

Written evidence submitted by The Woodland Trust (FS0034)

Introduction

The Woodland Trust is the largest woodland conservation charity in the UK, with over 1,200 sites in its care covering over 29,000 hectares. Access to its woods is free. Established in 1972, the Woodland Trust now has over 500,000 supporters. The Trust wants to see a UK rich in native woods and trees for nature and people. It has three key aims: i) protect ancient woodland which is rare, unique and irreplaceable; ii) restore damaged ancient woodland, bringing precious pieces of our natural history back to life; iii) plant native trees and woods with the aim of creating resilient landscapes for people and wildlife.

The Woodland Trust is also a member of Wildlife and Countryside Link and, in addition to our own response, we support the WCL submission to this inquiry. We have focused our response on questions relating to the link between food security and the delivery of environmental goods.

Summary

- **A healthy, resilient environment with functioning ecosystems is fundamental to the future of UK agriculture and it is therefore wrong to present food security and environmental benefit as conflicting goals.**
- Climate change and other environmental pressures such as poor water and soil quality are already having an impact on food production and represent the biggest long-term risk to food security in the UK.
- Farmers are already seeing the effects of extreme weather events, with heavy rains and droughts in 2020 leading to a 40% drop in wheat yields.
- Moving to lower-input methods of farming would help to protect farmers from global price volatility linked to external events beyond our control.
- 40% of UK arable land is used to produce animal feed, with animal feed being one of the most significant costs for farmers and least stable in terms of price. Moving to 'lower opportunity cost' animal feeds would protect farmers from price volatility and reduce the impact on the environment.
- Deregulation poses a threat to future food security. Many of the laws in the Retained EU Law (Revocation and Reform) Bill 2022 will need to be protected or re-introduced in order to safeguard the ecosystems upon which food security relies.
- The commitment in the Government's Food Strategy to using the Environmental Land Management (ELM) scheme to help farmers build more resilient and sustainable businesses is welcome. However, as highlighted in the recent CCC report, current policies will not be enough to deliver the Government's environmental ambitions; ELM must be more ambitious and its implementation should be accelerated.
- Farmers need support to deal with climate adaptation, become less dependent on inputs like fertilisers, and therefore less susceptible to global volatility. This will be good for farm businesses and good for food security as well as benefiting the environment and people.
- There is no reason to delay or even discard the agricultural transition. ELM can and should support land managers to move to a more holistic, low-input and sustainable approach to land use, that delivers environmental benefits while also producing high-quality, nutritious food.

- Government intervention is needed to help balance competing demands for land in England and to ensure we are making the most effective use of limited land.
- Delivering environmental benefits does not necessarily mean taking land out of food production. Agroforestry is a regenerative farming technique that incorporates trees into the farmed landscape through in-field trees, shelterbelts and hedgerows and the creation of silvoarable and silvopastoral systems.

What are the key factors affecting the resilience of food supply chains and causing disruption and rising food prices – including input costs, labour shortages and global events? What are the consequences for UK businesses and consumers?

1. Food supply chains are facing multiple pressures, however the UK Government’s Food Security Report 2021 (UKFSR) stated that “[t]he biggest medium to long term risk to the UK’s domestic production comes from climate change and other environmental pressures like soil degradation, water quality and biodiversity.”¹

2. Climate change and biodiversity already affect the majority of foods produced in the UK. Following hot summer weather in 2018, onion yields were down 40%, carrot yields down 25% and potato yields down 20%.² While it is too early to fully assess the impact of this summer’s extreme heat, it is clear that it has had a significant impact on food security, with farmers reporting losing entire crop plantings and concerns that winter feed could be affected by hampered grass growth.³

3. The impact of extreme weather on UK food production can already be seen. According to the UKFSR, following heavy rain and droughts in 2020 wheat yields dropped by 40%. Although they appeared to recover in 2021, climate change could mean that conditions become unsuitable for some crops that are currently grown here. The UKFSR reports that modelling from the Met Office suggests that “future risks to UK food production include heat stress to livestock, drought, pests and pathogens, and increased soil erosion risks.”⁴

4. Recent global events have contributed to multiple difficulties facing farmers at the moment, including an increase in the cost of inputs such as fertilisers and rising energy costs. Many of these events are beyond our control, however supporting farmers to move to lower input methods of farming would reduce their vulnerability to future global shocks. It would also reduce the environmental impact of high input approaches to farming (see further detail below).

