Dorset Council

NATURAL ASSETS

Detailed Technical Paper

15 July 2021

NATURAL ASSETS

1. CONTEXT

National

The Natural Assets, that can be described collectively as Natural Capital, are essential to our human survival. How Natural Assets are used and managed affects everyone's prosperity and quality of life. Natural Assets play a critical role in providing services that are vital for the physical wellbeing of the population, such as clean air, water, and healthy soils, and the natural regulation of hazards, such as flooding. Natural Assets provide a flow of ecosystem goods and services that are essential to economic activity and societal wellbeing. The value of these is enormous and often underappreciated.

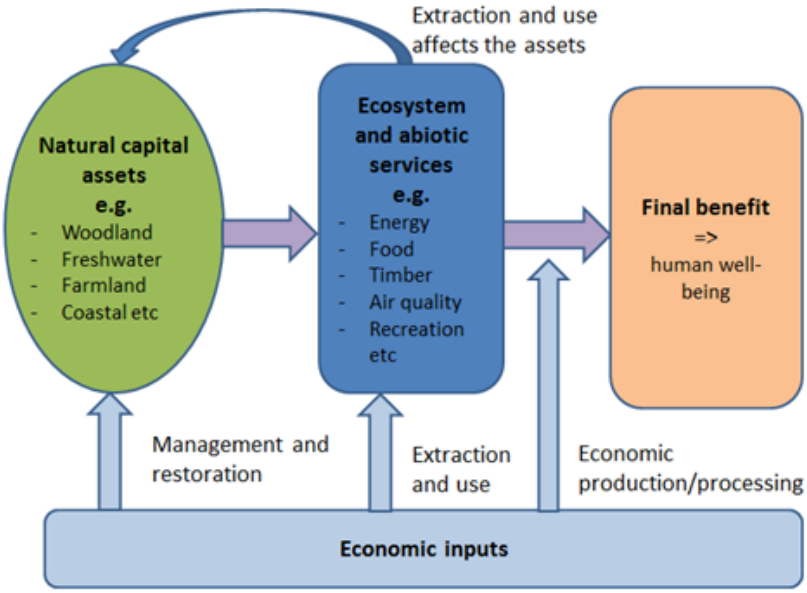
Natural Capital can be thought of as the stock of our physical natural resources and the ecosystem services that they provide. The Natural Capital Committee's State of Natural Capital Report (2013) defines Natural Capital as: "the elements of nature that directly or indirectly produce value to people, including ecosystems, species, freshwater, land minerals, the air and oceans, as well as natural processes and functions".

Despite commonly held public perceptions, much of the land in the UK remains undeveloped – around 90% in the case of England. However, the productive capacity of our Natural Assets underpins the whole economy through its provision of food, timber, and other goods, and through its use for housing, business, transport, energy, recreation, and tourism. Also, with some of the most beautiful and historic landscapes in the world, the landscape of the UK underpins our national identity, cultural heritage, and mental wellbeing[1]. The way in which we manage the often-competing demands on our Natural Capital is key to the quality and diversity of our ecology.

But biodiversity, which is the diversity within species and of ecosystems, is declining globally, faster than at any other time in human history. The world's 7.6 billion people represent just 0.01% of all living things by weight, but humanity has caused the loss of 83% of all wild mammals and half of all plants. Furthermore, biodiversity loss and ecosystem collapse is one of the top five risks in the World Economic Forum's 2020 Global Risks Report, too.[2]

Figure 1: The links between Natural Capital, Ecosystem Services, and final benefits

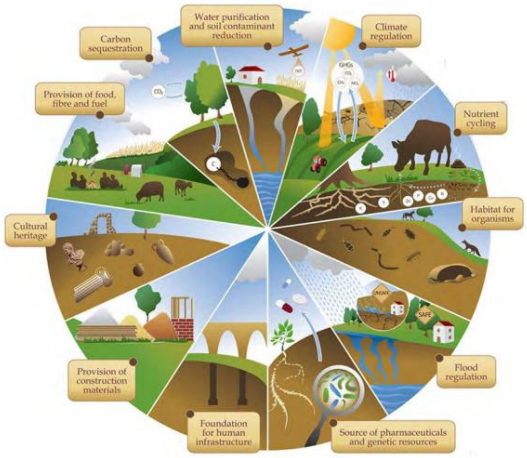
[1] Land Use Futures: Making the most of land in the 21st century, Government Office for Science, 2010
[2] 5 reasons why biodiversity matters – to human health, the economy and your wellbeing WEF, 2020



During the second half of the 20th century, the use of land for more intensive agriculture, urbanisation, and afforestation resulted in the loss and fragmentation of many semi-natural habitats which are the principal hotspots for biodiversity[2].

