



DARTMOOR LOCAL PLAN
guiding planning applications in Dartmoor National Park

TOPIC PAPER 1

Natural Environment

August 2020

This topic paper provides an overview of the issues and evidence used to inform Dartmoor National Park's local plan review.



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1 Introduction

1.1 Aims and Objectives

- 1.1.1 This Topic Paper is one of ten topic papers which form part of the evidence base that support the emerging Dartmoor National Park Local Plan. These topic papers have been produced to coordinate and consolidate some of the evidence used in drafting the emerging local plan. All the topic papers are available to view online at:

<http://www.dartmoor.gov.uk/living-and-working/planning/planning-policy/background-evidence>

- 1.1.2 The purpose of this topic paper is to gather evidence and serve as a starting point for developing planning policies related to the natural environment. Invariably the paper will cover issues which overlap or compete with those in other parts of the evidence base e.g. Sustainability Appraisal/Strategic Environmental Assessment (SA/SEA), Habitat Regulations Assessment (HRA), Flood Risk Assessment (FRA), climate change mitigation and adaptation, and Landscape Character Assessment. In light of this the Topic Paper's aims are to:

- review relevant legislation and policy which set the statutory framework for the local plan;
- set out the important elements which contribute to Dartmoor's unique natural environment,
- review the current Dartmoor National Park Authority policy framework and its effectiveness through analysis of planning applications and consultation with internal and external consultees
- draw on a wide range of source material including research, guidance and best practice to inform policy development;
- identify threats and forces for change in the natural environment and opportunities for enhancement; and
- recommend how to best adapt policy so it ensures sufficient protection of the National Park's natural environment and identifies opportunities to enhance it in the future.

- 1.1.3 The topic paper has been updated throughout the course of the local plan review to reflect new evidence or changes to national guidance or policy. The views of the local community, key stakeholders and partner organisations who all have an interest in the future of Dartmoor National Park forms part of the evidence base for the local plan. We have therefore welcomed comments on this Paper and made appropriate changes. The following summarises the changes made in each version:

Version	Changes made
Version 1 March 2017	Original topic paper
Version 2 December 2018	Updated to reflect 2019 NPPF Discussion and policy recommendations added for landscape, agriculture, forestry, equestrian, and environmental net gain policy areas
Version 3 September 2019	Discussion and policy recommendations added for biodiversity net gain, South Hams SAC, recreational impacts, dark night skies
Version 4 July 2020	Discussion added around recreational impacts on Dartmoor and Plymouth Sound and Tamar Estuaries SAC/SPA

1.2 Dartmoor's Natural Environment

- 1.2.1 Dartmoor is home to the largest upland area in south west England. Dartmoor's granite massif forms a dramatic landscape with a distinctive geology, flora and fauna which are of international and national conservation importance. Although human activity has modified the landscape over thousands of years, it retains a rare, rich and varied cultural heritage, fauna and flora which shows how people, landscape and wildlife have historically influenced

each other. The challenge for the Dartmoor Local Plan is to set in place measures which ensure Dartmoor's unique natural environment is protected for future generations to enjoy and learn from.

1.2.2 The Environment Act 1995 sets out two statutory purposes for National Parks in England and Wales:

- Conserve and enhance the natural beauty, wildlife and cultural heritage
- Promote opportunities for the understanding and enjoyment of the special qualities of national parks by the public

When national parks carry out these purposes they also have the duty to seek to foster the economic and social well-being of local communities within the national parks.

What is the natural environment?

The natural environment encompasses all naturally occurring living and non-living things. It includes wildlife, rivers, streams and lakes, urban greenspace, open countryside, moorland, farmland and woodland. It includes the natural networks essential to human survival; including the natural systems which produce healthy soil, supply abundant clean water, protect us from floods and regulate our climate. It also encompasses our landscapes and our cultural heritage, and the many ways humans engage with nature.

1.3 Summary of Recommendations

1.3.1 This topic paper makes recommendations for how existing planning policy might best be changed and adapted to respond to the evidence discussed. For convenience, a short summary of the recommendations discussed is provided below.

Policy	Recommendation
Biodiversity	
COR7 DMD14	SACs and SSSIs are protected with a strong international and national legislative framework and existing policy supporting this must be retained and improved where necessary.
DMD14	The protection and enhancement of Key Wildlife Areas (KWAs) is crucial for ensuring better connectivity between wildlife sites. The protection and enhancement of these areas as places where priority habitats will be found should be promoted through explicit mention in policy and, in future, through guidance in the Design Guide.
DMD6 DMD14	There is an opportunity to afford ancient woodland and aged and veteran trees explicit protection in line with a strengthening of national policy.
DMD6	The protection of Moorland and Woodland Conservation Importance should be retained.
DMD5 DMD14	Existing requirement for traditional orchards to be respected by development proposals should be retained.
DMD14	The spatial distribution of KWAs and their associated habitats and species should be mapped in policy and on the Authority's website to encourage and facilitate appropriate biodiversity enhancement as part of development proposals.
DMD7 DMD14	The provision of green infrastructure within urban developments should be encouraged by policy and design guidance
DMD14	The intricacy and irreplaceable qualities of the habitats in Table 5 should be recognised by highlighting compensation for damage to or loss of these habitats is not considered acceptable other than as a last resort for development that's benefits clearly and significantly outweigh any loss
	Biodiversity offsetting could represent an opportunity to better compensate the National Park for cumulative biodiversity losses caused by development within and close to its

	boundary. However, there remains no certainty of a national commitment to biodiversity offsetting and it would be premature to establish a strategy at this time.
	In line with the NPPF, planning policy should discourage off-site compensation as a means of compensating for on-site biodiversity losses.
Geodiversity	
COR7 DMD14	Mention of Regionally Important Geological Sites (RIGS) in policy is essential to encouraging their preservation and positive consideration in proposals.
Landscape	
COR3 DMD5	Policies protecting the National Park's landscape are robust and should be retained in broadly their existing format. Landscape character and the features of the landscape the concept relates to could be better defined.
Tranquillity and Dark-night Skies	
COR11 DMD5	It is crucial tranquillity continues to be understood as one of the key characteristics of Dartmoor's character and its protection should be retained in broadly its existing format.
DMD5	Policy should not prevent dark-sky status being achieved and wording which seeks to eliminate all unnecessary forms of artificial lighting in proposed development should be considered.
Renewable Energy	
COR10 DMD15	Existing policy encouraging small scale renewable energy schemes which do not harm the landscape character, biodiversity, tranquillity and air and water quality of the National Park should be retained with a clear definition of small-scale.
	The Authority need to consider whether a specific policy on wind energy development is required to protect against future changes to the written ministerial statement on wind energy and whether there is sufficient evidence to support this policy.
Agriculture and Forestry	
DMD34	The existing policy is robust, but could be more explicit in ensuring landscape character should be preserved and could provide clear direction for resolving the conflict between agricultural need and landscape impact.
Equestrian Development	
DMD33	To respond to the increasing cumulative impact, policy should be strengthened by ensuring equestrian development is located immediately adjacent to existing development, the standard acreage per horse is increased to 2.5 and standard conditions are recommended in policy.
Air and Water Quality	
Various	Conserving air quality should be a cross-cutting objective delivered through policies related to sustainable development, health and well-being, sustainable transport, minerals, biodiversity and business related development.
Various	Conserving and improving water quality should be a cross-cutting objective delivered through policies related to sustainable development, health and well-being flooding and sustainable drainage systems, minerals, renewable energy, biodiversity and business related development.

2 International, National and Local Legislation and Policy Context

2.1 International Legislation

- 2.1.1 The planning system's international legal and regulatory framework comprises a wide range of treaties and directives which have direct effect upon the statutory functions of local government and planning (see Table 1).
- 2.1.2 Much of planning's international and legal regulatory framework is born out of the EU and will therefore fall away when the UK leaves the EU. It should however be clarified that many of the EU instruments are Directives which require implementation into UK law in order to have effect and therefore continue to apply when the UK leaves the EU. On leaving the EU it will be for the Government to decide whether the corresponding UK legislation should be maintained, replaced or repealed. There is therefore uncertainty on whether leaving the EU will have a significant impact on environmental policy and law, at this stage it is only possible to identify it as a risk.

Table 1 - International Legislative Framework	
EU	EU Habitats Directive 92/43/EEC
	Adopted in 1992, this Directive on the conservation of natural habitats and of wild fauna and flora aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. The directive requires Member States to protect over 1,000 species and 200 habitat types listed in the directive's annexes, including by requiring designation of the best resources of these habitats and species as Special Areas of Conservation (SACs). It forms the cornerstone of Europe's nature conservation policy with the Birds Directive and establishes the EU wide Natura 2000 ecological network of protected areas, safeguarded against potentially damaging developments.
	Birds Directive 2009/147/EC
	The oldest piece of EU legislation on the environment and protects habitats for endangered and migratory species. It establishes a network of Special Protection Areas (SPAs) including all the most suitable territories for protected species. All SPAs are included in the Natura 2000 ecological network, set up under the Habitats Directive.
	SEA Directive 2001/42/EC
	Requires Member States to carry out a Strategic Environment Assessment (SEA) to determine whether the plans /programmes are likely to have significant environmental effects. An SEA is mandatory for all local land use plans and assessment of biodiversity impacts is a mandatory component of the SEA process.
	Water Framework Directive 2000/60/EC
	This directive was established for the protection of inland, transitional, coastal and groundwater water and seeks to prevent further deterioration, promote sustainable water use and enhance protection for the aquatic environment. The Directive requires Member States to achieve common goals, some of which are related to planning including abstraction, pollution and physical modification of water bodies.
EU Biodiversity Strategy to 2020	
The EU adopted this target based strategy to halt the loss of biodiversity and improve the state of Europe's natural environment and the services it provides. Spatial planning and land use management are identified as being important mechanisms for implementing the strategy at all levels. The strategy is implemented by the UK Biodiversity Framework.	
Renewable Energy Directive 2009/28/EC	
The Renewable Energy Directive 2009/28/EC is a European Union directive which mandates levels of renewable energy use within the European Union and requires that 20% of the energy consumed within the EU is from renewable sources.	

NON EU	Convention on Biological Diversity
	As of 2015 the UK along with 196 other countries have ratified this global agreement which aims to achieve conservation, restoration and sustainable use of biological diversity. The strategy is implemented by the UK biodiversity Framework.
	Convention on the Conservation of European Wildlife and Natural Habitats
	Also known as the Bern Convention, this Convention was adopted by the Council of Europe (not the EU) and is an international legal instrument which protects wild flora and fauna and their natural habitats. Measure to ensure protection are required to be transposed into ratifying Parties' planning and development policies.
	European Landscape Convention
	The UK ratified this international treaty aimed at the protection, management and planning of all valued landscapes and established the need to recognise this in law. The convention was adopted by the Council of Europe (not the EU) of which the UK is a member. The aims and objectives of the Convention's Articles directly feed into national and local planning policies.

