Devon (and Torbay), Nature Recovery, Nature Based Solutions and Net Zero

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Nature-based solutions

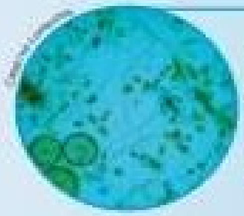
The UK has a target of net zero greenhouse gas emissions by 2050. Nature can make a massive contribution to achieving this, or an even more ambitious target – but only if we restore our damaged ecosystems. Here are the main areas that need attention:

The size of the prize

37% Restoring our natural systems could provide 37% of the CO_2 mitigation needed by 2030 to meet the Paris Agreement.

BIOMASS CARBON

All animals and plants are carbon stores. When marine animals die, they generally sink and become incorporated into sediment, where their carbon might stay for thousands of years. Human activities can impact on marine animal populations and also disturb this sediment, releasing carbon.



FOOD WEB CARBON

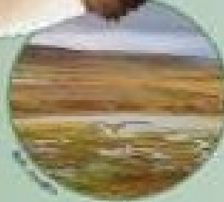
Phytoplankton are the basis of ocean food webs and absorb CO_2. Globally, 10 billion tonnes of carbon are transferred to seabed sediments when phytoplankton die or are eaten then excreted.

SEAGRASS

A hectare of seagrass may store two tonnes of CO_2 a year and hold it for centuries, while providing nursery habitat for young fish. But since 1980, we have lost half our seagrass meadows. Reducing water pollution and replanting would bring them back to health.

SALTMARSH

A hectare of saltmarsh can capture two tonnes of carbon a year and lock it into sediments for centuries, but we are losing nearly 100 hectares of saltmarsh a year. Coastal realignment could restore much of it, and reduce flooding and erosion.



PEATLAND

The UK's peatland soils store around 3.2 billion tonnes of carbon, but are heavily degraded and release the equivalent of 23 million tonnes of CO_2 every year. Restoring them to prevent this emission is one of the most cost-effective nature-based solutions.

GRASSLAND

UK grasslands store 2 billion tonnes of carbon, but this is vulnerable to disturbance. Between 1990–2006, arable conversion of grasslands released 14 million tonnes of CO_2. We can restore species-rich grasslands to lock up carbon and support abundant wildlife.

WOODLAND

About 1 billion tonnes of carbon are locked up in UK woodlands, mostly in the soils. Planting more woods and allowing natural regeneration could lock up more carbon, but this must be carefully planned to maximise benefits and avoid harming other habitats.

WETLAND

Wetlands can accumulate carbon for centuries, but in some areas of the UK we have lost over 90% of our wetland habitat. Restored wetlands provide rich habitat, clean water naturally and reduce flood risk downstream.

The crucial tool: a Nature Recovery Network

On land, 66% of carbon in nature-rich areas is outside protected sites. We need to identify, map and protect these ecosystems, and restore them locally as part of a national Nature Recovery Network. We also need to incentivise farmers and other land managers to improve their land for nature and contribute to this network.

At sea, we need effective marine planning and an ecologically coherent network of Marine Protected Areas.