Land is also an essential resource to mitigate climate change, naturally sequestering and storing carbon. Over the rest of this century and beyond, climate change, combined with other social, economic, and environmental pressures, will present significant risks to the services provided by the land. Unless land is managed more effectively over this transition, its essential functions will not be maintained for future generations[3].

Figure 2: Ecosystem goods and services provided by Natural Assets



Over the last 50 years, demand across many land-use sectors has intensified in response to

[2] Mapping to inform conservation: A case study of changes in semi-natural habitats and their connectivity over 70 years, D.A.P. Hooftman, 2011

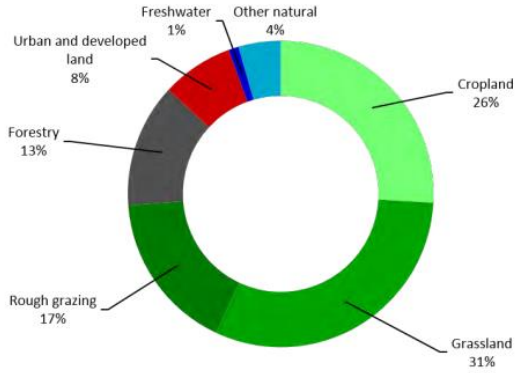
[3] Land Use: Reducing Emissions and Preparing for Climate Change, Committee on Climate Change, 2018

important factors such as population change and also rising incomes, which have fueled increased expectations. The current approach to land use is not sustainable. If land continues to be used as it has been in the past, it will not be able to support future demand for settlements or maintain current per capita food production, nor will we be prepared for the warming climate.

The UK population is predicted to increase by nine million by 2050, therefore increasing the area of land required for settlements from 8% of UK land area currently to 12% by 2050. If trends in farming practices continue, the available land will not be able to support these basic needs and maintain the current level of per capita food production. It will also lead to higher emissions and other environmental problems[4].

Whilst it is important to consider the impact of land use within individual land use sectors such as conservation, agriculture, and housing separately, it will be essential to take a strategic approach and identify how the various demands will interact.

Figure 3: Current Land Use in the UK



Land use in the UK has been influenced by a fragmented, incomplete, and complex set of national, EU, and international policies. Planning and development policies govern housing, whilst since the mid-1940s, the Common Agricultural Policy and its predecessors in the UK have provided the main strategic framework for agriculture. These agricultural policies have contributed to low innovation and little acknowledgement of the value of the wider natural environment, often incentivising land managers to destroy valuable natural resources, such as heathland and hedges, in favour of faster, more obvious returns.

Agriculture is the largest land use class across the UK, occupying just over 70% of land area, and includes land used for crops and livestock. Just under one-fifth of land is semi-natural land covering forestry, freshwater, and other natural land such as mountain, moor and heath, and coastal margins. The remaining approximate of 8% is built-up urban and developed land.

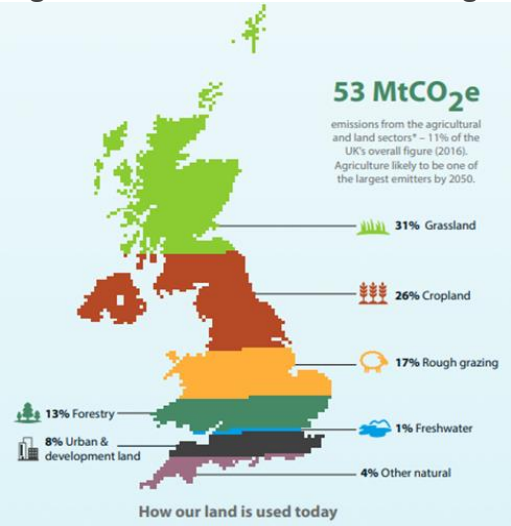
In 2016, agriculture emissions (46.5 $MtCO_2e$) accounted for 10% of UK greenhouse gas emissions. However, the land use, land-use change, and forestry sector were a small net carbon sink, sequestering over 14 $MtCO_2e$, which is equivalent to abating around 3% of UK emissions. The ability

[4] Land Use: Reducing Emissions and Preparing for Climate Change, Committee on Climate Change, 2018

of existing forests to absorb carbon is expected to weaken in the future due to the ageing profile of trees.

