Blackdown Hills National Landscape: Area of Outstanding Natural Beauty Management Plan 2025-2030

Adoption draft

April 2025

PART B: APPENDICES

Appendix 1

WHAT'S SPECIAL ABOUT THE BLACKDOWN HILLS: OUR SPECIAL QUALITIES

'Natural beauty' is not just the look of the landscape, but includes landform and geology, plants and animals, landscape features and the rich history of human settlement over the centuries (Countryside Agency, 2001). These aspects of natural beauty are key physical components of the landscape. However, landscape is also about tranquillity, sensory experiences, cultural associations and the relationship between people and place. It is therefore important that the cultural, perceptual and aesthetic dimensions of landscape are also recognised as elements of natural beauty. Natural England has developed a list of factors that contribute to natural beauty:

Landscape quality – a measure of the physical state or condition of the landscape

Scenic quality – the extent to which the landscape appeals to the senses (primarily, but not only, the visual senses)

Relative wildness – the degree to which relatively wild character can be perceived in the landscape makes a particular contribution to the sense of place

Relative tranquillity – the degree to which relative tranquillity can be perceived in the landscape

Natural heritage features – the influence of natural heritage on the perception of the natural beauty of the area. (Natural heritage includes flora, fauna, geological and physiographical features)

Cultural heritage – the influence of cultural heritage on the perception of the natural beauty of the area and the degree to which associations with particular people, artists, writers or events in history contribute to such perception

Special Qualities

The designated Blackdown Hills Area of Outstanding Natural Beauty has a suite of special qualities that together make it unique and outstanding, underpinning its designation as a nationally important protected landscape. Special qualities may be considered as specific components of 'natural beauty,' distilling out the key attributes that combine in particular ways to form the natural beauty of the area. These are the

special qualities, individually and in combination, that we need to conserve and enhance for the future and they should be considered in all decisions affecting the National Landscape.

Special Landscape Character

From the dramatic, steep, wooded north-facing scarp, the area dips gently southwards as a flat-topped plateau deeply dissected by valleys. This is the northern part of the East Devon Plateau – one of the finest, most extensive in Britain. The tops are open and windswept; in the valleys villages and hamlets nestle among ancient patterns of small, enclosed fields and a maze of winding lanes lined with high hedgebanks. The steep valleys support a patchwork of woodland and heath, nationally and regionally important habitats which support a wealth of charismatic and priority species and interesting plant communities.

Key to the Blackdown Hills designation as an AONB is the subtle combination of four outstanding aspects of the landscape (The Blackdown Hills landscape: A landscape assessment. Countryside Commission, 1989):

It is an area notable for its **unspoilt rural character**, which remains relatively undisturbed by modern development and so ancient landscape features, special habitats, historical and archaeological remains have survived intact. In the winding lanes, the hidden valleys, and traditional villages there is a sense of stepping back in time; of the links between nature and humanity. The countryside remains largely unchanged and there is an identifiable and characteristic vernacular, pastoral landscape.

There is a **unique geology**. The composition of the underlying Upper Greensand geology of the Blackdown Hills and the adjoining East Devon National Landscape is unique in Britain and is one of the area's strongest unifying features. It has given rise to the distinct topography of flat-topped plateau, sharp ridges, and spring-lined valleys. The springs in turn have created the characteristic pattern of rough grassland, mire, and wet woodland vegetation on the valley sides. The nature of the Greensand rock has meant that these plant communities are particularly diverse. Moreover, the geology has provided a local building material, chert, which is uncommon elsewhere.

There is a **diversity of landscape patterns and pictures**. The visual quality of the landscape is high and is derived from the complex patterns and mosaics of landscapes. Although the scenery is immensely varied, particular features are repeated. There are long views over field-patterned landscapes. Ancient, species-rich hedgerows delineate the fields and define the character of the landscape, enclosing narrow twisting lanes. The open plateau is dissected by steep valleys, the slopes supporting a patchwork of ancient woodland. The history of medieval and

parliamentary enclosures has resulted in a contrasting landscape of small fields in the valleys and larger fields with straight hedges on the plateau. There are patches of heath and common, bog and mire and there are fine avenues of beech along the ridge. At a more detailed level there is a variety of visual and ecological interest; heathland birdlife, ground flora of woodland and mire, and colourful wildflowers on hedge banks.

It is a **landscape with architectural appeal**. The landscape pattern is punctuated by a wealth of small villages, hamlets and isolated farmsteads of architectural value and distinctive character. Devon and Somerset are recognised nationally for their fine rural architecture, but the Blackdown Hills contain a special concentration of such buildings and where the vernacular character is particularly well preserved. Predominant materials are chert and cob with thatch, over time often replaced by corrugated iron, or clay-tiled roofs. The appeal lies in the way in which the buildings fit so naturally into their surroundings.

Special Historic Landscape

The Blackdown Hills landscape has great time depth, from prehistoric through to modern:

Prehistoric to Roman times

There are significant concentrations of early prehistoric evidence in the Blackdown Hills. Large numbers of Mesolithic flint and chert tools have been found, as well as Neolithic causewayed enclosures. Later prehistoric features include Bronze Age round barrow cemeteries and isolated barrows, and large Iron Age hillforts that take great advantage of the local topography. Of the 25 Scheduled Monuments in the area, 10 are Bronze Age barrows or barrow cemeteries and seven are hillforts.

Peat deposits in spring-line mires provide information back to prehistoric times, and the preserved pollen records show changes from woodland to pastoral and arable farming.

The Roman period is represented by military use of the Iron Age hillfort at Hembury, the later bathhouse at Whitestaunton and several ‘Romanised’ farms. Extensive evidence is emerging for Romano-British farms and field systems, that are particularly visible on LiDAR in marginal areas such as on and around the edges of commons/moors - some of these though may be Medieval.

Medieval period

Key medieval sites include Castle Neroche, an early Norman earthwork castle built on an earlier Iron Age defended site, and Hemyock Castle, a fortified manor house of the late medieval period. Dunkeswell Abbey, founded in the 13th century, had a significant influence on the landscape through its grange farms and probable involvement in iron production.

The Blackdown Hills' distinctive field patterns and many dispersed farmsteads and hamlets originate from medieval times. Across the area are properties and settlements that were recorded in the Domesday Book. Historic landscape characterisation projects have identified a high proportion of the landscape as being of medieval origin. Enclosed, former medieval strip fields are well preserved throughout the area. Irregular fields and massive hedges in the valleys represent land taken directly into cultivation from woodland in the medieval period.

There is an extraordinary concentration of medieval buildings in the villages, as well as many deserted or shrunken medieval and post-medieval settlements, which reflect the ebb and flow of agriculture on marginal land. Ancient woodland, surviving from the medieval period, is still well represented, particularly on the northern escarpment. The Royal Forest of Neroche was finally enclosed in the 1830s but traces of the old wood-banks still survive.

Modern

Parliamentary Inclosure of heath and commons on the plateau tops in the 19th century has created distinctive landscapes of large regular fields with straight roads and beech hedges. The area contains some of the latest enclosures in Devon: Stockland Hill was not enclosed from heath until 1864, and Beacon Hill, Upottery, not until 1874.

The Wellington Monument, a prominent feature on the northern skyline, commemorates the battle of Waterloo. The National Landscape also contains important evidence from the second world war – the three airfields at Culmhead (Trickey Warren), Dunkeswell and Upottery (Smeatharpe). As well as the runways, a wide range of structures still survive at all three sites including pillboxes, aircraft dispersal pen and technical and domestic buildings. Some have been designated as Scheduled Monuments or Listed Buildings. There has been a substantial loss of hedgerows and orchards to meet the needs of modern agricultural since the second world war; simplifying parts of the landscape and masking their early origins.

The landscapes of the Blackdown Hills have been created by the interplay of people and the land over many centuries:

The **unique geology** of the area has had a strong influence on the industrial archaeology and landscape. Iron production is thought to have started locally in the later Iron Age, it was an important Roman industry and continued into the Middle Ages. Recent finds in Hemyock suggest an intensive iron industry existed in the late 9th and early 10th centuries. The iron ores were found at the junction of the Upper Greensand and the capping clay layer. There was extensive iron mining on the plateau, influencing the creation of plateau commons and improved/enclosed former heath, and now wooded upper slopes. The cratered landscape of opencast iron workings can still be seen in places on the plateau tops, such as Culm Davy, and iron slag finds are widespread.

There are claypits associated with medieval and post-medieval pottery production (a vast hoard of medieval pottery pieces found in Hemyock suggests it was an important local industry) and a number of largely 18th and 19th-century limekilns particularly around the Bishopswood and Wambrook area. Deliberate planting of former extraction pits with trees and orchards started in the medieval period and has contributed to the extensive pattern of small, dispersed woodland.

Mining of a hard seam of stone within the greensand for whetstone production reached its heyday in the 18th and 19th centuries. Indications of the mines can still be seen on the western escarpment around Blackborough and Broadhembury.

In terms of **literature and the arts**, over the centuries the Blackdown Hills landscape has inspired writers and artists who have left a legacy of cultural associations. Celia Fiennes, Daniel Defoe, and Rev John Swete all travelled through the area during the late 17th and the 18th century, providing informative descriptions and historical perceptions of the landscape.

In the early 20th century the Camden Town Group of artists, including Robert Bevan, Charles Ginner and Spencer Gore used the patterned rural landscape as inspiration for their impressionist paintings that provide records of the past. Today the texture, colours and light of the Blackdown Hills continue to influence contemporary artists and makers.

The Blackdown Hills has a **distinctive local style of architecture**. Local materials such as chert, cob, thatch, and clay tiles are used extensively, as well as limestone and Beer stone. The large number of surviving late medieval houses is exceptional. Many are Grade II* Listed Buildings and contain particularly fine woodwork screens, ceilings, and jetties; there are fine examples in Broadhembury.

Historic farmsteads are a key part of the National Landscape's architectural, agricultural, and social heritage, and they too still survive intact and with unchanged associated farm buildings in exceptional numbers. Most farmsteads and hamlets are

in sheltered valleys, often terraced into the hills. Villages are often at river crossings and crossroads in the valley floors, generally clustered around the parish church. Small stone houses often directly front or butt gable-end on to the narrow lanes. The lanes themselves host traditional roadside feature such as fingerposts and milestones. Topography often influences settlement pattern, such as Membury where the village straggles along the valley and Blackborough, where it follows the escarpment.

In terms of **landscape features**, although designed landscapes are not widespread within the area, there are some features that make a significant contribution. The Wellington Monument built between 1817 and 1854 is iconic, defining the north-west escarpment. Much of a Victorian designed landscape including walled garden, lakes and leats, still survives on the Otterhead Estate. Similarly, the large Victorian manors at Upottery and on the Tracey Estate, Awliscombe have gone, but their parkland, formal garden features and ancillary buildings can still be seen.

Special Natural Environment

The biodiversity of the Blackdown Hills is one of its greatest assets. The unique geology, rich history of human settlement and landscape patterns of the area have combined with traditional land management, climate and clean air to support a rich diversity of habitats and species.

The National Landscape is characterised by its intricate patchwork of semi-natural habitats, scattered throughout the landscape. This includes patches of woodland habitat, although there are larger concentrations of woodland in northern parts of the Blackdown Hills. In the past rough boggy parcels of land across the Blackdown Hills too agriculturally-poor for farming became used as a source of fuel and materials. Known as turbaries, local people had common rights to cut turf and dig peat for fuel and they are now important habitats valuable for wildlife, often designated as SSSIs and nature reserves.