2.2 National Legislation and Policy

- 2.2.1 At the National level much of the UK's environmental legislation is transposed from the EU Directives or produced in response to international treaties and conventions. The Acts, summarised below, set out the relevant legal framework local planning policy on the natural environment must comply with.

Table 2 – National Legislative Framework
Conservation of Habitats and Species Regulations 2010 (Habitat Regulations)
This Act transposes the requirements of the EU Habitats Directive and Birds Directive into UK Law. The Regulations allow for the protection of habitats and species designated by the EU as Special Areas of Conservation and Special Protection Areas. The Regulations afford planning authorities powers to ensure protection of these sites and species from development.
Wildlife and Countryside Act 1981, as amended
This Act implements the Bern Convention and Birds Directive. The Act sets out the law regarding protection of wildlife, National Parks, Sites of Special Scientific Interest (SSSI), other protected areas and rights of way, including measures to ensure their protection in planning procedure and policy. Section 3 of the 1985 amendment Act also requires National Park Authorities to compile maps of moor and heathland of conservation importance in National Parks.
Countryside and Rights of Way Act 2000 (CRoW Act)
This Act makes amendments to the Wildlife and Countryside Act (above) by increasing measures for the management and protection of SSSIs.
National Parks and Access to the Countryside Act 1949
The Act lead to the designation of National Parks and the creation of the National Parks Commission, later the Countryside Commission and which now exists as Natural England.
Natural Environment and Rural Communities Act 2006 (NERC 2006)
The NERC Act established Natural England as the body responsible for conserving, enhancing and managing England's natural environment. The Act introduced the duty for a Public Authority to have regard to conserving biodiversity. Requires the Secretary of State to publish a list of living organisms and habitats which are of principle importance for the purpose of conserving biodiversity.
Environment Act 1995
This Act lead to the creation of National Park Authorities and defined their purposes. These purposes set the overall aim and strategy for the Park with which local planning policy must comply with. It also requires other authorities to have regard to National Park purposes and improves the current protection of hedgerows.
Flood and Water Management Act 2010

The Flood and Water Management Act 2010 addresses the threat of flooding and water scarcity. Under the Flood Risk Regulations the Environment Agency is responsible for managing flood risk from main rivers, the sea and reservoirs.

Renewable Energy Directive 2009

In response to EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources, the UK is committed to sourcing 15% of its energy from renewable sources by 2020 – almost a seven-fold increase on the share of about 2.25% in 2008, in scarcely more than a decade.

Climate Change Act 2008

The Climate Change Act 2008 introduced a statutory target of reducing carbon dioxide emissions to at least 80% below 1990 levels by 2050, with an interim target of 34% by 2020. Government departments have prepared carbon budgets to indicate how greenhouse gas emissions will be reduced across the government estate and in sectors where departments take a policy lead. The Act also created a framework for climate change adaptation.

Hedgerow Regulations 1997

The hedgerow regulations are intended to protect important countryside hedges from damage or removal.

2.2.2 National planning policy is the national statutory framework for determining planning applications and establishes the requirement to develop local plans. National policy documents must be compliant with the legal framework summarised above. A summary of relevant current national planning policy is provided below.

Table 3 – National Planning Policy

National Planning Policy Framework 2018 (NPPF)

This sets out the Government’s planning policies for England. Paragraphs 170 to 183 detail natural environment policies and focus on recognising the wider benefit of ecosystem services, protecting and enhancing valued landscapes and minimising impacts on biodiversity.

Planning Practice Guidance (PPG)

Explains key issues and answers common questions to guide implementation of national policies. The Natural Environment section is of relevance to this paper.

The English National Parks and the Broads Circular 2010

This Circular sets out the Government’s vision for and provides policy guidance for English National Parks and the Broads. The Circular re-enforces planning’s vital role in delivering actions to ensure achievement of National Park purposes.

Biodiversity and Geological Conservation Circular 06/05

Provides administrative and procedural guidance on the application of the law relating to planning and nature conservation as it applies in England. The Circular complements the NPPF and PPG.

2.2.3 In addition to the legislative and policy context there exist further documents which set out the Government’s broader strategy and objectives for protecting and enhancing the natural environment.

Table 4 - National Policy on the Natural Environment

Natural Environment White Paper

This Paper outlines the Government’s vision for the natural environment over the next 50 years and describes the strategy and actions which will be needed to deliver that vision, some of which are directly related to spatial planning.

Biodiversity 2020

This is the national strategy for England’s wildlife and ecosystem services focusing on supporting well-functioning ecosystems and establishing coherent ecological networks. Many of the priorities and key actions have a direct impact on planning policy.

UK BAP Species and habitats of principle importance

A list of priority habitats and species from NERC 2006 sections 41 and 42 (which replace CROW s74).

National Parks: 8 Point Plan for England 2016 - 2020

This plan sets out how the Government intend to protect, promote and enhance National Parks in England from now until 2020.

25 Year Environment Plan

This will be a comprehensive plan for England's natural environment from DEFRA. Brexit will bring additional importance to the plan as it will now need to set out the direction of the Government's environmental policy after leaving the EU. It is likely that the Natural Capital approach will feature prominently.

2.3 Local Policy Framework

2.3.1 The current Dartmoor National Park development plan comprises the following documents:

- Development Management and Delivery Development Plan Document (policies DMD1 – DMD46)
- Core Strategy (policies COR1 – COR24)
- Minerals Local Plan (policies M1 – M7)

2.3.2 In addition the following local strategic documents form an important consideration for this topic paper and the natural environment planning policies:

- National Park Management Plan 2014
- Living Dartmoor
- South Hams SAC planning guidance
- Devon County Green Infrastructure Strategy

2.3.3 Policies specific to elements of the natural environment will be discussed in detail in relevant sections of this paper.

3 Biodiversity

3.1 Policy Context

- 3.1.1 The overarching aim of the National Planning Policy Framework (NPPF) policy on biodiversity is: to minimise impacts on and provide net gains for biodiversity, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- 3.1.2 Paragraph 171 of the NPPF requires plans to:
- distinguish between the hierarchy of international, national and locally designated sites;
 - allocate land with the least environmental or amenity value, where consistent with other policies in the NPPF;
 - take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and
 - plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.
- 3.1.3 Paragraph 174 requires plans to:
- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of designated wildlife sites, wildlife corridors and stepping stones that connect them, and areas identified by national and local partnerships for habitat management, engagement, restoration or creation, and
 - Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains biodiversity.
- 3.1.4 In 2010, the independent review of England's wildlife sites and ecological network, chaired by Professor Sir John Lawton, concluded unequivocally that England's wildlife sites do not comprise a coherent and resilient ecological network which is capable of withstanding the challenges of climate change and other pressures¹. The review calls for a step-change in nature conservation and a restorative approach which rebuilds nature and creates a more resilient natural environment for the benefit of wildlife and ourselves.
- 3.1.5 In June 2011, in response to the Lawton report, the Government published the Natural Choice² – the first Natural Environment White Paper for 20 years which reflects global agreements to take urgent and effective action to halt the alarming global declines in biodiversity³. The White Paper outlines the Government's vision for the natural environment, shifting the emphasis from piecemeal fragmented conservation action towards a more integrated landscape-scale approach. In January 2018 the Government published its 25 year plan to improve the Environment 'A Green Future', which included a commitment to embed an environmental net gain principle for development and develop a nature recovery network.
- 3.1.6 A fundamental driving principle in all these reports is the need to stop thinking of the natural environment as isolated islands of biodiversity. The reports advocate a step change which

¹ J. Lawton et al., Making Space for Nature: A review of England's Wildlife Sites and Ecological Network (2010)

² Natural Environment White Paper, HM Government, <https://www.gov.uk/government/news/natural-environment-white-paper-discussion-document-record-response> (2011)

³ Convention on Biological Diversity, COP Decision X/2, Strategic Plan for Biodiversity 2011-2020 (2010)

recognises the need to manage the natural environment in a way which recognises its reliance on larger natural systems – healthy soils, clean air, biodiversity etc. The White Paper sets out a clear practical vision for restoring connectivity in ecological networks through the creation and protection of:

- **Core areas** – of high nature conservation value which contain rare or important habitats or ecosystem services.
- **Corridors and ‘stepping stones’** – enabling species to move between core areas.
- **Restoration areas** – where strategies are put in place to create high-value areas so that ecological functions and wildlife can be restored
- **Buffer zones** – that protect core areas, restoration areas and stepping stones from adverse impacts

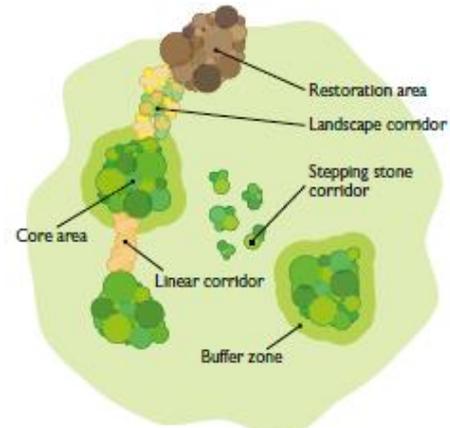


Figure 1 - Components of ecological networks

Landscape-scale Conservation

This term is used to refer to action that covers a large spatial scale, usually covering a range of ecosystem processes, conservation objectives and land-uses. Landscape-scale conservation is characterised by the pursuit of multiple benefits across nature with improvements to water quality, biodiversity, access etc. can have wide reaching benefits for the local economy and quality of life.