Changes from one land use type to another will result in a change in soil carbon stocks over time. The change in vegetation cover and management will affect the amount of carbon that goes into the soil from biomass decomposition. This results in ongoing emissions or removals, which continue for decades after the change in land use, and until equilibrium carbon stocks characteristic of the new land use is reached. Also, the initial disturbance of the soil will release carbon from soils to the atmosphere as CO_2. Vegetation in the UK removed an estimated 28 million tonnes (CO_2 equivalent) of carbon gases in 2017[5].

Figure 1: Emissions from the Agricultural and Land Use Sectors



Some impacts from climate change are already evident within the natural environment and agriculture sector in England.

There is evidence that the earlier spring and delayed autumn seasons have impacted the delicate seasonal clocks of migratory birds. Many iconic species, such as Swallows, a bellwether of spring, are arriving in England earlier each year and leaving later each autumn. Others, such as the Night Heron, are breeding in the UK for the first time as their range expands north. Other species, such as the Snow Bunting and Ptarmigan, are in decline, as their seasonal plumage colour change is now out of sync with annual snow fall.

There are some indications that higher temperatures in England are enabling greater planting of crops previously grown only in warmer climates. For example, the amount of land used for wine production in the UK has more than doubled in the decade to 2015. Over the past 40 years, there has also been a shift towards a warmer, drier regime during the growing season in eastern parts of England, which has led to more land being classified as 'prime agricultural' in those areas.

Higher average temperatures in recent years have had an adverse impact on the production of certain fruit varieties by reducing the incidence of chilling temperatures that are necessary in some overwintering crop. The observed decline in spring frost frequency has been linked with reduced

[5] UK Environmental Accounts: 2019, ONS, June 2019

blackcurrant yields. Recent spells of high temperatures in warmer summers have also caused reductions in yields and quality that have affected crops such as brassicas, some fruits, and tomatoes.

The heatwave in 2018 reduced the productivity of grazing land, resulting in a shortage of forage for livestock and increased reporting of heat stress in dairy cows. The yields of salad, fruit, and vegetable in the UK were also severely affected by the dry spell, while the warmer conditions increased the incidence of pests such as Pea Moth and Bruchid Beetle, which feed on peas and beans.

Research has repeatedly shown that access to green space is associated with a range of better health outcomes. In addition, income-related inequality in health is less pronounced where people have access to green space.

“Safe, green spaces may be as effective as prescription drugs in treating some forms of mental illnesses.” (Faculty of Public Health Report, Great Outdoors: How Our Natural Health Service Uses Green Space To Improve Wellbeing).

There is evidence showing that use of green spaces by children with ADHD can help reduce symptoms and a study from Japan found that access to walkable green spaces reduced inequalities in the life expectancy of the elderly. Housing developers have acknowledged for many years that access to greenspace within a development site increases house prices.

2. CARBON SEQUESTRATION

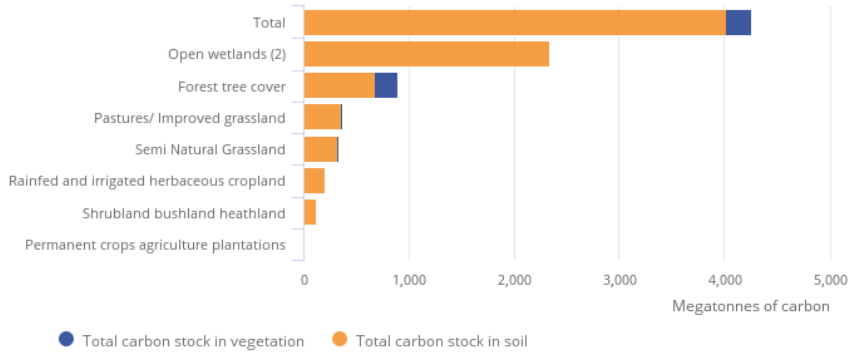
Carbon sequestration or Carbon Dioxide Removal (CDR) is the long-term removal, capture, or sequestration of carbon dioxide from the atmosphere to slow or reverse atmospheric CO_2 pollution.

