30% Protected Land by 2030

Will there be enough area to maintain UK food security?

Geoff Sansome
Head of Agriculture
@hawfordfarm
### UK Biodiversity Indicators 2022

#### Acknowledge the problem

#### Assessment of change: all measures.

<table>
<thead>
<tr>
<th>Number of Assessments</th>
<th>Not enough data</th>
<th>Deteriorating</th>
<th>Little or no overall change</th>
<th>Improving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Term</td>
<td>14</td>
<td>2</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Short Term</td>
<td>21</td>
<td>2</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

#### UK Biodiversity Indicators 2022

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure(s)</th>
<th>Long-term change</th>
<th>Short-term change</th>
<th>Last Updated</th>
<th>Latest Data</th>
</tr>
</thead>
</table>

#### C2. Habitat connectivity

- Experimental Statistic – under review
- Experimental Statistic – under review

#### C3. Status of European habitats and species

- C3a. Status of UK habitats of European importance
  - 2007–2019
  - 2013–2019
  - 2019
  - 2019

- C3b. Status of UK species of European importance
  - 2007–2019
  - 2013–2019
  - 2019
  - 2019

#### C4. Status of UK priority species

- C4a. Relative abundance
  - 1970–2019
  - 2014–2019
  - 2021
  - 2019

- C4b. Distribution
  - 1970–2018
  - 2013–2018
  - 2021
  - 2018
What is 30 x 30?

An international target under the Convention on Biological Diversity (CBD).

“Ensure and enable that by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities including over their traditional territories.”

30% of land protected for nature in the long-term and effectively managed.
30 x 30 in England, where are we now?

- **Unprotected**: 97%
- **SSSIs**: 3%
- **Protected sites in good or recovering condition**: 3%
- **All SSSIs and Protected Landscapes**:
  - **Unprotected**: 68%
  - **OECMs**: 10%
  - **Nat parks and AONB contribution**: 10%
  - **Expanded SSSI network in good condition**: 10%
  - **SSSI**: 8%
  - **National parks + AONBs**: 24%

**WCL view**

**OECMs**
- Other effective area-based conservation measures:
  - governance and management in place
  - conservation outcomes will endure long-term
  - not an existing designated protected area
  - do not need to be managed primarily for conservation
“Delivering this commitment for England will ensure our most important places, at the core of nature’s recovery, have the long-term, effective management needed for biodiversity to thrive.”

30 x 30 in England

DELIVERY PLAN:

• Ensure effective policy and statutory safeguards and powers to improve management for nature and prevent degradation.

• Designate new protected areas and restore or create wildlife rich habitat outside of these

• Invest in habitat restoration across our protected areas and beyond

• Publish a map of what counts towards 30-by-30 by the end of the year.

• Launch a further 19 nature recovery projects

• Work towards a Nature Recovery Network.

• Establish another 25 National Nature Reserves

• Scale up our Sustainable Farming Incentive offer and evolve CS+
1. **Global Food Availability** supply and demand at a global level.

2. **UK Food Supply Sources** where the UK gets its food. Specifically, the UK’s principal sources of food at home and overseas.

3. **Supply Chain Resilience** the physical, human and economic infrastructure underlying the supply chain.

4. **Food Security at Household Level** whether households can reliably afford and access sufficient healthy and nutritious food.

5. **Food Safety and Consumer Confidence** the perceived and actual safety and authenticity of food in the UK.
UK 2022 Food Production to Supply (Self-sufficiency)

% all food = 60%
% indigenous type food = 73%
Eustice: I'll ensure money coming out of BPS goes to farmers

George Eustice is the secretary of state at the Department for Environment, Food and Rural Affairs. Here he sets out his arguments why the new Environmental Land Management scheme is a "win-win" for farmers and the environment.

These new payments will not begrudge farmers a margin for doing the right thing for the environment, and in that sense they will represent a departure from the income foregone principle that was used by the European Union. Rates instead will be set at the level needed to incentivise uptake required on the scale we need to deliver our environmental objectives. Eustice OFC22
Farm Business Income by cost centre 2021-22
(2022 Harvest)

82% of farmland

= % Farm Business income which is BPS

Agricultural Agri-environment Diversification BPS

<table>
<thead>
<tr>
<th>Sector</th>
<th>Agricultural</th>
<th>Agri-environment</th>
<th>Diversification</th>
<th>BPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Cropping</td>
<td>30%</td>
<td>34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowland Grazing Livestock</td>
<td></td>
<td></td>
<td>62%</td>
<td>141%</td>
</tr>
<tr>
<td>LFA Grazing Livestock</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>47%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry</td>
<td>12%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Horticulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Farms</td>
<td></td>
<td></td>
<td></td>
<td>32%</td>
</tr>
</tbody>
</table>
Transition is well underway…

