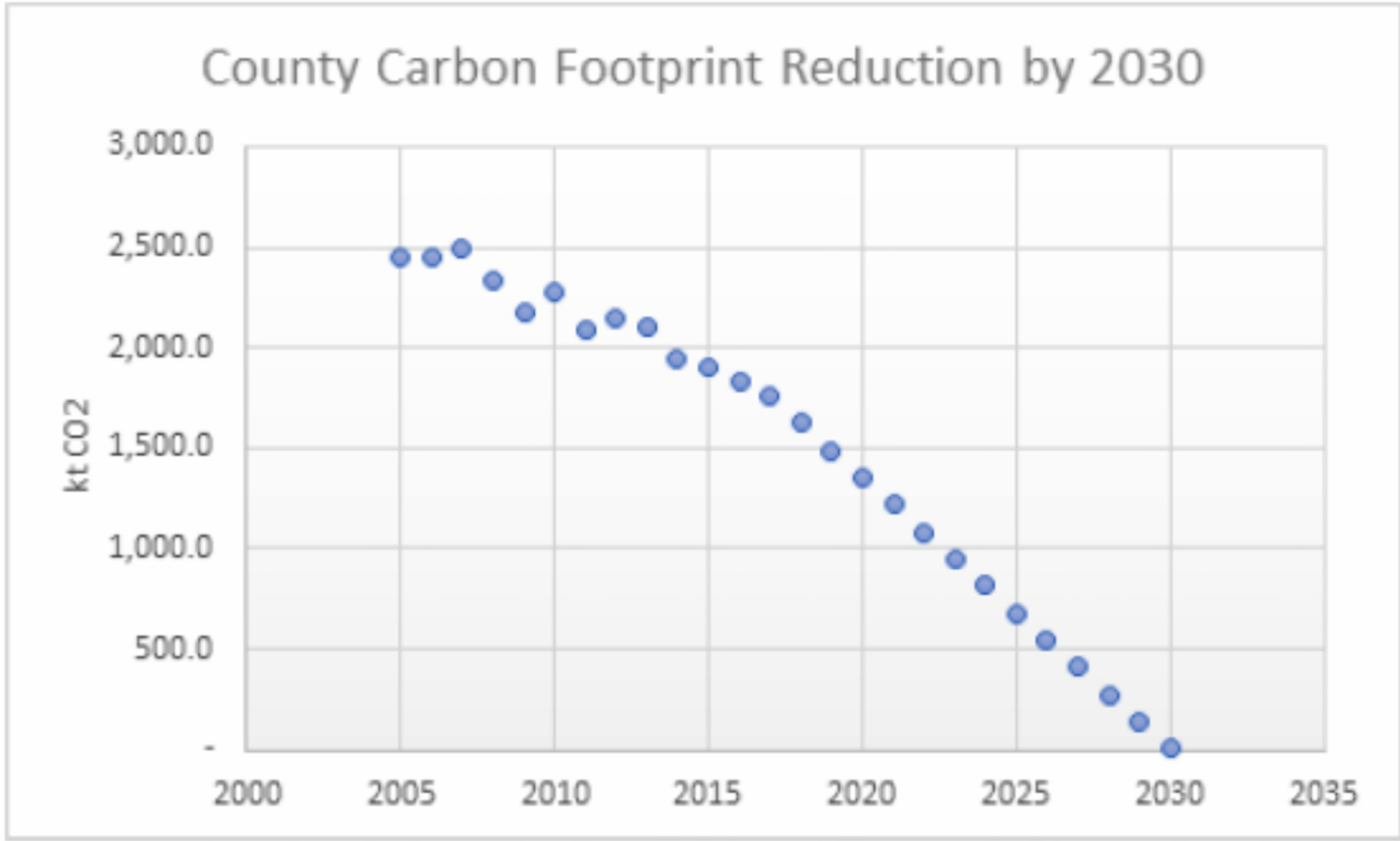
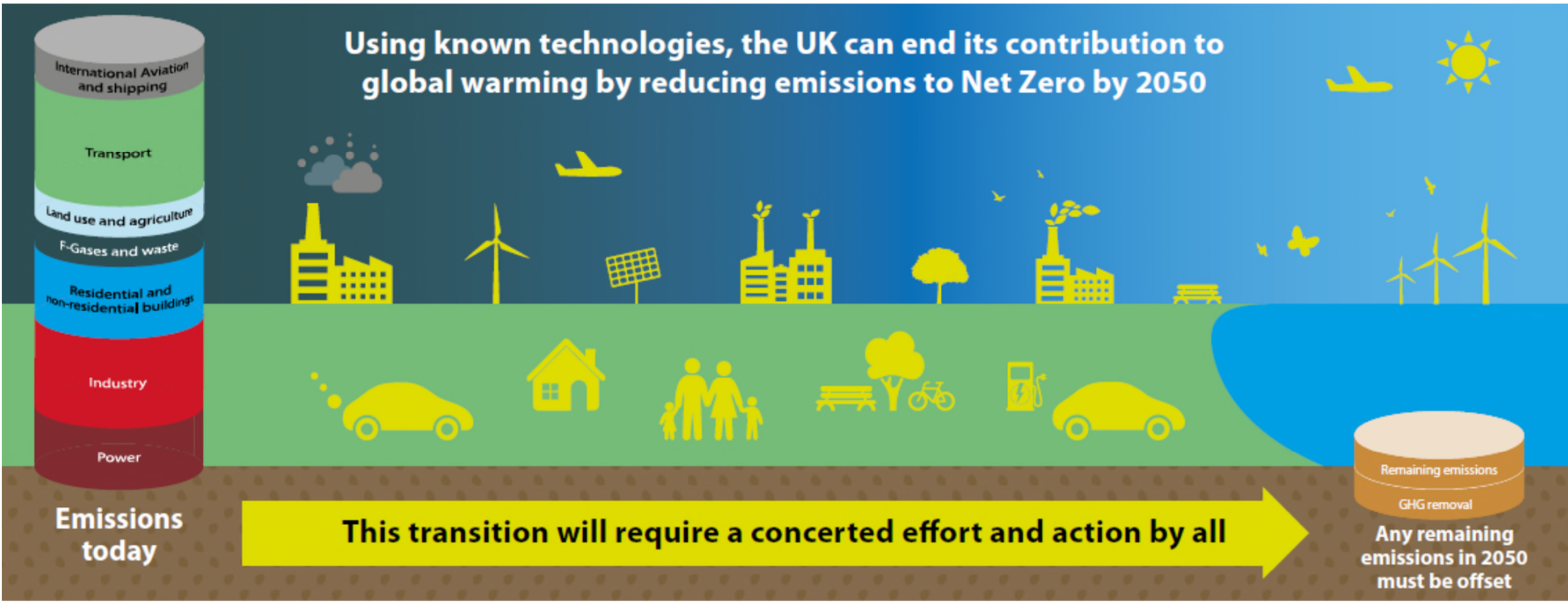