3.2 Threats

- 3.2.1 Development has the potential to cause direct damage to the natural environment from the impact of development practices through the removal of habitat, fragmentation of habitats and loss of wildlife corridors. Even relatively minor development practices, such as works to roof voids and demolitions, can impact on protected species which may occupy those spaces.
- 3.2.2 Less well understood is indirect disturbance and cumulative impacts which can result from the increase in visitor numbers and intensification of recreational use of a wildlife site, and in particular that as a result of nearby housing development. Indirect disturbance of Dartmoor's natural environment is considered a particularly sensitive issue because of the important role the National Park plays in attracting people to work and live in Devon and nearby cities, such as Exeter, Plymouth and major growth point developments such as Cranbrook, Sherford and Woolwell. Indirect disturbances can range from short-term to long-term events with permanent effects, examples include:
- Damage to habitats through recreational activities (walking, cycling, horse riding)^{4 5},

⁴ Burden, R.F. and Randerson, P.F. (1972) *Quantitative Studies of the Effects of Trampling on Vegetation as an Aid to Management of SeminatURAL Areas*. Journal of Applied Ecology Vol. 9(2), pp439-453

⁵ Thurston, E. and Reader, R.J (2001) *Impacts of Experimentally Applied Mountain Biking and Hiking on Vegetation and Soil of a Deciduous Forest* Environmental Management 27(3), pp397-409

fires, fly-tipping⁶, litter, dog fouling etc;

- Disturbance of wildlife during construction through noise and vibration⁷;
- Predation of domestic cats upon wildlife such as nesting birds and water vole⁸;
- Recreational disturbance of sensitive fauna, particularly by dog walkers;
- Siltation of waterbodies / courses from run-off;
- Pollution of water from new domestic and industrial discharges;
- Air pollution from additional traffic, industry etc. For example their effect on lichens;
- Threat on sensitive habitats from the escape of invasive household exotic garden and aquatic plants, such as American skunk cabbage⁹
- Disturbance of nocturnal fauna through the use of artificial lighting¹⁰;
- Visual disturbance and mortality from wind farms^{11 12}; and
- Mortality caused by increased traffic or new roads.

3.2.3 Some of the disturbances cited above are an inherent part of changes in land-use and cannot be fully overcome. However such impacts need to be made clear in proposals in order that they can be weighed against the benefits of development during the decision making process and so that their effects can be mitigated through the use of method statements, design / landscape schemes and planning obligations.

3.3 Special Areas of Conservation (SACs)

3.3.1 27% of Dartmoor National Park has been designated under three Special Areas of Conservation (SACs): Dartmoor, South Dartmoor Woods and South Hams (see mapped in Figure 2. SACs are strictly protected sites designated under the EC Habitats Directive 1994 and form a European wide network of high quality conservation sites known as Natura 2000 sites. The National Park does not have any designated Ramsar sites or Special Protection Areas (SPAs).

3.3.2 Due to their sensitivity and importance even development located at a distance can have a negative impact on SACs. John Lawton's 2010 review of the UK's wildlife sites emphasised their importance and the need to improve their size and quality through favourable management¹³.

South Hams SAC

3.3.3 Although all SACs are sensitive, the South Hams SAC differs from some other protected habitats, insofar as the designation covers the roosts only, whilst the success of the population is dependent on wider habitat. The integrity of the bat population is reliant upon

⁶ Webb, B., Marshall, B., Czarnomski, S. and Tilley, N (2006) *Fly-tipping: Causes, Incentives and Solutions*. University College, London.

⁷ Hockin, D., et al. (1992) *Examination of the Effects of Disturbance on Birds with Reference to its Importance in Ecological Assessments*, Journal of Environmental Management Vol. 36(4), pp253-286.

⁸ Woods, M., McDonald, R.A and Harris, S. (2003) *Predation of Wildlife by Domestic Cats in Great Britain* Mammal Review Vol. 33(2), pp174-188.

⁹ Sanderson, N (2013) *Research on the impact of American skunk cabbage on native vegetation*, Hampshire and Isle of Wight Wildlife Trust on behalf of The New Forest Non-Native Plants Project

¹⁰ Rich, C and Longcore, T (2006) *The Ecological Consequences of Artificial Night Lighting*. Island, Washington

¹¹ Convention on the Conservation of European Wildlife and Natural Habitats (2003) *Windfarms and Birds: An analysis of the effects of windfarms on birds, and guidance on environmental assessment criteria and site selection issues*

¹² Jones, G., Hooper-Bohannon, R., Barlow, K. and Parsons, K. (2009) *Determining the Potential Impact of wind Turbines on Bat Populations in Britain*

¹³ J. Lawton et al., *Making Space for Nature: A review of England's Wildlife Sites and Ecological Network* (2010)

an interlinked network of:

- Roosts (structures used by bats for shelter and protection, including hibernation and raising young (maternity roosts))
- Foraging habitat – areas where bats feed, including grazed pastures, the edges of broadleaved woodland, stream corridors and thick hedgerows, and
- Commuting routes – the routes the bats use to move through the landscape, often using linear landscape features

- 3.3.4 In 2010 Natural England published planning guidance for developments falling within the South Hams SAC consultation zone encompassing 4km sustenance zones around designated SAC roosts, and a network of 500 m wide 'strategic flyways' linking designated roosts based on landscape features.
- 3.3.5 Whilst the 2010 guidance has provided a very helpful tool in guiding survey requirements for applications, it has become increasingly clear from survey data that outside of Sustenance Zones Greater horseshoe bats are widely dispersed across the landscape. This implies that large scale developments outside of sustenance zones and strategic flyways, could have a 'Likely Significant Effect' yet may not be subject to a detailed HRA, and thus may fall short of the requirements of the Regulations.
- 3.3.6 Since 2015 the South Hams SAC Steering Group has been working jointly in response to this. The Steering Group comprises Dartmoor National Park Authority, Devon County Council, Teignbridge District Council, Torbay Council, South Hams District Council and Natural England. The group has carried out a review of the guidance and detailed review of data upon which a revised guidance document has been based.
- 3.3.7 The outcome of this work has been a guidance document for Habitat Regulations Assessment for the South Hams SAC. This joint guidance document has been endorsed by each of the Authorities, including DNPA. The key elements of the guidance are a 4km Sustenance Zone, and a 10km Landscape Connectivity Zone (LCZ). The new LCZ is a response to the weaknesses in the 2010 guidance, which map 'flyways' based upon radio-tracking evidence. The LCZ takes a realistic approach to survey requirements, but encompasses a broader area based upon a stronger evidential justification. Associated evidence of 'pinch points' and 'mitigation sites' are also referenced in the guidance, to ensure that other features which may be of value in the integrity of the SAC are known, and taken into account.
- 3.3.8 The status of the document has been subject of extensive discussion, with consultee responses raising concerns in relation to recent case law around the status of SPDs. As 'guidance', the document carries lesser weight in decision making compared with an SPD, or a Development Plan Document (i.e. a local plan). DNPA is at an opportune point in the preparation of the Local Plan, to include reference to a consultation zone for the South Hams SAC, which aligns with the outer Sustenance Zone set out in the guidance. This would add a further element of weight to the consideration of a wider area of potential impact around the designated SAC sites, and may 'pave the way' for other Authorities to follow suit, and potentially progress more formal guidance in the future.
- 3.3.9 Policy COR7 and DMD14 are the Authority's existing policies on the protection of biodiversity. Policy COR7 serves as a strategic policy requiring development proposals to protect, maintain or enhance the biodiversity and geodiversity interests of the National Park. Policy DMD14 offers more detail and delivers the criteria based policy required by the NPPF by seeking to protect wildlife and geodiversity designations commensurate with their status. Consistent with the requirements of statutory legislation and the NPPF, DMD14 affords the highest level of protection to SACs.
- 3.3.10 Dartmoor National Park Authority is required to achieve the protection required by EU

instruments through strict compliance with Regulation 61 of the Habitats Regulations and in accordance with the procedures set out in Circular 06/2005. The onus is on the applicant to provide enough information in a planning application so DNPA ecologists can assess the proposals likely impact. The Authority is required to consult with Natural England on all planning applications which might affect a SAC and take their advice into account when determining an application. Where adverse effects to the integrity of a SAC are likely, the application must be refused unless there are reasons of overriding public interest.

Recommendations for policy

- 3.3.11 The highest level of legal and policy protection is afforded to SACs in existing policy and legislation and this offers robust protection to these assets which must be upheld in future policy.
- 3.3.12 The broader 'consultation zone' for the South Hams SAC should be shown within the Local Plan, giving (in conjunction with the associated guidance) a clearer indication of when evidence is required alongside a planning application, to inform Habitat Regulations Assessment and ensure that the integrity of the SAC is protected.

3.4 Sites of Special Scientific Interest

- 3.4.1 Around 30,000 hectares of Dartmoor National Park (31% of the total area) is designated for its wildlife or geological value in numerous Sites of Special Scientific Interest (SSSIs). As shown in Figure 2 many of Dartmoor's SSSIs are also designated as SACs.



Figure 2 - SACs and SSSIs in Dartmoor and wider area

3.4.2 All SSSI land is assessed by Natural England at least every six years and categorised into six conditions; favourable, unfavourable recovering, unfavourable no change, unfavourable declining, part destroyed and destroyed. As all of Dartmoor’s SACs are also SSSIs this assessment serves as a robust headline indicator of the condition of both designated sites. The 2000 SSSI improvement programme set the target to bring 95% of SSSIs into a favourable or recovering condition by 2010.

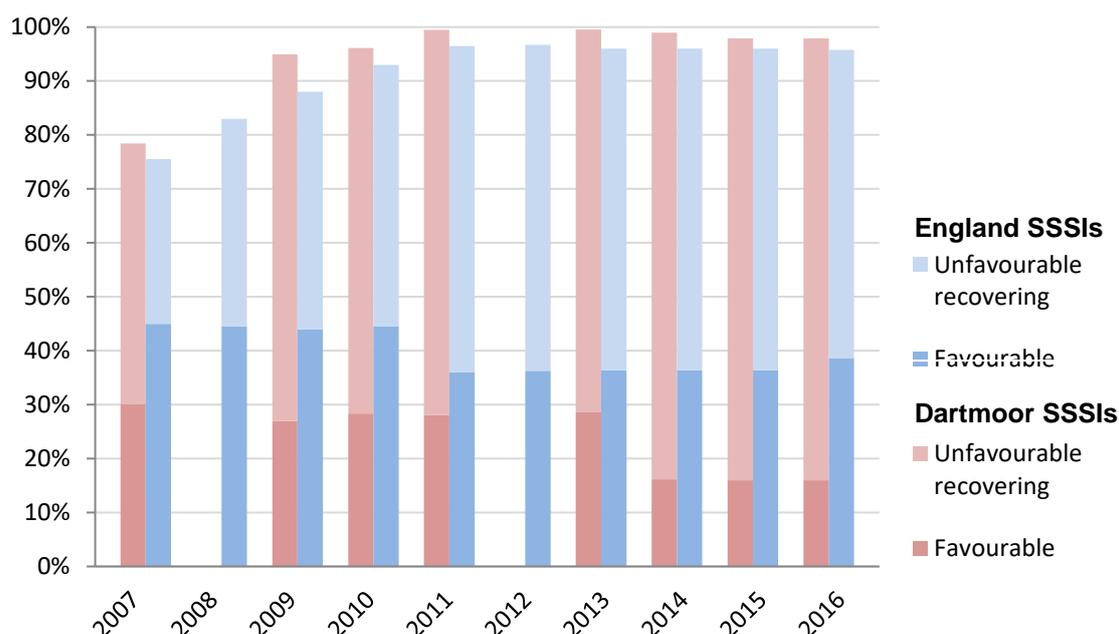


Figure 3 – Percentage of SSSI land in 'favourable' or 'unfavourable recovering' condition England and Dartmoor National Park. Source: Natural England