This immense variety, with patches of valuable habitat scattered throughout the landscape, is notable; these include flower-rich meadows, spring-line mire, wet woodland, heathland, calcareous grassland, ancient woodland, fen, and bog, connected by ancient hedgerows. At a micro-scale there is an abundance of lichens, mosses, and fungi. Bees, butterflies, birds, bats, and many other animals, some nationally scarce, thrive in the Blackdown Hills, feeding and breeding in the habitats the area provides. These habitats and wildlife bring colour, texture, sound and life to the landscape, epitomising the mental picture of the ‘English Countryside,’ which has, in reality, long since disappeared elsewhere.

Spring-line mires are a key feature of the Blackdown Hills National Landscape and comprise a matrix of plant communities and wetland features that support a range of specialist plants and animals, including insectivorous plants such as oblong-leaved sundew and pale butterwort. They are formed where the Greensand meets the clays, supporting priority habitats of wet grassland, heathland, mire (i.e. purple moor-grass and rush pastures) and woodland habitats. Linear features such as hedgerows are of value as wildlife in their own right and comprise important habitat for a range of notable and protected species including brown hairstreak butterfly and hazel dormouse. They have a role in landscape connectivity linking habitat patches, forming a network that allows species to move through the landscape, particularly in the provision of foraging habitat for mobile species such as bats. In places, rivers and streams host mammals including otters, beavers, and water vole, invertebrate including white clawed crayfish, and fish, including lampreys.

Summary of the special qualities and distinctive characteristics of the Blackdown Hills National Landscape

From the diverse characteristics, features and qualities outlined on the previous pages, the following list summarises the special qualities that in combination create the particular sense and spirit of place that gives the Blackdown Hills its distinctive identity, in relation to natural beauty factors. All these special qualities require protection, conservation and enhancement if the area is to retain its character and status among England's finest landscapes.

Reference can also be made to the Blackdown Hills Landscape Character Assessment for further understanding of the contrast and diversity of the designated landscape and its management requirements.

Natural Beauty component: Landscape quality

- A managed landscape sculpted and maintained by the stewardship of generations of those who work the land
- Undeveloped skyline of the northern scarp slope is a prominent feature in views from the Vale of Taunton and beyond
- Rich mosaic of diverse and interconnected semi-natural habitats; a patchwork of woodland, heathland, meadow and mire linked by hedgerows
- Clear, unpolluted streams that meander down the valleys to feed the Yarty, Otter, Culm rivers
- Ancient and veteran trees in hedgerows, fields, and woodland
- A settled landscape with a strong sense of time-depth containing farmsteads and small scattered villages well related to the landscape

Natural Beauty component: Scenic quality

- The elevation and long, panoramic views out from the Blackdown Hills create a sense of detachment from surrounding towns and transport corridors
- Unspoilt, panoramic views across flat-topped plateau and straight undisturbed ridge tops and over hidden valleys
- A well-wooded pastoral landscape with a strong pattern of hedgebanks and hedgerow trees
- Pattern of regular, larger-scale enclosure fields on the plateau contrasts with the smaller, curving medieval fields on the valley slopes
- Majestic avenues of beech trees along northern ridges
- Long straight roads across the plateau with verges and low, neat hedges give way to narrow, enclosed, high-hedged winding single-tracked lanes in the valleys

- Wellington Monument is a key landscape feature identifying the Blackdown Hills over a very wide area in all directions

Natural Beauty component: Relative wildness

- A sense of remoteness enhanced by the exposure of the plateau and more intimate extensive woodland of the upper slopes and hidden valleys
- Wide open spaces provide exposure to the elements; big sky, windswept places, contrasts of sunlight and shadow

Natural Beauty component: Relative tranquillity

- Areas of high tranquillity spared many of the intrusions of modern life, and places that offer a sense of detachment from surrounding towns and infrastructure
- Places to enjoy natural sounds; the melody of the song thrush and skylark, the call of buzzards
- Dark night-time star-filled skies contrasting with the light pollution of the surrounding towns

Natural Beauty component: Natural heritage features

- One of the finest, most extensive plateaus in Britain; a distinctive landform that contrasts with the surrounding lowlands to the east, north and west
- The underlying Upper Greensand geology is unique in Britain
- The presence of straight, uninterrupted ridges are evident as a visual backdrop over a wide area
- Distinctive spring-line mires located at uniform height around the upper slopes of the valleys
- The varied landscape supports a rich assemblage of wildlife including many species of bats, butterflies and moths and meadow flowers and healthy populations of ferns, lichens, mosses, and fungi
- Ancient, species-rich hedges with many hedgerow trees and flower-rich banks; colourful displays of primrose and bluebells in spring
- A network of ancient semi-natural woodland linked by hedgerows support a thriving dormouse population
- Streams and rivers are home to otters, beavers, lamprey and the vulnerable white-clawed crayfish

Natural Beauty component: Cultural heritage

- The number and extent of well-preserved 17th Century and earlier buildings, and of complete traditional farmsteads in the local vernacular style – chert, cob, and thatch – are an important element of the landscape
- Ancient hillforts are prominent features on the ends of the plateau ridges
- Mining remains from the once internationally significant whetstone industry and extensive evidence of ironworking
- Three World War Two airfields and remains of their associated buildings are found on the high, flat land of the plateau
- A community with a strong sense of place closely linked to the land and its management, with a particularly strong tradition of hedge laying
- A landscape that has inspired artists from the early 20th century Camden Town Group to the Blackdown Hills Artists and Makers of today

Natural Capital Stock and Ecosystem Services in the Blackdown Hills National Landscape

Natural capital and the elements of natural beauty have a natural overlap: they are ways of categorising elements of the landscape and some of the benefits we derive from it.

Many of the elements which make up the natural beauty of the National Landscape can be described in terms of natural and cultural capital. Natural capital refers to both the living (e.g. fish stocks, forests) and non-living (e.g. minerals, energy resources) aspects of nature which produce value to people, both directly and indirectly. It is this capital that underpins all other capital in our economy and society, including cultural capital which is the historic environment and cultural landscape. Natural and cultural assets are the actual stock: living and non-living parts. From these assets we derive a flow of benefits known as ecosystem services. Essentially, **natural capital is about nature's assets, while ecosystem services relate to the goods and services derived from those assets**.

The landscape of the Blackdown Hills provides a lot to those that live, work and visit here, from the quantifiable benefits of fresh food and clean water to those that are harder to define such as mental health benefits from contact with the natural environment.

These benefits can be defined as **ecosystem services**, all critical to maintaining human health and wellbeing. They are categorised into four types of services:

Provisioning services: the products we gain and use from the National Landscape, such as food, energy, and water

Regulating services: the natural functioning of the National Landscape purifies water, pollinates crops and maintains air quality

Cultural services: non-material benefits derived from interaction with the National Landscape, such as inspiration, education, and spiritual connection

Supporting services: the foundations for all other services – primary production (carbon fixation), the formation of soil, nutrient cycling, and water cycling.

A high-quality landscape (of rich natural and cultural heritage) delivers wide economic benefits. Some ecosystem services have related economic markets, some do not. Those that don't can be considered 'public goods.'

Public goods

Some ecosystem goods and services that flow from the landscape's natural and cultural assets have a market which rewards the producer. Farming and forestry, although frequently not high return enterprises, are nonetheless producing goods for a functional marketplace.

However, some goods and services do not have a fully functional marketplace. For example, farmers who maintain species-rich grasslands are not rewarded by the market for the external value of that work. These are known as 'public goods' as they are non-excludable (i.e. no-one can be stopped from benefiting from that good) and nonrival (one person's enjoyment does not preclude another's). Private markets are developing for some of these goods, but while they do not exist public investment should be made to adequately reward the conservation of natural assets.

Public goods from the Blackdown Hills National Landscape could be considered to include:

- conservation of biodiversity
- conservation of built heritage
- maintenance of characteristic landscape features such as hedges and tree clumps (these will vary by landscape character area)
- providing clean air and water by taking uneconomic land management choices to reduce pollution (e.g. stopping fertiliser applications)
- maintaining rights of way
- providing educational access

Some of the ecosystem goods and services provided by the Blackdown Hills National Landscape include:

- Farmers and foresters produce food, fibre, timber, and wood fuel
- The Upper Greensand aquifer providing water for both public and private supplies
- The sources of the rivers Culm, Otter, and Yarty and some of the river Tone headwaters are in the Blackdown Hills and wetland mires help attenuate flows and trap sediment
- Carbon storage in woodland, lowland heathland, and peat deposits, for example in turbaries
- Hedgerows, rough grassland, wood pasture and woodland help to regulate soil erosion and water flow, addressing flooding downstream, and support nutrient cycling
- Species-rich grasslands are biodiverse and support pollinating insects
- Historic features link, and add value, to the natural heritage stock and have cultural heritage value in their own right
- Recreational and access opportunities support the health and wellbeing of both residents and visitors
- The characteristic and richly patterned landscape and ancient features provide a strong sense of place and history
- The distinctive landform and coherent landscape are inspirational at a personal, cultural, and spiritual level
- The area gives access to clean air, tranquillity and freedom from noise and light pollution

Appendix 2

PLANNING

Part A: General Principles for Development Proposals

All applicants of development proposals in the Blackdown Hills National Landscape should consider the following and where possible demonstrate, through the planning application process how the development has responded positively to the AONB designation:

Think Special Qualities - explain how the development will impact on the special qualities of the Blackdown Hills National Landscape and what actions you are taking both to conserve and to enhance the landscape, scenic beauty and other factors of natural beauty;

Think Enhancement - positively set out to 'enhance' the natural beauty of the National Landscape with your development proposal – be proud of your contribution to this special place;

Think Location - avoid development that creates incongruous features in prominent and highly visible locations that detract from the long views and open character of the Greensand plateau and views from or to the ridge lines, undeveloped valley sides and scarps of the National Landscape. Fit development into the landscape, not on top of it;

Think scale and massing - again this will help reduce harmful impact on the prevailing character of the National Landscape;

Think vernacular - consider how the development relates to the vernacular style of local building materials and styles;

Think biodiversity – explain how the development impacts on the biodiversity assets of the National Landscape and how you will avoid, mitigate, or as a last resort compensate for any residual impacts;

Think dark skies - consider the need for and impact of artificial lighting. Dark skies are recognised as important elements of tranquillity and contribute to the sense of wildness and remoteness as well as being culturally important;

Think geology, soil, air and water - explain how the development impacts on these natural capital assets of the National Landscape and how you will avoid, mitigate, or as a last resort compensate for any residual impacts;

Think cumulative effects – identify, describe and evaluate whether there are cumulative effects on the different natural beauty criteria which although alone may appear to be insignificant when considered together have a greater impact on the National Landscape. Identify and describe whether there are cumulative impacts from your development in combination with development already in place, or that which is reasonably foreseeable (such as allocated sites and sites with planning permission).

Part B: Major Development

Note that all paragraph and footnote references relate to the December 2024 version of the National Planning Policy Framework (NPPF)

Footnote 67 of the NPPF clarifies that:

'For the purposes of paragraph 190 [relating to protected landscapes], whether a development is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined'.

As such, it is not possible or appropriate to apply a blanket definition for what should be treated as major development in the Blackdown Hills National Landscape. Nevertheless, there are some key factors that help to define if a development is major, as outlined below.