Carbon dioxide (CO_2) cycles naturally between the atmosphere and the biosphere as a result of photosynthesis, respiration, decomposition, and combustion. The amount of carbon in an ecosystem changes as it develops and evolves (Ostle and others, 2009). Carbon is absorbed by water, phytoplankton, and vegetation, creating significant stores in the oceans, biomass, and soils. Globally, soils contain about three times the amount of carbon in vegetation and twice that in the atmosphere (IPCC, 2000; Smith, 2004).

Land management choices can either maintain or increase the carbon store for long periods of time or result in net emissions. Therefore, land use and management choices can have an important role in determining the amount of carbon that is released into the atmosphere or stored in the soil (mitigation) and, as a consequence, in global climate regulation (Smith and others, 2007; Thompson, 2008).

Restoring some habitats, such as semi-natural grasslands or bogs, or promoting active accretion of sediments in intertidal systems, land, and marine managers, can help mitigate the causes of climate change. This can be achieved by directly reducing greenhouse gas emissions, safeguarding carbon stores, and in some cases, re-starting sequestration (Natural England, 2010). The sustainable management of habitats important for carbon storage therefore contributes to meeting targets for GHG emission reductions, including the carbon budgets set by the UK Climate Change Act.

Figure 3: UK biocarbon stock estimates (MtC), by SEEA-EEA habitat class, 2007^1^



Source: Centre for Ecology and Hydrology, Office for National Statistics

As Figure 3 shows, the carbon stored in UK soils is by far the largest component of the biocarbon stock, containing approximately 4,019 million tonnes of carbon (MtC), or 94.2% of the total[3]. The amount of carbon stored in UK terrestrial vegetation was considerably lower, containing an estimated stock of 247 MtC, or 5.8% of the total.

The carbon stored in open wetlands (peat soils) makes up the largest portion of soil carbon stocks (57.3 %), followed by forest tree cover (16.7%). The volume of carbon stored in the latter is primarily down to the wide extent of this habitat class, rather than its capacity to store carbon, such as carbon density. Soil carbon contained in improved grassland habitat also makes a significant contribution to total soil carbon stocks (9%).

In terms of the carbon stored in UK vegetation, forest tree cover habitats had the largest proportion of total stocks (91.4%). Vegetation carbon in forest tree cover can be further disaggregated into coniferous woodland habitat, and broadleaf, mixed and yew woodland habitat, which contain 48.0% and 43.4% of total stocks respectively.

Urban green space is often overlooked in terms of carbon storage. However, this land class could potentially be a significant store stock of carbon (Natural England, 2016) and the inclusion of biocarbon data for urban habitats could be very useful to urban planners, particularly when designing future green infrastructure projects.

Dorset

With an area of 2,653km^2, Dorset is the smallest county in the South West, covering 11.1% of the South West's land area. Furthermore, 53% of the county is designated as an Area of Outstanding Natural Beauty, including the fifth largest AONB in the UK. Dorset's 87 mile coastline, from the Devon border to Studland bay, is designated as a UNESCO World Heritage Site, due to the globally

important geology. Such geology offers an almost complete record of the Mesozoic Era (from around 250 to 65 million years ago), due to coastal erosion that has exposed an almost continuous sequence of rock formation.

Dorset is predominantly a rural county, with 197,008.6 Ha (74%) of land use devoted to agriculture, which is on par with the national average. Of the agricultural land use, 35% is arable, 58% is grassland, and 4% is farmed woodland[6]. The Gross output from agriculture in Dorset is £306m, with a GVA of £112m.

Dorset[7] has a total of 28,758 ha of woodland, covering approximately 11% of the area, of which 48% is broadleaved (13,829ha), 30% is coniferous (8,620 ha) and 15% is mixed (4,308 ha), the remaining 2% represents coppice (1%) and felled woodland (1%) [8].

The area of each habitat classification type for Dorset[9] can be found in the table below. A new report, which explores land-use options post-Brexit, suggests that increasing the area of semi-natural habitats, such as chalk grassland and heathland, could increase economic growth by up to 5% and employment by up to 8%. In Dorset alone, this could deliver an £0.8 billion increase in the local economy and create more than 25,000 jobs[10].

A survey of local businesses was undertaken to determine the importance of ecosystem services to their commercial activities. Overall, 47% of the businesses stated that they were at least somewhat dependent on service flows. Economic sectors that were highly dependent on ecosystem services included tourism and travel, manufacturing, education and agriculture. The most important services to businesses were provision of freshwater, waste and water treatment, microclimate regulation, water quality, and carbon storage[11].