5. It should also be acknowledged that some current farming methods are having an impact on future food security. According to the UKFSR, “[e]stimates suggest soil degradation, erosion and compaction are costing about £1.2 billion each year and reducing the capacity of UK soils to produce food.”

6. A recent report from WWF⁵ highlights the environmental impact of ‘high opportunity cost’ animal feed, with cereal crops to feed animals using 40% of UK arable land and around half our annual

¹ United Kingdom Food Security Report 2021

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869062/structure-jun2018final-uk-28feb20.pdf

³ <https://www.theguardian.com/environment/2022/aug/01/uk-farmers-count-cost-as-heatwave-kills-fruit-and-vegetable-crops>

⁴ United Kingdom Food Security Report 2021

⁵ The Future of Feed: how low opportunity cost livestock feed could support a more regenerative UK food

wheat harvest. An additional 850,000ha of land abroad is used to produce feed for UK animals, often resulting in the clearance of valuable, carbon-rich habitat such as tropical rainforests. The UKFSR identifies animal feed as both the most significant expense for UK farmers and the least stable in terms of price.⁶ Switching to more 'low opportunity cost' animal feed such as grass, food waste and agricultural waste as the WWF report suggests could reduce the impact on the environment and make farmers less vulnerable to the global variability in the price of animal feed.

7. With farming facing the effects of climate change and increasing costs, evidence shows that investment in nature friendly farming can help to maintain and even improve yields. One study showed that organic systems have the potential to produce yields up to 40% higher than conventional systems in times of drought.⁷ Another study demonstrated that managing 8% of a farm for nature helped to maintain and even enhance yields of some crops and led to no loss in economic or nutrient value.⁸ A case study from East Yorkshire also showed that a low/no-till system led to a 25% reduction in nitrogen applications and a 33% reduction in fuel and labour costs.⁹ Providing public goods payments to support a move to similar, more sustainable farming could therefore provide the foundation for more resilient farm businesses.

How will the proposals in the Government's food strategy policy paper affect:

- **The resilience of food supply chains?**
- **The agri-food and seafood sector?**
- **Access to healthy, nutritious food?**

8. The Woodland Trust welcomed the commitment in the Food Strategy to developing the Environmental Land Management (ELM) scheme to support farmers to build more resilient, sustainable and diversified farm businesses. In particular, we support the principle of supporting farmers under the principle of 'public money for public goods' and moving away from the current system of basic payments based on the amount of land owned. Direct payments have long been inefficient, ineffective and inequitable, not just for the environment but also for farm business viability. They also do little to address concerns about the UK's overall food security and resilience in the face of climate change and other risks.

9. However, we believe the measures proposed will not be enough to meet our environmental targets and help protect future food security. The Committee on Climate Change (CCC) highlights that there *"is little mention of the adaptations needed in the food system to build resilience to climate and weather extremes of the future."*¹⁰

10. The CCC's recent assessment on UK progress in reducing emissions warned that the current strategy will not deliver net zero. In particular, it highlighted that policies are weakest in the areas of agriculture and land use, despite this sector being vital to delivering net zero and the Government's other goals on food security and biodiversity.¹¹

system https://www.wwf.org.uk/sites/default/files/2022-06/future_of_feed_full_report.pdf

⁶ United Kingdom Food Security Report 2021

⁷ <https://rodaleinstitute.org/science/farming-systems-trial/>

⁸ <https://royalsocietypublishing.org/doi/10.1098/rspb.2015.1740>

⁹ <https://www.no-tillfarmer.com/articles/11373-british-farmer-switches-to-no-till-to-save-money-on-rising-input-costs>

¹⁰ [Government's Food Strategy 'a missed opportunity' for the climate - Climate Change Committee \(theccc.org.uk\)](https://www.theccc.org.uk/publication/government-s-food-strategy-a-missed-opportunity-for-the-climate-climate-change-committee/)

¹¹ <https://www.theccc.org.uk/publication/2022-progress-report-to-parliament/>

11. Climate change is one of the most significant long-term threats to the resilience of food supply chains, with extreme weather patterns like the recent heatwave becoming increasingly common and leading to crop failures and the need for more measures to be put in place to protect livestock. Farmers and land managers need help to deliver environmental benefits that will help mitigate and adapt to climate change and restore our county's degraded ecosystems. We believe the proposals within the Food Strategy will not be adequate: the Government must look to make ELM more ambitious and to accelerate implementation.

How could the Government's proposed land use strategy for England improve food security? What balance should be struck between land use for food production and other goals – such as environmental benefit?