The purpose for which the Blackdown Hills National Landscape has been designated is to conserve and enhance its natural beauty. Therefore, the judgement as to whether or not a development is major development depends, to a large degree, on whether or not the development could have a significant adverse impact on the natural beauty of the area. As outlined elsewhere, natural beauty incorporates a number of criteria, including landscape quality, scenic quality, tranquillity, natural heritage and cultural heritage. Within the context of the Blackdown Hills National Landscape those aspects of natural beauty which make the area distinctive and which are particularly valuable – the 'special qualities' - are described in detail elsewhere in the appendices.

On this basis, a development should be considered 'major' if, by reason of its nature, scale, location and/or setting, it could have a significant adverse impact on any of the above criteria, including the National Landscape's 'special qualities'. As well as potential impacts within the Blackdown Hills, consideration should also be given to impacts on these criteria within the setting of the National Landscape, particularly in the context of visual impact (i.e. views into and out) and impacts on tranquillity.

As outlined in paragraph 190 of the NPPF, to help inform whether there are exceptional circumstances and whether it can be demonstrated that the development is in the public interest, applications for such development should include an assessment of:

a. 'the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy';

The National Landscape Partnership would expect any such development proposal to be accompanied by a statement of need in the context of national and local considerations and, ideally, in the context of needs arising from within the Blackdown Hills. The impacts of permitting or refusing the development should be clearly

identified in respect of the local economy, ideally including that of the local communities affected. Such a statement should be based on objective assessment and clear evidence.

b. 'the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way';

The National Landscape Partnership would encourage any such development proposal to be accompanied by a report setting out a sequential approach to site selection. This should evidence the extent to which alternative sites have been assessed before the selection of sites within the National Landscape, and clearly identify and justify why sites outside of the designated area could not be developed. The report should also identify and evidence why the need for the development could not be met in some other way. An important principle to address is that even if there are deemed to be exceptional circumstances generally, such as the need for housing in a particular local authority area, this does not necessarily equate to exceptional circumstances for a particular development at a specific location because there may be alternative sites that could result in less harm to the Blackdown Hills National Landscape. These can be outside the local planning authority's area. Thus, the proper consideration of alternatives, (with a view to ascertaining if alternative(s) which would result in less harm to the National Landscape exist), is an essential component of exercising the assessments correctly.

c. 'any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated'.

The National Landscape Partnership would expect any such development proposal to be accompanied by a report identifying any detrimental effects upon the environment, the landscape and recreational opportunities. Such a report should relate directly to the natural beauty and special qualities of the National Landscape taken as a whole, as well as those specific to the development site.

Any mitigation identified to moderate these impacts should be:

- clearly detailed, in line with the purpose to conserve and enhance the National Landscape,
- be compatible with the objectives and policies of the Management Plan,
- be compatible with special qualities and local landscape character, and
- be capable of realisation through robust planning conditions or obligation.

Appendix 3

CLIMATE

Part A: Climate Change Adaptation Management Plans

The government's 2023 Climate Adaptation Strategy under the Third National Adaptation Programme (NAP3) requires all National Parks and National Landscapes to have Climate Change Adaptation Management Plans produced, embedded in or linked with their management plans by 2028, and in all future plans.

Background

The UK government's third National Adaptation Programme (NAP3) introduces the requirement for all Protected Landscapes to produce Climate Change Adaptation plans by 2028. Whilst the plan can be independent of management plans, it may be easier and beneficial to an authority to complete their Adaptation plan alongside or as part of their management plan. The plans will have regard to relevant guidance and UK government policy.

Protected Landscapes are some of England's most important areas for delivering on national climate goals, including the government's target to reach net zero emissions by 2050. Adopting Climate Adaptation Plans will be essential in protecting England's Protected Landscapes from the impacts of climate change. Alongside the publication of NAP3, climate change adaptation should be considered in each phase of delivering on the ambitions set out in Management Plans. Climate Adaptation should be considered in all aspects of the Authority's remit, not just the impacts on Nature, but on the People and the Place itself.

Timing

Climate Adaptation plans are to be completed on a 5-year cycle, preferably in line with Protected Landscape management plans. Further to this each Protected Landscape Authority will have a climate adaptation plan in place and published by 2028.

Content

A Protected Landscapes Climate Adaptation Plan should contain action focused policies looking to adapt areas of the designation where climate change is projected to have an impact. Each plan will take the form of the following:

- Identification of areas within the designation that are vulnerable to the impacts of climate change.
- Identification of any new risks since the last Climate Adaptation plan.
- Understanding of the predicted impact and identifying measures for adaptation.
- Evidence on adaptation actions and outcomes and how these interact with socioeconomic drivers and Net-Zero
- Production of an action plan to implement the adaptation measures, ensuring these are SMART.
- Climate Change risk management – governance on how each risk identified is managed.

Those preparing the plans may wish to consider the government's latest climate change risk assessment (CCRA3). This was informed by the Climate Change Committee's independent assessment of climate risk.

When identifying actions, ensure there is a responsible owner, even if that is not the Protected Landscape management body – e.g. if infrastructure such as roads may be at risk of damage from extreme weather, work with the responsible authority to identify adaptations.

Those preparing the plan should think broadly on areas at risk across the Protected Landscape designation and be ambitious in the adaptations they can identify.

Publication / Follow up: Climate Adaptation Plans must be submitted to Defra and Natural England once completed and published. Each subsequent climate adaptation plan produced should note in detail the progress that has been made in implementing these adaptations.

An initial **climate adaptation risk assessment matrix** has been prepared for the Blackdown Hills National Landscape, and the tables are included on the following pages:

Blackdown Hills National Landscape climate adaptation risk assessment matrix

Natural Environment						
Area of Impact	**Headline Projection and impact**	**Risks and Opportunities**	**Mitigation**	**Likelihood**	**Impact**	**Risk**
Variety of grasslands	Drier summers, increased likelihood of drought	Unpredictable forage yields and grazing.		5	-4	-20
	Drier summers, increased likelihood of drought	Deeper rooted plants, including grasses favoured.		5	2	10
	Drier summers, increased likelihood of drought	Flora reducing or ceasing nectar production	Element of scrub to provide partial shade & wildflower grasslands on a variety of aspects[12]	5	-4	-20
	Hotter summers, increased likelihood of extreme heat	Unpredictable forage yields and grazing.		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Stock kept inside longer, resulting in increased demand for forage		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Loss of soil		5	-4	-20
	Jetstream driven longer winters and milder wetter summers.	Longer growing season		4	3	12

	Jetstream driven longer winters and milder wetter summers.	Difficulty harvesting		4	-4	-16
	Less snowfall, frost and ice	Longer growing season (grass grows when temperature is above 4°c		5	3	15
	Increase in the risk of wildfires	Loss of grazing, natural habitat, loss of wildlife		4	-3	-12
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Soil erosion, flooding, grazing unavailable		5	-3	-15
	Shift in the growing seasons	Longer growing season (grass grows when temperature is above 4°c		5	3	15
	Milder winters and changes to pest and disease pressures	Loss of pollinators		5	-4	-20
	economic pressures leading to intensification of agriculture	Reduction in grassland leading to diversification		5	-2	-10
Dark skies	Drier summers, increased likelihood of drought	n/a		5	0	0
	Hotter summers, increased likelihood of extreme heat	n/a		5	0	0
	Milder wetter winters, increase in	n/a		5	0	0

	rainfall intensity and frequency					
	Jetstream driven longer winters and milder wetter summers.	n/a		4	0	0
	Less snowfall, frost and ice	n/a		5	0	0
	Increase in the risk of wildfires	n/a		4	0	0
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	n/a		5	0	0
	Shift in the growing seasons	n/a		5	0	0
	Milder winters and changes to pest and disease pressures	n/a		5	0	0
	economic pressure leading to intensification of agriculture	Increase in population density, loss of character. Thoughtless developments. Many impacts of climate change will have indirect effect on dark skies.		5	-4	-20
Biodiverse small rivers	Drier summers, increased likelihood of drought	Loss of water, reduced river levels or rivers dry up. Potential total loss of aquatic life		5	-4	-20
	Hotter summers, increased	Reduction of water.		5	-4	-20

	likelihood of extreme heat					
	Milder wetter winters, increase in rainfall intensity and frequency	Higher flow, erosion, loss of biodiversity. Increase in invasive species		5	-3	-15
	Jetstream driven longer winters and milder wetter summers.	Flooding, erosion, rivers changing course, silting		4	-4	-16
	Less snowfall, frost and ice	n/a		5	0	0
	Increase in the risk of wildfires	n/a		4	0	0
	Rising sea levels	Salinity levels and flood plains may be affected		5	-1	-5
	Increase in the intensity and frequency of storms	Flooding, erosion, rivers changing course, silting		5	-4	-20
	Shift in the growing seasons	n/a		5	0	0
	Milder winters and changes to pest and disease pressures	Loss of biodiversity, new pests and diseases		5	-3	-15
	economic pressure leading to intensification of agriculture	More abstraction, more pollution.		5	-4	-20
Bat population	Drier summers, increased likelihood of drought	Reduction in number and ranges of invertebrate species and loss of habitat		5	-3	-15
	Hotter summers, increased	Reduction in number and ranges of		5	-3	-15

	likelihood of extreme heat	invertebrate species				
	Milder wetter winters, increase in rainfall intensity and frequency	Reduction in number and ranges of invertebrate species		5	-3	-15
	Jetstream driven longer winters and milder wetter summers.	Reduction in feeding opportunities		4	-4	-16
	Less snowfall, frost and ice	n/a		5	0	0
	Increase in the risk of wildfires	Risk to roosts		4	-4	-12
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Risk to roosts. Risk to feeding opportunities		5	-3	-15
	Shift in the growing seasons	Reduction in number and ranges of invertebrate species at the right time.		5	-3	-15
	Milder winters and changes to pest and disease pressures	Hibernation impacted		5	-2	-10
	economic pressure leading to intensification of agriculture	Reduction in habitat		5	-3	-15
Veteran trees	Drier summers, increased likelihood of drought	Death and dieback of veteran trees		5	-4	-20
	Hotter summers, increased	Change in supported biodiversity.		5	-4	-20

	likelihood of extreme heat					
	Milder wetter winters, increase in rainfall intensity and frequency	More fungal diseases		5	-3	-15
	Jetstream driven longer winters and milder wetter summers.	Change in supported biodiversity.		4	-3	-12
	Less snowfall, frost and ice	Not predictable		5	0	0
	Increase in the risk of wildfires	Loss of ancient trees		4	-3	-12
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Soil erosion, trees falling		5	-4	-20
	Shift in the growing seasons	n/a		5	0	0
	Milder winters and changes to pest and disease pressures	Risk to key species, e.g. ash dieback, processionary moth etc.		5	-3	-15
	economic pressure leading to intensification of agriculture	n/a		5	0	0
Ash dominated woodlands	Drier summers, increased likelihood of drought	Death and dieback of trees. Particular risk to young trees		5	-4	-20
	Hotter summers, increased likelihood of extreme heat	Change in supported biodiversity.		5	-4	-20

	Milder wetter winters, increase in rainfall intensity and frequency	More fungal diseases		5	-3	-15
	Jetstream driven longer winters and milder wetter summers.	Change in supported biodiversity.		4	-3	-12
	Less snowfall, frost and ice	Reduction in viability of some species that require chilling period		5	-4	-20
	Increase in the risk of wildfires	Loss of woods		4	-3	-12
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Soil erosion, trees falling		5	-3	-15
	Shift in the growing seasons	Not predictable		5	0	0
	Milder winters and changes to pest and disease pressures	Risk to key species, of ash dieback.		5	-3	-15
	economic pressure leading to intensification of agriculture	n/a		5	0	0
Wildlife diversity	Drier summers, increased likelihood of drought	Reduction / change in biodiversity		5	-4	-20
	Hotter summers, increased likelihood of extreme heat	Reduction / change in biodiversity		5	-4	-20