Figure 2 - Shropshire's Carbon Footprint Projection (thousand tonnes CO2e) (DBEIS, 2015)


Using known technologies, the UK can end its contribution to global warming by reducing emissions to Net Zero by 2050
International Aviation and shipping
Transport
Land use and agriculture
F-Gases and waste
Residential and non-residential buildings
Industry
Power
Emissions today
This transition will require a concerted effort and action by all
Remaining emissions
GHG removal
Any remaining emissions in 2050 must be offset

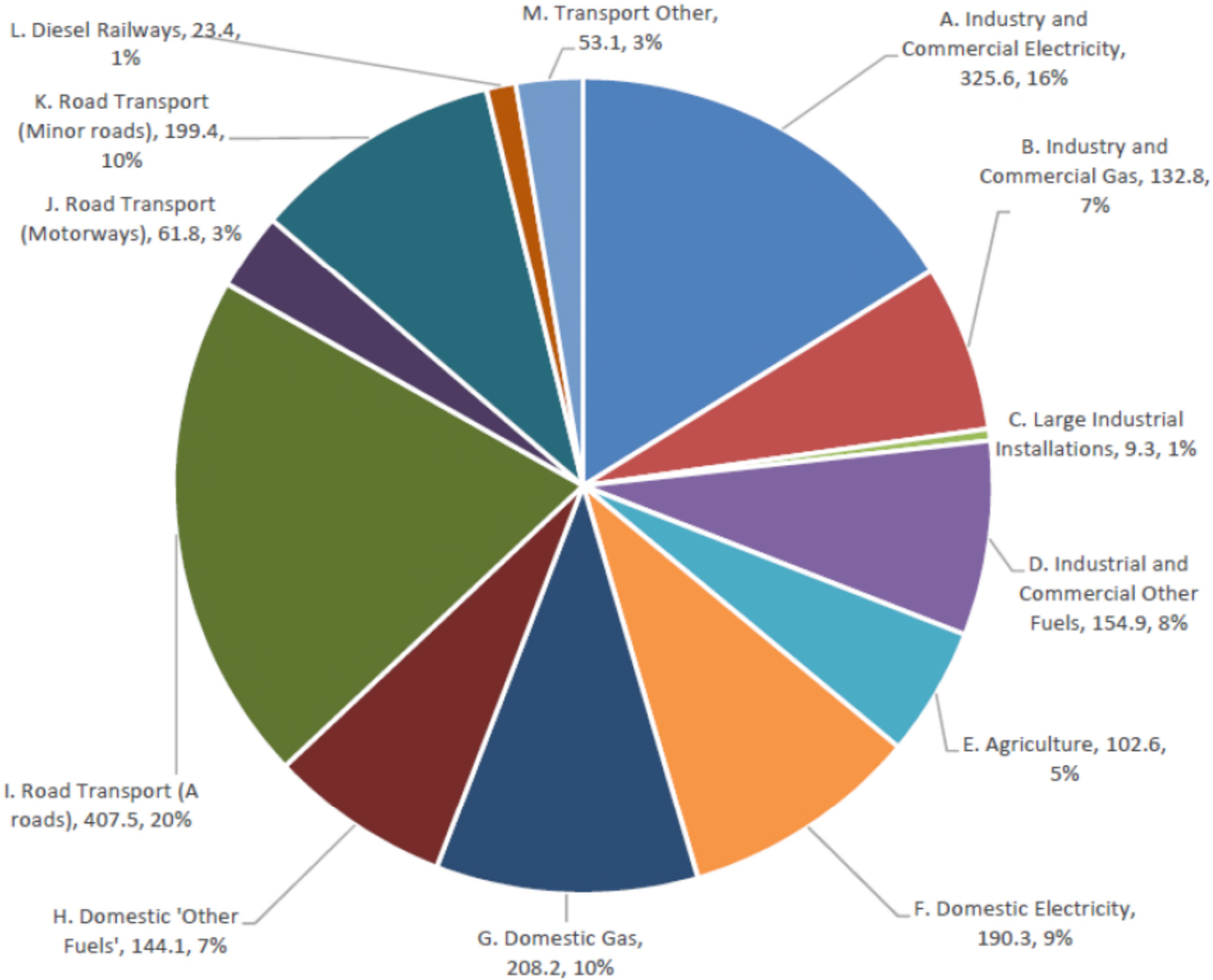


Figure 3 – Sources of Shropshire's Carbon Footprint (thousand tonnes CO2e) (DBEIS, 2015)

Some factors are particular (though not unique) to the Shropshire Hills:

- **Low in industry** and **high significance of agriculture**, especially **livestock**
