How Organic Farming can bring positive outcomes for Natural Capital

John Pawsey - Shimpling Park Farms

SHIMPLING PARK
Farms Ltd

- 1,816 ha of organic cropping and leys
- 1,000 NZ Romney organic breeding ewes
- 5 full time staff - arable & livestock
- Part time staff - admin & property
- 5/6 year rotation
- Mono and multi-species cropping
- Crops grown: winter wheat (inc. heritage), spring barley, winter oats, spring oats, oilseed rape, spelt, quinoa, chia, lentils, camelina, buckwheat, grazing leys, diverse clover leys, winter beans, vetches, red clover and lambs!

No pesticides

No chemical fertilisers

Shimpling Park Farm Rotation

- Year 1: grass/clover/herbal ley or diverse clover mixture
- Year 2: grass/clover/herbal ley or diverse clover mixture
- Year 3: winter spelt/wheat (Heritage)
- Year 4: spring oats/barley
- Year 5: winter beans/wheat bi-crop
- Year 6: spring oats/barley - under-sown

But be prepared to change.

And is all else fails….

Farming organically and soils

Soils

- Average organic matter 1999 (conversion) = 2.9%
- Average organic matter 2020 = 5.5% (cropping)

NRM Soil Health Report Summary 2020

	Lodge Meadow P pasture	Draytons 2 year ley (1)	Bush Field 2 year ley (2)	Wood Drift W beans (4)
P Index	2	1	1	0
K index	1	2-	2+	2+
Mg Index	3	2	2	2
OM LOI	11.2%	4.9%	5.8%	5.7%
Soil pH	6.0	8.0	8.1	8.5
CO2 Burst	5.0	4.1	5.0	3.1
Sand	23%	28%	30%	22%
Silt	45%	37%	34%	36%
Clay	32%	35%	36%	42%
Soil Health Index	5.0	3.9	5.0	3.1

Biodiversity under organic management

BIRD SURVEY 2015/16

- **Red list breeding:** Marsh Tit, Song Thrush, Skylark, Starling, House Sparrow, Linnet, Yellowhammer
- **Amber list breeding:** Stock Dove, Swallow, House Martin, Whitethroat, Willow Warbler, Dunnock, Mallard, Barn Owl
- **Red list winter:** Skylark, Starling, Linnet, Yellowhammer, Marsh Tit, Sing Thrush, House Sparrow
- **Amber list winter:** Mallard, Stock Dove, Meadow Pipit, Dunnock, Bullfinch, Reed Bunting,

COMPARISON TO PROXIMATE FARM

- Amber & red breeding bird territories:
  - Another Suffolk farm: 43
  - Shimpling Park Farm: 132
- Amber & red winter bird territories:
  - Another Suffolk farm: 25
  - Shimpling Park Farm: 612

"As noted in the breeding birds survey, since the two farms are broadly similar in terms of their position in the Suffolk landscape, ***it is difficult to escape the conclusion that the highly significant differences in wintering bird populations reflect the effects of the contrasting management regimes that have been used on each farm over the past 15 to 20 years"****.*

LATEST BIRD SURVEY 2020/21

The diversity and abundance of species currently found at Shimpling Park Farm is indicative of the relative importance and quality of different habitats across the farm for birds and other wildlife. These surveys have shown that the breeding populations of Red and Amber List species on the farm have grown since 2015, while winter diversity has remained largely stable. This contrasts with the national and regional trends for many of these species and indicates that habitats for wildlife within Shimpling Park Farm have improved over this period. It also suggests that the quality of habitats is superior to much of the farmed landscape in the region and elsewhere in the UK, but populations levels remain lower than would be expected in more natural habitats.