	Milder wetter winters, increase in rainfall intensity and frequency	Change in migration patterns. Reduction in pollinators.		5	-4	-20
	Jetstream driven longer winters and milder wetter summers.	Change in migration patterns. Reduction in pollinators.		4	-4	-16
	Less snowfall, frost and ice	Change in migration patterns		5	-2	-10
	Increase in the risk of wildfires	Loss of habitat.		4	-3	-12
	Increase in the risk of wildfires	Rejuvenation of woodlands.		4	3	12
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Loss of habitat		5	3	15
	Shift in the growing seasons	Changes to food chains. Reduction in pollinators		5	-4	-20
	Milder winters and changes to pest and disease pressures	Reduction / change in biodiversity		5	-3	-15
	economic pressure leading to intensification of agriculture	Reduction / change in biodiversity. Loss of habitat. Reduction in pollinators especially bees		5	-3	-15
Soils	Hotter summers, increased	Drier, sandy soils – the top		5	-4	-20

	likelihood of extreme heat	surface will blow away				
	Hotter summers, increased likelihood of extreme heat	Less absorption of rainfall will be likely on clay leading to flooding		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Waterlogging.		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Inability to get farm equipment into fields		5	-3	-15
	Milder wetter winters, increase in rainfall intensity and frequency	Potential rotting of seeds before germination		5	-4	-20
	Jetstream driven longer winters and milder wetter summers.	Inability to get farm equipment into fields		4	-3	-12
	Jetstream driven longer winters and milder wetter summers.	Potential rotting of seeds before germination		4	-4	-16
	Less snowfall, frost and ice	Freeze-thaw process compromised		5	-3	-15
	Increase in the risk of wildfires	n/a		4	0	0
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Topsoil washing away, depending on crop		5	-4	-20

	Shift in the growing seasons	n/a		5	0	0
	Milder winters and changes to pest and disease pressures	Pests and diseases more likely to persist		5	-3	-15
	economic pressure leading to intensification of agriculture	Reduction in soil quality, loss of crop, loss of income		5	-5	-25

Headlines

Reduced and changed biodiversity – loss of trees, loss of pollinators, loss of water, flooding, loss of soil

Mitigation actions for Natural Environment

- Resilient and diverse habitats help to mitigate extremes (as a result of climate change) and well-connected habitat allow species to move to new climate spaces (e.g. different aspects, slopes, feeding and breeding opportunities, shade/ sun) and avoid local extinctions.
- Impacts of browsing regenerating woodlands and trees may need to involve control of browsing animals such as deer
- Mainstream soil health & regenerative farming & forestry techniques, in order to build resilience of soils, that will in turn help with infiltration of water and storage of carbon

Farming and Forestry						
Area of Impact	**Headline Projection and impact**	**Risks and Opportunities**	**Mitigation**	**Likelihood**	**Impact**	**Risk**
Small Scale agriculture	Drier summers, increased likelihood of drought	Change of viable crops and grass favouring deep rooted species.		5	0	0

	Drier summers, increased likelihood of drought	Pressure on water resources.		5	-3	-15
	Hotter summers, increased likelihood of extreme heat	Decreased yields and crop failure		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Increased growing season for grass and other plants.		5	3	15
	Milder wetter winters, increase in rainfall intensity and frequency	Restricted access to the land for cattle. Change in necessary farming practices		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Loss of soil		5	-4	-20
	Jetstream driven longer winters and milder wetter summers.	Restricted access to the land for cattle. Change in necessary farming practices		4	-4	-16
	Jetstream driven longer winters and milder wetter summers.	Loss of soil		4	-4	-16
	Less snowfall, frost and ice	Reduced opportunity to spread slurry		5	-2	-10
	Increase in the risk of wildfires	Risk to all aspects of farming		4	-4	-16
	Rising sea levels	n/a		5	0	0

	Increase in the intensity and frequency of storms	Flooding and soil erosion		5	-4	-20
	Shift in the growing seasons	Change in the viable crop range.		5	0	0
	Milder winters and changes to pest and disease pressures	Arrival of new pests from the continent. Increased use of pesticides and medicines at greater cost. Veterinary and plant inspection costs increased.		5	-4	-20
	economic pressures leading to intensification of agriculture	Diversification and intensification. Loss of farms		5	-3	-15
	economic pressures leading to intensification of agriculture	Increase of solar panels and energy crops		5	3	15
Traditional orchards	Drier summers, increased likelihood of drought	Fruit drop.		5	-4	-20
	Hotter summers, increased likelihood of extreme heat	Better quality fruit;		5	4	20
	Hotter summers, increased likelihood of extreme heat	Reduction of “uniqueness” of English apples		5	-3	-15
	Milder wetter winters, increase in rainfall intensity and frequency	Loss of chilling period. Increase of root diseases.		5	-3	-15

	Jetstream driven longer winters and milder wetter summers.	Loss of chilling period. Increase of root diseases. Difficulty harvesting.		4	-3	-12
	Less snowfall, frost and ice	Better fruit set.		5	4	20
	Increase in the risk of wildfires	Loss of ancient orchards		4	-4	-12
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	More fungal diseases, increased risk from hail damage		5	-4	-20
	Shift in the growing seasons	New varieties, e.g. peaches and nectarines become viable. Interruption of dormant season.		5	3	15
	Milder winters and changes to pest and disease pressures	Arrival of new pests from the continent. Increased use of pesticides, plant inspection costs increased.		5	-4	-20
Devon banks	Drier summers, increased likelihood of drought	Change in vegetation profile		5	-2	-10
	Hotter summers, increased likelihood of extreme heat	Change in vegetation profile		5	-2	-10
	Milder wetter winters, increase in rainfall intensity and frequency	Risk of collapse		5	-3	-15

	Jetstream driven longer winters and milder wetter summers.	Risk of collapse		4	-3	-12
	Less snowfall, frost and ice	n/a		5	0	0
	Increase in the risk of wildfires	Destruction of banks		4	-1	-4
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Risk of collapse		5	-3	-15
	Shift in the growing seasons	Not predictable		5	0	0
	Milder winters and changes to pest and disease pressures	n/a		5	0	0
	economic pressures leading to intensification of agriculture	Damage due to larger farm equipment		5	-3	-15
Ancient Hedges	Drier summers, increased likelihood of drought	Change in species profile, gapping		5	-3	-15
	Hotter summers, increased likelihood of extreme heat	Change or reduction in supported biodiversity.		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Change in growing season. More fungal diseases		5	-2	-10

	Jetstream driven longer winters and milder wetter summers.	Change in growing season. More fungal diseases		4	-4	-16
	Less snowfall, frost and ice	Not predictable		5	0	0
	Increase in the risk of wildfires	Loss of ancient hedges		4	-4	-16
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Soil erosion, trees falling		5	-3	-15
	Shift in the growing seasons	n/a		5	0	0
	Milder winters and changes to pest and disease pressures	Risk to key species, e.g. ash dieback, processionary moth etc		5	-4	-20
	economic pressures leading to intensification of agriculture	Removal of some hedges		5	-3	-15

Headlines

Necessary changes to farming practices. Reduced and changed biodiversity – loss of trees, loss of pollinators, loss of water, flooding, loss of soil, new pests and diseases, reduction in crop yield.

Mitigation actions Farming & Forestry

- Halo thinning and management of browsing around veteran trees will help make them more resilient.

The Built Environment, Community and Economy

Area of Impact	Headline Projection and impact	Risks and Opportunities	Mitigation	Likelihood	Impact	Risk
Listed buildings	Drier summers, increased likelihood of drought	subsidence		5	-2	-10
	Hotter summers, increased likelihood of extreme heat	Stability of cob construction		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Reduction in heating required.		5	3	15
	Milder wetter winters, increase in rainfall intensity and frequency	Flooding		5	-4	-20
	Jetstream driven longer winters and milder wetter summers.	Flooding		4	-4	-16
	Jetstream driven longer winters and milder wetter summers.	Increase in heating required		4	-3	-12
	Less snowfall, frost and ice	Reduction in heating required.		3	3	9
	Increase in the risk of wildfires	Risk to thatch		5	-3	-15
	Rising sea levels	Increased risk of flooding		5	-3	-15
	Increase in the intensity and frequency of storms	Flooding, risk of lightning to thatch		5	0	0

	Shift in the growing seasons	n/a		5	-3	-15
	Milder winters and changes to pest and disease pressures	Increased risk from mould. Damaging species e.g. termites		5	0	0
	economic pressure leading to intensification of agriculture	n/a		5	-3	-15
Disused farm buildings	Drier summers, increased likelihood of drought	Subsidence		5	-2	-10
	Hotter summers, increased likelihood of extreme heat	Stability of cob construction		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Flooding		5	0	0
	Jetstream driven longer winters and milder wetter summers.	Flooding		4	-4	-20
	Less snowfall, frost and ice	n/a		3	-3	-9
	Increase in the risk of wildfires	Risk to thatch and wooden construction		5	0	0
	Rising sea levels	n/a		5	-3	-15
	Increase in the intensity and frequency of storms	Flooding, risk of lightning to thatch		5	0	0
	Shift in the growing seasons	n/a		5	-3	-15

	Milder winters and changes to pest and disease pressures	Increased risk from mould and damaging species to timber structures.		5	-3	-15
	economic pressure leading to intensification of agriculture	Replacement of traditional farm buildings with modern replacements. Conversion of disused building to dwellings. (class Q)		5	-2	-10
Small villages and hamlets	Drier summers, increased likelihood of drought	Subsidence;		5	-4	-20
	Drier summers, increased likelihood of drought	Reduced water table; pressure on aquifers		5	-2	-10
	Hotter summers, increased likelihood of extreme heat	Hosepipe bans, reduced garden diversity		5	-3	-15
	Hotter summers, increased likelihood of extreme heat	Increased tourism				
	Hotter summers, increased likelihood of extreme heat	Increased housebuilding and infrastructure as a result of migration		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Flooding		5	-4	-20
	Jetstream driven longer	Flooding		4	-4	-16

	winters and milder wetter summers.					
	Less snowfall, frost and ice	Reduced risk of parishes being cut off by snow and ice. Reduced risk of injury to people		3	-4	-12
	Increase in the risk of wildfires	Risk of injury and loss of dwellings		5	0	0
	Rising sea levels	n/a		5	-4	-20
	Increase in the intensity and frequency of storms	flooding		5	0	0
	Shift in the growing seasons	n/a		5	-3	-15
	Milder winters and changes to pest and disease pressures	Risk to gardens and garden biodiversity		5	-2	-10
	economic pressure leading to intensification of agriculture	Reduced water table; pressure on aquifers; increased insurance premiums; higher house prices,		5	-4	-20
Critical Infrastructure	Drier summers, increased likelihood of drought	Loss of drinking water		5	-5	-25
	Hotter summers, increased likelihood of extreme heat	Insufficient shading / cooling in urban environments		5	-4	-20
	Hotter summers, increased	Increased drain on medical resources		5	-4	-20

	likelihood of extreme heat					
	Milder wetter winters, increase in rainfall intensity and frequency	Increased drain on medical resources		5	-4	-20
	Milder wetter winters, increase in rainfall intensity and frequency	Increased pressure on sewerage		5	-4	-20
	Jetstream driven longer winters and milder wetter summers.	Increased drain on medical resources		4	-4	-16
	Jetstream driven longer winters and milder wetter summers.	Increased pressure on sewerage		4	-4	-16
	Less snowfall, frost and ice	Less risk of broken bones due to falls		5	3	15
	Increase in the risk of wildfires	Loss of critical buildings e.g. hospitals, surgeries		5	-3	-15
	Rising sea levels	n/a		5	0	-
	Increase in the intensity and frequency of storms	Strain on blue light responders		5	-3	-15
	Increase in the intensity and frequency of storms	Increased insurance premiums		5	-3	-15
	Shift in the growing seasons	n/a		5	0	0
	Milder winters and changes to pest and disease pressures	Increased drain on medical resources		5	-4	-20

	economic pressure leading to intensification of agriculture	n/a		5	0	0
Low population density	Drier summers, increased likelihood of drought	As people move to the countryside population density may increase. Pressure on infrastructure		5	-2	-10
	Hotter summers, increased likelihood of extreme heat	As people move to the countryside population density may increase. Pressure on infrastructure		5	-2	-10
	Milder wetter winters, increase in rainfall intensity and frequency	n/a		5	0	0
	Jetstream driven longer winters and milder wetter summers.	n/a		4	0	0
	Less snowfall, frost and ice	n/a		5	0	0
	Increase in the risk of wildfires	n/a		3	0	0
	Rising sea levels	n/a		5	0	0
	Increase in the intensity and frequency of storms	Some villages prone to flooding may become unsustainable		5	-3	-15
	Shift in the growing seasons	n/a		5	0	0
	Milder winters and changes to pest and	n/a		5	0	0

	disease pressures					
	economic pressure leading to intensification of agriculture	Increase in density, loss of character.		5	-2	-10