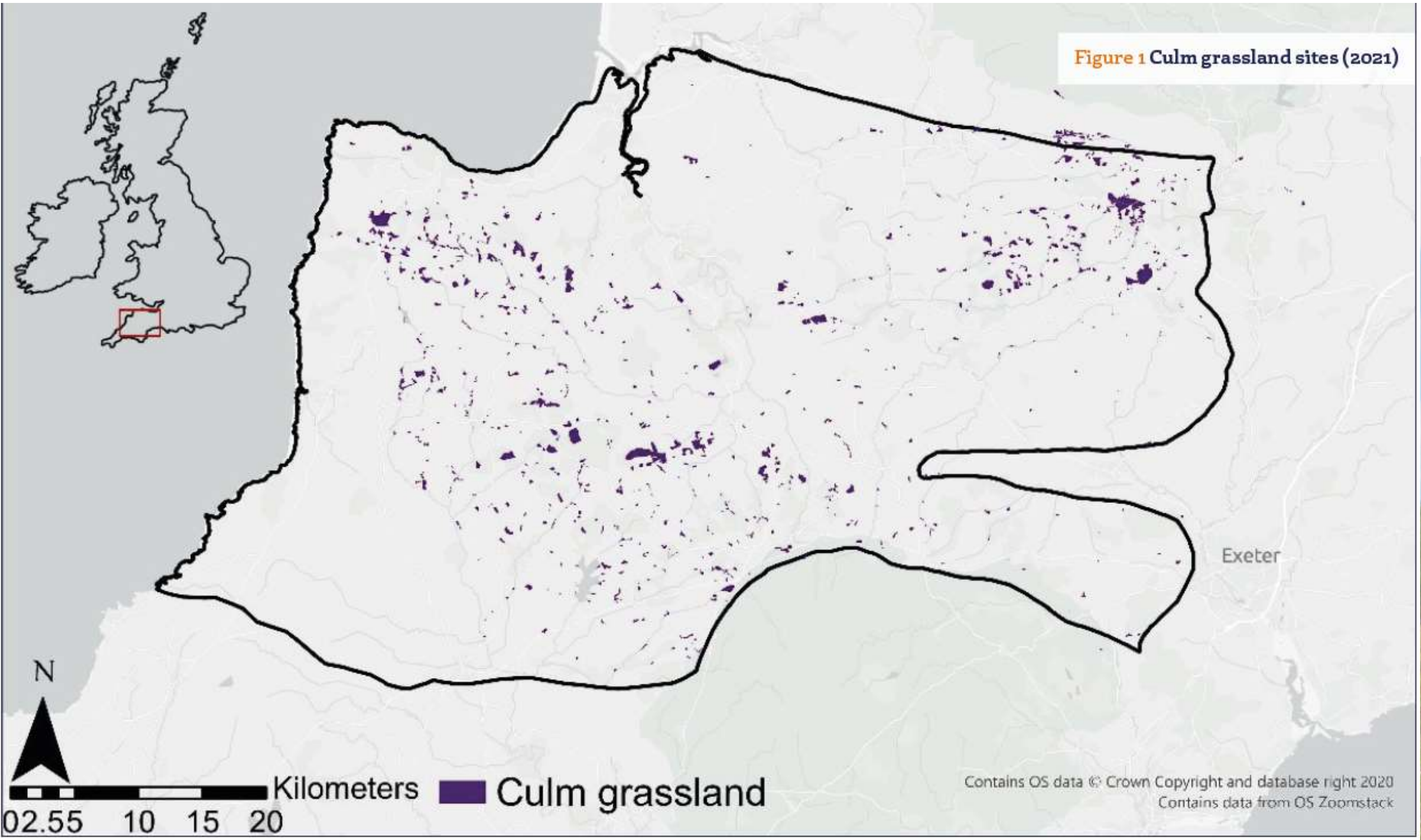
We need nature to be everywhere again

BLUE CARBON

Oceans absorb 20–35% of human-made CO_2 emissions every year. Carbon is incorporated into the tissues of plants and animals, and later into mud and sediments

GREEN CARBON

Globally, plants have removed 25% of human-made CO_2 emissions. Soils contain more carbon than is stored in plants and the