**BPS Payments trajectory**

- 50 ha farm will have lost 50% BPS
- 500 ha farm will have lost 60% BPS

**BPS = £233/ha (SDA = £231; Moorland SDA = £64)**
ELM: Sustainable Farming Incentive

<table>
<thead>
<tr>
<th>Code</th>
<th>SFI action</th>
<th>Annual payment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actions for soils</td>
<td></td>
</tr>
<tr>
<td>SAM1</td>
<td>Assess soil, test soil organic matter and produce a soil management plan</td>
<td>£5.80 per hectare (ha) and an additional payment of £95 per agreement</td>
</tr>
<tr>
<td>SAM2</td>
<td>Multi-species winter cover crops</td>
<td>£129 per ha</td>
</tr>
<tr>
<td>SAM3</td>
<td>Herbal leys</td>
<td>£32 per ha</td>
</tr>
<tr>
<td></td>
<td>Actions for moorland</td>
<td></td>
</tr>
<tr>
<td>MOR1</td>
<td>Assess moorland and produce a written record</td>
<td>£10.30 per ha and an additional payment of £265 per agreement</td>
</tr>
<tr>
<td></td>
<td>Actions for hedgerows</td>
<td></td>
</tr>
<tr>
<td>HRW1</td>
<td>Assess and record hedgerow condition</td>
<td>£3 per 100 metres (m) – one side</td>
</tr>
<tr>
<td>HRW2</td>
<td>Manage hedgerows</td>
<td>£10 per 100m – one side</td>
</tr>
<tr>
<td>HRW3</td>
<td>Maintain or establish hedgerow trees</td>
<td>£10 per 100m – both sides</td>
</tr>
<tr>
<td></td>
<td>Actions for integrated pest management</td>
<td></td>
</tr>
<tr>
<td>IPM1</td>
<td>Assess integrated pest management and produce a plan (this action applies to an SFI agreement, rather than a specific area of land (an agreement level SFI action))</td>
<td>£989 per year</td>
</tr>
<tr>
<td>IPM2</td>
<td>Flower-rich grass margins, blocks, or in-field strips</td>
<td>£873 per ha</td>
</tr>
<tr>
<td>IPM3</td>
<td>Companion crop on arable and horticultural land</td>
<td>£55 per ha</td>
</tr>
<tr>
<td>IPM4</td>
<td>No use of insecticide on arable crops and permanent crops</td>
<td>£45 per ha</td>
</tr>
<tr>
<td></td>
<td>Actions for nutrient management</td>
<td></td>
</tr>
<tr>
<td>NUM1</td>
<td>Assess nutrient management and produce a review report (agreement level SFI action)</td>
<td>£509 per year</td>
</tr>
<tr>
<td>NUM2</td>
<td>Legumes on improved grassland</td>
<td>£102 per ha</td>
</tr>
<tr>
<td>NUM3</td>
<td>Legumes fallow</td>
<td>£59 per ha</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>SFI action</th>
<th>Annual payment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actions for farmland wildlife on arable and horticultural land</td>
<td></td>
</tr>
<tr>
<td>AHL1</td>
<td>Pollen and nectar flower mix</td>
<td>£614 per ha</td>
</tr>
<tr>
<td>AHL2</td>
<td>Winter bird food on arable and horticultural land</td>
<td>£732 per ha</td>
</tr>
<tr>
<td>AHL3</td>
<td>Grassy field corners and blocks</td>
<td>£590 per ha</td>
</tr>
<tr>
<td></td>
<td>Actions for farmland wildlife on improved grassland</td>
<td></td>
</tr>
<tr>
<td>IGL1</td>
<td>Take improved grassland field corners or blocks out of management</td>
<td>£333 per ha</td>
</tr>
<tr>
<td>IGL2</td>
<td>Winter bird food on improved grassland</td>
<td>£474 per ha</td>
</tr>
<tr>
<td></td>
<td>Actions for buffer strips</td>
<td></td>
</tr>
<tr>
<td>AHL4</td>
<td>4m to 12m grass buffer strip on arable and horticultural land</td>
<td>£451 per ha</td>
</tr>
<tr>
<td>IGL3</td>
<td>4m to 12m grass buffer strip on improved grassland</td>
<td>£235 per hectare</td>
</tr>
<tr>
<td></td>
<td>Actions for low input grassland</td>
<td></td>
</tr>
<tr>
<td>LIG1</td>
<td>Manage grassland with very low nutrient inputs (outside SDAEs)</td>
<td>£151 per ha</td>
</tr>
<tr>
<td>LIG2</td>
<td>Manage grassland with very low nutrient inputs (SDAes)</td>
<td>£151 per ha</td>
</tr>
<tr>
<td></td>
<td>Additional payments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional common land payment (*if a group of 2 or more people apply for an SFI agreement on common land)</td>
<td>£6.15 per ha*</td>
</tr>
<tr>
<td></td>
<td>SFI management payment (*up to the first 50 hectares entered into the relevant SFI actions, per SBI)</td>
<td>£20 per ha*</td>
</tr>
</tbody>
</table>
ELM: Countryside Stewardship