Intensive agriculture reduces the flows of most ecosystem services, including flood protection, water quality, carbon storage, soil quality, and provision of habitat for wildlife[12].

Table 1: Habitat classes in the County of Dorset[13]

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7 Including Bournemouth Christchurch & Poole
8 National Inventory of Woodland & Trees – South West England, Forestry Commission, 2002
9 Including Bournemouth, Poole & Christchurch
10 Trends in Natural Capital, Ecosystem Services and Economic Development in Dorset
11 Trends in Natural Capital, Ecosystem Services and Economic Development in Dorset
12 Trends in Natural Capital, Ecosystem Services and Economic Development in Dorset
13 Including Bournemouth, Christchurch and Poole

2017 Habitat (simplified legend class)	Area (km^2)	2017 Habitat (simplified legend class)	Area (km^2)
Arable	696.15	Quarry	7.85
Bare ground	1.61	Saltmarsh	4.38
Bracken	3.45	Sand dune	1.46
Broadleaved woodland	247.47	Scrub	15.90
Cliffs and rocky shore	5.33	Semi-improved grassland	88.42
Coniferous plantation	79.36	Shingle above high tide mark	3.69
Felled woodland	0.03	Tall herb and fern	0.28
Gardens	43.85	Unimproved grassland (Acid)	0.67
Hedgerow	0.90	Unimproved grassland (Calcareous)	0.03
Improved grassland	1,149.38	Unimproved grassland (Neutral)	0.13
Intertidal habitat	22.77	Urban	352.74
Lowland dry heath	51.77	Water	51.36
Marshy grassland	6.13	Wet heath	6.53
Mixed woodland	14.08	Wet woodland	6.50
Parkland/scattered trees	2.17	Wetland	10.77

Unlike the national context where emissions have remained relatively stable, carbon emissions from agriculture in Dorset have reduced by 12% from 96 $ktCO_2$ in 2005 to 84 $ktCO_2$ in 2017. During the same time, carbon storage by changes in land use has increased by 98% from -53 $ktCO_2$ in 2005 to -105 $ktCO_2$ in 2017, resulting in net emissions of CO_2 of 43 $ktCO_2$ in 2005 and -21 $ktCO_2$ in 2017. Therefore, in 2017, land use in Dorset resulted in net sequestration of carbon.

Dorset Council

Dorset Council is a significant landowner and also has powers that can heavily influence the quality of the environment in the county.

Dorset Council owns within the region of 1,750 individual assets[14], which includes 4,651 hectares of freehold land. The Council owns a total of 608 sites, which have buildings on them for which it is responsible (excluding schools), and also leases approx. 413 hectares.

The Council has a County Farm Estate, which comprises of 41 farms covering about 1% of the area of Dorset. Six of these farms are organic. In addition, 40% of the farms are stock units, for beef and sheep, and 60% dairy. All of the farms are let by way of agricultural tenancies, which sets out the relationship between the landlord and tenant.

[14] The former DCP database holds property details in a different way to the former DCC database, so this figure is not strictly a consistent comparison across all portfolios

Key roles of the Council can affect land use. These include the creation of the local plan and planning policies, as well as approving or refusing planning applications. Our Greenspace team also manages the gypsy and Traveller Service that operates four permanent traveller sites and many of Dorset's best countryside public assets, which include:

- Over 60 countryside sites, including four country parks, a National Nature Reserve, visitor centres, SSSIs, and Green Flag award winning open space. These sites attract millions of visits a year from locals and visitors to Dorset. They are also used to offer improved health and wellbeing outcomes for the community and deliver hundreds of events each year.
- Nearly 3,000 miles of Public Rights of Way, managing and improving countryside access on foot, horse, and bike.

Long distance National Trails, such as the Wessex Ridgeway and South West Coast Path, providing high quality trails for locals and visitors.

Nearly 5,000 miles of highway verge, maintained for highway safety, but also to enhance the landscape and environment for wildlife – as part of the Council's pollinator strategy. Engagement with local population to highlight the value of the environment and the health and wellbeing and ecological value it holds.