Condition	Favourable	Unfavourable recovering	Unfavourable no change	Unfavourable declining	Partially destroyed	Destroyed	Not assessed
DNP	16%	82%	0%	2%	0%	0%	0%
England	38.66%	57.1%	2.45%	1.72%	0.03%	0.02%	0.03%

Figure 4 - SSSI condition for England and Dartmoor National Park in 2016. Source: Natural England

3.4.3 Figure 4 shows very nearly all SSSI land within the National Park is either in a favourable or unfavourable recovering condition and that this percentage remains higher than the national average, albeit it has very slightly declined since 2011/12. Of some concern is that Dartmoor's SSSI sites assessed to be in favourable condition declined sharply in 2013. This decrease coincided with the reorganisation of SSSI unit boundaries where smaller units formerly in favourable condition have been lost when they have been merged into larger units and the overall assessment has taken the unfavourable recovering status. The dominant category of unfavourable recovering can be regarded as a positive indication, reflecting the success of Dartmoor Farming Futures and other initiatives to bring the large commons SSSI units (mainly upland heath and upland bog) into agri-environment schemes, whilst accepting that it will take time to see them recover to a completely favourable condition.

3.4.4 SSSIs are afforded primary protection by s28 of the Wildlife and Countryside Act, 1981 (as amended) and CROW Act Schedule 9 which requires local planning authorities to consult Natural England on all planning applications which might affect a SSSI and to take their advice into account in determining the application. Circular 06/2005 also sets out a statutory procedural framework the Authority must comply with.

Recommendations for policy

3.4.5 Current Policy DMD14 supplements the national legislative framework and seeks to conserve and enhance SSSIs in accordance with National Park purposes. Overall the combination of local policy and legislative framework affords SSSIs a high level of protection commensurate with their status and it is important that this local policy provision is retained.

3.5 *Strategic Nature Areas and Key Wildlife Areas*

- 3.5.1 Biodiversity South West was set up to promote and enable the biodiversity sector in the south west to effectively deliver Biodiversity 2020, the biodiversity strategy for England showing how the government intended to implement international and EU commitments, through regional and local action. Biodiversity South West produced the South West Nature Map to show the best area to maintain and expand terrestrial wildlife habitats beyond statutory protected sites. Importantly the nature map provides a scientifically robust methodology for identifying the needs of our wildlife to ensure it can survive in the long term. This led to the creation of Strategic Nature Areas (SNAs) which are broad areas containing a mix of habitat patches alongside other vegetation and productive land uses, with either the priority habitat occurring as a binding matrix in which other land uses are embedded or as numerous patches in a diverse mosaic, in keeping with the landscape character of the area. The nature map serves as a strategic planning tool and helps guide planners and conservation practitioners to the areas where the best opportunities exist for restoring, expanding and connecting biodiversity.
- 3.5.2 The South West Nature map was also intended to serve as a consideration in emerging LDFs in order to better identify the wider natural ecosystem needed to support existing wildlife and inform site allocations¹⁴. The South West Nature Map is an important tool in mapping and understanding the National Park's local ecological network as required by para 174 of the NPPF and which para 009 of the Natural Environment PPG states is useful in considering how development can affect biodiversity and where biodiversity benefits are best delivered.
- 3.5.3 Using SNAs together with local knowledge the National Park Authority has derived its own wildlife designations called Key Wildlife Areas (KWAs). These areas improve SNAs to ensure they make sense on the ground. As with SNAs, KWAs are mapped with broad boundaries and contain adjacent areas which may have potential for expansion of the key habitat and generally grade into the surrounding landscape. As per para 174 of the NPPF, it is important that potential components of ecological networks are included as part of the evidence base of the plan. An overview of Dartmoor's KWAs is shown in Figure 5, they are named by the familiar and relatively widespread species and habitats which support them. Also included in Figure 5 are habitat links which form important cross boundary areas of connecting habitat which join KWAs to SNAs outside the National Park area.

Recommendations for policy

- 3.5.4 The preamble to policy DMD14 makes reference to SNAs and shows them mapped. They are afforded protection through the policy's general protection of 'other defined sites, features, habitats, species or networks'. Promoting the preservation, restoration and re-creation of priority habitats and ecological networks is a fundamental principle of the NPPF. There may be an opportunity to enhance protection and general awareness of these areas in policy by defining or referencing ecological networks and their component features more explicitly and identifying the harm that development in KWAs can cause, through fragmentation of ecological networks.
- 3.5.5 In the longer term KWAs could form the basis to establish Local Nature Recovery Strategies (LNRS) which have been proposed by the government in their response to the 2018 Biodiversity Net Gain consultation¹⁵. LNRSs are local habitat opportunity maps which guide provision of compensatory habitat and habitat recovery and are intended cover the whole of the UK.

¹⁴ Biodiversity South West (2007) 'South West Nature Map – A Planner's Guide'

¹⁵ [Defra \(2019\) 'Biodiversity Net Gain: updating planning requirements'](#)

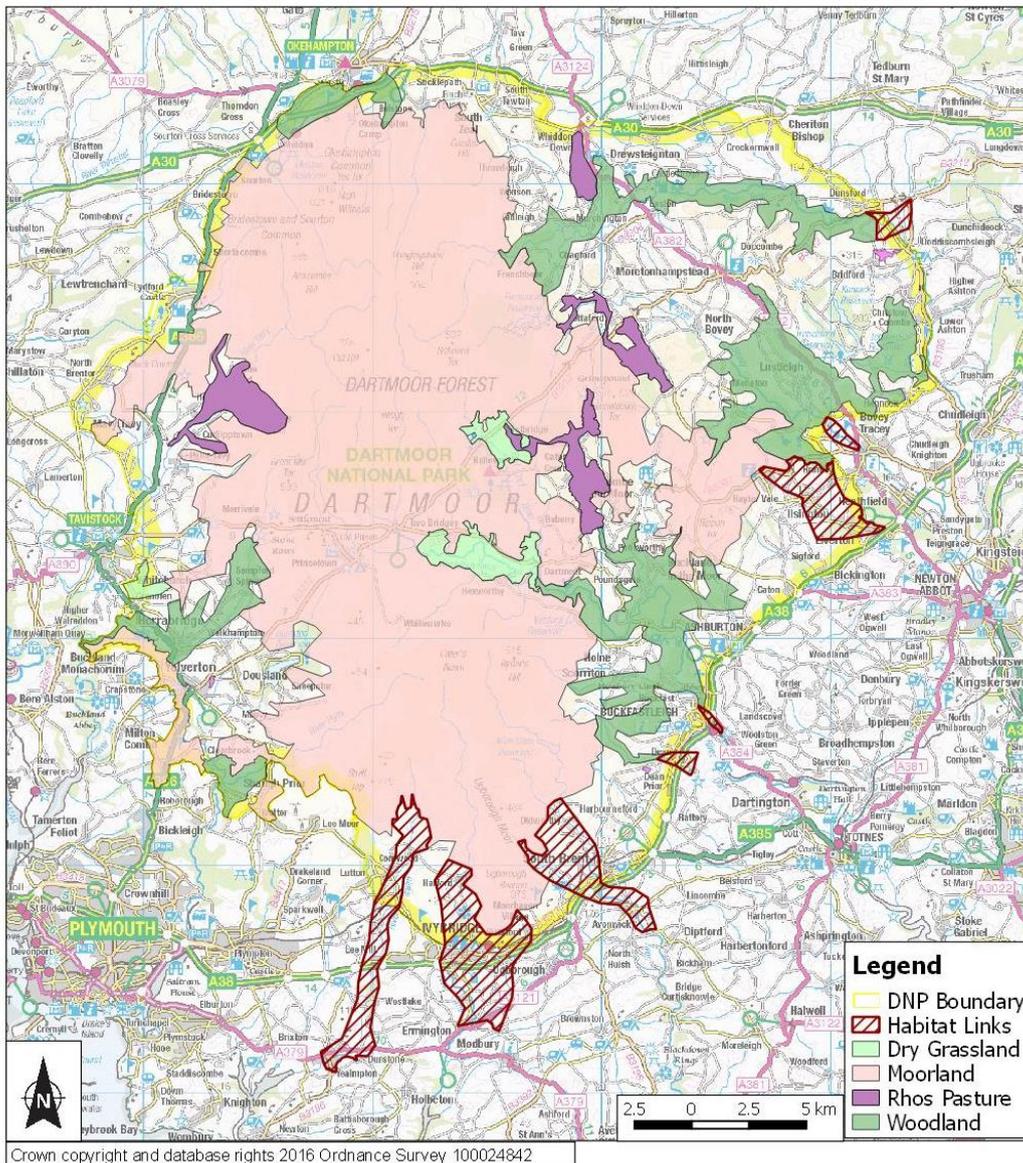


Figure 5 - Dartmoor's Key Wildlife Areas

3.6 Ancient Woodland and Ancient and Veteran Trees

- 3.6.1 Trees and woodland classed as 'ancient' or 'veteran' are irreplaceable. Ancient woodland takes hundreds of years to establish and is important for its soils, recreational and cultural value, history and contribution to wildlife habitat and landscapes.
- 3.6.2 The total area of ancient semi-natural woodland in Dartmoor National Park extends over 2,957 ha, of which 249 ha are part of 'plantations on ancient woodland sites'. Figure 6 shows the National Park's ancient woodland resource.

