6. Land Use

Defining a Vision for 2030

From a climate perspective, land use accounts for around a quarter of all GHG emissions globally, predominantly through industrial-scale agriculture (particularly meat and dairy) and deforestation (often to clear space for cattle or cash crops)[i]. In terms of wider environmental breakdown, the way we are using our land is at the core of the problem. Through increasing encroachment of human activity on natural environments, the disruption of natural cycles (carbon, nitrogen, water and others) and the loss of biodiversity we are rapidly approaching the limits of what our planet can sustain[ii]. The UK is not immune to this[iii].

While there is a growing recognition of several high-profile issues (single-use plastic, building on flood plains, destruction of the Amazon), the way 'business-as-usual' is devastating our planet remains largely unseen. We remain disconnected from both nature and our food systems. Nature-based solutions will need to sequester carbon at a rate greater than we produce it (for at least the next 100 years), and at the same time we need to feed 8 billion plus people. Reconnecting and truly understanding the value of our land and sea, are central to our very survival. The role of the sea is also included in this chapter as the health of our oceans is critical to both addressing climate change and sustaining life in general.

In 2030…

Across Dorset the value of our land and sea is understood and recognised by all, including how it plays an important part in the physical and mental health benefits of residents and visitors. Through programmes of regeneration, reforestation, rewilding and reconnecting, everyone can witness how nature is recovering, biodiversity increasing and food systems improving. The way we use our land is consistent with the model set out in the Zero Carbon Britain reports. All Dorset rivers are in a good ecological condition.

Through awareness raising and education there is no longer a disconnect between town and country; our food chains are transparent, and much more of our food is produced locally. Within urban areas, common land is extensively used for community gardens, carbon management or biodiversity improvement. Market gardens are flourishing. Abandoned land has been brought into one or more of the above programmes. The farming community has been supported to make the necessary changes to practices and land use. The decline in species has been halted.

Areas of the county have been identified and used for rewilding. Nature-based solutions are widely employed. Regeneration extends beyond the coastline, with marine protection zones and extensive seagrass restoration off the Purbeck and West Dorset coasts.

Assessment Framework

How are we performing currently?

The framework below sets out the criteria against which the current status can be assessed. Aspirational objectives are then set to encourage progress towards the vision. Land use is a much more complex area than, say, renewable energy provision (which can be measured as a specific percentage of requirements). For this initial assessment we have taken the Zero Carbon Britain model (explained further below) and set out a rough set of steps towards achieving this. For this measure, a critical first step will be to define what the future land use vision should be along with further work to set out clearer goals and expectations.

Category	Assessment Criteria
1	Little evidence of any attempts to improve land use across the county
2	Localised initiatives being undertaken but little evidence of any coordinated action across the county.
3	Detailed plans of what land use could look like (broadly aligned with the ZCB vision) have been created at Council or other stakeholder level. Specific initiatives in support of this are in design, development and implementation.
4	Progress towards the county plan / ZCB vision is clear with notable changes in the % make up of land use. Plans are being designed and implemented to complete the shift.
5	Land use across the county aligns with at least 90% of the ZCB vision (or an enhanced version developed with local input). Plans are in place to close the remaining gaps.

2021 Assessment

2	It is encouraging that, with respect to land use, more initiatives have been discovered and more potential case studies identified than in any of the previous chapters. Work being undertaken by the National Trust, those responsible for specific areas of heaths and forests, Dorset Wildlife Trust, the RSPB and many community initiatives paints a positive picture of what can be achieved. However, a comprehensive vision matching the scale of changes required, backed by specific plans to achieve this, remains lacking.

2022 Assessment

2	We have not been made aware of any significant developments in this area during 2022.

2022 Observations

Most of the analysis in our original report remains valid at the end of 2022. However, we have noted the following developments during the year.

Farmers are facing a perfect storm.

Throughout 2022, farmers faced multiple issues; difficulty finding seasonal workers, rising energy, fertiliser and fuel costs, impact of unpredictable weather patterns on crops, and disease outbreaks, particularly avian flu. There is also uncertainty for the future, as the government policy and Environmental Land Management (ELMs)

scheme on paying farmers to manage their land for 'public good' are in doubt.

Farming for the future

For Dorset, where approximately 75% of the land is used for agriculture, there needs to be a county-wide shift to less carbon-intensive, more sustainable food production methods[iv]. Where possible the wider adoption of regenerative farming practices will be needed. Farming practices in Dorset will have to evolve to cope with climate change. A warmer and wetter environment brought on by climate change will cause a change in planting and harvesting dates and also cause a change in the variety of crops planted. While the increased atmospheric CO2 levels will stimulate photosynthesis and, in turn increase crop yields, warmer temperatures could increase and change animal. Furthermore, crop pests and diseases may cause greater fungal and insect attacks. Dorset Council[v] has a great opportunity to show leadership in the way they manage their land, whether road margins, farms or schools, for wildlife to thrive and sequester carbon.

Land Management

Farmers are being supported to change land management practices for climate, nature, people and places. The Farming in Protected Landscapes programme is open to all farmers and land managers in Dorset AONB[vi]. Funding of £1.3M has been secured. Through the programme, farmers and land managers carry out projects that support nature recovery, mitigate the impacts of climate change, provide opportunities for people to discover, enjoy and understand the landscape and cultural heritage, or support nature-friendly, sustainable farm businesses. At the end of October 2022, 80 projects have been approved with 58 delivering climate outcomes and 68 delivering nature outcomes.