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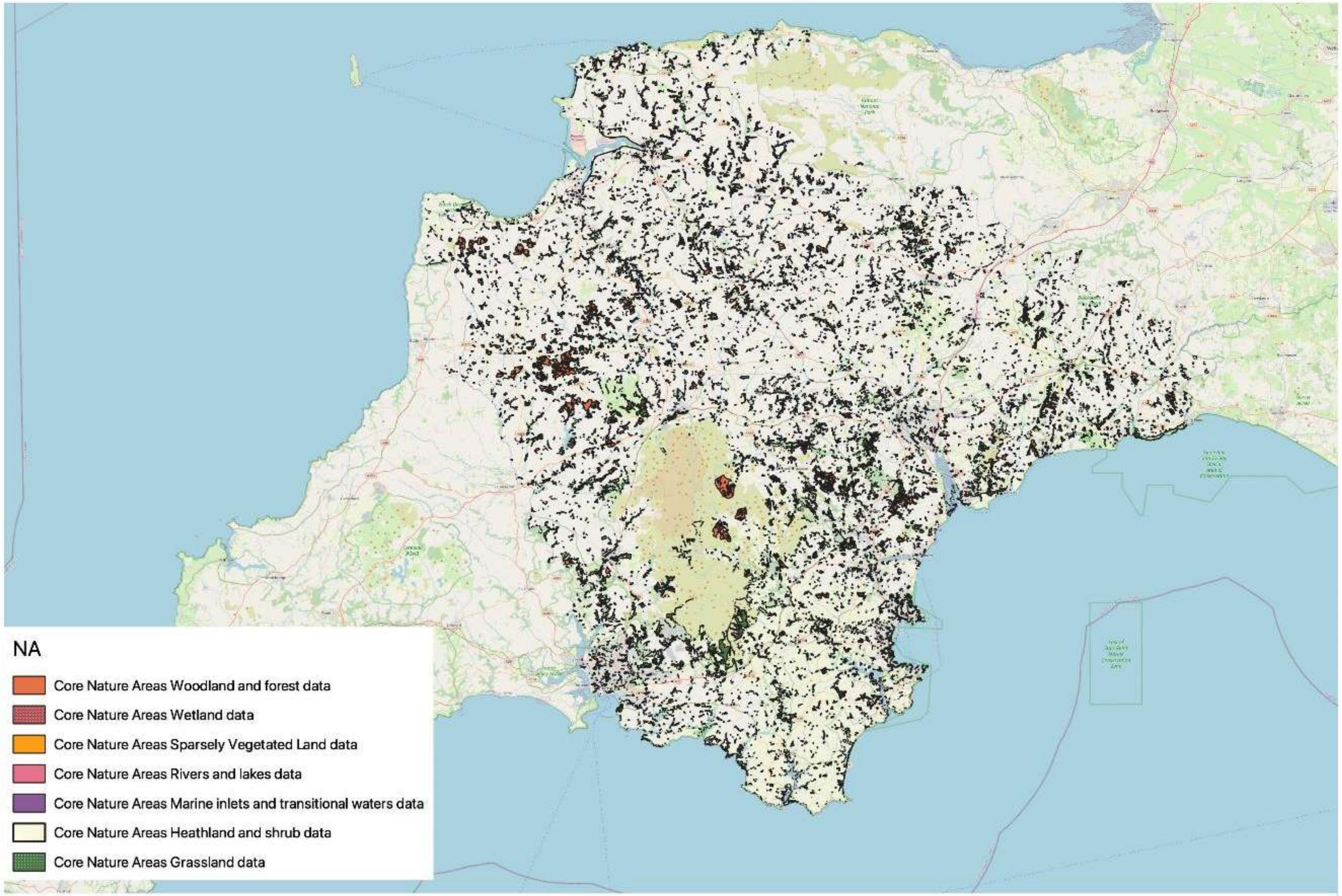
BEFORE same site 2days later **AFTER**