BUTTERFLY SURVEY 2017

- 23 species recorded including:
  - Common blue
  - Gatekeeper
  - Green hairstreak
  - Large skipper
  - Large white
  - Small copper
  - Small heath (BAP species)*
  - Small skipper
  - Small tortoiseshell
  - Small white

*Still numbers on the farm in 2022 survey

BOTANICAL SURVEY 2017

- Stinking chamomile
- Many-seeded goosefoot
- Dwarf spurge
- Round-leaved fluellen
- Sharp-leaved fluellen
- Field madder
- Sun spurge
- Field pansy
- Cut-leaved dead-nettle
- Long-headed poppy
- Smooth tare

DRAGONFLY SURVEY 2017

- 15 species found:
  - Willow Emerald Damselfly
  - Emerald Damselfly
  - Large Red Damselfly
  - Azure Damselfly
  - Common Blue Damselfly
  - Shall Red-eyed Damselfly
  - Brown Hawker
  - Migrant Hawker
  - Emperor
  - Four-spotted Chaser
  - Broad-bodied Chaser
  - Black-tailed Skimmer
  - Ruddy Darter
  - Common Darter

POND SURVEY 2018

- Stoneworts (Charophytes)
  - Common, Fragile, Bristly and Nitella
- Lesser diving beetles - Coelambus confluens and Laccophilus minutus
- Berosus affinis - a water scavenger beetle (Nationally notable)
- Hygrobia hermanii - Screech beetle
- Noterus clavicornis - larger species of Noterus water beetle

BEES AND WASPS SURVEY 2018

- 39 species of bees including:
  - Broad-faced mining bee
  - Sharp-collared furrow bee
  - Lobe-spurred furrow bee
  - Ridge-cheeked furrow bee
  - Four-spotted furrow bee
  - Fringeless nomad bee - Nomada conjungens (1st East Anglian record)
  - Painted nomad bee
  - Red-tailed mason bee
  - Large meadow mining bee
  - Short horned yellow-faced bee

Organic farming and sequestering carbon

Farm Carbon Toolkit

2015 first carbon report, updated 2020

Contact

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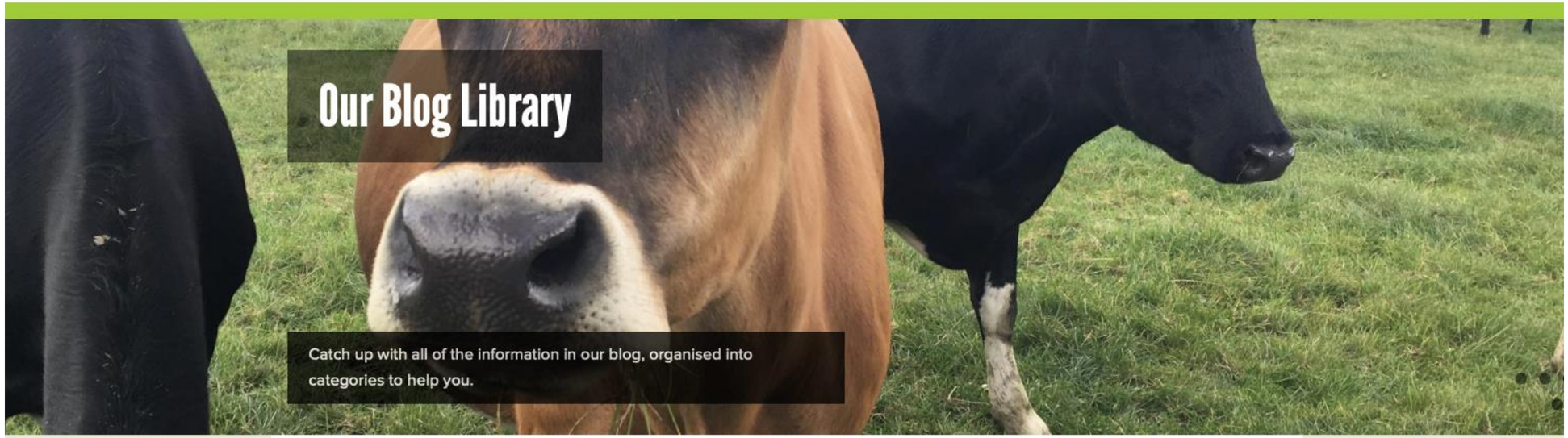


Welcome to the Farm Carbon Toolkit

The aim of FCT is to encourage and support farmers and growers to reduce their farm greenhouse gas emissions, increase their farm energy resilience and in doing so also improve their farm business in the future.