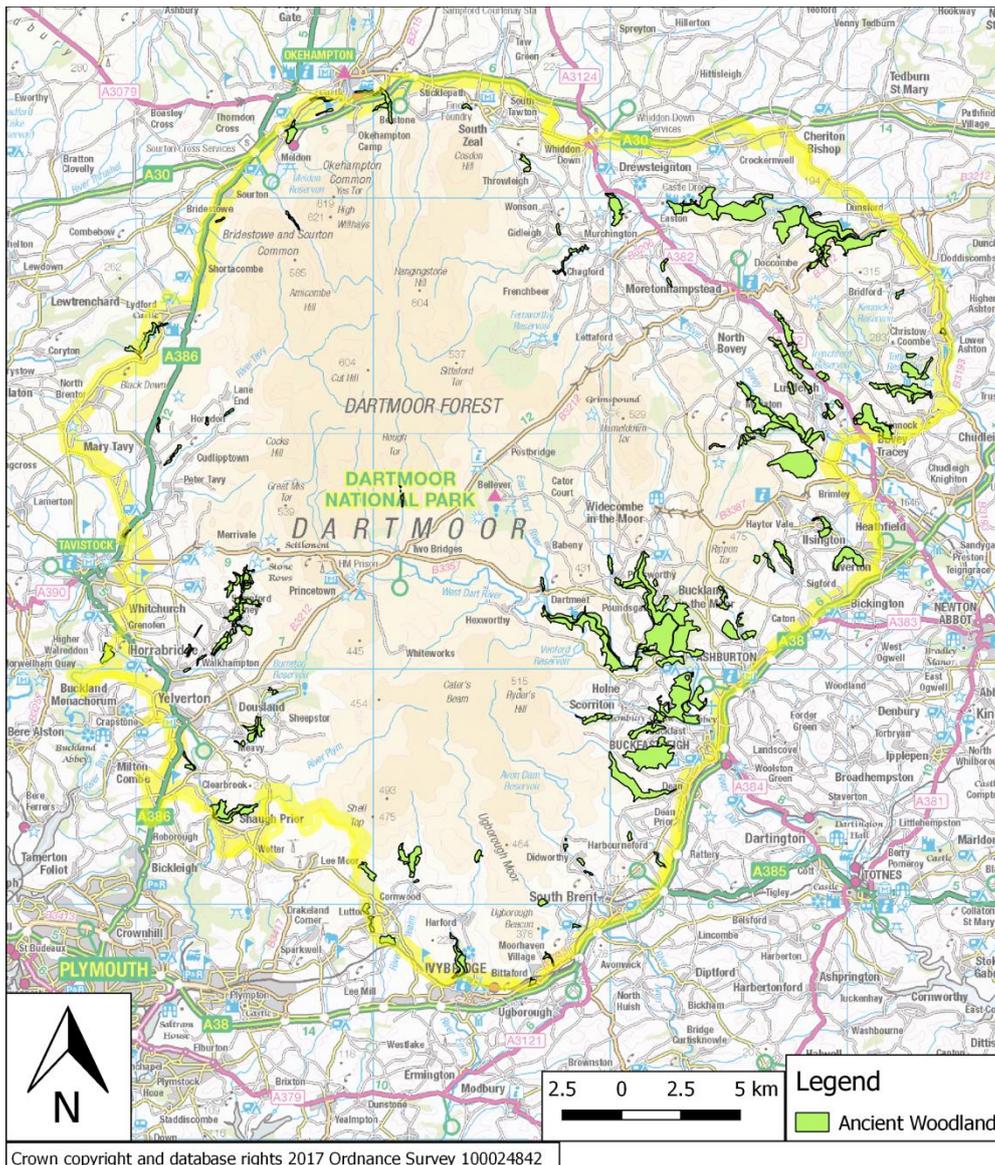


Figure 6 - Ancient woodland resource in Dartmoor National Park

3.6.3 'Ancient woodland' is any wooded area that has been wooded continuously since at least 1600 AD. It includes:

- 'ancient semi-natural woodland' mainly made up of trees and shrubs native to the site, usually arising from natural regeneration
- 'plantations on ancient woodland sites' areas of ancient woodland where the former native tree cover has been felled and replaced by planted trees, usually of species not native to the site

3.6.4 The NPPF 2012 referred to and protected aged and veteran trees, in 2018 this changed to ancient and veteran trees. An ancient or veteran tree is defined in the NPPF as a tree which, because of its great age, size or condition is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.

3.6.5 The NPPF states permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, such as ancient woodland and ancient or veteran trees, unless there are wholly exceptional reasons and suitable compensation strategy

exists.

- 3.6.6 National Planning Practice Guidance supports the NPPF and states 'both ancient semi-natural woodland as well as plantations on ancient woodland sites are ancient woodland, both types should be treated equally in terms of the protection afforded to ancient woodland in the National Planning Policy Framework'.
- 3.6.7 Given National Park purposes and the weight given to the conservation and enhancement of their natural environment in the NPPF, it is recommended ancient woodland and ancient and veteran trees should be given explicit protection through policy in the local plan.
- 3.6.8 Standing Advice for ancient woodland and veteran trees has been issued by the Forestry Commission and Natural England¹⁶. The advice emphasises the Forestry Commission can be used as a non-statutory consultee for any proposals affecting an ancient woodland, but otherwise there is no statutory consultee with regards to these proposals. It is therefore important that local policies and development management processes are sufficiently robust to ensure protection of this important resource.
- 3.6.9 Standing advice emphasises the irreplaceable nature of ancient woodland and veteran trees and that damage cannot be mitigated or compensated for. Therefore developments which propose to offset damage should only be considered after it has been judged that the wider benefits clearly outweigh the loss or damage of ancient woodland.
- 3.6.10 Keepers of Time¹⁷, a policy statement on ancient woodland from the Forestry Commission which is supported by the Government Forestry and Woodlands Policy Statement 2013¹⁸, provides a strong framework for the protection of and enhancement of ancient woodland. The statement sets out threats to the future protection of woodland, including loss or indirect damage caused by development'. In particular, where houses or roads are built close to the woodland's boundaries, serious disturbance can result through changes to drainage, dumping, aggressive cutting back of trees or shrubs at the woodland's edge and unmanaged recreational and access pressures.
- 3.6.11 Keepers of Time identifies that opportunities for the public to enjoy these woodlands is sometimes limited. There exists a challenge for the planning and management of the National Park to encourage public access in a sustainable low intensity way which does not compromise strategic conservation objectives.

Recommendations for policy

- 3.6.12 Current Policy COR3 is the Authority's strategic policy protecting Dartmoor's characteristic landscapes and lists woodlands, trees and orchards as some of the features which will be given particular regard. Ancient woodland forms part of Dartmoor's woodland of conservation importance which is afforded protection through Policy DMD6. Neither policy makes specific reference to ancient woodland or ancient and veteran trees other than in the preamble.
- 3.6.13 In view of the strengthening of national policy and growing recognition of the crucial importance ancient woodland and ancient or veteran trees have to the distinctive character and quality of our countryside there is an opportunity to afford these important assets

¹⁶ Forestry Commission and Natural England (2014) '*Standing Advice for Ancient Woodland and Veteran Trees*'

¹⁷ Forestry Commission (2005) '*Keepers of Time: A Statement of Policy for England's Ancient and Native Woodland*'

¹⁸ Department for Environment, Food and Rural Affairs (2013) '*Government Forestry and Woodlands Policy Statement*'

explicit protection within the local plan alongside other priority habitats which are considered irreplaceable. Wording which clearly states that the presence of irreplaceable habitat on a site indicates a strong reason to restrict development should be considered. Including ancient woodland and ancient and veteran trees in a schedule of habitats which are considered irreplaceable would help highlight the importance of these and other habitats.

3.7 Local wildlife sites

- 3.7.1 There are various wildlife designations of local importance. These sites do not benefit from statutory protection and are therefore solely protected by local management agreements and planning policies.
- 3.7.2 County Wildlife Sites (CWSs) comprise a network of non-statutory wildlife sites seen to be of regional importance. CWSs are designated with the agreement of their owners according to strict criteria¹⁹ and often complement SAC or SSSI designations by forming buffers around them and/or include important species identified in the UK's Biodiversity Action Plan²⁰. CWSs can be of similar ecological quality to SSSIs, but unlike SSSIs and SACs, CWSs are not afforded statutory protection.
- 3.7.3 As of October 2016 there were 232 county wildlife sites in Dartmoor National Park, totalling 2,247 hectares. A further 130 sites, totalling 1,031 hectares, meet the criteria for county wildlife site status but the owners are unknown or have not agreed to designation. Many of these sites were first identified as a result of surveys of ancient woodland (1996), dry grassland (2003) and rhos pasture (1994-6) commissioned by DNPA.
- 3.7.4 The habitat condition of a sample of county wildlife sites is checked every year. Of the 78 sites monitored since 2009, 35 are found to be in favourable condition ('green'), but 5 were in declining ('red') condition. These declines are typically due to a lack of appropriate management.

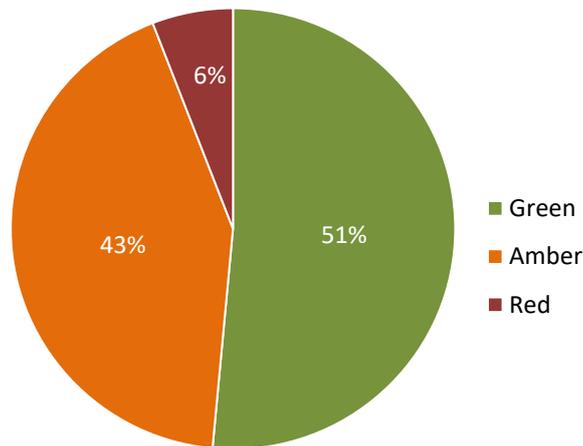


Figure 7 – County wildlife site condition by site

- 3.7.5 Section 3 of the Wildlife and Countryside (amendment) Act (1985), requires National Park Authorities to compile a map showing areas of moor, heath and woodland 'whose natural beauty it is, in the opinion of the Authority particularly important to conserve'. A review of Section 3 mapping was conducted as part of the last local plan preparations. Areas of

¹⁹ Devon Wildlife Trust (2009) *'The Devon Local Sites Manual Policies and Procedures for the Identification and Designation of Wildlife Sites'*

²⁰ Defra (2011) *'Biodiversity 2020: A strategy for England's wildlife and ecosystem services'*

protected woodland and moorland were expanded to include overlooked areas and were adopted as a new local designation named woodland and moorland of conservation importance.

3.7.6 Figure 8 identifies the designated areas of woodland and moorland of conservation importance. This mapping was reviewed as part of the last local plan preparations, it is not considered there has been any significant growth or decline of these areas in this time to justify a further review. These areas of Moor and Woodland of Conservation Importance overlap and exceed sites considered to be of international and national importance. So as to support National Park purposes it is considered this resource needs to be protected from harmful development.