30% of land and sea in recovery for wildlife



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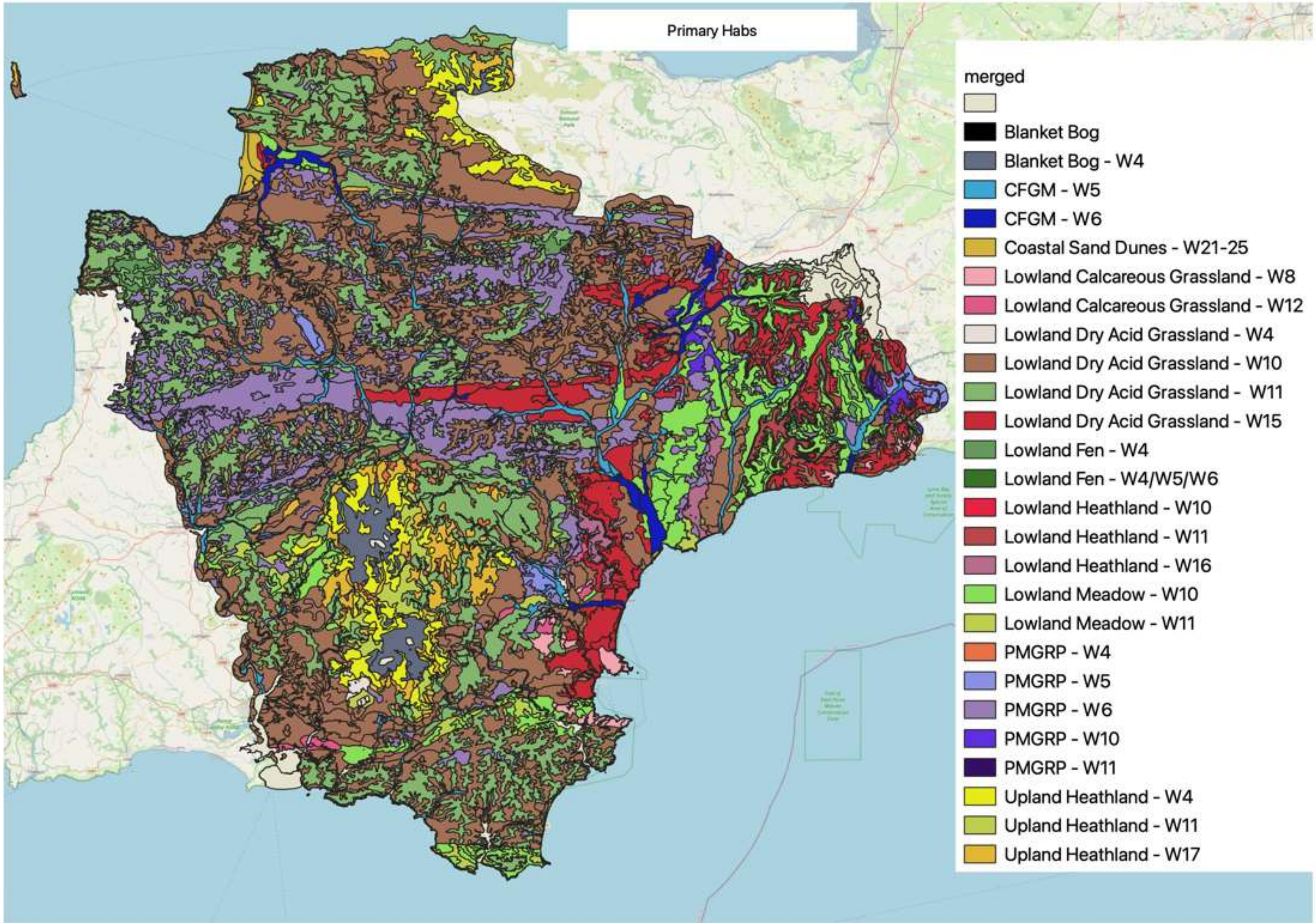
Mapping the habitat we still have



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So what does the Nature Recovery Network Map add?