There are very active AONB and Natural Environment Teams within the Council that work hard to protect and enhance Dorset's biodiversity. Projects they are working on include:

- **Dorset Biodiversity Appraisal Protocol**, which ensures that impacts on biodiversity are mitigated or compensated for, resulting in no net loss of biodiversity overall. Ecological enhancements are also required from all development and Dorset Council will be requiring 10% net gain for all development, which falls under its remit over the coming months, in accordance with the draft Environment Bill.
- **Barn Owl Project** - working with County Farmers to install and monitor barn owl boxes to increase barn owl population.
- **Great Crested Newt District Licence project** - leading to creation of additional ponds and terrestrial habitat, linking and increasing existing populations.
- **SNCI Partnership** - to create and manage SNCIs by liaising with land owners and providing management advice.
- **Merritown Heath management** – to provide habitat for threatened species, such as the Nightjar, Dartford Warbler and Sand Lizard to thrive, and to ensure that the rare heathland is maintained and enhanced.
- **Major construction projects where NET input ensures maximum gain for** wildlife - through no topsoil verges, use of wildflower seed mixes, and creation of habitat areas such as wet woodland, ponds, and swales.
- Contributions to partner organisations such as Dorset Bat Group to support research
- **Green Infrastructure Advice Team** - working with development management, policy planning, and the Greenspace service to ensure maximum environmental value is delivered as a result of planning gain.

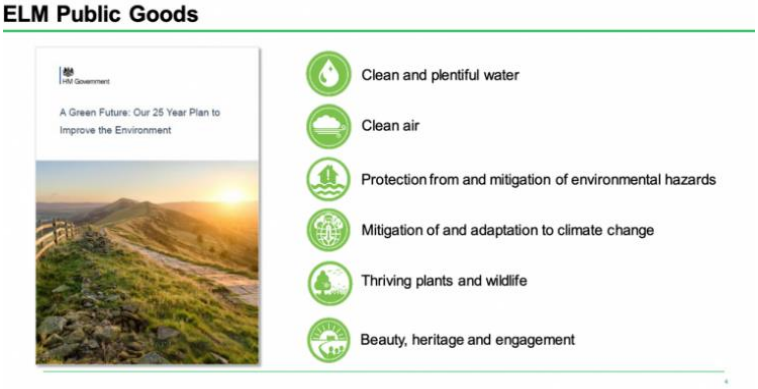
3. PROGRESS / CURRENT SITUATION

National Context

The UK government has proposed radical changes of £3 billion a year in agricultural spending, with a focus on benefits to climate, ecosystems, and the public. Under the Agricultural Bill, which was introduced to Parliament in January and is expected to become law within a few months, farmers will be given subsidies not simply for cultivating land, which is the current EU system, but for delivering "public goods."

These include sequestering carbon in trees or soil, enhancing habitat with pollinator-friendly flowers, and improving public access to the countryside. To ease the transition, direct subsidies will be phased out over seven years, beginning in 2021, and the new payments for environmental services will be tested in pilot projects. "It's dramatic and utterly critical," says Dieter Helm, an economist at the University of Oxford. "This is an agricultural revolution." Furthermore, the United Kingdom is to embark on 'agricultural revolution' in a break from EU farm subsidies (*Science 2020).*

The Agricultural Bill currently proposes public funding to support actions that deliver 'public goods' though the development of new Environmental Land Management (ELM) schemes.



The Environment Bill 2020 was reintroduced to Parliament in January 2020 and aims to be a key vehicle for delivering against the 25-year Environment Plan that was published in 2018. Furthermore, the bill sets out government action to help the natural world regain and retain good health. The Environment Bill helps to manage the impact of human activity on the environment, creating a more sustainable and resilient economy, and enhancing wellbeing and quality of life. It will engage and empower citizens, local government, and businesses to deliver environmental outcomes and create a positive legacy for future generations.

The bill supplements existing legislation and policy on protected sites and species and introduces new incentives, actions, and planning tools to drive further improvements for nature. It also lays the foundation for the Nature Recovery Network and Local Nature Recovery Strategies. In addition to setting the framework for at least one legally binding target for biodiversity, it establishes spatial mapping and planning tools to help inform nature recovery and, sitting alongside our plans for introducing a new Environmental Land Management Scheme, the actions and incentives to drive change on the ground.

Dorset

The significant proportion of Dorset (53%) has been designated for conservation as an Area of Outstanding Natural Beauty due to its significant landscape value.