Jordans Farm Partnership

Graham Birch runs Hedge End Farm, near Winterbourne Whitchurch, and is passionate about conservation and sustainable farming. Graham works closely with Dorset Wildlife Trust through the Jordans Farm Partnership[vii] to ensure his farm is nature friendly and supports wildlife recovery. Graham has provided habitat for wildlife to thrive, such as planting wildflower corridors and cultivated field margins.

Re-wilding showing promising signs.

Successful breeding of beavers[viii], first osprey hatches on south coast in 200 years[ix] and increasing populations of plants, insects and birds at Wild Woodbury[x], despite just leaving the land be for one year. But these efforts have been marred by the poisoning of a white-tailed eagle[xi], although Police cannot determine if deliberate or not.

Unacceptable river standards

The Environmental Audit Committee report into Water Quality in Rivers concluded it was clear rivers in England are in a mess, with a 'chemical cocktail' of sewage, agricultural waste, and plastic polluting the waters of many of the country's rivers[xii], as well as presenting a real threat to human health[xiii]. A step change in regulatory action, water company investment, and cross-catchment collaboration with farmers and drainage authorities is urgently required to restore rivers to good ecological health, protect biodiversity and adapt to a changing climate.

Light pollution

The significant detrimental impact of light pollution on wildlife, in particular insects, and human health and wellbeing needs to be more widely acknowledged and addressed[xiv].

Rewilding Research

In October 2022, ZCD hosted a discussion on land use, where Ellie Jones and Albany Smith from Bournemouth University to talk about their research into the price and potential for nature-based climate solutions in Dorset. There is an opportunity for business to invest in land management practices, such as regenerative farming,

rewilding, tree planting and nature-based solutions, that enhances and protects habitats for wildlife and people and at the same time increases carbon sequestration capacity, as a way to offset their carbon emissions and so meet their net zero commitments. (Reference Note: *"Assessing carbon sequestration rates from conservation management: price and potential for multi-habitat nature-based carbon sequestration in Dorset"* by Ellie-Anne Jones, Bournemouth University. This research has yet to be published online but was presented at Land Use ZCD webinar, October 2022).

Community Action

Community groups continue to show the importance of acting locally at whatever scale to support the recovery of wildlife such as the launch of DCAN's Great Big Hedge project[xv], Wimborne Town achieving Bee Friendly status[xvi] and tree planting sessions by volunteers in West Moors[xvii].

Mental health

Access to green and blue spaces improves our physical and mental wellbeing[xviii]. In 2022, a study showed that everyday encounters with birdlife were associated with time-lasting improvements in mental wellbeing[xix]. In 2020, the average distance to a public park for residents in BCP and Dorset Council areas was 0.4 mile and 1 mile, respectively. For BCP residents this would be between a 5 to 10-minute walk and for Dorset residents nearer to a 20-minute walk. The BCP/Parks Foundation partnership is investing in 11 parks to help create a nature recovery network across our local area[xx].

What do we need to focus on in 2023?

- Invest in farming practices that provide good quality food, reduce their impact on the environment (and hopefully costs as well) and protect and where possible enhance wildlife.
- Re-wild, protect and enhance green & blue spaces to provide places for wildlife and people to thrive. Seek opportunities for investment in carbon sequestration and off-setting.
- Cut pollution by investing in sewage infrastructure to protect our river and coastal water quality. Educate people about the impacts of light pollution on biodiversity and human health.

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[i] https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/ (Figure SPM.1)
[ii] https://stockholmresilience.org/research/planetary-boundaries/the-nine-planetary-boundaries.html
[iii] https://www.edie.net/news/11/IPPR--UK--acutely-vulnerable--to-environmental-breakdown/
[iv] https://www.dorsetcouncil.gov.uk/emergencies-severe-weather/climate-emergency/climate-ecological-emergency-strategy/climate-ecological-emergency-strategy-food-and-drink
[v] https://www.dorsetcouncil.gov.uk/emergencies-severe-weather/climate-emergency/climate-ecological-emergency-strategy/climate-ecological-emergency-strategy-food-and-drink
[vi] https://www.dorsetaonb.org.uk/resource/farming-in-protected-landscapes/
[vii] https://jordanscereals.co.uk/jordans-farm-partnership
[viii] https://www.dorsetwildlifetrust.org.uk/what-we-do/wildlife-conservation/dorset-beaver-project
[ix] https://www.bbc.co.uk/news/uk-england-dorset-61681579
[x] https://www.dorsetwildlifetrust.org.uk/blog/rob-farrington/wild-woodbury-one-year
[xi] https://www.bbc.co.uk/news/uk-england-hampshire-61864593
[xii] https://committees.parliament.uk/publications/8460/documents/88412/default/
[xiii] https://www.gov.uk/government/news/sewage-in-water-a-growing-public-health-problem
[xiv] https://cranbornechase.org.uk/our-work/dark-night-skies/

[xv] https://www.dorsetcan.org/hedge.html
[xvi] https://www.dorsetview.co.uk/bees-are-very-welcome-in-wimborne/#.YqsV9nbMK3A
[xvii] https://www.westmoors-tc.gov.uk/_VirDir/CoreContents/News/Display.aspx?id=48156
[xviii] https://www.ecehh.org/
[xix] https://www.nature.com/articles/s41598-022-20207-6
[xx] Nature Recovery Project: https://bcpprojects.net/future-parks/