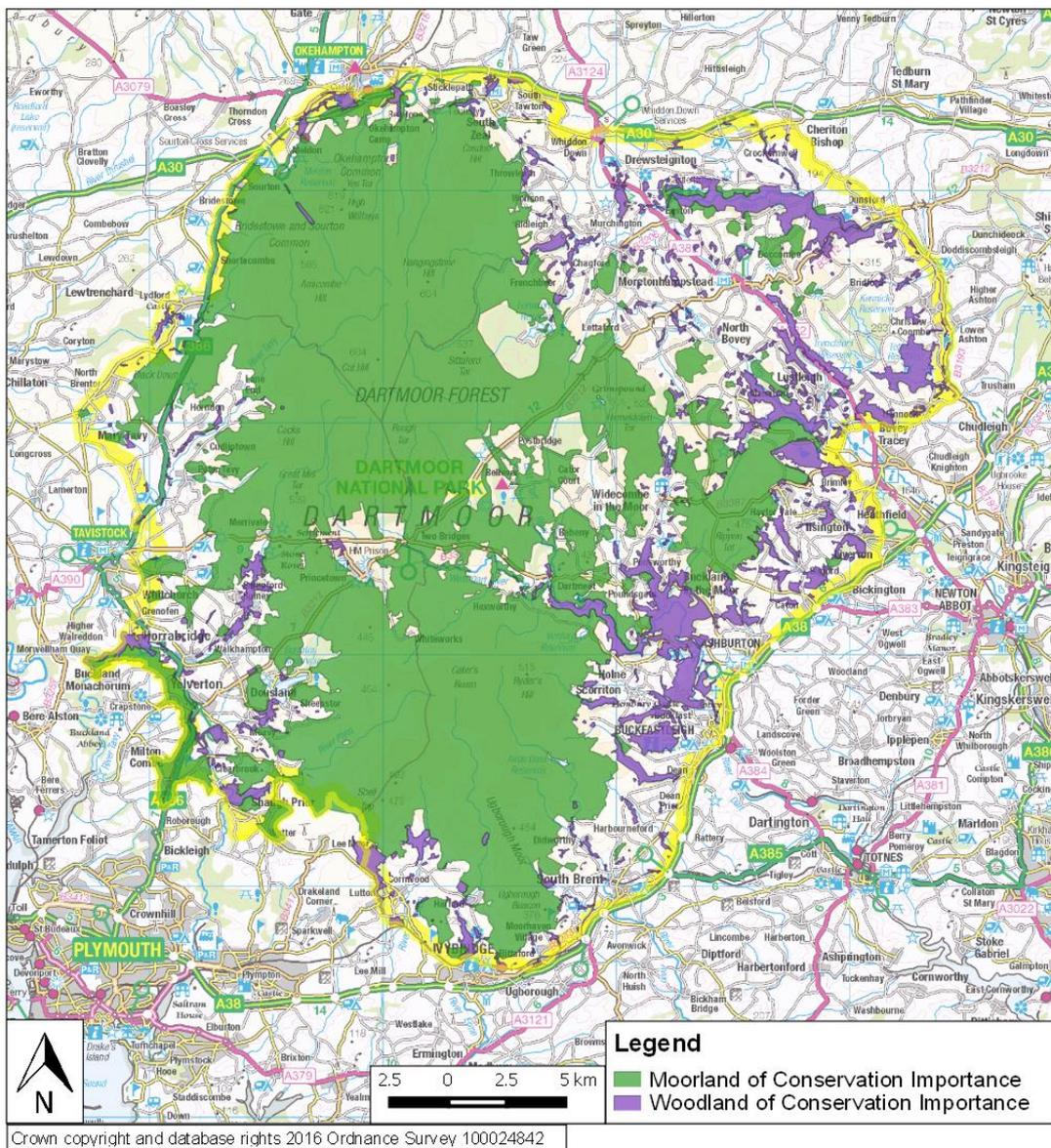


Figure 8 – Woodland and Moorland of Conservation Importance

Recommendations for policy

3.7.7 Current Policy DMD 14 seeks to protect the CWS network from the direct adverse impacts of development, but accounting for the indirect or cumulative impacts, such as recreation, in the planning system has proven more difficult. Dartmoor’s existing policy framework does not account for the restoration potential of a site which could mean that unfavourable

management practices lead to sites being lost to development. Development should represent an opportunity to restore CWS sites to favourable condition through favourable management. Policy wording should explicitly reference these sites and encourage their restoration as part of forthcoming proposals.

- 3.7.8 Current Policy DMD6 affords protection to moorland and woodland of conservation importance ensuring its conservation and enhancement in line with National Park purposes and, where necessary requiring its reinstatement. This level of protection is important and should be retained. The preamble to policy DMD6 could be clearer in setting the parameters for protection of these areas under the planning process. S55 of the Town and Country Planning Act (1990) defines the use of land for the purposes of agriculture or forestry (including afforestation) not to be development and so planning permission is not required for changes of use between them. Felling of trees and forestry management is controlled by the Forestry Commission in accordance with relevant forestry management plans.
- 3.7.9 Current Policy DMD6 makes reference to development in these areas being acceptable where it would enhance small scale recreation opportunities. This wording could be seen to include development desirable to support private recreational uses, such as camping, play equipment storage and parking. The emphasis of this part of the policy needs to ensure it focuses only on recreational activities which allow public access and support the National Park's second purpose; 'to promote opportunities for the understanding and enjoyment of the special qualities of national parks by the public'.

3.8 *Traditional Orchards*

- 3.8.1 Traditional orchards are found across England and are a quintessential component of the historic English landscape. Orchards have traditionally played a significant role in the farming economy, but also play an important role in sustaining local landscape quality and cultural distinctiveness. Although the number of orchards on Dartmoor has dropped considerably, where they still exist, their contribution to local amenity, biodiversity and cultural heritage needs to be respected.
- 3.8.2 Traditional orchards are defined as groups of fruit and nut trees planted on vigorous rootstocks at low densities in permanent grassland; and managed in a low intensity way. Cobnut platts are also included.
- 3.8.3 Following the designation of traditional orchards as a Priority Habitat under the UK Biodiversity Action Plan (BAP) Natural England commissioned a report to provide evidence and advice on traditional orchards in 2011²¹, including mapping traditional orchards nationally and identifying how they are best protected in local planning policies.
- 3.8.4 The report emphasises the range of wildlife that an orchard can support is significant. Orchards can accommodate a diverse mosaic of habitats, including the fruit trees, scrub, hedgerows, hedgerow trees, the orchard floor habitats, fallen deadwood and other habitats such as ponds²².
- 3.8.5 In one particular study in Worcestershire²³ 1,868 species were recorded at three sites covering 5.93ha and showed the three orchards provided habitat used by a wide variety of

²¹ Natural England (2011) '*Traditional Orchard Project in England*'

²² Lush, M. & Robertson, H. J. et al. (2009) '*Biodiversity studies of six traditional orchards in England*. Natural England Research Report, RIN025

²³ Smart, M. J. and Winall, R. A. (2006) '*The biodiversity of three traditional orchards within the Wyre Forest SSSI in Worcestershire: a survey by the Wyre Forest Study Group*' English Nature Research Reports, No707

rare and threatened species including BAP species, nationally rare, scarce or declining species and ones included on Red and Amber Lists, demonstrating that orchard habitats can support an important biodiversity.

- 3.8.6 Traditional Orchards are becoming increasingly rare due to neglect, agricultural intensification and pressure for development, particularly on the fringes of settlements. A 2008 study conducted by Natural England concluded that since 1950 the overall orchard area in England has declined by 63%²⁴ and it has been reported that Devon has lost up to 89% over a similar period.
- 3.8.7 Figure 9 shows the provisional inventory for traditional orchards produced by Natural England as part of their 2011 Traditional Orchards Project. This provisional survey project suggests there may be up to 52.7ha of traditional orchards currently on Dartmoor. The inventory is provisional because in many cases detailed local survey work has not taken place and the presence and quality of orchards has not been confirmed on the ground.

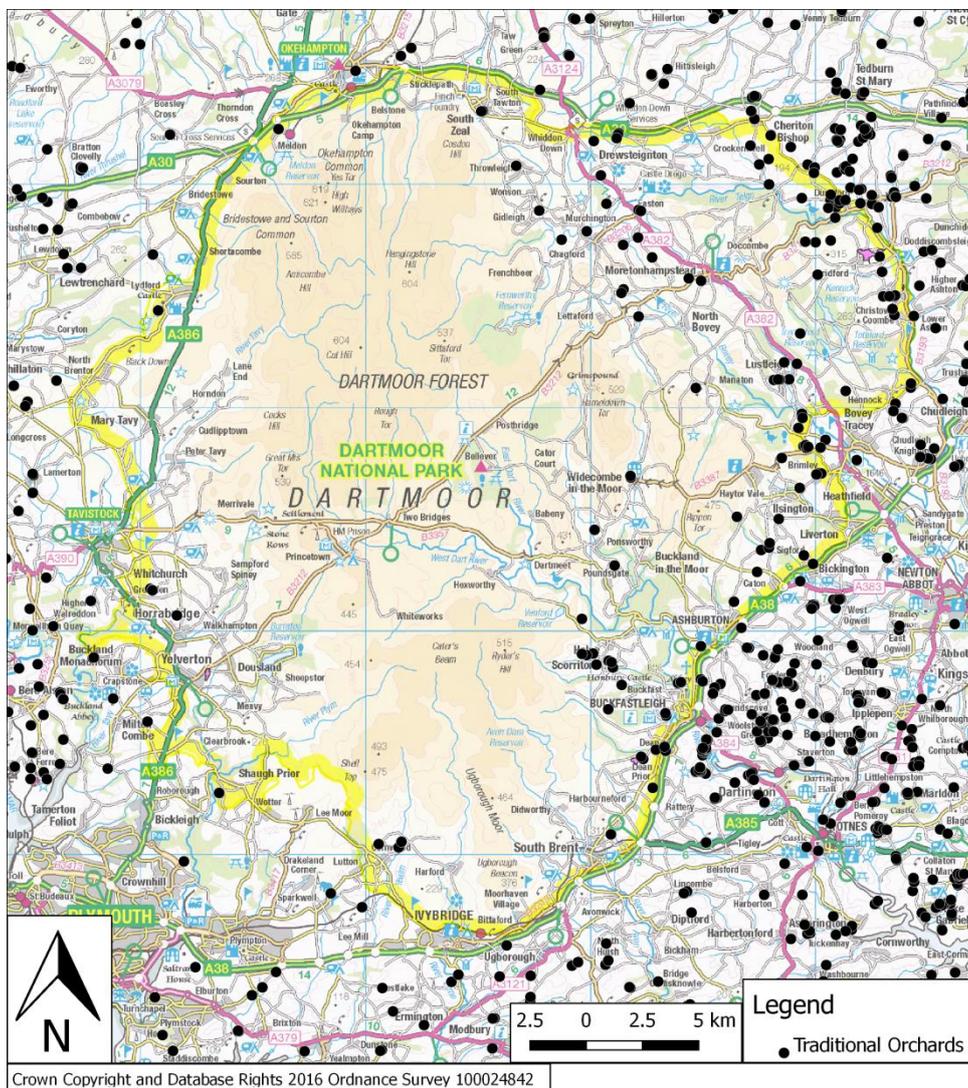


Figure 9 - Provisional inventory of traditional orchards (Source: Natural England)

Recommendations for Policy

- 3.8.8 The decline of traditional orchards is referenced as a force for change in the Landscape

²⁴ Natural England (2008) 'State of the Natural Environment Report'

Character Assessment, particularly the Moorland Edge Slopes, Farmed and Forested Plateau, Upper Farmed and Wooded Slopes and Inland Elevated Undulating Land Landscape Character Types. Policy COR3, DMD5 and DMD6 all make explicit reference to orchards and clearly state their presence should be respected by development proposals. This protection is considered appropriate and policy protection in the local plan should be retained.