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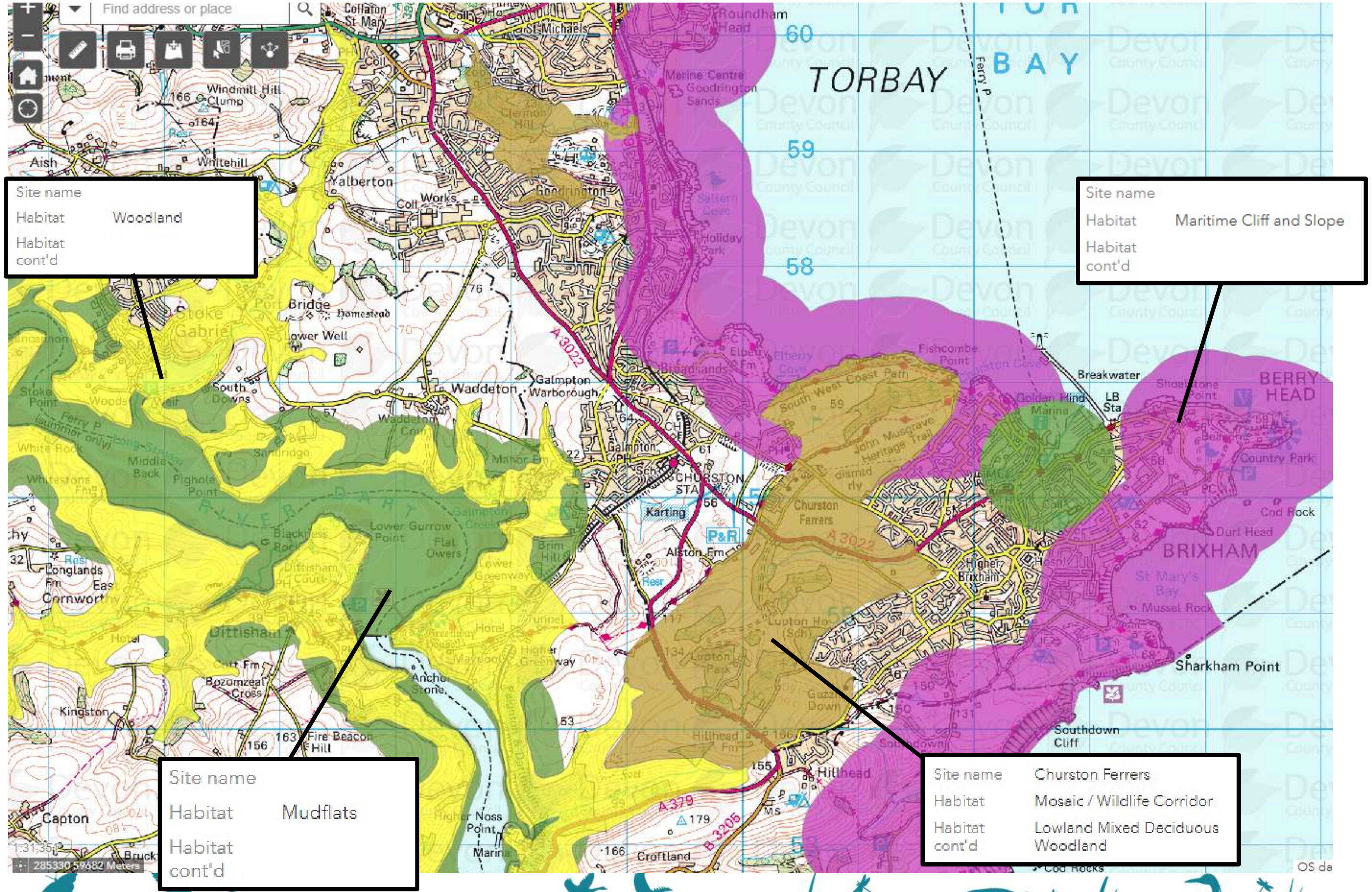

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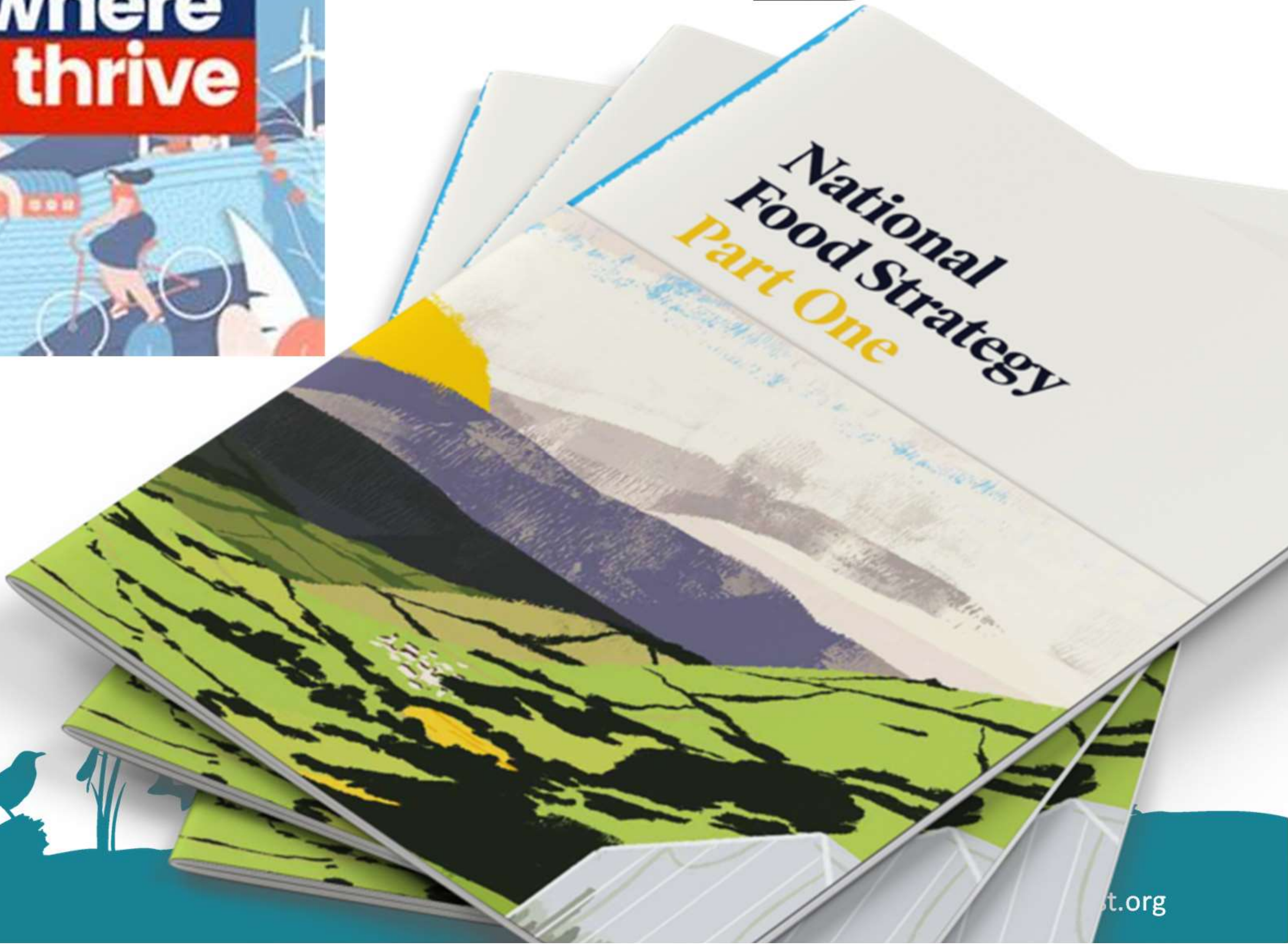