- **Rurality** - high dependence on **private cars,** but better access to woodfuel
- Older, **larger buildings -** less energy efficient
- High **landscape value** – less suitable for **large scale renewable energy** generation but capacity for more than now, especially small scale
- Need a **balance of land use** – food from arable and pasture, woodland and forestry, more natural habitats, places for people

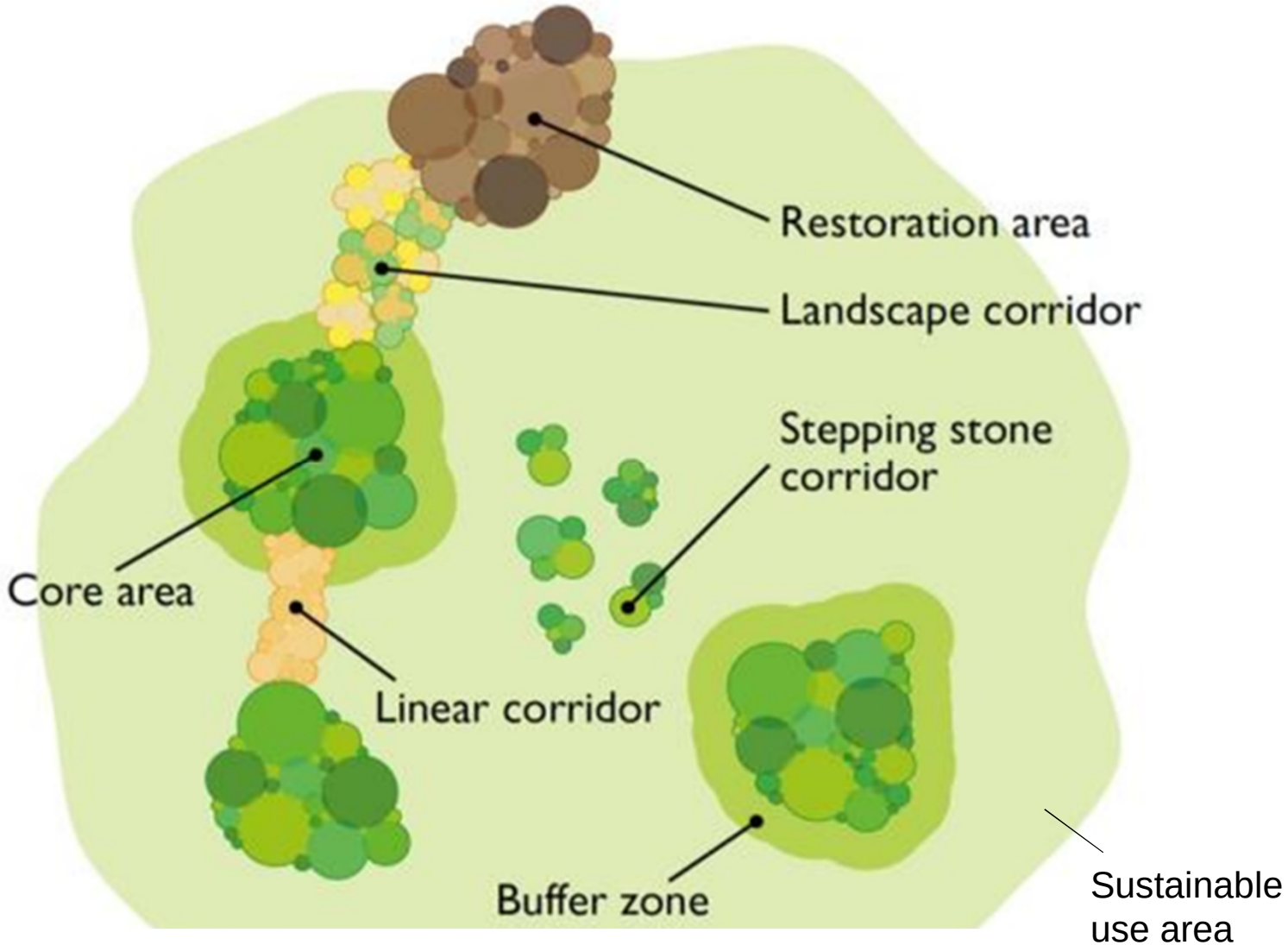
- Don’t look at land from one-dimensional perspective of carbon – risks doing things which will harm other environmental factors
- Integrate ecology with carbon management
- More than ‘biodiversity’ - the ecological functioning of land and water
- **Soil** is a really important carbon store as well as trees, but soil and trees also have other ecological value

