Adapting nature and securing food – inquiry session two

18 May 2026

- Panel in attendance: Fleur Anderson MP (chair) and Lord Krebs
- Witnesses in attendance: Emily Hunter (Woodland Trust), Kevin Martin (Kew Gardens), Bethany Chamberlain (RSPB), Gareth Morgan (Soil Association), Martin Lines (Nature Friendly Farming Network), and Dmitry Feoktistov (National Farmers' Union)

Panel one: Adapting nature to extreme weather

What impact has changing weather patterns in the UK, including extreme weather had on your work and the work of your organisations? What does successful adaptation for UK nature look like by 2030?

- Kew Gardens: We have been in a drought since March, and this is impacting native trees as they are not used to this long drought. It is starting to have a bigger impact as these trees have a high mortality rate and we are losing the canopy cover. This becomes even more important when we think about the urban environment and the urban heat island. Once trees are lost from our streets, society will be impacted by warmer temperatures. Some of the adaptation we need to start thinking about is trees and their function, and not just because they look nice. We can use trees as green infrastructure to start cooling our urban environments, that is one of the big adaptations that we need to push. By getting more trees within our urban environments our ecosystem will benefit society.
- RSPB: We recently reported to Defra how well adapted we are as an organisation. Impacts on species are important, but we also recognise the impacts on our sites as well as the people who work there. In our reserve network, we are finding that there is quite an issue with the hydrological conditions. It is increasingly a challenge to find suitable hydrological conditions for the wildlife. At the other end of the spectrum, dry conditions heighten the risk of wildfire in our upland areas. There is the potential that small fires will become major incidents, this has a direct impact to the mortality of the species living there, but also a longer-term issue of habitat fragmentation. Sea level rise and increased coastal erosion is continuing to affect the quality of our coastal wetland habitats. There are solutions like rewetting artificially drained peatland that can turn the tide on this, but it requires a lot of funding and forethought to do work like that. We need to be acting but also looking for those win-win opportunities. Nature based solutions could have a pivotal role such as planting more street trees and we need to think about what role they could have in in various landscapes and the potential for tackling both mitigation and adaptation.

What do you mean by hydrological conditions?

- RSPB: Habitats like saltmarsh and mudflats are drying out other times in the year creating the potential for flooding, it is about managing how we move water around the landscape. Another impact we're seeing is the shortening of planting season for trees. The trees planted aren't always surviving due to the hot weather and drought conditions. More heat stress on the trees also makes them more susceptible to disease and pests. The UK is an important place for temperate rainforests, 40% of Europe's temperature rainforests are in the UK. The conditions for that are changing. A more diverse woodland needs to be more resilient to a changing climate. We are not currently using the full array of native species that we could in this country. There needs to be support for people to plant more diverse species. As people

aren't planting them, nurseries aren't growing them but there are native species that could thrive here.

What key facts and figures do you have to support this?

- Kew Gardens: We conducted an assessment in London, looking at all the publicly owned trees and found that by the end of the century there is the potential for us to lose 71% of London's canopy cover. We have been in a drought for two years now, which could accelerate this. English oak is significantly impacted as they have big vessels and are sensitive. In 2022, we lost 460 trees in the drought and heatwave, and we will probably reach that same mark by the end of this period. Our native trees rely on lots of resources. Our soil moisture levels are below 10%. We must understand the speed of this challenge. What is planted today is only going to be a young adult in 100 years' time. London is already 3.8° warmer than your average warmer temperatures and this will only increase. There will be a social impact to losing canopy cover but also losing the ecosystem benefits in an urban environment like cooling. Most trees also die in the first five years, so it is not just about planting.
- Woodland Trust: A study last year found that 6 introduced pests and pathogens cost the UK £620 million annually and that is just the cost to the economy but there is also the cost to nature.

Are there particular regions and habitats in the UK that are already experiencing disproportionate climate impacts and if so, where and what are they?