12. A healthy, resilient environment with functioning ecosystems is fundamental to the future of UK agriculture and it is therefore wrong to present food security and environmental benefit as conflicting goals.

A healthy environment is essential for food security

13. The Government's own report on food security states that *"Food security rests ultimately not on maximising domestic production (which is market driven), but on making best use of land types which vary in quality and potential uses."*¹² It is therefore essential that the Government supports both food production and environmental benefit together by supporting and enabling a more sustainable and holistic approach to agriculture in the UK.

14. As set out above, there is increasing evidence of the detrimental impact that environmental degradation is having on UK food security, and this is clearly highlighted in the UK Food Security Report 2021. Over-reliance on artificial fertilisers is damaging our rivers, air and soils, and is also costly for farm businesses. An average 40% of nitrogen fertiliser in the UK is left unused or leaks into the environment, contributing to soil erosion and exacerbating climate change by evaporating into the environment.¹³ Meanwhile, extreme weather linked to climate change is negatively affecting yields and leading to the loss of entire crops. The UKFSR is clear that *"[t]he UK's agriculture sector relies on natural capital, and the degradation of this natural capital poses an underlying threat to the UK's ability to produce food."*¹⁴

15. Attempting to address these impacts through increased use of fertilisers and pesticides and allowing more water extraction is only putting a sticking plaster on the problem and storing up bigger problems for the future. **Long-term, farmers need support to deal with climate adaptation, become less dependent on inputs like fertilisers, and therefore less susceptible to global volatility. This will be good for farm businesses and good for food security as well as benefiting the environment and people.** This government promised to be the first to leave our environment in a better condition than we found it: with agriculture responsible for 10% of UK greenhouse gas emissions and one of the biggest drivers of biodiversity loss, this goal can only be achieved by introducing measures to reduce the negative impact of agriculture on our environment.

Delaying the agricultural transition will not increase food security

16. As stated above, we support the proposals on ELM in the Government's Food Strategy. However, given the clear importance of a healthy environment for UK food security and the increasing impacts

¹² United Kingdom Food Security Report 2021

¹³ <https://www.cpm-magazine.co.uk/2021/10/07/nature-natters-getting-to-the-root-of-the-problem/>

¹⁴ United Kingdom Food Security Report 2021

of climate change and biodiversity loss on UK agriculture, the Government should be looking to make ELM more ambitious and to accelerate its implementation. **There is no reason to delay the agricultural transition and doing so would fail to help farmers adapt to the increasing threat that climate change poses to farm businesses.**

17. A two-year delay to the transition would halve the contribution of the new ELM schemes to the fifth carbon budget (2028-32), leaving a substantial gap in the UK's net zero plans. In other words, if intensive methods of food production are not addressed through policy and support for farmers now, the very ability to produce food will be undermined further loss of biodiversity and climate change.

18. Given the increasing body of evidence around the scale of the climate and ecological emergencies and the extent of biodiversity loss in England, ELM should be more ambitious so that land managers can go further in delivering environmental benefits, and do this faster. Farmers are already seeing the effects of climate change and biodiversity loss and need support now to adapt and mitigate. Not doing so will have negative repercussions for food security in the future. Paying farmers for the environmental services they provide, rather than subsidising food production, is also better value for public money as consumers will not be paying for their food twice: once through their taxes and again at the checkout.

19. The Government's own report on food security stated that *"[s]ustainable production methods help to ensure the UK's long term food security by protecting the natural capital embedded in soil, water, and biodiverse ecosystems."*¹⁵ ELM can and should support land managers to move to a more holistic, low-input and sustainable approach to land use, that delivers environmental benefits while also producing high-quality, nutritious food.

20. It is essential that ELM is delivered alongside a robust body of environmental regulation, setting minimum standards for all land managers to comply with. Robust regulation underpins food security as it protects the natural assets upon which food production relies. It also creates a fairer business environment for farmers by ensuring that all farmers and land managers have a responsibility to protect the environment and are not undermining natural assets.

The value of a Land Use Strategy for England

21. We expect a lot from our land in England. Around 70% of land in England is under agriculture, while the Government has set ambitious targets to increase tree cover, restore peatland and protect 30% of land for nature. In addition to this, there are increasing demands for timber production, development and recreation. Government intervention is needed to help balance these demands and to ensure we are making the most effective use of limited land.

22. Currently, much of the UK's agricultural land is used for non-food crops. Biofuels for example present a challenge for food production in the UK. In 2021, an estimated 121,000ha were used to grow biofuel crops¹⁶. This land could instead be used to grow food to feed 3.5 million people per year.¹⁷ Similarly, the WWF report highlights that 40% of our arable land is used to grow crops for animal feed that could be used more efficiently for direct human consumption.