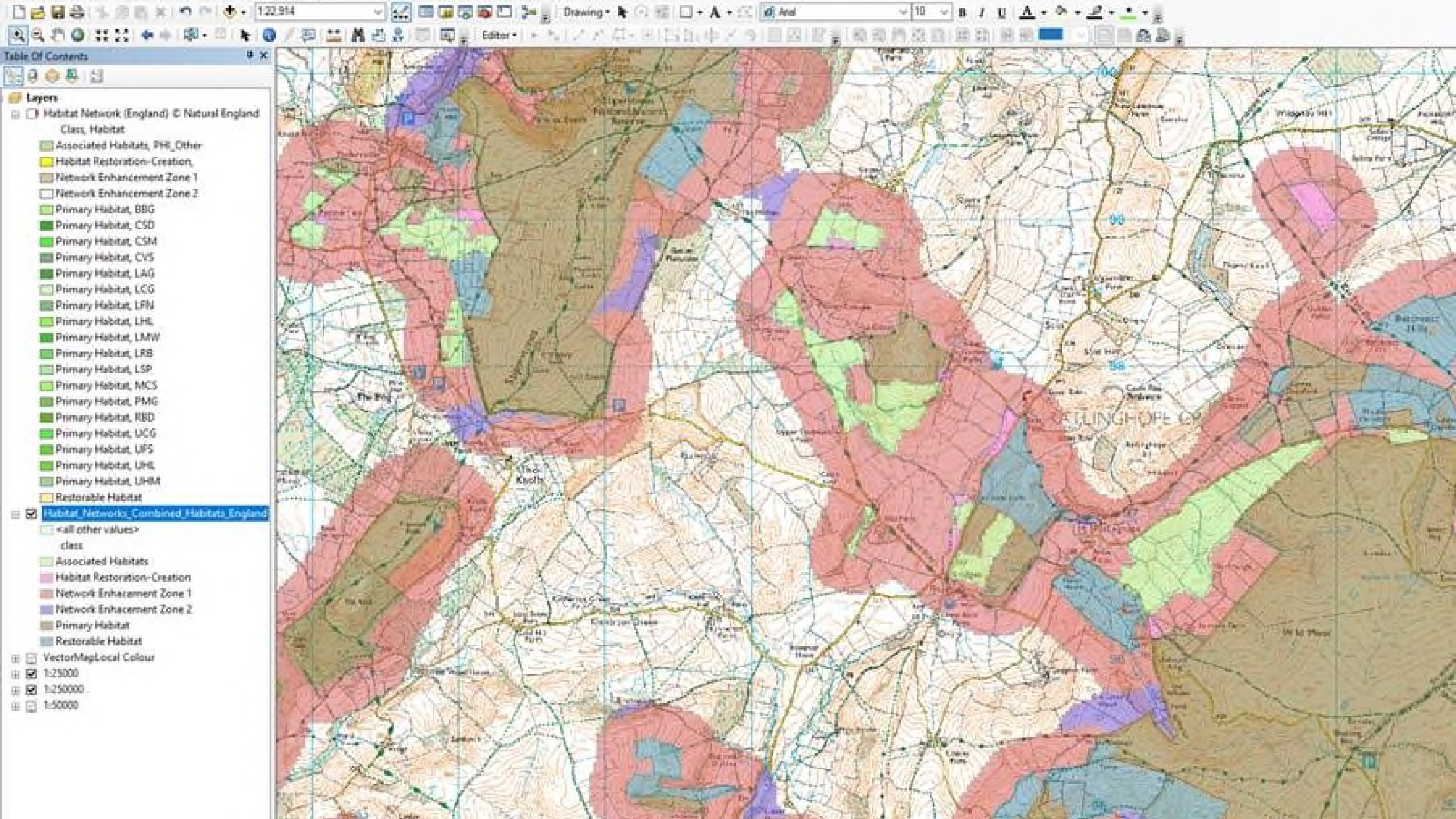
- **Food** preferences and markets will influence land use as much as agricultural policy
- A reduction in livestock is probably inevitable
- Rewarding upland farmers for delivering other environmental and public goods
- Supporting communities to adapt
- Not all livestock farming is the same, and appropriate grazing can be vital to maintaining important habitats