EMISSION SOURCES

Fuels and power 33.5%

Fertility 49%

Materials 0.1%

Capital items 3.7%

Livestock 12.4%

Distribution 1.3%

SEQUESTRATION SOURCES


Woodlands 4.5%

Permanent field margins 1.5%

Hedges 1.3%


Soil Organic Matter 92.8%

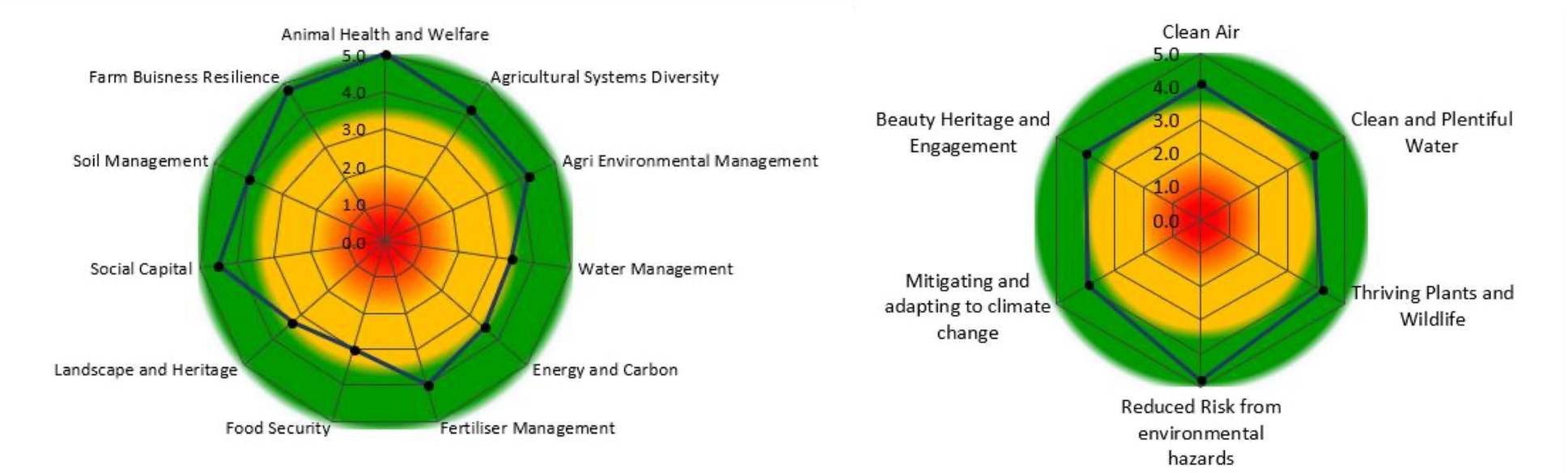
- Total annual carbon emissions 1,150 tonnes CO_2e
- Total annual carbon sequestration 6,255 tonnes CO_2
- TOTAL CARBON BALANCE (sequestration) 5,105 tonnes CO_2e
- Sequestration per hectare 7.91 tonnes CO_2e
- Sequestration per tonnes of product 3.3 tonnes CO_2e

WE ARE A CARBON SINK, NOT A CARBON EMITTER

Delivery of public goods

TT01

Farm overview: This farm is a 648ha lowland farm (556ha utilisable agricultural area) based in Suffolk. The farm has been farming organically for 24 years with arable, forage and grassland production present on farm. The farm also runs a sheep enterprise of around 900 breeding ewes.