- increasing biodiversity
- improving habitat, water quality, air quality, natural flood management
- expanding woodland areas

Current
- Higher Tier and Mid-Tier Revenue with over 100 options
- Higher Tier and Mid-Tier competitive
- Mid-Tier Wildlife options guaranteed
- Capital Grants
- Approx 35,000 agreements

Future development:
- Collaboration incentives
- Simpler options move to SFI
- Focus on higher value options requiring advice or endorsement e.g. Habitat creation

### Popular Arable CS Options 2023

<table>
<thead>
<tr>
<th>Option</th>
<th>Ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter cover crops</td>
<td>50,000</td>
</tr>
<tr>
<td>Winter bird food</td>
<td>50,000</td>
</tr>
<tr>
<td>Flower-rich margins and plots</td>
<td>50,000</td>
</tr>
<tr>
<td>Basic overwinter stubble</td>
<td>50,000</td>
</tr>
<tr>
<td>Two year sown legume fallow</td>
<td>50,000</td>
</tr>
<tr>
<td>Harvested low input cereal</td>
<td>50,000</td>
</tr>
<tr>
<td>Cultivated areas for arable plants</td>
<td>50,000</td>
</tr>
<tr>
<td>Unharvested cereal headland</td>
<td>50,000</td>
</tr>
<tr>
<td>Nectar flower mix</td>
<td>50,000</td>
</tr>
</tbody>
</table>

Total 288,000 ha
ELM: Landscape Recovery

Funds landscape scale projects through bespoke, long-term agreements (20+ years)

Aims to support large-scale land-use change for the long-term with funding from public and private sources, producing environmental and climate outcomes through habitat and ecosystem restoration.

- Total number of projects in Round 1 = 22. (11 species recovery projects overseen by NE. 11 river restoration projects overseen by EA.)
- Total project area for Round 1 = 41,792 ha. Average project area = 1,900 ha.
- All projects assessed and scored for impact on food production.

North Norfolk: Wilder, Wetter, Better for Nature

- Project consortium: Norfolk County Council, Norfolk River’s Trust & The Holkham Estate on behalf of 16 farmers/land managers
- Location: North Norfolk
- Key objectives:
  - 1,425ha of habitat creation at the coast and along four chalk rivers.
  - Create grazing marsh and freshwater habitats, and new grass-scrub mosaics. Restore naturally-functioning river-floodplain corridors. Restore former sand dunes.
  - Very many species to benefit! Five headline species: natterjack toad, spoonbill, grayling butterfly, turtle dove & barbastelle bat.
  - Wider benefits: carbon capture, flood management, clean water, pollination & recreation.
- Area of project: 13,470ha contiguous area of habitat!
- Budget: £655,713
ELM: Possible impacts on the farm business

Increasing opportunity for fixed costs reduction, business re-structuring, management of marginal land & diversification, collaboration for new business opportunities

- Increasing payment rates, greater collaboration, more competitive, longer agreements; higher impact on core food production?

SFI
Sits alongside core production activities?
- Good environmental/agronomic practice/compliance with regulations
- Simple Payment for management of “Inherent natural capital/public goods” (E.g. soils, water, IPM)

CS (Evolution/Plus)
More intense
- Habitat creation, restoration and management
- Species management
  - Natural Flood management
  - Rights of way?
- Education
- Heritage
- Collaboration

LR
Whole farm(s) system change
- Landscape scale re-structuring
- Improving & restoring streams and rivers
- Afforestation
- Peatland restoration
- Catchment scale natural flood management
- Large scale habitat creation/management

Increasing payment rates, greater collaboration, more competitive, longer agreements; higher impact on core food production?
% UK Self-sufficiency in Food and % Agricultural Area in Agri-environment schemes
Biodiversity Net Gain, what is it?