- Woodland Trust: We are seeing much more rain in the winter and then a dryer summer which is having a big impact on our temperature rainforests like in the Southwest. The East of England is still incredibly dry. Research from Plymouth University has found that restoring and expanding temperate rainforests in the east coast of England could create conditions for more rain. Woodlands are the second most impacted habitat by climate change.
- Kew Gardens: The areas most impacted are the South and Southeast of the UK. There is a reduced amount of rainfall. If we look at the West, precipitation is increasing there and it tracks in line with heat.
- RSPB: The saltmarsh and mudflat habitats are subject to sea level rise and there is impact on uplands including peatland and moorland too. The UK is not used to thinking about wildfire, but there were 181 wildfires in the UK, including the largest one that we have had in living memory.

What evidence are we seeing of changes in species behaviour, migration patterns, or breeding success linked to extreme weather?

- RSPB: There are changes in abundance, range and the seasonality is shifting. Upland birds and sea birds is probably the most vulnerable to climate change. Birds like the golden plover are facing challenges from changing soil moisture and habitat conditions. In the seabird side of things, we are seeing that Puffins are impacted by warming seas and changing prey availability as well as increased storm exposure. Rare species with southern distributions may increase under warming conditions, this contrasts with the hyper vulnerability of rare species and fragmented ranges. There's a bit of a change between losing a lot of rare species and having more generalist species that can exist in a range of conditions.

Can you just name a couple of species that you think are under threat so.

- RSPB: Yes, there are absolutely loads. There's species like Goldeneye and Buick Swans which are threatened. Pied flycatcher is also struggling with the changes in migration.

What are the best nature-based solutions? Are there any good examples that we are seeing in the UK and the barriers to these? What recommendations would you suggest?

- Woodland Trust: Agroforestry can play a big role. Land forestry is incorporating trees in the farmed environment, and it supports nature recovery and connectivity across fragmented habitats. Rainforest shields to help with restoring rainforests in the west coast can help to increase rainfall in the east. Trees can also help with natural flood management.
- Kew Gardens: When we think about mitigation using nature-based solutions, we need to think about trees and the function that they provide whether it's air cooling or helping manage storms. We can use sustainable drainage systems and rain gardens. A problem we are facing is the lack of diversity in commercial nurseries and that needs to adapt. The trees needed in different areas will be different, so the nursery trade needs support to adapt to this. We still need to invest in our green skills. We're starting to see a very big knowledge gap when you think about planting so more investment in the knowledge gap is needed. In Europe they've done a lot of work on retrofitting green infrastructure into industrial areas which have now been pedestrianised. And I think we've got a lot to learn about how we can retrofit green infrastructure into the European environment.
- RSPB: The RSPB commissioned work from Oxford University and highlight that nature-based-based solutions could help address 33 of 34 climate change risks identified by the Climate Change Committee in their last climate change risk assessment. Saltmarsh offers coastlines natural protection and peatland can help store and hold water through the landscape. The RSPB worked with the Environment Agency to manage realignment, letting water reclaim areas where it would naturally exist. This has led to flood protection for 348 properties in the area. Funding is a huge issue especially the lack of longer-term funding considering the lead time needed for nature-based solutions to deliver significant benefits. We found that nature-based solutions were more effective than engineered solutions in 65% of the cases examined. Adaptation is such a huge brief and it's a very cross cutting issue, so RSPB has been calling for the appointment of a cabinet minister for adaptation to respond to the urgency.

Panel two: Resilience of food systems to climate change

What threat do climate impacts such as flooding, storms and heat pose to the food system domestically? How are these impacts already being felt by farmers and consumers?

- NFU: Our weather survey that we did last year, this is the third one we have done. Out of 520 of our members, 78% saw an increase in extreme weather in the last decade. Heat, drought, flood and storms were all found to have increased. Pests and diseases also change with changing weather patterns. The average loss to our members from extreme weather was £40,000 in the last decade, but over 12% noted a loss of over £100,000 over a decade. There is also a personal impact with stories of members having to seek alternative employment due to impacts on their farms. We have also had reports of the multi season impact of these events.
- NFFN: Increased temperatures cause distress to animals and a lack of productivity which means that the predictability of livestock yields is challenged. We need to think about supply chains and how we can derisk exposure to climate change as it is challenging our ability to predict food prices and production. There is also the issue of storage and transportation to consider. Farmers are trying to improve resilience by focusing on soil health and diverse crops. Every farm is different so there are things that they need to do that will differ.