Headlines

Increased flooding and pressure on infrastructure, especially medical. Pressure on sewerage and loss of drinking water

Mitigation actions for Built environment, community & economy

- Nature based solutions that build resilience for communities and critical infrastructure, as well as provide a range of co-benefits including for biodiversity, carbon and water quality- e.g. by reducing flooding in the built environment, providing 'natural sponge' type functions to store and slowly release water in times of drought and 'natural filter' to help improve water quality
- Tree and shrub canopies provide shade and significant cooling benefits for communities and more tree planting to field boundaries as well as single trees in fields gives protection to livestock and wildlife alike.

Part B: Greenhouse gas emissions

UK Protected Landscapes greenhouse gas emissions statistics: 2005-2022

Greenhouse gas emissions data for the Blackdown Hills National Landscape

Data supplied by Department for Energy Security and Net Zero, 2024. Data reported in kilotonnes of carbon dioxide equivalent (kt CO2e)

Calendar Year	Industry Total	Commercial Total	Public Sector Total	Domestic Total	Transport Total	LULUCF Net Emissions	Agriculture Total	Waste Total	Grand Total	Population ('000s, mid-yr	Per Capita Emissions	Emissions per km² (kt CO_2e)
2005	**5.2**	**7.3**	**0.9**	**41.0**	**57.3**	**-46.3**	**199.8**	**11.2**	**276.4**	12.7	**21.7**	**0.7**
2006	**5.0**	**7.8**	**0.9**	**42.7**	**55.9**	**-47.2**	**195.3**	**10.5**	**271.0**	12.8	**21.1**	**0.7**
2007	**5.0**	**7.5**	**0.9**	**40.3**	**54.8**	**-47.9**	**194.5**	**9.7**	**264.8**	12.9	**20.5**	**0.7**
2008	**4.6**	**7.4**	**0.9**	**40.5**	**56.0**	**-49.1**	**192.2**	**9.3**	**261.8**	13.0	**20.1**	**0.7**
2009	**4.1**	**6.5**	**0.8**	**38.1**	**53.8**	**-49.3**	**192.8**	**9.2**	**256.0**	13.1	**19.5**	**0.7**
2010	**4.3**	**6.8**	**0.8**	**41.4**	**53.3**	**-49.5**	**194.3**	**7.3**	**258.6**	13.2	**19.5**	**0.7**
2011	**3.9**	**6.1**	**0.7**	**35.7**	**51.7**	**-49.9**	**187.8**	**7.0**	**243.0**	13.4	**18.2**	**0.7**
2012	**4.1**	**6.6**	**0.8**	**37.1**	**51.0**	**-48.6**	**193.3**	**6.7**	**250.9**	13.4	**18.7**	**0.7**
2013	**3.8**	**6.2**	**0.7**	**35.8**	**51.8**	**-50.2**	**186.4**	**5.7**	**240.1**	13.5	**17.8**	**0.6**
2014	**3.6**	**5.3**	**0.6**	**30.5**	**53.3**	**-49.8**	**192.0**	**5.0**	**240.5**	13.6	**17.7**	**0.7**
2015	**3.3**	**4.6**	**0.5**	**28.1**	**57.7**	**-50.4**	**195.6**	**5.1**	**244.5**	13.7	**17.9**	**0.7**
2016	**3.0**	**3.7**	**0.5**	**25.6**	**61.2**	**-48.7**	**190.1**	**5.3**	**240.7**	13.9	**17.4**	**0.7**
2017	**3.0**	**2.5**	**0.4**	**23.7**	**61.1**	**-50.1**	**192.0**	**6.1**	**238.8**	13.9	**17.1**	**0.6**
2018	**3.0**	**2.6**	**0.3**	**23.4**	**61.1**	**-49.7**	**185.3**	**5.8**	**231.7**	14.0	**16.5**	**0.6**
2019	**3.4**	**2.7**	**0.4**	**22.0**	**61.9**	**-49.9**	**185.6**	**6.7**	**232.8**	14.1	**16.5**	**0.6**
2020	**3.3**	**2.5**	**0.3**	**21.5**	**50.3**	**-50.6**	**181.9**	**5.7**	**214.9**	14.1	**15.2**	**0.6**
2021	**3.7**	**2.8**	**0.3**	**21.9**	**57.9**	**-49.6**	**185.8**	**3.0**	**225.9**	14.1	**16.0**	**0.6**
2022	**3.0**	**2.7**	**0.3**	**19.7**	**58.3**	**-49.5**	**166.6**	**3.9**	**204.8**	14.2	**14.4**	**0.6**

Part C: Carbon audit soil organic carbon

In 2022, the National Association of AONBs commissioned Cranfield University to undertake a **Carbon Audit and Metric (land management) assessment**. [*Zawadzka, J.E., Keay, C., Hannam, J., Burgess, P.J, Corstanje, R. (2022). National Landscapes Carbon Audit & Metric (land management), Bedfordshire: Cranfield University.]*

Before the AONB-specific datasets could be used for comparison with NATMAP Carbon, it was necessary to ensure that the data referred to the soil organic carbon contents for a soil depth of 0-30cm, which is one of the depths data in NATMAP Carbon are reported at. Brief descriptions of the sampled data are available in Table 4.2.1. Samples obtained from the Blackdown Hills AONB covered the soil depths of 0 – 15 and 15 – 30 cm and an average value of organic carbon reported at these depths was calculated for comparison to the 0 – 30 cm depth in the NATMAP Carbon dataset. This was only possible for 59 out of 74 samples which had data for both depths. Observations that reported organic carbon for the 0 – 15 cm depth only were discarded.

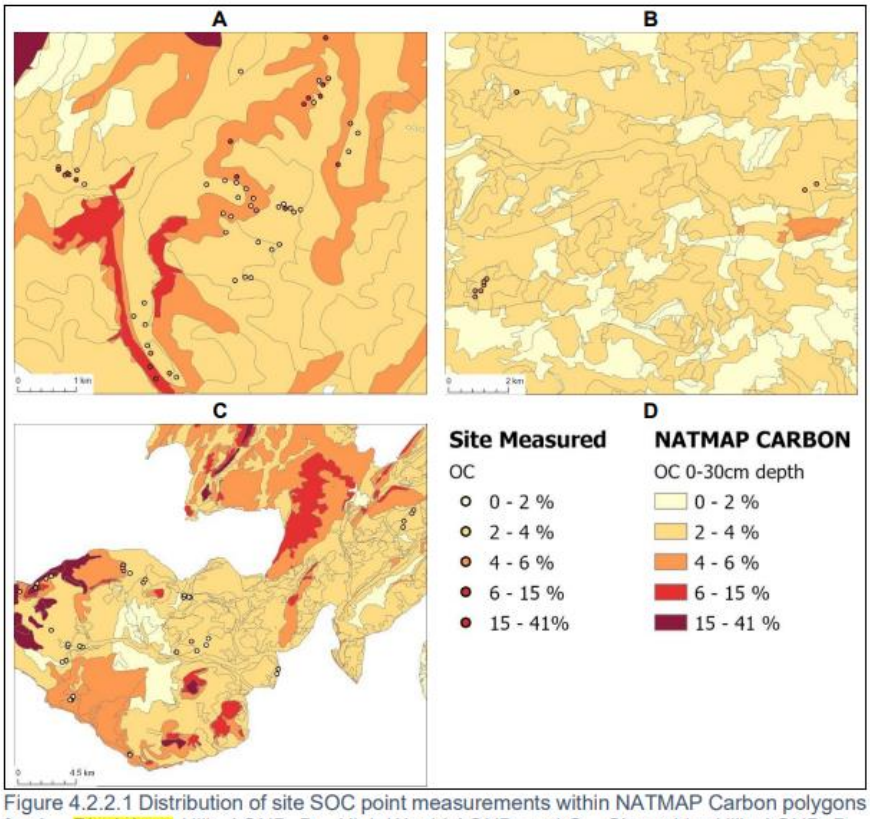


Figure 4.2.2.1 Distribution of site SOC point measurements within NATMAP Carbon polygons for A – Blackdown Hills AONB, B – High Weald AONB, and C – Shropshire Hills AONB, D – legend to the maps.

In the Blackdown Hills AONB (Figure 4.3.1.1) the direct comparisons were the strongest (R2 = 0.23) for the maximum SOC values in NATMAP, which was likely determined by the fact that samples within that AONB were taken from various semi-natural habitats, which likely store more carbon is soils. After aggregation of the site measurements to NATMAP polygons, this relationship increased to 0.98, **indicating near-perfect agreement**. The indirect comparison resulted in fairly good fit of the site measurements to the average value of SOC assigned to the NATMAP polygons, with R2 of 0.89. In the case of this AONB the relationships with the minimum SOC values reported by NATMAP was the weakest, which could be explained by the overall high SOC contents of the sampled soils

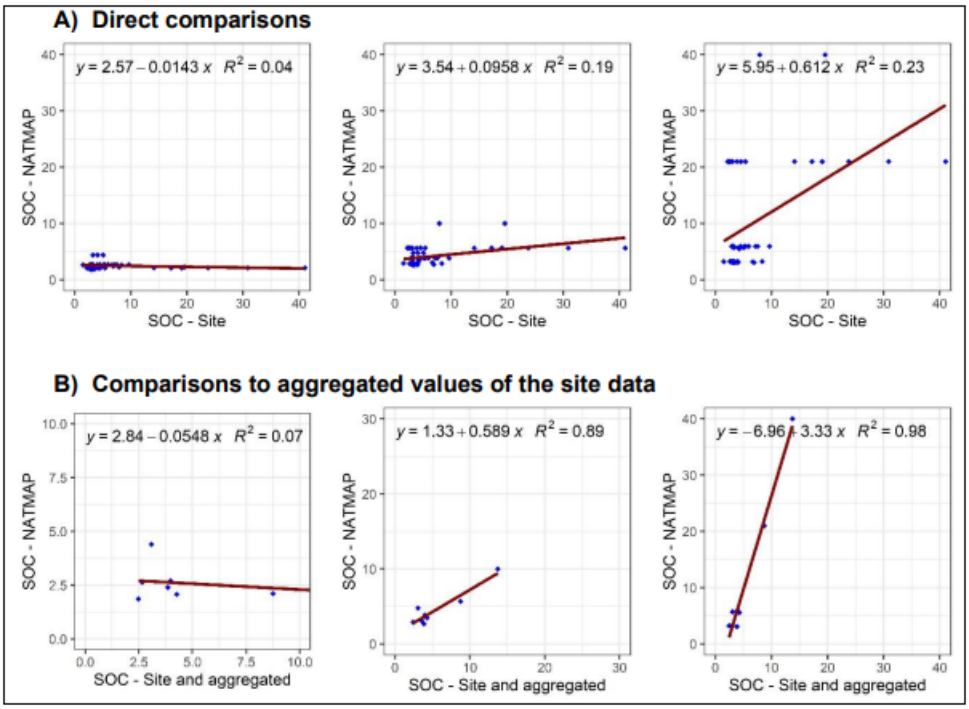


Figure 4.3.1.1 Results of the regression analysis for the Blackdown Hills AONB. The x-axis shows the SOC values measured on site and the y-axis, SOC values derived from NATMAP Carbon: left – minimum SOC, middle – average SOC, right – maximum SOC in each polygon.