• An approach to development, and/or land management, that leaves the natural environment in a measurably better state than before the development took place.

• Habitats continue to be lost to development, reducing nature’s ability to connect and thrive. In the future, most developments will need to deliver a minimum 10% BNG

  • Mitigation hierarchy reinforced & all nature valued
  • Much earlier consideration of environment in development process
  • More nature close to where people live and work
  • Growing offsite market in providing biodiversity units
  • Long-term investment in nature (30 years minimum)
  • Links to LNRS/local environmental plans to help drive connectivity

Enforced by the 2021 Environment Act, mandatory from January 2024
How does Biodiversity Net Gain work?

1. Development Site is assessed for biodiversity (distinctiveness of habitat).
2. Loss is calculated
3. Replacement *new or enhanced* habitat creation (Biodiversity Units) are purchased from the market-place or (last resort) as Govt credits
4. The amount of land (BUs) required depends on an equivalence metric (e.g. 1ha of “high distinctiveness” habitat lost may require 5-12ha of “low distinctiveness” habitat created to replace it)
5. Replacement habitat is created, managed and monitored for 30 years
How will it work in practice?

The biodiversity metric should be used early in the design process to quantify and evaluate the impacts of different design options, when there is more scope to influence design changes to achieve better ecological outcomes.

Site selection & design

Biodiversity metric calculations

Biodiversity gain plan

Legal securement of BNG

Addition of land to register

Management, monitoring and reporting

Application & Pre-commencement

Commencement

Follow the metrics hierarchy and design a site that avoids any negative impacts on nature.

The biodiversity metric can help with this.

ON-SITE (UNITS)

Delivered through habitat creation/enhancement via landscaping/green infrastructure

OFF-SITE (UNITS)

Delivered off-site through habitat creation/enhancement, including via habitat banks, with public and private landowners

STATUTORY CREDITS

Delivered through large-scale habitat projects delivering high value habitats which can also provide long-term nature-based solutions

*Credits will be made available for purchase in the future. They are intended for use by only where BNG cannot be delivered on-site or off-site via the market, as a last resort.
BNG, estimating the market…

**Supply**
- All English agricultural land 9.2m/ha
- = 17m BUs (approx. 2 per ha)
- Supply varies across Planning authorities; average 55,000 BU (min 1 BU, max 640,00 BU)

**Demand**
- 487 ha of priority habitat lost per year (6.6% of developed area)
- Average 20ha development per year in each LPA
- England market scope 6,700 ha/year?

**Market**
- Potential £135-274 million per year?
- Land manager sale price £20,000 per BU (£40,000 per ha). **But** varies with distinctiveness:
  - E.g. the private market is currently offering in the region of £30,000 for “medium distinctiveness” habitat units
  - Taking standard arable land and converting this to “medium distinctiveness habitat” would create 4-6 units a hectare.
  - Assuming 5 units/ha, this gives the potential at current open market prices to deliver £150,000/ha over a 30-year agreement.
- **But….costs, tax implications, long term land values**
Targets
The English statutory tree target is for Tree canopy and woodland cover increase to **16.5% by 2050**, requiring an increase of about **260,000 ha (2.9% of Agricultural land)**

This is less than 10% of the 3 million hectares of low sensitivity land mapped (which excludes best and most versatile land)

Woodland Carbon Code
From 2011 pilot launch to 30/6/23, Woodland Carbon Code-registered projects in England =9,100 ha, of which only 2,600 ha are validated/verified. (9,100 ha is ~0.1% of agricultural land in England)

Woodland creation and land quality (2021-22)

- 0.1% was on grade 1 land,
- 6.2% on grade 2 land
- 8.5% on 3a land,
- (Total of 14.7% on best and most versatile agricultural land)
Elevated levels of Nitrogen and/or Phosphorus mean some Habitat Sites are in ‘unfavourable’ condition.

Therefore, adding any further nutrient pollution will make the sites worse and/or hinder their recovery.

Natural England issued Nutrient Neutrality advice to 42 LPAs in 27 catchments March 2022.

This advice impacts on residential planning applications.