- Soil Association: We import 40% of our food and this makes us very vulnerable. We can't rely on - this as we may not be able to import this amount due to climate change. The impacts in the south of Europe where we get much of our vegetables and North Africa will be much more severe.

What does a climate-resilient UK food system look like in practice and what changes need to be made to what we grow, import, and eat?

- Soil Association: It would look very different to now and include building more farm reservoirs etc. We will need to be less reliant on imports, the livestock industry will look different, and it is likely that will be ruminant based instead of imported grain based. Agroforestry will be fundamental and there are lots of benefits of getting more trees into farmland.
- NFFN: It is challenging to know what the climate will be like in 50 years' time. Diet needs to shift significantly to eat less meat. We use far too much land to produce animal feed. We need a shift to localised food systems that offer notorious food. Water management will be key to that as it will create a soggier and spongier landscape. Our food system is underpinned by nature, and it needs to be at the heart to build that resilience. We need more plant-based proteins feeding our animals and feeding ourselves. We need to build fertility in our soils and a circular system. We will also need to grow more fruit and veg in this country.
- NFU: I think we will see the return of mixed farming and greater diversification. If done correctly, spatial targeting could be an important trigger to build resilience into the future. There will be greater focus on soil health as there is a diversity in soil types and it is not feasible to grow a standardised set of crops across the country. A lot of our members are interested in growing peas and beans but there are several bureaucratic blockers to this such as trade rules. Out of need, we will see farmers adopting new crop rotations and new types of crops. Climate change poses more risks but there are also opportunities to grow different things.

What are your views on the precision breeding of varieties that are more resistant?

- Soil Association: We don't think that this is the answer. My worry is that overreliance on that route distracts from what can be done now. It may have a role in the future, but there are several things we can be doing now.
- NFFN: There could be some benefits, but it is about the regulations and frameworks around it. It is about building diversity into the system. It could be an opportunity but there are far more salient things to focus on that could provide better outcomes.
- NFU: We should be looking to Eastern and Southern Europe for examples and learning and taking inspiration from what is already out there rather than relying on technologies or solutions that may not materialise.

Is there another country that is getting this right?

- NFU: The key document for the UK is the National Adaptation Programme (NAP), and we have looked at Uruguay as an example. Agriculture plays a huge role in their exports and for their economy. They also produce a NAP for their whole economy, which they also supplement with a plan focusing on agriculture, this is longer than the broader economy focused document. It covers who is responsible for actions, timescales for implementations and budgets. In the current NAP there are only three pages for agriculture. NAP needs to be supplemented for critical industries, and we have relayed this to Defra in recent weeks. We need to be doing this more frequently than five years.

Is the current policy framework including Environmental Improvement Plans, National Adaptation Programmes, and Environmental Land Management schemes coherent or fragmented? If you

could change one policy in the next 12 months to improve food system resilience, what would it be?

- Soil Association: If we wait for the policy to be integrated, then we will be waiting a long time. Unfortunately, it is going to remain fragmented. The farming roadmap will help to define the framework for all these other initiatives. The land use framework had a good reception from farming bodies and that is where we need to be working with farmers, on how to optimise land. You do need some sort of food strategy for the country but just a reduction target will not be very helpful. I think getting to grips with some kind of nitrogen budget for the country and move toward the metric system of nutrient fixation will be a big step in the right direction.
- NFFN: I do see the government trying to join policy with more coherence, but it has all been long term and long delivery with not a lot of action now. How is the ELM budget delivering, what is being asked of farmers and what does data from those schemes needs to collect? What nutrients do we need to feed the nation well and how much of that can we produce in our landscape and what needs to be imported? We need to think of the health of the nation.
- NFU: The challenge is measuring adaptation in climate metrics. The government need to agree on separate metrics for resilience. A crude way could be a food production target, but we need to agree on what we are incentivising. ELMs and SFI incentivise and reward a disparate set of objectives. We need to be explicit in how they support adaptation. One policy would be farming water storage reservoirs; it could be feasibly tackled quickly. The complex set of regulations, planning and licenses means that it is not a straightforward process. Farmers want to do this, and the Well Adapted UK report will make the recommendation to make this easier.