The aim of the comparisons carried out between minimum, mean and maximum SOC values reported by the NATMAP Carbon database at national scales to SOC data sampled on sites within selected AONBs was to evaluate whether soil carbon stock assessments based on the NATMAP dataset could reliably represent soil carbon within the AONBs. The results of these comparisons indicate that NATMAP does not represent local, i.e., within-field, variations in SOC very well, however, it can reliably represent soil carbon at wider scales such as related neighbourhoods or landscapes. Results obtained here confirmed findings of a previous study indicating that NATMAP Carbon can represent soil carbon well for areas with relatively low SOC stocks at field rather than sub-field scales (Beka et al., 2022). The results of the comparisons presented here should be treated as indicative, given that the site samples were collected for other purposes than the evaluation of the capacity of NATMAP to accurately represent soil carbon at local scales. Some other sensitivities affecting the strength of the relationship include different laboratory methods to extract soil carbon from samples or different sampling dates – NATMAP is based on legacy soil observations collected by the Soil Survey for England in Wales, spanning across 1939 to 1987, with possible changes in soil carbon contents over time due to past changes in land use and management (Kirk and Bellamy, 2010).

Soil Organic Carbon in the Blackdown Hills AONB: Towards a Framework for Guiding Land Management Decision Making Report of a study undertaken in winter 2022-2023 in the Blackdown Hills Area of Outstanding Natural Beauty

This was a follow-on piece of work, building on the Cranfield carbon audit & metric study.

Project objectives:

- To identify which soil types are most valuable for their *existing* carbon stores
- To identify which soil types have the greatest potential to sequester *more* carbon via land management change
- To develop this information into the basis for practical guidance for land managers in the AONB

Soil Carbon:

UK soils store over 10 billion tonnes of carbon, roughly equal to 80 years of annual UK greenhouse gas emissions

Soil carbon sequestration = CO2 being removed from the atmosphere and stored in the soil in the form of soil organic carbon

Soil organic carbon drives the mechanisms of infiltration and retention of air, water and nutrients in the soil which provide multiple benefits to farmers and society

Net Zero:

The UK Government has committed to reaching net zero greenhouse gas emissions by 2050.

Sectors such as industry, agriculture and aviation will be difficult to decarbonise completely by 2050.

Greenhouse gas removal (GGR), such as through soil carbon sequestration, is therefore essential to compensate for the residual emissions

Agriculture, Net Zero and Soils:

Estimates suggest that UK agricultural land could sequester 1-2 tonnes of CO2e per hectare per year

The move towards ‘blended’ finance for agric support – mixing Government support with private finance –means land managers will soon be encouraged to store more carbon on their land, and realise a market value for that carbon by selling carbon credits

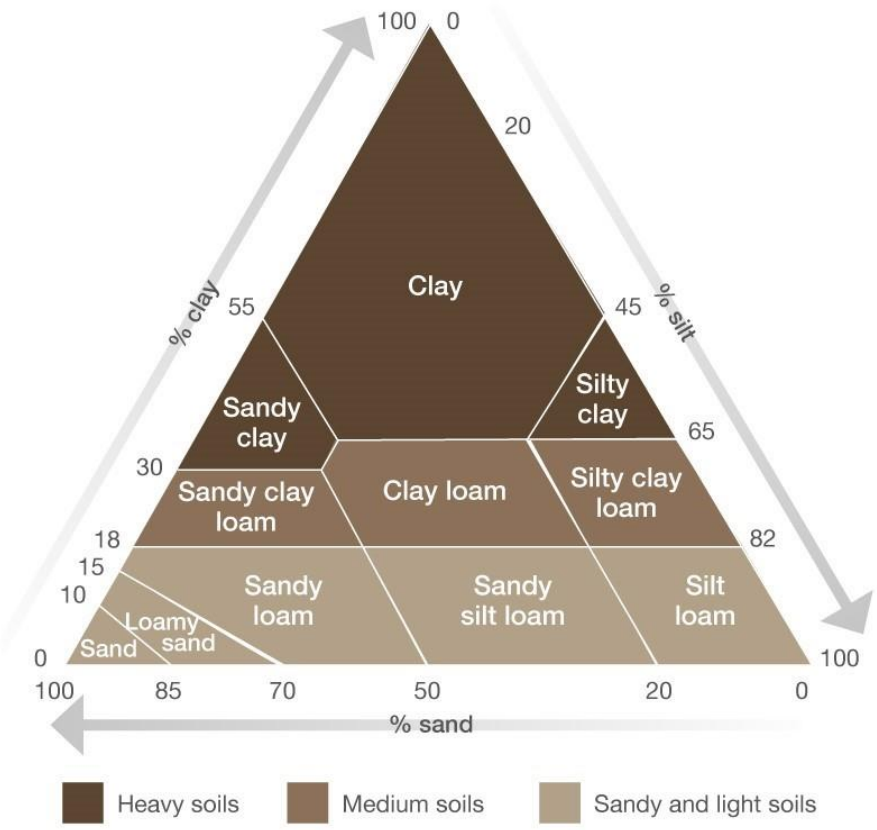
A ‘carbon market’ is rapidly evolving, but we lack an understanding of current soil carbon stores and metrics for measuring it, both at a landscape and single farm scale.

Soil type and carbon storage:

This project focuses on the carbon in the soil, rather than in the vegetation

Soils vary across the landscape, and each soil type has a different inherent capacity to store carbon. That capacity remains the same, though land use and vegetation may vary

If a soil type has a high inherent carbon-storing potential, then carbon sequestration efforts directed towards that soil type will yield the best results



Headlines:

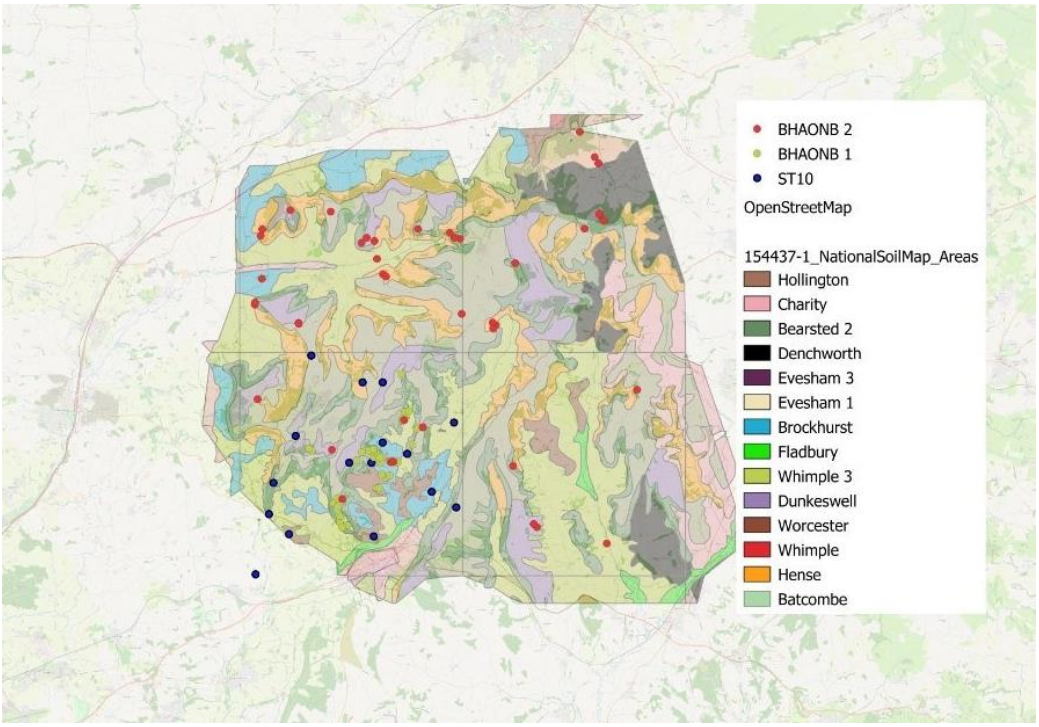
Different soil types vary greatly in their carbon stores, and their potential to hold more carbon.

Soil carbon storage can be increased both through productive, in-field practices, and habitat creation or management.

Managing productive soils to store more carbon also improves soil health.

Managing wildlife habitats and creating new habitat also increases soil carbon storage.

Each soil type can be managed to maximise its ability to store carbon, and the opportunities for doing so vary between soil types.



Vegetation with high nature conservation value generally has the highest level of soil organic carbon (SOC), with wet woodland, mire, and wet heath having the highest of all.

The peaty and organic 'Blackdown' and 'Hense' soil types store the most carbon per hectare.

Medium brown soils with a large area in the landscape, such as the 'Whimple' and 'Batcombe' soil types, can play a significant role in carbon sequestration via good soil management practices.

A focus on soil carbon can offer a triple-win, for carbon sequestration, soil health, and biodiversity

Humic soils (e.g. Hense) – found on the springline

These naturally wet soils have high carbon levels when carrying semi-natural vegetation. Where they have been drained and agriculturally improved, rewetting them and restoring semi-natural vegetation could yield significant carbon gains

Brown Earths (e.g. the Batcombe**) – found on the plateau**

These have a lower capacity for holding carbon (compared with wetter soils), but their extent means that the raising their soil carbon by just a small amount would have a significant impact on total carbon stocks in the landscape

Soil map unit	Area (ha) in BHAONB	Tonnes Soil Organic Carbon per ha	Total S.O.C. (tonnes) in BHAONB
Batcombe	**8,690**	**11.60**	**100,838**
Bearstead	4,786	11.25	53,847
Blackdown	2,000	32.36	64,720
Brockhurst	5,561	16.33	90,801
Charity	3,035	9.70	29,450
Denchworth	4,729	17.16	81,130
Dunkeswell	3,318	14.79	49,069
Evesham	2,553	18.68	47,701
Fladbury	915	32.29	29,548
Hallsworth	302	18.03	5,455
Hense	5,607	44.87	251,608
Hollington	1,236	17.66	21,844

Soil Map Unit	Profile image	Horizon	SOC%	Fine earth	Bulk Density	Thickness (dm)	gC / dm^3	Total Carbon in Profile (gC / dm3)
Batcombe Series		A	4.2	0.95	0.99	2	7.9002	**13.92**
		E	2.1	0.9	1.18	2.5	5.5755	
(Arable/Short term ley)		Bt(g)	0.8	0.9	1.24	0.5	0.4464	
Batcombe Series		A	2.5	0.8	1.17	2	4.68	**9.01**
		E	1.9	0.75	1.21	2	3.4485	
(Unimproved Permanent Grass)		Bt(g)	1.4	0.5	1.26	1	0.882	
Batcombe Series		O	24.2	1		0.2	0	**26.48**
		A	10.2	0.95	0.81	2.2	17.2676	
(Woodland)		Bt(g)	1.5	0.92	1.36	3.8	7.13184	

Appendix 4

INDICATORS AND DATA - PROTECTED LANDSCAPES TARGETS AND OUTCOMES FRAMEWORK (PLTOF)

The Protected Landscapes Targets and Outcomes Framework (PLTOF) defines the contribution that all Protected Landscapes (as areas) should make to national targets and Environmental Improvement Plan (EIP) outcomes/goals.