In addition, Dorset is one of the most important counties for wildlife. There are 141 Sites of Special Scientific Interest, covering an area of 199.45 km^2, 11 National Nature Reserves (NNRs), 1,254 Sites of Nature Conservation Interest (SNCIs), and 23 sites recognised to be of international or European importance (SACs, SPAs and RAMSAR sites). There are also 63 Regionally Important Geological Sites (RIGS) and 45 Local Nature Reserves (LNRs).

Natural England has developed an Accessible Natural Greenspace Standard (ANGSt), which provides local authorities with a detailed guide as to what constitutes accessible green space. The Accessible Natural Greenspace Standard not only recommends the distance people should live from certain types of green spaces but also recommends the size of the green spaces in conjunction with distance to homes.

It states that people should have accessible natural green space:

- of at least two hectares in size, no more than 300m (five minutes' walk) from home
- at least one accessible 20 hectare site within 2km of home
- one accessible 100 hectare site within 5km of home
- one accessible 500 hectare site within 10km of home.

ANGSt also recommends a minimum of one hectare of statutory local nature reserves per thousand people.

Total expenditure on environmental stewardship schemes in Dorset in 2011/12 amounted to £7.2 million. According to the Countryside and Community Research Institute, for every £1 spent on stewardship activities, the total output in the local economy (within 40 minutes of the farm) is £1.42. That's a £10.2 million contribution to the local economies in Dorset.

The Dorset Area of Outstanding Natural Beauty Team are currently looking at how future agricultural support from the Government can help deliver the ambitions of the Dorset AONB Partnership. Using funding from Department of Environment, Food and Rural Affairs (DEFRA), there is an opportunity to influence the development of the new Environmental Land Management (ELM) schemes to benefit Dorset.

In the Dorset AONB, we're particularly looking at three elements:

- Strategic Landscape Plan: how do we produce a plan that effectively shows the investment priorities for the whole landscape
- Farm Plan: how does the information in the Strategic Landscape Plan inform commitments for on-the-ground delivery by a farm or group of farms
- What guidance is required to effectively manage chalk grassland, and what are the indicators of success.

Dorset Council

As a Competent Authority under the Conservation of Habitats and Species Regulations 2017, the Council is responsible in ensuring that all new housing and tourism development that is granted planning permission in the catchment of Poole harbour is nitrogen neutral.

The Councils are currently meeting the mitigation requirements by offsetting the impact of residential development by converting high nitrogen input agricultural fields to low nitrogen input. This can be achieved by changing the use of agricultural land where fertiliser is applied or it is intensively grazed by livestock.

Managing the land a different away, for example woodland, wetland, or scrub does not require intensive agricultural methods. This reduction in nitrogen entering the ground offsets the additional nitrogen loading that comes from new housing and tourism development.
The Biodiversity Appraisal Protocol (BAP) was set up to ensure there is an integrated approach to planning and development while looking after Dorset's ecological assets.

Through the protocol, the Natural Environment team provides ecological advice relating to the planning process.

It has been adopted by Dorset County Council (2010) and other Planning Authorities across Dorset before LGR and ensures that any impacts on wildlife, which might arise from development (housing, mineral, or waste), are assessed and dealt with at the very start of the planning process. The Dorset Biodiversity Appraisal Protocol was developed by the Natural Environment Team (NET) in Dorset County Council (now Dorset Council) in partnership with Natural England and the Dorset Wildlife Trust.

The Biodiversity Appraisal protocol is made up of two elements:

- A Biodiversity Mitigation and Enhancement Plan (BMEP) with clear guidance for consultants to follow and advice around surveys required
- The Biodiversity Compensation Framework, where assessment of development through the BMEP shows that there will be a residual loss of biodiversity and requires developers to pay a lump sum to the Planning Authority, if development will lead to an unavoidable impact on wildlife. The money collected from the Biodiversity Compensation Framework is spent on wildlife projects all over Dorset.

NET have produced and administer the Dorset Biodiversity Compensation Framework based on the DEFRA framework. This secures financial compensation which ensures that development is compliant with National Planning Policy Framework 2018, and that the biodiversity duty conferred on Local Planning Authorities by the NERC Act 2006 is met. The funding is spent on wildlife projects all over Dorset, which is coordinated by a panel.

In 2016, the then Dorset County Council adopted the Pollinators Action Plan, which recognises the crucial role that pollinating insects play in our natural environment and economy. Furthermore, it sets out a number of principles under which Dorset Council will operate to reduce the decline in pollinating

insects in Dorset. The plan outlines how Dorset Council will deliver services and projects at an operational level in a way that maximises positive impacts and minimises negative impacts on pollinator species.