Nature recovery in the Shropshire Hills

More, bigger, better and joined

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Habitat Network (England) © Natural England
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<all other values>
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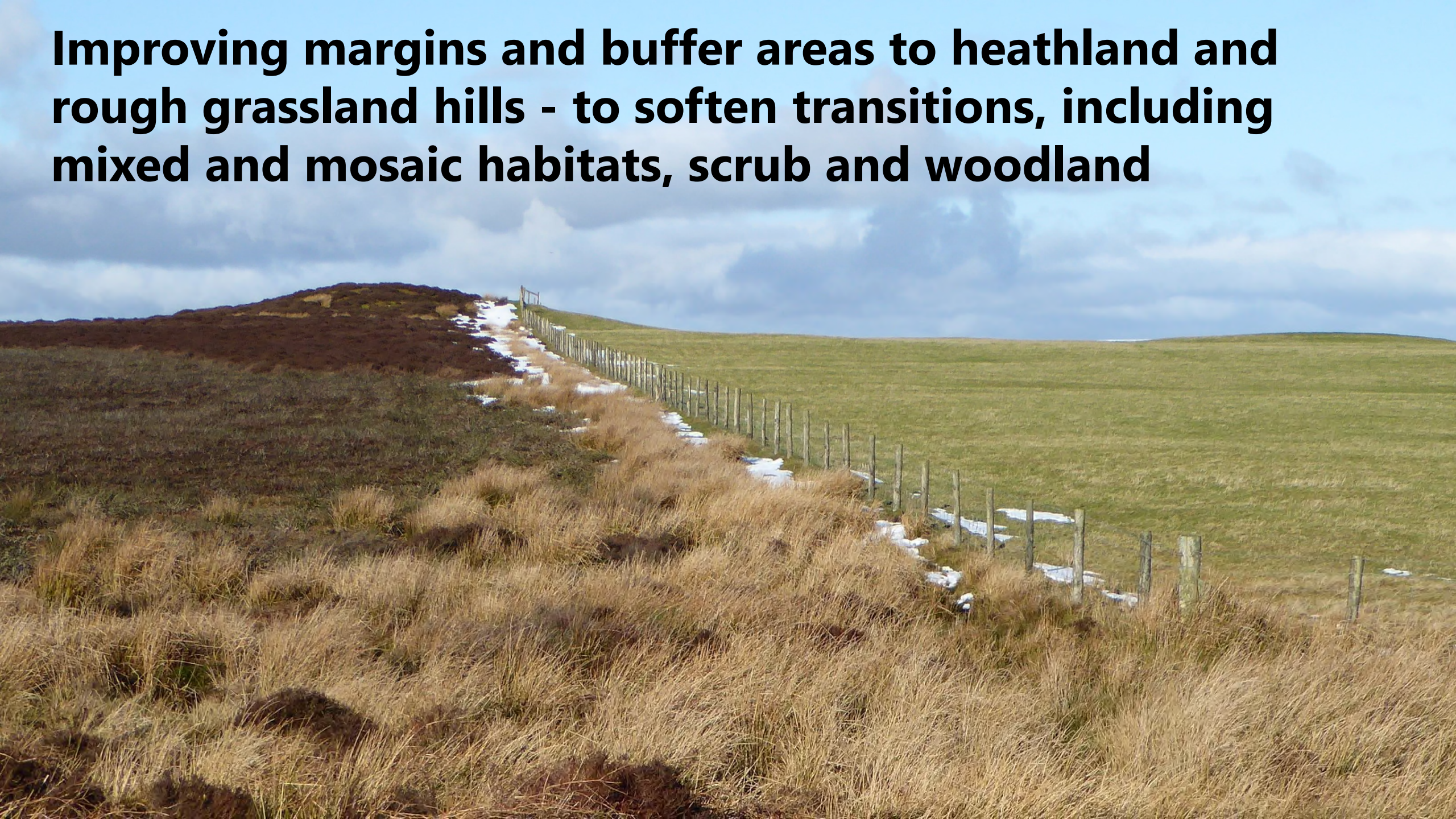
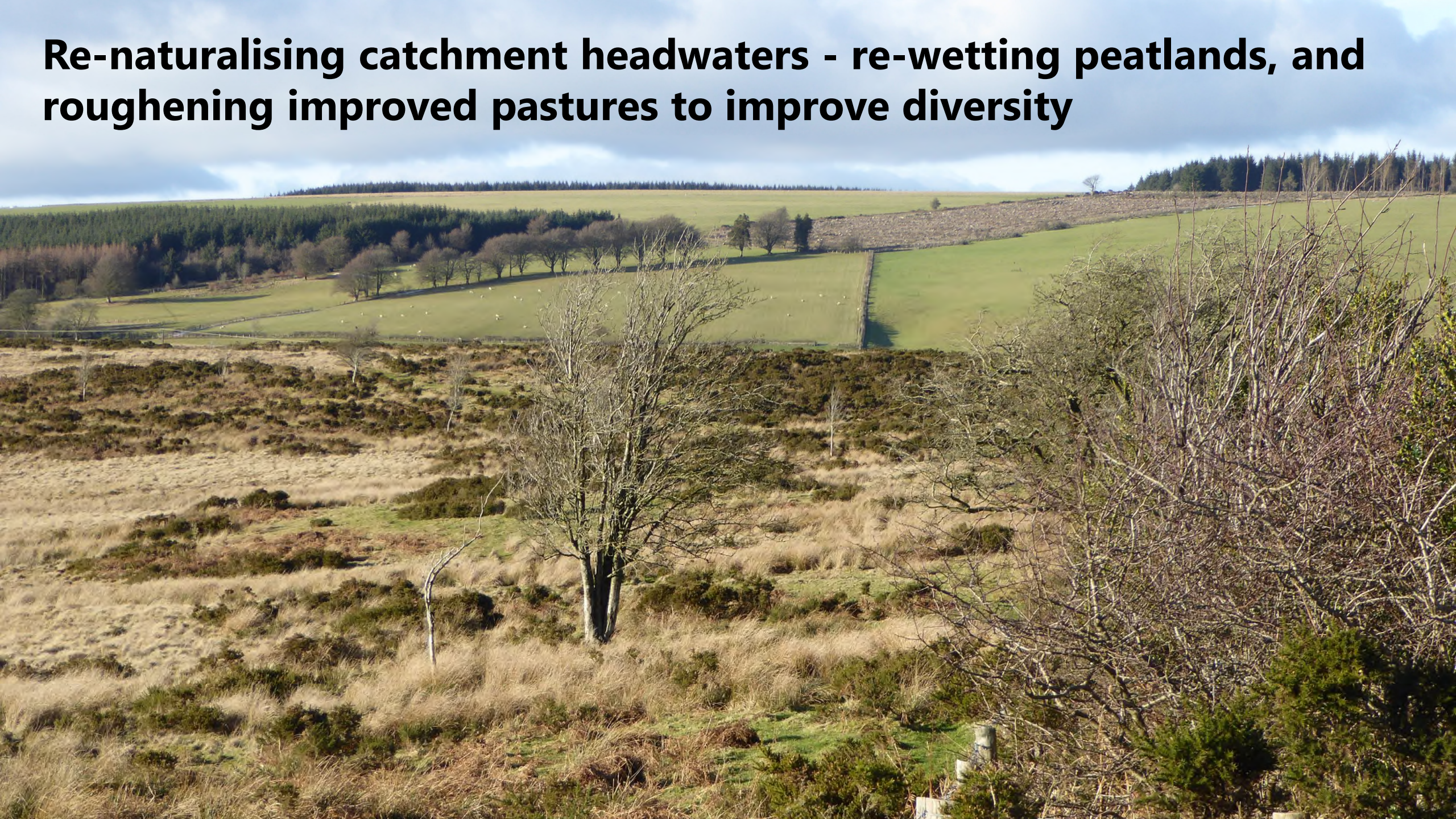
We can do better..