The PLTOF contains 10 targets. Each target is accompanied by an indicator.

The indicator will measure progress towards each target and its related outcome, which are set out in ***Part 1*** of this document.

The indicator is supported by statistics generated from nationally available data. Natural England has collated national statistics from a range of data providers (where available) to establish the baseline for the Framework's indicators. Data owners include Natural England, Defra, the Forestry Commission and Historic England.

Natural England has also identified and collated a wider set of additional statistics relevant to the statutory purposes of Protected Landscapes, listed in ***Part 2*** of this document.

Statistics for the Blackdown Hills National Landscape are listed in ***Part 3*** of this document, organised under the four management plan themes of place, people, nature and climate.

This new 2024 data release should largely be considered as a new baseline, utilising a consistent national methodology. Defra have indicated that they will review the Framework at least every five years, linked to refreshes of the EIP. Defra will adjust the targets, indicators and supporting statistics in the interim (as needed) to ensure they remain relevant and functional. Natural England will support this process and will collate and provide annual updates of statistics (where available) each April to the Protected Landscapes Partnership, Defra and Protected Landscape bodies. A full set of statistics are due to be reissued in April 2025, which will address and update any anomalies or interim status of the 2024 data used in this management plan.

Part 1: Outcomes, Targets and Target Indicators

Environmental Improvement Plan 2023 outcome – Goal 1: Thriving plants and wildlife

PLTOF Target 1

Restore or create more than 250,000 hectares of a range of wildlife-rich habitats within Protected Landscapes, outside protected sites by 2042 (from a 2022 baseline).

Target Indicator 1 (TI_1):

Extent of wildlife rich habitat created or restored within Protected Landscapes, outside of protected sites

Provider: Natural England
Release date: April 2025 (tbc)
Licensing: tbc
Reporting cycle: Annual
Notes: Indicator is in development.

PLTOF Target 2

Bring 80% of SSSIs within Protected Landscapes into favourable condition by 2042.

Target Indicator 2 (TI_2):

Percentage of SSSIs within Protected Landscapes in favourable condition.

Provider: Natural England
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

PLTOF Target 3

For 60% of SSSIs within Protected Landscapes assessed as having ‘actions on track’ to achieve favourable condition by 31 January 2028.

Target Indicator 3 (TI_3):

Percentage of SSSIs within Protected Landscapes assessed as having ‘actions on track’ to achieve favourable condition.

Provider: Natural England
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

PLTOF Target 4

Continuing favourable management of all existing priority habitat already in favourable condition outside of SSSIs (from a 2022 baseline) and increasing to include all newly restored or created habitat through agri-environment schemes by 2042.

Target Indicator 4 (TI_4):

Extent of priority habitat within Protected Landscapes, outside of protected sites, in favourable management through agri-environment schemes.

Provider: Defra
Release date: April 2025
Licensing: tbc
Reporting cycle: Annual
Notes: Indicator is in development.

PLTOF Target 5

Ensuring at least 65% to 80% of land managers adopt nature friendly farming on at least 10% to 15% of their land by 2030.

Target Indicator 5 (TI_5):

Percentage of land managers adopting nature-friendly farming on a percentage of their land.

Provider: Defra
Release date: April 2025
Licensing: tbc
Reporting cycle:
Notes: Annual Indicator is in development.

Environmental Improvement Plan 2023 outcome – Goal 7: Mitigating and adapting to climate change

PLTOF Target 6

Reduce net greenhouse gas emissions in Protected Landscapes to net zero by 2050 relative to 1990 levels.

Target Indicator 6 (TI_6):

Level of greenhouse gas emissions within Protected Landscapes.

Provider: Department for Energy Security and Net Zero (DESNZ)
Release date: June 2024
Licensing: tbc
Reporting cycle: Annual

Notes: See: 2005-22-uk-protected-landscapes-ghg-emissions.xlsx

PLTOF Target 7

Restore approximately 130,000 hectares of peat in Protected Landscapes by 2050.

Target Indicator 7 (TI_7):

Extent of peat under restoration in Protected Landscapes. *(This dataset describes the Nature for Climate Peatland Grant Scheme (NCPGS) funded peatland restoration sites in England that occur in Protected Landscapes.)*

Provider: Natural England
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

PLTOF Target 8

Increase tree canopy and woodland cover (combined) by 3% of total land area in Protected Landscapes by 2050 (from 2022 baseline).

Target Indicator 8 (TI_8):

Extent of tree canopy and woodland cover in Protected Landscapes.

Provider: Forestry Commission
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Notes:
Indicator is in development. Interim statistics provided for woodland cover. Statistics on extent of tree canopy to be released when available

Environmental Improvement Plan 2023 outcome – Goal 10: Enhancing beauty, heritage and engagement with the natural environment

PLTOF Target 9

Improve and promote accessibility to and engagement with Protected Landscapes for all using existing metrics in our Access for All programme.

Target Indicator 9 (TI_9):

Improve and promote accessibility to and engagement with Protected Landscapes for all using existing metrics in our Access for All programme:

TI_9a: Metres of accessible path as a % of total path.

TI_9b: Number of accessible toilets and rest stops.

TI_9c: Number of disability accessible parking spaces.

TI_9d: Number of accessible gates and gaps.

TI_9e: Number of visits and volunteer days facilitated by new equipment.

TI_9f: Number of schools engaged (primary and secondary) both inside and outside the Protected Landscape boundary.

TI_9g: Number of volunteer days.

TI_9h: Number of accessible or easy access routes for which wayfinding has been created or improved.

TI_9i: Policies in place to ensure Protected Landscapes are taking positive action to widen the diversity of their staff, boards and volunteers.

Provider: Protected Landscape bodies
Release date: tbc

Licensing: tbc
Reporting cycle: Annual

Notes:
Defra has requested this information from Protected Landscapes bodies, as part of the annual Farming in Protected Landscapes and ‘Access for All’ monitoring survey/ commission.

PLTOF Target 10

Decrease the number of nationally designated heritage assets at risk in Protected Landscapes.

Target Indicator 10 (TI_10):

Number and percentage of nationally designated heritage assets in Protected Landscapes to be deemed at risk.

Provider: Historic England
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Notes:
Covers the categories of scheduled monuments, registered parks and gardens, registered battlefields, listed buildings (grade I or II*) and protected wreck sites.

Part 2: Additional baseline statistics made available to Protected Landscapes in 2024

Statistic 1

Extent of priority habitat and other habitats within Protected Landscapes.

Provider: Natural England
Release date: April 2024 (interim measure)
Licensing: Open Government Licence
Reporting cycle: Annual

Notes:

Statistics on ‘other habitats’ available in April 2025, based on updated Living England data.

Statistic 2

Area of land within Protected Landscapes designated at international, national and local level for nature conservation.

Provider: Natural England
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Statistic 3

Area of woodland within Protected Landscapes under sustainable management.

Provider: Forestry Commission
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Statistic 4

Extent of ancient woodland within Protected Landscapes.

Provider: Natural England
Release date: April 2024
Licensing: Open Government Licence

Reporting cycle: Annual

Statistic 5

Ecological status of watercourses and water bodies within Protected Landscapes.

Provider: Environment Agency
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Every three years

Statistic 6

Area, depth and percentage cover of peatland within Protected Landscapes.

Provider: Natural England
Release date: April 2024 (interim measure), updated July 2024
Licensing: Non-Commercial Government Licence
Reporting cycle: See notes

Notes: Links to spatial data added plus note on 'grand total % values'. Updated evidence on peat extent/depth/ condition due April '25 (based on the England Peat Map which is due to be published at the end of March '25).

Statistic 7

Estimate of the amount of carbon stored and sequestered by habitats within Protected Landscapes.

Provider: Natural England
Release date: due June 2024
Licensing: Aiming to release under Open Government Licence
Reporting cycle: Every five years

Notes: Statistics due 2024.

Statistic 8

Length of National Trails within Protected Landscapes.

Provider: Natural England
Release date: April 2024

Licensing: Open Government Licence
Reporting cycle: Annual

Statistic 9

Number of nationally designated heritage assets in Protected Landscapes.

Provider: Historic England
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Statistic 10

National Character Areas which contain Protected Landscape(s), where changes to landscape and waterscape character is assessed as improving/no change/declining.

Provider: Natural England
Release date: April 2025
Licensing: tbc
Reporting cycle: Every five years

Statistic 11

Length of hedgerows and other traditional field boundaries (drystone walls) within Protected Landscapes.

Provider: Defra
Release date: April 2024 (interim measure). Reissued May '24.
Licensing: Open Government Licence
Reporting cycle: Annual

Notes: Initial figures are for hedgerow length. Reissued to correct formatting error.

Statistic 12

Total area of land managed under agri-environment schemes and total value of schemes within Protected Landscapes.

Provider: Defra
Release date: April 2024, reissued July '24

Licensing: Open Government Licence
Reporting cycle: Annual

Notes: Reissue only includes area of schemes currently.

Statistic 13

Area of land under different agricultural land uses within Protected Landscapes and number of livestock.

Provider: Defra
Release date: Already released
Licensing: Published on-line
Reporting cycle: Publication of next updates: Spring 2025, spring 2028 (tbc) and 2031.

Notes:

See Structure of the agricultural industry in England and the UK at June - GOV.UK

Statistic 14

Area and distribution of main landcover types within Protected landscapes.

Provider: Natural England
Release date: April 2025
Licensing: Open Government Licence
Reporting cycle: tbc

Notes: Derived from Living England data.

Statistic 15

Number of geological and geomorphological SSSI unit features and percentage in favourable or recovering condition.

Provider: Natural England
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Statistic 16

Extent of agricultural businesses within Protected Landscapes (number and size of holdings, number of agricultural workers).

Provider: Defra
Release date: Already released
Licensing: Published on-line
Reporting cycle: Publication of next updates: Spring 2025, spring 2028 (tbc) and 2031.

Notes: See Structure of the agricultural industry in England and the UK at June - GOV.UK.

Statistic 17

Population estimates for Protected Landscapes.

Provider: Defra
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Every 10 years

Notes: These are refined population estimates, following the draft estimates provided by the Office for National Statistics in 2023.

Statistic 18

Average age of the population living in Protected Landscapes.

Provider: Defra
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Every 10 years

Statistic 19

Proportion of the population within each ethnic group in Protected Landscapes.

Provider: Defra
Release date: April 2024

Licensing: Open Government Licence
Reporting cycle: Every 10 years

Statistic 20

Median earnings in Protected Landscapes.

Provider: Defra
Release date: April 2024, reissued July 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Notes: Reissued to correct estimates for a small number of Protected Landscapes.