Requirements can be fulfilled by private schemes or NE credit certificates.
Nutrient Neutrality catchments and impact

**Permanent solutions:**
- Long term
- 80 - 125 years ‘in perpetuity’
- e.g. Constructed wetlands, fallowing land, woodland

**Temporary solutions:**
- Short term
- e.g. Cover crops, arable reversion, riparian buffer strips
- (Pending a new duty on water companies to upgrade wastewater treatment works in designated areas by 2030)

Impact on Land use?

Due to local factors and variety of solutions, it is difficult to predict the total land use required for NN mitigation as the nutrient reduction value of each mitigation site varies.

**Around 500ha of wetlands could mitigate the equivalent of 100,000 houses.**

This is equivalent to the housing demand across all 27 catchments to 2030. (Range 200-1400 ha)
Conclusion: Issues/unintended consequences impacting agricultural production

- Decline of BPS puts downward pressure on farm rents (from tenant perspective)

- BPS and Agri-environment created a “management control” requirement link, now gone, making it more attractive for landowners to consider other activities (ELM, OECMs)

- Availability of 20-30 year commitments and revenues presents an opportunity attractive to some landowners

- Early evidence of Farm Business Tenancies being withdrawn and new environmental markets putting a new “floor” into rental values

- ELM is quite “experimental” in some areas and will inevitably be revised and changed. Absence of budget limit by ELM component may exacerbate this and undermine farmer and land manager confidence.
Conclusion: Feeding the UK in 2030

UK Population Projections 2023-2030

Future factors are; reduced fertility issues and net migration

Source ONS
## Conclusion: Impact of 30x30 on land area for food production

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Impact on food production</th>
<th>Comment/risk</th>
<th>Potential to contribute to 30x30?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected Sites (SSSI)</td>
<td>Low</td>
<td>No targets for new designations</td>
<td>Yes</td>
</tr>
<tr>
<td>Protected landscapes</td>
<td>Low</td>
<td>Increased focus on protecting/managing biodiversity</td>
<td>Some</td>
</tr>
<tr>
<td>SFI</td>
<td>Low</td>
<td>Free choice of whole field non-producing options?</td>
<td>No</td>
</tr>
<tr>
<td>Countryside Stewardship</td>
<td>Low/medium</td>
<td>Targeted, works alongside food production, but increased incentives for habitat creation?</td>
<td>Some</td>
</tr>
<tr>
<td>Landscape Recovery</td>
<td>Low/medium</td>
<td>Large scale but unlikely impacts on BMV soils</td>
<td>Yes</td>
</tr>
<tr>
<td>Woodland</td>
<td>Low/medium</td>
<td>Low grade land, slow uptake</td>
<td>Yes</td>
</tr>
<tr>
<td>Nutrient neutrality</td>
<td>Low</td>
<td>Limited areas required</td>
<td>Yes</td>
</tr>
<tr>
<td>Biodiversity Net gain</td>
<td>Medium/High</td>
<td>Dependent on economic climate, development pressures and landowner appetites</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Conclusion: Other factors

Stacking

Woodland creation
Sustainable farming Incentive
Nutrient neutrality
Biodiversity Net gain
Landscape Recovery

Farming Productivity

<table>
<thead>
<tr>
<th>Economic Size Classification</th>
<th>Very Small</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Very Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Output</td>
<td>Under £25K</td>
<td>£25K to £125K</td>
<td>£125K to £250K</td>
<td>£250K to £500K</td>
<td>At least £500K</td>
</tr>
<tr>
<td>% total Farm Businesses</td>
<td>41%</td>
<td>30%</td>
<td>12%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Number of farm businesses</td>
<td>38,700</td>
<td>28,200</td>
<td>10,800</td>
<td>8,600</td>
<td>7,160</td>
</tr>
<tr>
<td>% of total Output</td>
<td>2%</td>
<td>11%</td>
<td>12%</td>
<td>18%</td>
<td>57%</td>
</tr>
<tr>
<td>% total Farmed Area</td>
<td>7%</td>
<td>21%</td>
<td>18%</td>
<td>21%</td>
<td>33%</td>
</tr>
</tbody>
</table>

"8% of English farms produced 57% of the agricultural output using just 33% of the total farmed land area."

Farming Policy/budget security

Changing dynamics
Domestic budget pressure
Meeting public and consumer demands
World economic/political shocks
Conclusion:

30% Protected Land by 2030
Will there be enough area to maintain UK food security?

YES

"In terms of food security, there is actually more to be gained from paying for environmental projects. The biggest threats to food security now — even bigger than Putin's war — are climate change and ecosystem collapse."

Thank you