Insect pollinators play an essential role in providing pollination services for many commercial crops and wild plant species, services which represent significant value to the UK economy, estimated at over £400 million annually. With a significant agricultural sector, and extensive natural and semi-natural habitats within which pollinators are important, it is likely that Dorset receives a disproportionately high share of this economic value.

A new ecologically beneficial approach to verge management was approved by Dorset County Council in 2014 and has been progressively rolled out across the County. With over 5000 miles of roadside verge, the impact of the biodiversity gains brought about by this are significant. The approach is based around the principle of lowering the fertility of the soil by collecting the arisings from the grass cuttings to prevent them being recycled into the soil as the breakdown.

As soil nutrients decrease in a grassland ecosystem, the number of plant species that can survive increases. Furthermore, the dominance of coarse grasses and weeds, such as Docks, Ragwort, and Thistles declines. Therefore, the benefit of our approach is that it will produce a more diverse roadside environment for wildlife and add to the biodiversity of the area.

The verges of the Blandford Bypass are a good example of the success of the approach. Since the cut and collect approach was adopted, the verges have now been recognised as a Site of Nature Conservation Importance by the Dorset Wildlife Trust, and the grassland supports a beautiful showing of Pyrimidal Orchids in summer, along with abundant Ox-eye Daisy and Knapweeds.

The cut and collect approach also reduces the amount of cutting required, which allows resources to be deployed elsewhere and reduces the carbon emissions from the cutting operations.

4. FUTURE DIRECTION - SCALE OF THE CHALLENGE

The ecological and climate emergencies are intertwined in terms of their causes but there is also a mutual benefit from positive action. Significant carbon release places stress on the regulatory services provided by the ecosystem helping to maintain our climate or protect against climate change. However, changes in land use that improve ecological value and biodiversity generally have a positive impact on climate change, as the carbon sequestration of the land increases.

Alongside actions to reduce and ultimately eliminate the release of carbon emissions at source, the more carbon that can be sequestered by natural assets hastens the pace of achieving carbon neutrality.

Agricultural activities account for approximately 70% of land use in the UK. As agri-environmental schemes evolve to focus more on the public good element and ecological value of production, a shift in the cultural approach of the sector and a rationalisation of demand to maintain a balance of

production output will be required. This is in addition to scheme success and compliance involving social trends and profitability.

Outside of the agricultural sector, there are opportunities to increase the carbon sequestration. Ecological potential of the built environment, planning policies, and strategies can be developed and enhanced to include a greater emphasis on the requirement to deliver open space that delivers these outcomes. The land required and cost of doing so impacts on the viability of development schemes and, ultimately, needs to be prioritised against other calls on developers and balances against the provision of affordable housing.

Land is a high value commodity, especially in the Dorset area. In order for ecological and carbon sequestration benefit to be sustainable in the long term, the land required needs to be secured in perpetuity. Therefore, mainstream commercial income generating opportunities are limited.

5. OBJECTIVES

- Protect habitat and species – prevent further loss of existing unique ecosystems
- Improved quality of habitats – for ecological value and carbon sequestration opportunities
- Ensure decision making around use of natural assets is based upon ecological value
- Management and maintenance of natural assets is financially sustainable
- Increased appreciation and engagement with areas of high ecological value.

6. OPPORTUNITIES

- Use of various planning gains (Biodiversity Mitigation, Nitrate Mitigation, and Heathland Mitigation collected via s106 agreements linked to Supplementary Planning Documents) to increase area of land owned and managed for ecological and carbon sequestration outcomes.
- Work with third parties to promote carbon sequestration opportunities and develop a commercially viable model to allow the purchase of local carbon credits.
- Increase use of non-intervention management / rewilding techniques on Council owned land to improve connectivity of high ecological value areas, including expansion of cut and collect management of highway verges across the Dorset Council area.
- Prioritise ecological and carbon sequestration value in the design of the built environment through the planning process.
- Increased tree planting where suitable to avoid detrimental effects on other habitat types or landscape.
- Ensure ecological quality is considered in flood management and highway schemes e.g. Weymouth Relief Rd.
- Promote the Health and Wellbeing benefits of publicly accessible high ecological value land.
- Develop guidance to ensure community tree planting initiatives are ecologically robust and sensitive to the local landscape.

- Work with tenants of County Farms to promote and ensure best environmental practices are upheld.