¹⁵ United Kingdom Food Security Report 2021

¹⁶ <https://www.gov.uk/government/statistics/area-of-crops-grown-for-bioenergy-in-england-and-the-uk-2008-2020/summary>

¹⁷ <https://green-alliance.org.uk/wp-content/uploads/2022/06/Food-security-and-UK-crop-based-biofuel-use.pdf>

23. The UKFSR highlights that meeting net zero, climate change mitigation and biodiversity goals will add to competing pressures on land use. This is why: (i) a Land Use Strategy is important; and (ii) the Government should look to support farming approaches that combine food production with delivering environmental services, for example agroforestry, through ELM. The proposed Land Use Strategy could support the most effective use of our land by setting out principles for identifying the most productive land for agriculture and where land could be more efficiently used for other purposes such as woodland creation. This could in turn be used to help target and prioritise ELM funding.

Environmental benefits can be delivered alongside food production

24. Taking action to support a healthy environment and functioning ecosystems should not be seen as at odds with food production, but recognised as essential to food security. Delivering environmental benefits does not necessarily mean taking land out of food production. There are several farming approaches that produce environmental benefits alongside food production.

25. Agroforestry is a regenerative farming technique that incorporates trees into the farmed landscape through in-field trees, shelterbelts and hedgerows and the creation of silvoarable and silvopastoral systems. **Trees on farms can provide multiple benefits to the farm business such as product diversification, providing shelter and shade for crops and livestock, improved soil fertility and water management, and aiding with pest control so reducing the need for pesticides.** At the same time, trees also provide multiple environmental benefits, including carbon sequestration, reduced soil erosion and improved habitat for wildlife.

26. Supporting more farmers through ELM to incorporate trees into their farms will help to deliver Government targets on biodiversity and net zero. Importantly this can be achieved without large scale land use change. Research commissioned by the Woodland Trust¹⁸ and due to be published in November found that converting 10% of arable land to silvoarable systems over a 40-year rotation and establishing new hedge or shelterbelt systems on 11% of arable land would bring arable land into carbon balance and be in line with net zero objectives. Establishing silvopastoral systems on 30% of England's grasslands would bring pastoral systems in net zero GHG production by 2051.

27. Evidence also shows that agroforestry can have significant biodiversity benefits such as increasing the abundance of farmland species, with birds and invertebrates particularly likely to benefit, and possibly enhancing key ecosystem services such as pollination, pest control and decomposition. Incorporating more trees on farms can also help to improve soil structure and functioning, with positive effects on carbon sequestration, nutrient turnover, and pollutant control and abatement. We would be pleased to share our report with the Committee once it is published.

28. The Woodland Trust recommends that agroforestry is supported in all three components of the ELM scheme and we are pleased that Defra are developing an agroforestry standard with the Sustainable Farming Incentive (SFI) and an agroforestry option with Local Nature Recovery (LNR).

29. The Government's recent announcement about the projects that have been awarded funding as part of the Landscape Recovery component of ELM further highlights that delivering environmental benefits can go hand in hand with food production. Of the 22 projects being supported, the majority involve farmers and land managers delivering a range of environmental benefits, such as nature recovery or flood mitigation, alongside food production.¹⁹

¹⁸ Forthcoming Woodland Trust report *Farming for the future: how agroforestry can deliver for nature and climate*

¹⁹ [Projects of Landscape Recovery scheme announced - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/projects-of-landscape-recovery-scheme-announced)

30. With the world facing both climate and biodiversity crises, we cannot overstate the impact that climate and ecological breakdown will have on all aspects of our lives. We are already seeing the effects of this in England, for example in more extreme weather such as the recent heatwaves, drought, severe storms in 2021/22 and severe winter flooding in 2019/20. This will not only impact food security but also our health and wellbeing, our economy and global stability as larger areas of the planet become uninhabitable and populations are displaced. Farmers need support to adapt to a changing climate but, as the CCC's report highlighted, agricultural and land use policies are essential for meeting the Government's targets on net zero, biodiversity and food security. With increasing pressures on limited land in England, a Land Use Strategy can play a key role in helping to balance those pressures and ensure we are making the most efficient use of our land while protecting and restoring the ecosystems we rely on. Protecting and restoring our environment cannot be seen as at odds with food production but must be recognised as essential to our future well-being, economic and food security.