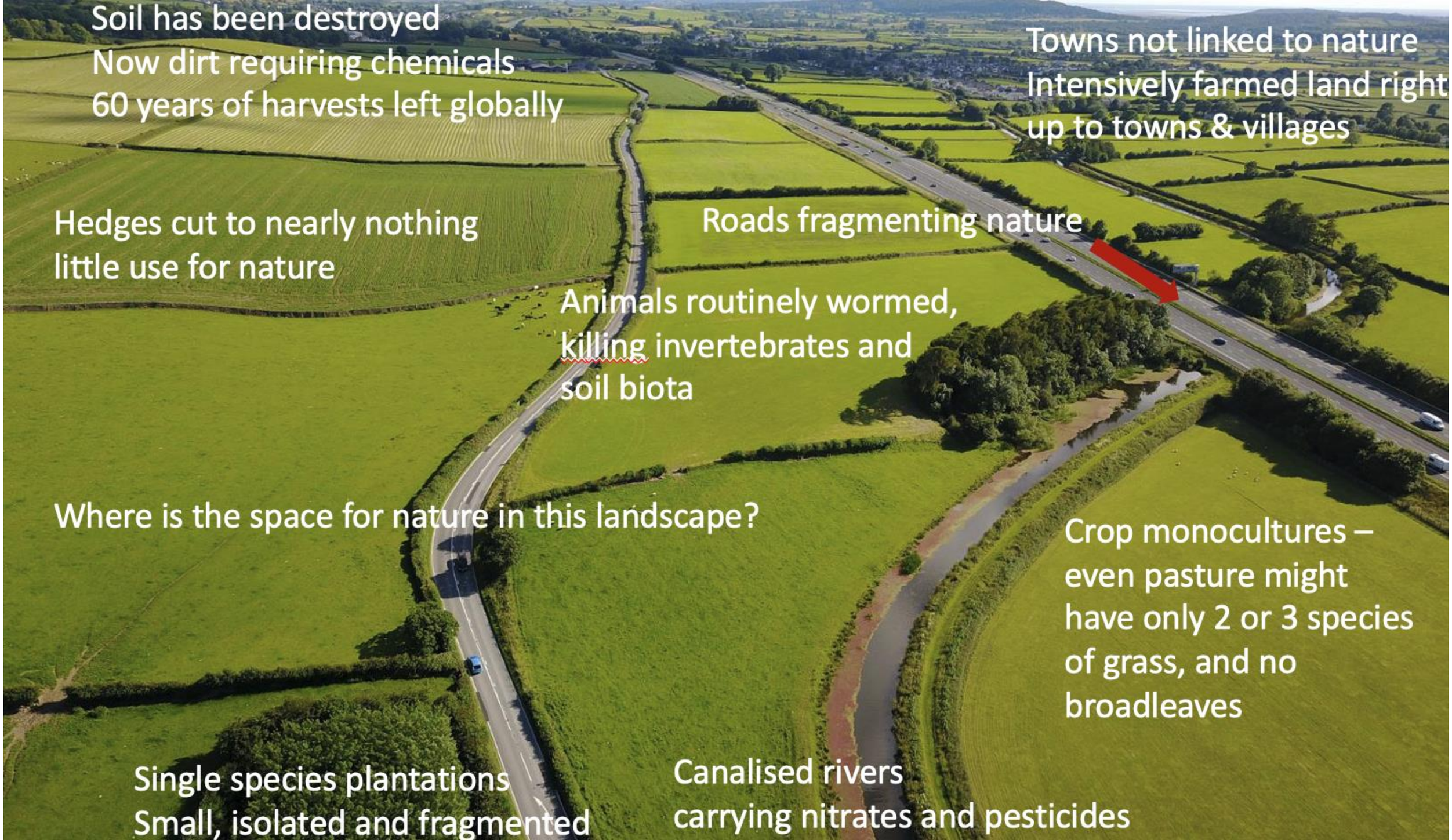


PGT results: The highest scoring spur was Animal Health & Welfare, with a mean score of 5.0. The farm has an up-to-date health plan that is reviewed regularly and produced in conjunction with allied professionals. High animal health and welfare standards are adopted including the use of management strategies to minimise the requirement for medical intervention and high biosecurity procedures to reduce disease risk. Animals have the ability to perform normal behaviours, including when they are housed, with housing standards much higher than average.

The lowest scoring spur was Food Security, with a mean score of 3.0. Total productivity of the farm performed well (average score of 4/5) but due to the percentage of local sales being low - average score of 2/5 - the overall score for this spur was low.

SFI results: The highest scoring spur was Reduced Risk from environmental hazards with a mean score of 4.8. The farm has a robust system in place to reduce risks from environmental hazards such as good soil management and a range of diverse agricultural systems in place. From an economic perspective the farm has flexibility in choice of farm inputs and options to change farm outputs as well as a high number of outlets to market their produce.

Your future countryside - landscape in recovery


Soil has been destroyed
Now dirt requiring chemicals
60 years of harvests left globally
Towns not linked to nature
Intensively farmed land right up to towns & villages
Hedges cut to nearly nothing
little use for nature
Roads fragmenting nature
Animals routinely wormed, killing invertebrates and soil biota
Where is the space for nature in this landscape?
Crop monocultures – even pasture might have only 2 or 3 species of grass, and no broadleaves
Single species plantations
Small, isolated and fragmented
Canalised rivers
carrying nitrates and pesticides

Thank you

@Hanslope