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Starting land use	End land use	Potential net GHG gain
Arable on peat (drained)	Restored peatland	29.56
Intensive grassland on peat (drained)	Restored peatland	19.49
Eroding bog	Restored peatland	9.86
Intensive grassland	Mixed broadleaved woodland	6.99
Intensive grassland	Upland meadow	2.81
Arable	Salt marsh	2.32
Arable	Cover/green manure crops	1.17

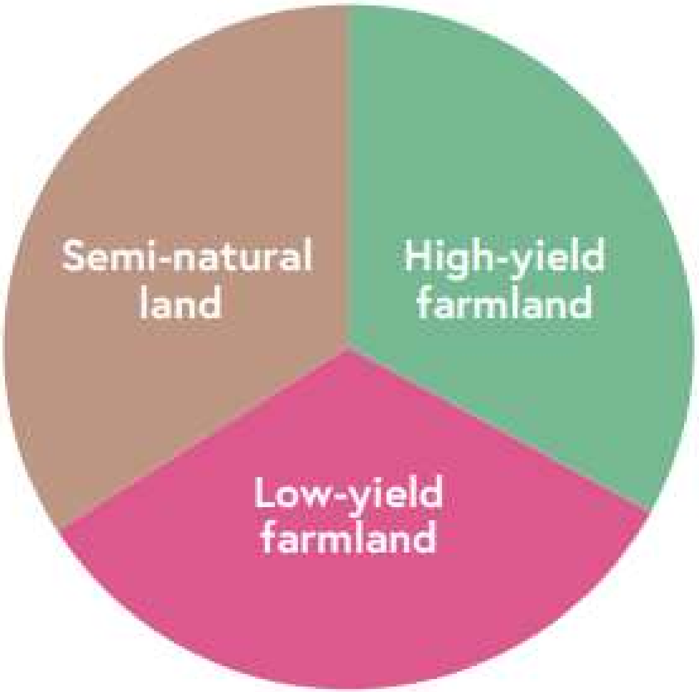
Source: TWT (Thom & Doar)

It takes around 530 square kilometres of agricultural land to feed Oxford.

Source: Foodprinting Oxford (Low Carbon Oxford)

We use up our annual allocation of the Earth's resources by early May (*Earth Overshoot Day, GFN*)

Three Compartment Model



Source: National Food Strategy

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A Nature Recovery Network to bring back Britain's wildlife

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Environment Agency & Richard Carman

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Saving Devon's Treescapes

Devon Ash Dieback Resilience Forum

HERITAGE FUND

Source: Exeter Daily

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Wild Ken Hill

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