Managing core nature sites as well as possible

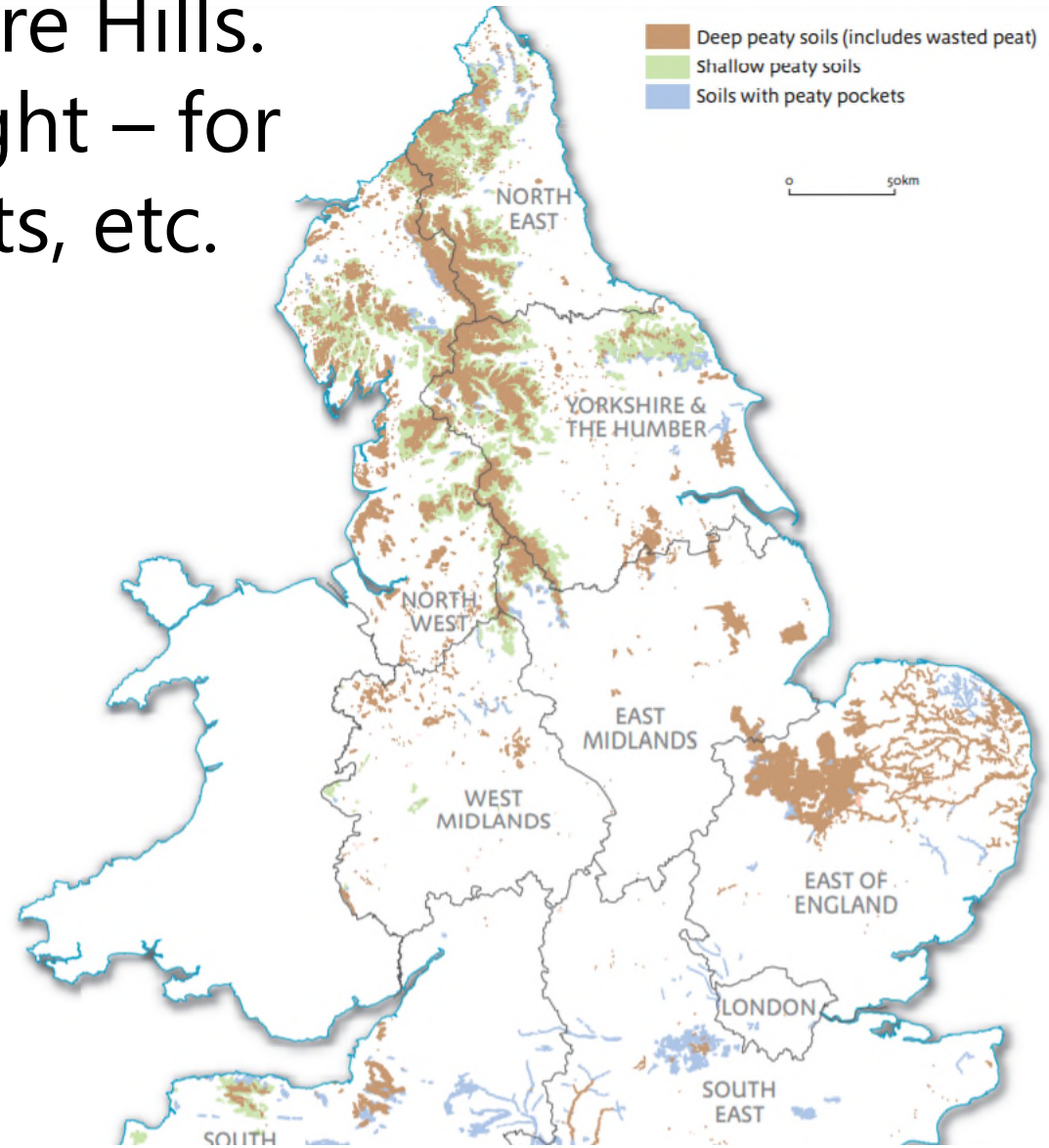
Improving margins and buffer areas to heathland and rough grassland hills - to soften transitions, including mixed and mosaic habitats, scrub and woodland



Re-naturalising catchment headwaters - re-wetting peatlands, and roughening improved pastures to improve diversity



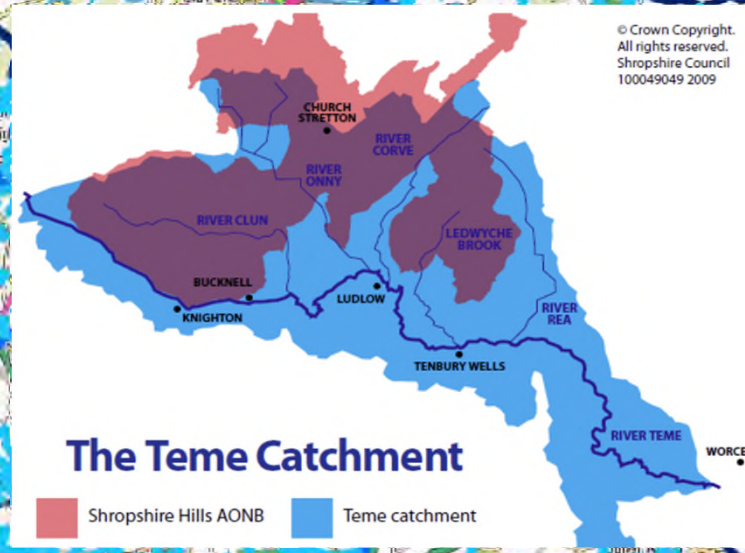
Shallow and pockety peat is an undervalued asset in the Shropshire Hills. Important that we manage this right – for carbon storage, hydrology, habitats, etc.