3.8.9 Orchards have not previously been a conservation priority for Dartmoor National Park Authority, particularly in biodiversity terms. Nevertheless there exists a compelling argument for their protection and enhancement due to the range of benefits they can bring. Further survey work outside the scope of the local plan which builds on the provisional national inventory produced by Natural England would help the Authority better understand what contributions this relatively poorly recorded resource brings to the quality of Dartmoor's natural environment and would form an important evidence base for informing future landscape and biodiversity policy.

3.9 Habitats and Species

3.9.1 S41 of the Natural Environment and Rural Communities (NERC) Act 2006 requires the Government to publish a list of species and habitats which are of principal importance for the purpose of conserving biodiversity. Listed species and habitats serve as an important reference for setting conservation priorities. Many of these species are also afforded legal protection under the Wildlife and Countryside Act 1981.

3.9.2 The 2001 Dartmoor Biodiversity Profile and Biodiversity Action Plan (BAP) serve as a comprehensive suite of documents which describe and evaluate the wildlife and geological features of Dartmoor and provide a strategy for how they are best protected in the future. In 2013 Living Dartmoor updated this strategy and placed greater emphasis on landscape scale biodiversity conservation through conservation and enhancement of habitat, rather than specific species. The Dartmoor Biodiversity Profile, BAP and Living Dartmoor are all used to inform biodiversity conservation work on Dartmoor today and have relevance for the policies in the Local Plan.

3.9.3 Professor Lawton's report and the Natural Environment White Paper have both stressed the importance of priority habitats in acting as core areas, 'stepping stones' and connections of ecological networks, and recommends planning policy should provide greater protection to priority habitats.

3.9.4 Table 5 summarises the protection given to Dartmoor's habitats and species through legislation, Living Dartmoor and the BAP.

Table 5 - Protection of Dartmoor's habitats and species

	Legal protection (species)	s41 Priority	Living Dartmoor 2013	Dartmoor BAP 2001
Habitat				
Blanket Bog		●		●
Caves, disused mines and disused quarries			●	●
Grass moor				●
Haymeadows and species rich grasslands (including some road verges)		●	●	●
Species-rich Hedgerows and Stonewalls		●		●
Lowland Heath		●		●

Moorland	●	●	●
Parkland and Aged and Veteran Trees	●		●
Ponds	●	●	
Raised and Valley Mire	●		●
Rhos Pasture	●	●	●
Rocky Outcrops	●	●	●
Rivers and Streams	●	●	●
Traditional Orchards	●		
Upland Heath	●		●
Upland Oakwood	●		●
Wet Woodland	●		●
Species			
Atlantic Salmon	●	●	●
Bat species (inc. Greater Horseshoe Bat)	●	●	●
Blue Ground Beetle		●	●
Bog Hoverfly		●	●
Cirl Bunting	●	●	●
Curlew	●	●	●
Deptford Pink	●	●	●
Dormouse	●	●	●
Dunlin	●		●
Flax leaved St John's Wort			●
Golden Hair Lichen		●	●
High Brown Fritillary		●	●
Irish Lady's Tresses		●	●
Large Blue Butterfly*		●	●
Marsh Fritillary		●	●
Narrow-bordered Bee Hawk Moth		●	●
Otter	●	●	●
Pearl-bordered Fritillary		●	●
Red Grouse	●	●	●
Ring Ouzel	●	●	●
Skylark	●	●	●
Golden Plover	●		●
Southern Damselfly		●	●
Keeled skimmer dragonfly			●
Vigur's Eyebright		●	●
Woodlark	●	●	●
Buzzard	●		●
<i>Niphargus glenniei</i> Cave Shrimp		●	●
Heather			●
Greater Butterfly Orchid			●
Bog Orchid			●

Wild Daffodil		●
<i>Usnea articulata</i> Lichen	●	●
<i>Graphina pauciloculata</i> Lichen	●	●

* Currently extinct on Dartmoor, but re-introduction possible from other UK populations

3.9.5 The habitats listed in Table 5 are included because of their uniqueness, the species diversity they can support and because most take many years to establish and mature, are sensitive and easily threatened. Where these habitats have existed and established themselves over an extensive period they often exist amongst finely balanced hydrological and soil conditions and support a complicated system of fungi, invertebrates and fauna. We know relatively little about relationships between organisms and how these develop over time which makes the re-creation and re-location of these habitats over a short to medium time frame essentially impossible. For all intents and purposes the habitats listed in Table 5 will often be irreplaceable over short to medium time periods.

Recommendations for policy

- 3.9.6 Current Policy DMD14 lists species and habitats identified in s41 of the NERC Act and the Dartmoor BAP and protects these from harmful development through protection of defined habitats, features and species.
- 3.9.7 The current protection of s41 and locally important species and habitats is considered to work well because it includes a clear list of habitats and species which development must avoid and protect. It is important this feature of policy is not weakened. There exists an opportunity to both better protect and encourage respect for these habitats through a stronger policy which recognises the intricacy and irreplaceable qualities these habitats can have. It is recommended this policy highlight that compensation for damage to or loss of these habitats, as identified by the Authority's ecologist or in an ecological assessment, should not be acceptable other than as a last resort for development that's benefits clearly and significantly outweigh any loss.
- 3.9.8 It is recommended the presentation of Table 5 in policy be made more user friendly. The list's usefulness for restoration is limited because the species and habitats have no spatial reference and cannot be associated with a particular site. In view of Living Dartmoor's aims, to focus conservation and restoration work on habitat restoration and improving habitat connectivity, planning policy should direct conservation and restoration work towards KWA habitats and these areas should be clearly mapped in policy and on the Authority's website to encourage and facilitate appropriate biodiversity enhancement as part of development proposals.
- 3.9.9 Planning policy's role in protecting biodiversity is not limited to protecting existing habitats, but also encouraging creation of new habitat in appropriate locations. Habitat creation within development is not a principle of planning policy in the current local plan. The government's emerging biodiversity net gain proposals present an opportunity to ensure that development is required to appropriately compensate for loss of habitat, including that which has no current protection under current planning policy, such as scrub, improved grassland and arable fields. Biodiversity net gain is discussed in detail in section 3.12. Whilst not as significant as net gain, provision of biodiversity features for species (e.g. bat boxes, ponds, native and fruit trees etc.) can also be incorporated into developments at relatively little cost and serve to make considerable improvements to local habitat provision²⁵. Biodiversity

²⁵ The Wildlife Trust (2012) '*Planning for a healthy environment – good practice guidance for green infrastructure and biodiversity*'

features within a development can also contribute significantly to retaining local character, contributing to provision of local ecosystem services, encouraging a healthy lifestyle and improving local property values.

3.9.10 Consideration should be given to requiring biodiversity net gain to be pursued on larger developments and encouraging integration of biodiversity enhancement features as part of smaller-scale development proposals, such as:

- Inclusion of bat boxes, bricks or lofts and bird boxes on all housing to reflect species in that area²⁶
- Ensure where possible streets and roads are tree-lined or contain hedgerows appropriate to local character, habitats and species²⁷
- Utilise SuDS by incorporating ditch habitat and pond networks
- Provide hedgerow habitat
- Use wildlife friendly lighting
- Planting native trees and shrubs
- Wildflower rich grass mixes for nectar and pollinators
- Linking with 'blue infrastructure' along rivers, streams and ponds

3.10 *Disturbance and Mitigation*

3.10.1 Consistent with the NPPF, policy DMD14 includes a mitigation hierarchy to be used in assessing development proposals with first preference given to avoiding ecological harm altogether, then mitigating any harm on-site and finally compensating for negative impacts off-site. The policy wording reads 'in rare cases off-site compensation may be feasible and acceptable'. The hierarchical approach referred to in the NPPF refers to off-site compensation being a 'last resort'. The wording of policy DMD14 doesn't clearly discourage off-site compensation as a mitigation strategy and more could be done to emphasise its general unsuitability in the National Park, including by taking into consideration:

- general uncertainty over whether off-site ecological objectives will be achieved and ensuring additional remedial measures are brought forward if the original package of offsetting is shown to have failed;
- that certain habitats should be considered irreplaceable (see 3.9); and
- the permanent or temporary loss of ecology which occurs between damage occurring and new habitats becoming fully functional and/or species becoming established.

Recommendations for policy

3.10.2 The existing suite of policies recognise the damage caused by direct deliberate damage or disturbance of protected habitats and species by development proposals. However, more could be done to address the indirect and cumulative effects, such as recreation, pollution and other impacts listed in 3.2, which are sufficiently significant to be considered a material planning consideration given National Park purposes to conserve and enhance wildlife. It is also often the case that long-term and off-site impacts are overlooked in environmental assessments accompanying applications and securing mitigation measures which would reduce such impacts is difficult and rarely achieved. A local policy supported by robust evidence of site specific impacts would be required to justify the collection of any developer contributions to mitigate these impacts. This would need to be supported by a method for calculating contributions which are proportionate and reasonable to compensate for the impacts evidenced. Emerging work evidencing the impacts of recreation on the National Park is discussed in section 3.11.