Statistic 21

House price affordability ratios in Protected Landscapes.

Provider: Defra
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: tbc. Depends on availability of refined data on estimated incomes.

Statistic 22

Registered businesses by size and type in Protected Landscapes.

Provider: Defra
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Statistic 23

Proportion of the population living in each decile of deprivation in Protected Landscapes.

Provider: Defra
Release date: April 2024
Licensing: Open Government Licence
Reporting cycle: No regular reporting cycle; potential update 2026 (tbc)

Statistic 24

Number of pupils on the school roll (against total capacity) in Protected Landscapes.

Provider: Defra
Release date: April 2024, reissued July 2024
Licensing: Open Government Licence
Reporting cycle: Annual

Notes: Reissued to correct how source data is apportioned to Protected Landscapes.

Part 3: Protected Landscapes Targets and Outcomes Framework datasets for Blackdown Hills National Landscape

All April 2024 (unless stated otherwise).

Place

Statistic 3

Area of woodland within the protected landscape under sustainable management:

Managed private: 1445.1 hectares

Managed public: 1023.2 hectares

Unmanaged: 2945.1 hectares

Total: 5413.3 hectares

Statistic 4

Extent of ancient woodland within the protected landscape:

Ancient and semi-natural woodlands (ASNW): 426.7 hectares (1.2% of protected landscape)

Plantations on Ancient Woodland Sites (PAWS): 440.5 hectares (1.2% of protected landscape)

Grand total: 867.2 hectares (2.3% of protected landscape)

Location and extent of ancient semi-natural woodland (ASNW):

Ashcombe Copse: 7.45 hectares
Bickham Wood: 16.47 hectares
Blackborough Wood: 4.42 hectares
Buckeshayes Wood: 0.75 hectares
Buckhayes Covert: 4.64 hectares
Butsons Copse: 4.25 hectares
Bywood Copse: 20.96 hectares
Cod Wood: 2.99 hectares
Combe Wood: 7.25 hectares
Cotley Copse: 5.25 hectares
Court Wood: 7.99 hectares
Coxs Wood: 15.05 hectares
Crown All Wood: 4.44 hectares
Cummins Copse: 4.23 hectares
Farm/Buckland Woods: 27.64 hectares
Fourteen Acre Copse: 5.69 hectares
Great Copse: 7.23 hectares
Greyborough Copses: 3.16 hectares
Hayne Wood: 3.52 hectares
Hayne Wood West: 0.58 hectares
Hey Wood: 0.97 hectares
Higher Ash/Long Woods: 23.64 hectares
Knapp Copse: 0.40 hectares
Knowles Wood: 0.80 hectares
Luxhay Wood: 18.29 hectares
Middleroom/Castle Woods: 20.53 hectares
Murlinch/Adcombe Woods: 90.15 hectares
Parsonage Wood: 2.48 hectares
Pen Point Wood: 15.32 hectares
Rectory Wood: 3.22 hectares
Sadbeer Wood: 3.74 hectares
Shapcombe Copses: 4.32 hectares
Summerhayes Wood: 3.70 hectares
The Chase: 10.61 hectares
Trotts Wood: 5.13 hectares
Wellands Coppices: 4.86 hectares
Wellsprings Wood: 3.14 hectares
Wood Copse: 5.06 hectares
Wood Moor Copse: 4.09 hectares
Yarty Copse: 4.05 hectares
Young/Piddle Woods: 28.77 hectares

Statistic 5

Water Framework Directive status – ecological status of watercourses and water bodies within the Protected Landscape:

This includes rivers, canals and surface-water transfers.

Number of waterbody catchments within each status

High: 0
Good: 0
Moderate: 19
Poor: 9
Bad: 2
Not assessed: 0

Length of water bodies within each status (km)

High: 0km
Good: 0km
Moderate: 123km
Poor: 24km
Bad: 0.8km
Not assessed: 0km

Number of lakes within each status

High: 0
Good: 0
Moderate: 2
Poor: 0
Bad: 0
Not assessed: 1

Number of groundwater waterbodies within each status

High: 4
Good: 0
Moderate: 0
Poor: 3
Bad: 0

Not assessed: 0

Statistic 9

Number of nationally designated heritage assets in the Blackdown Hills National Landscape:

(December 2023)

Listed buildings

Grade I: 13

Grade II*: 47

Grade II: 710

Total: 770

Scheduled monuments

26

Registered parks and gardens

0

Registered battlefields

0

Protected wreck sites

0

Target Indicator 10

Number and percentage of nationally designated heritage assets in the Blackdown Hills National Landscape deemed to be at risk:

(November 2023)

Listed buildings

Grade I: 0

Grade II*: 1 (2.1%)

Grade II: 0

Total: 1 (0.1%)

Scheduled monuments

3 (11.5%)

Statistic 11

There are 4,400 kms of hedgerows within the Blackdown Hills National Landscape.

Statistic 12

The total area of land in the Blackdown Hills National Landscape managed under agri-environment schemes, i.e. Countryside Stewardship Environmental Stewardship and the Sustainable Farming Incentive, is 6,800 hectares (18% of the protected landscape).

Statistic 15

Number of geological and geomorphological SSSI unit features and percentage in favourable or recovering condition:

Favourable: 1 (33.3%)

Unfavourable - no change: 2 (66.7%)

Total: 3

Wilmington Quarry

Condition: favourable

Classification: disused quarry, pits and cuttings

Interest: Earth heritage, Late Cretaceous

Furley Chalk Pit

Condition: unfavourable – no change

Classification: disused quarry, pits and cuttings

Interest: Earth heritage, Late Cretaceous

Reed's Farm Pit
Condition: unfavourable – no change

Classification: disused quarry, pits and cuttings

Interest: Earth heritage, Late Cretaceous

People

Population data, April 2024 from analysis of 2021 Census. Note that a geographical best fit approach was used to provide these figures, whereas other analysis may have used a population-weighted centroid approach which gives different results.

Statistic 17

Population estimate for Blackdown Hills National Landscape:

16,400.

Statistic 18

Average age of the population living in Blackdown HIlls National Landscape:

48

Statistic 19

Proportion of the population within each ethnic group in Blackdown Hills National Landscape:

Asian, Asian British or Asian Welsh: <1%

Black, Black British, Black Welsh, Caribbean, or African: <1%

Mixed / Multiple ethnic groups: 1%

White: 98%

Other ethnic groups: <1%

Based on allocation of Output Areas, Census 2021.

Source: Defra analysis; Ethnic group - Office for National Statistics.

Statistic 20

Median earnings in Blackdown Hills National Landscape:

£2,100 (per calendar month).

Based on apportioning of local authorities and rounded to nearest £50.

Source: Defra analysis; Earnings and employment from Pay As You Earn Real Time Information, UK - Office for National Statistics

Statistic 21

House purchase affordability ratios in Blackdown Hills National Landscape:

Affordability ratio: 9

Based on apportioning of middle-layer Super Output Areas. Ratios have been rounded to the nearest whole number. They represent the mean house purchase price to mean gross annual household income, i.e. full-time employees in the area could expect to spend around 9 times their annual earnings buying a home.

Sources: Defra analysis; House price statistics for small areas in England and Wales - Office for National Statistics; Income estimates for small areas - ONS ; Housing affordability in England and Wales - Office for National Statistics.

Statistic 22

Registered businesses by size in Blackdown Hills National Landscape, 2021/22:

10+ employees: 80 (5%)

1-9+ employees: 895 (61%)

0 employees: 490 (33%)

Total number of local units: 1465 (100%)

Source: Defra analysis; Inter-Departmental Business Register (IDBR) - Office for National Statistics.

Local units of registered businesses in Blackdown Hills National Landscape by industry type, 2021/22:

Accommodation & food service activities: 60 (4%)

Administrative & support service activities: 85 (6%)

Agriculture, forestry & fishing: 560 (38%)

Arts, entertainment & recreation: 30 (2%)

Construction: 130 (9%)

Education, health, and social work: 60 (4%)

Finance: 15 (1%)

Information & communication: 40 (3%)

Manufacturing: 70 (5%)

Mining/ quarrying, and utilities: 5 (0%)

Professional, scientific & technical services: 155 (11%)

Public administration and defence; other services: 50 (3%)

Real estate activities: 45 (3%)

Transport & storage: 30 (2%)

Wholesale & retail trade, repair of motor vehicles: 130 (9%)

Total: 1465

Source: Defra analysis; Inter-Departmental Business Register (IDBR) - Office for National Statistics.

Statistic 23

Proportion of the population living in each decile of deprivation in Blackdown Hills National Landscape:

Based on apportioning of Lower-Layer Super Output Areas.

Decile 1: 0%

Decile 2: 0%

Decile 3: 0%

Decile 4: 0%

Decile 5: 33%

Decile 6: 44%

Decile 7: 8%

Decile 8: 15%

Decile 9: 0%

Decile 10: 0%

Average IMD decile (mode): 6

Average IMD decile (median): 6

Source: Defra analysis; English indices of deprivation 2019 - GOV.UK

Nature

Target indicator 2

Percentage of SSSI features within Blackdown Hills National Landscape in favourable condition:

Favourable: 7

Unfavourable – Recovering: 19

Unfavourable - No change: 5

Unfavourable – Declining: 3

Partially destroyed: 0

Not Recorded : 9

Total no. of SSSI features: 43

% SSSI features in favourable condition: 16.3%

Target Indicator 3

Percentage of SSSI features within Blackdown Hills National Landscape assessed as having 'actions on track' to achieve favourable condition:

Negative: 43

Positive: 0

Total: 43

% SSSI features on track: 0%

Note: 'negative' refers to actions which have not been yet undertaken or which are resulting in a negative impact on the SSSI.

Statistic 1

Priority habitat – totals

Priority habitat area: 4,556 ha

Protected Landscape area: 36,959 ha

Priority habitat %: 12%

Priority habitat area – by main habitat type

Not priority habitat: 32,402 ha

Coastal and floodplain grazing marsh: 60 ha

Deciduous woodland: 3,538 ha

Good quality semi improved grassland: 285 ha

Lowland calcareous grassland: 24 ha

Lowland dry acid grassland: 19 ha

Lowland fens: 88 ha

Lowland heathland: 149 ha

Lowland meadows: 142 ha

Ponds: 0

Purple moor grass and rush pastures: 169 ha

Traditional orchard: 82 ha

Statistic 2

Area of land (km2) within Blackdown Hills National Landscape designated at international, national and local level for nature conservation:

Local Nature Reserves (LNR): 21.53 ha (0.1%)

Special Areas of Conservation (SAC): 20.34 ha (0.1%)

Site of Special Scientific Interest (SSSI): 638.85 ha (1.7%)

Climate

Target Indicator 7

Area of peat committed for restoration by March 2025:

0 ha

Note: Only six National Landscapes return a result for this indicator.

Statistic 6

Area, depth and percentage cover of peatland within Blackdown Hills National Landscape:

Extent of types of peat:

Deep peaty soils (>40cm) 0
Shallow peaty soils (10-40cm) 0
Soils with peaty pockets (scattered pockets) 10017.17 ha (27.1%)

Target Indicator 8

Extent of woodland cover; The area (in hectares) of woodland in Blackdown Hills National Landscape, by woodland type from the National Forest Inventory (NFI).

Interim data, with extent of tree canopy cover to be released when available.

Broadleaved: 3,766 ha

Conifer: 772 ha

Felled: 338 ha

Ground Prepared for New Planting: 11 ha

Mixed: 388 ha

Shrub: 16 ha

Young trees: 87 ha

Total: 5,379 ha