Much of our peatlands are highly modified by farming and forestry

Headwater gullies and dingles – more vegetation, trees and scrub. Better habitat and hold back water

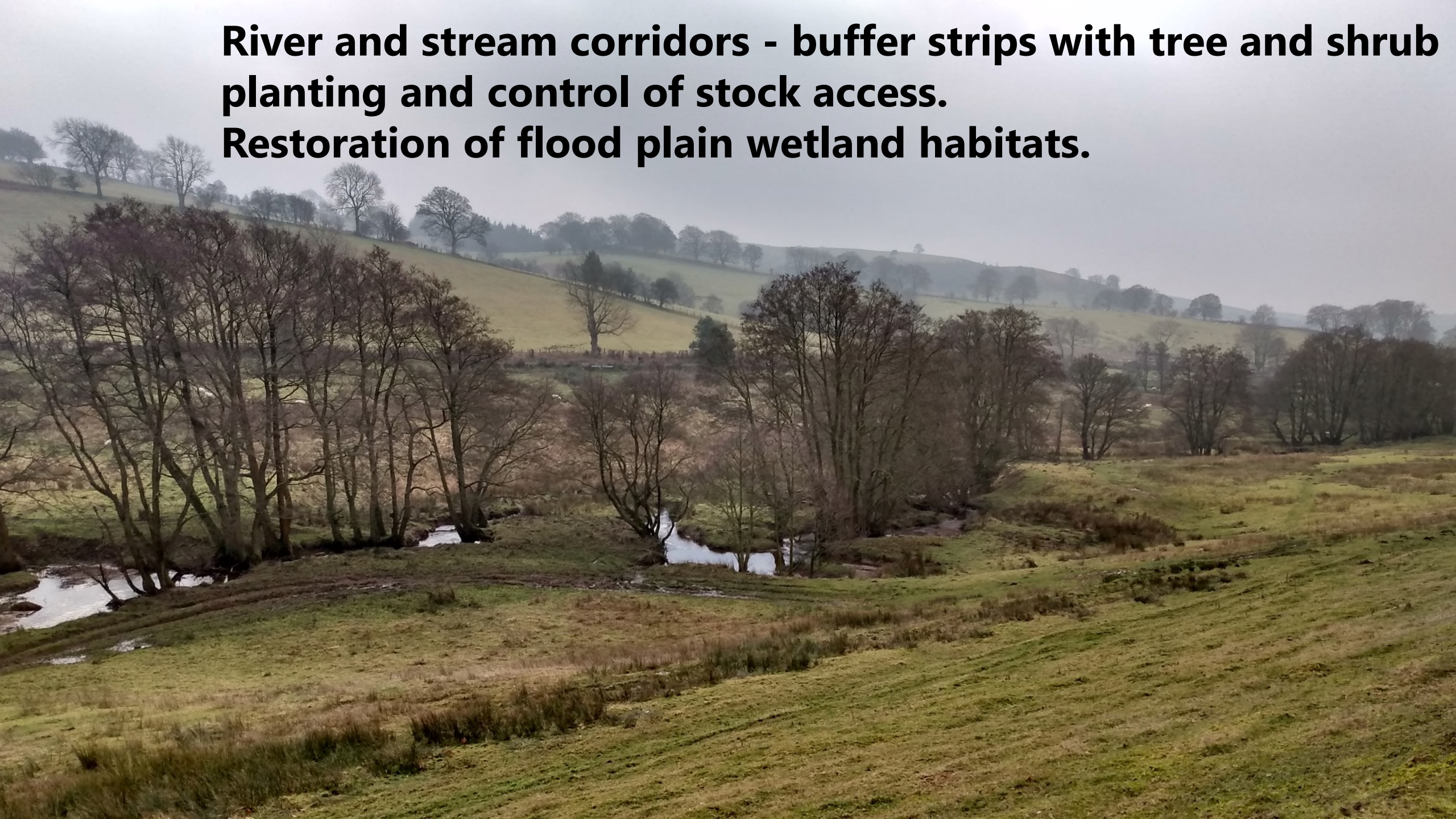
Catchment headwater streams – lots of them!



Regenerating and expanding semi-natural woodlands by excluding stock

Woodland creation and increasing tree cover – reinforce natural patterns, mostly native species

- upland gullies
- steep banks
- streams and riversides
- field corners
- trees outside woods
- hedgerow trees
- agroforestry


River and stream corridors - buffer strips with tree and shrub planting and control of stock access.
Restoration of flood plain wetland habitats.

Managing and re-creating wildflower meadows and species-rich grasslands, including roadside verges

Management of invasive non-native species e.g. Signal Crayfish, Himalayan Balsam.

More sustainable regenerative management of farmland –

- **Increasing soil organic content in pasture and arable**
- **Reduce compaction, nutrient run-off and soil loss**

People – huge health and wellbeing benefits of low carbon activities and contact with nature

Emotional connections with nature

Proven to encourage pro-environment behaviour