²⁶ Exeter City Council (2010) '*Residential Design Supplementary Planning Document*'

²⁷ The Trees and Design Action Group, www.forestry.gov.uk/tdag

3.11 Recreational Impacts

3.11.1 Research has been undertaken to examine the impact of recreation as a result of significant new housing development and population growth in the districts around Dartmoor National Park. Future population projections suggest that the overall population in the Exeter and Plymouth region will increase by 13% over the 25 years between 2014 and 2039 (see Figure 10), rising from around 1million people in mid-2014 to 1.1million in mid-2039. Research undertaken for DNPA by the South West Partnership for Environmental and Economic Prosperity (SWEEP) estimates that Dartmoor currently receives around 7.8million day visits annually, with the majority of these visits (92%) coming from the 8 neighbouring Local Authority areas. The draft figures predict that the estimated population growth will lead to 870,000 additional visits a year, an increase of 12%²⁸. Findings from the Seventh year Monitor of Engagement with the Natural Environment Report also point towards likely increases in the number of visitors and recreation activities within the National Park. The results show that the proportion of the population who claim to visit the natural environment at least once a week or more has significantly increased, rising from 54% in year one to 58% in year seven²⁹.

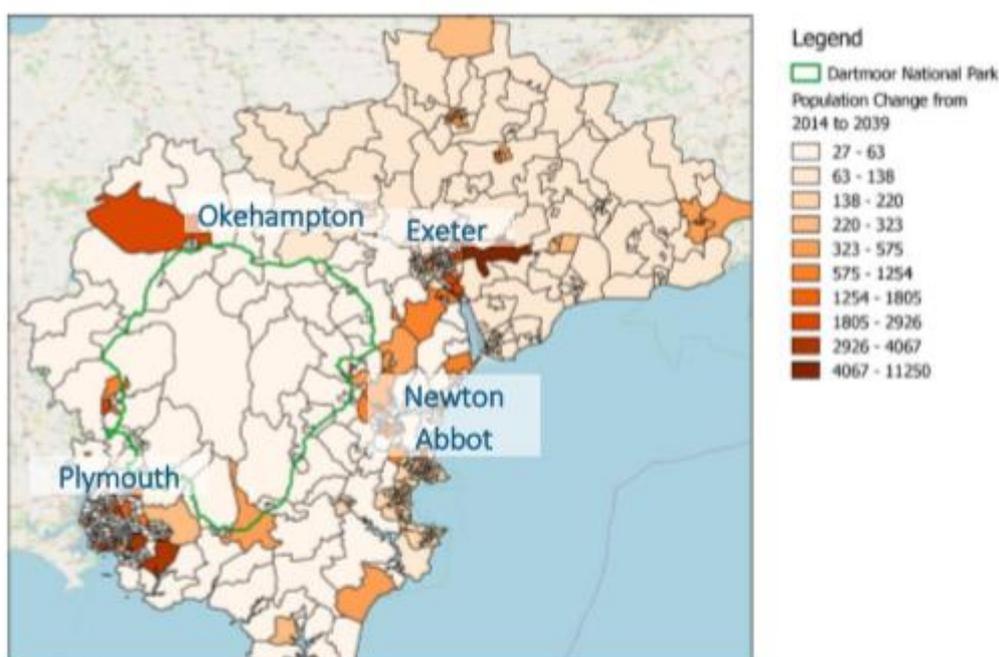


Figure 10 - Projected population increases from 2014 to 2039 by lower super output area

3.11.2 The SWEEP research investigated the costs to Dartmoor from increased recreation arising specifically from footpath erosion and wildlife disturbance. Further impacts were not within the scope of the study but there remains potential for them to exist. The research provides an understanding of the sensitivity of key Dartmoor species to predicted increases in recreation levels. Predicted spatial distribution of activity and intensity of footfall was used to identify areas where key species and recreation are predicted to come into increased conflict. Key species were grouped into three sensitivity categories based on the current status of each species, current recreation levels and predicted future recreation levels, see Table 6. The research investigated impacts from a range of different recreational activities, including walking, hiking, running, large events, dog-walking, mountain-biking, horse-riding,

²⁸ SWEEP (2018) *Population futures and Dartmoor National Park. Implications of development around the outskirts of Dartmoor for recreational use and management of access*

²⁹ Natural England (2017) *MENE Headline report from the 2015-16 Survey*

camping and others.

Table 6 - Current sensitivity of key Dartmoor species to recreational activities (SWEEP)

Green: recreation impact unlikely	Orange: recreation impact possible or minor	Red: recreation impact high or likely
Blue Ground Beetle	Adder	Cuckoo
Bog Hoverfly	Hen Harrier	Dartford Warbler
Fairy Shrimp	High Brown Fritillary	Dipper
Otter	Marsh Fritillary	Dunlin
Peregrine Falcon	Narrow-Bordered Bee	Greater Horseshoe Bat
Snipe	Hawkmoth	Nightjar
	Pearl-Bordered Fritillary	Raven
	Plants	Red Grouse
	Salmon	Ring Ouzel
	Skylark	Whinchat
	Southern Damselfly	Wood Warbler

- 3.11.3 The study assesses known hotspot sites for species classified as red and orange for sensitivity. The data suggests that the Cuckoo, Nightjar and Wood Warbler are of relatively high concern, with recreation levels likely to increase across most of their known hotspots. Increased footfall is also expected at important sites for Ring Ouzel, Red Grouse, Greater Horseshoe Bat and Dipper. Four vulnerable wildlife locations were also highlighted where particularly high levels of increased footfall are expected between now and 2039, these include the areas around Burrator, Dart Valley/Venford Reservoir, Haytor and Warren House/Soussons and Fernworthy.
- 3.11.4 Many of the areas where impacts are forecasted to increase are designated as or close to Special Areas of Conservation (SACs). Dartmoor is home to 3 of the 242 English SAC sites designated under the EC Habitats Directive and adopted by the European Commission. Protection of these European sites is provided by the Habitats Directive (92/43/EEC) which is transposed into domestic law under the Conservation of Habitats and Species Regulations 2017. There is a general duty on any minister, government department, public body or person holding public office to have regard to the EC Habitats Directive in the exercise of any of their functions. The research indicates that there is mounting evidence that increasing housing supply and employment sites, through local plans in Devon, has the potential to have likely significant effects on designated European wildlife sites. These plans and any individual development proposals could therefore require Appropriate Assessment, in order to assess and satisfy that their plans and projects (either alone or in-combination) will not adversely affect the integrity of any European Site. Proposals within the Dartmoor Local Plan will therefore need to be subject to Habitat Regulation Assessment and potentially Appropriate Assessment where they are considered likely to have a significant effect on a SAC.
- 3.11.5 More generally, Section 62 of the Environment Act 1995 requires ministers, public bodies statutory undertakers or persons holding public office to have regard to National Parks and the purposes for which they were designated. Under Section 40 of the National Environment and Rural Communities Act 2006 there is a Duty to conserve biodiversity put upon all public authorities. Relevant authorities may therefore be persuaded to take into consideration the impact of their proposals on the National Park more generally via these routes.
- 3.11.6 The research's recommendations for potential measures for mitigating the impacts on wildlife are listed below:
- Continuing existing mitigation measures, including:
 - discouraging access to rare bird nesting areas;

- preventing illegal raves;
- keeping details of nesting and/or roosting locations of rare birds out of the public domain;
- regulation of large events; and
- 'dogs on leads' policy.
- Introducing small-scale targeted interventions, including:
 - small-scale biodiversity enhancement likely to benefit a number of key species, e.g. installation of dipper nest boxes;
 - outreach initiative to educate the public on wildlife disturbance; and
 - use of temporary path closures to reduce footfall in sensitive areas.
- Wider habitat management interventions are key in providing sufficient suitable habitats for wildlife, including:
 - strategic habitat enhancement and creation away from recreation hotspots;
 - encouraging rich diversity in vegetation across the moor, e.g. avoiding burning in selected patches can create a mosaic of higher vegetation to support a range of species and also prevent footpath creation or widening in areas of concern; and
 - creation of wildlife refuge areas where recreation is discouraged by using soft techniques such as higher vegetation, reduction of parking availability, provision of alternative access points, signposting along preferred access routes.

3.11.7 Recreational infrastructure can also be used to help mitigate visitors' impacts. Given recreational impacts are forecasted to primarily come from visitors from outside the National Park mitigation can also happen outside the National Park, before potential visitors arrive in or make the decision to visit the National Park. Sufficient provision of amenity greenspace, sports pitches, play spaces, rights of way networks and natural greenspace can serve to intercept some visitors and provide alternative recreation space of similar quality. Greater recreational opportunities outside Dartmoor can encourage people to recreate closer to home rather than making the journey to the National Park, particularly regular recreational activities like dog walking. Information can be provided to new home owners both inside and outside the National Park, highlighting the significance and sensitivity of Dartmoor's habitats and species and explaining how and where people can enjoy Dartmoor without impacting on these.

3.11.8 When visitors do and are encouraged to visit the National Park then a strategy should ensure there is sufficient infrastructure at known hotspots to manage their impact and also encourage recreation to happen in a greater variety of locations away from known hotspots to assist in diluting impact. Such a strategy could involve route and destination recommendations disseminated via a wide range of popular online platforms (e.g. Instagram, Facebook, Twitter, Google Maps, Bing Maps, View Ranger, OS maps) as well as the Authority's own website in combination with more traditional marketing, public outreach, signposting and leafletting campaigns. Resources can be focused at known visitor hotspots to manage visitor numbers and mitigate impacts such as litter, dog fouling, anti-social behaviour and disturbance.

3.11.9 The power of social media to influence visitors' decisions has been highlighted by many American National Parks who have experienced huge increases in visitor numbers, predominantly driven by social media, to the extent authorities cannot mitigate their impact with the resources available to them³⁰. The same techniques which create these problems can be used to help address them. Many of the measures to manage recreation and mitigate visitor impacts lie outside the scope of the Local Plan but they can be addressed

³⁰ The Guardian (2018) 'Crisis in our National Parks: How tourists 'are loving nature to death'
<https://www.theguardian.com/environment/2018/nov/20/national-parks-america-overcrowding-crisis-tourism-visitation-solutions>

through the National Park Management Plan and the work of DNPA in fulfilling the second purpose of promoting understanding and enjoyment of the National Park.

- 3.11.10 Although it is recognised that Dartmoor will and should always have a unique recreation attraction, managing and mitigating the impacts from this forms an important part of pursuing National Park purposes and the Sandford Principle. The Sandford Principle states that where National Park purposes come into conflict, greater weight should be given to the National Park's first purpose, to conserve and enhance its natural beauty, wildlife and cultural heritage, over its second purpose, to promote the understanding and enjoyment of its special qualities.

Recommendations for policy

- 3.11.11 It is recommended that the local plan includes a brief discussion of the SWEEP recreational impacts study and the impacts identified on biodiversity, the access network and the historic environment. Consideration should also be given to including a statement within policy which seeks to ensure that development within or outside the National Park which is likely to increase recreational pressure is appropriately mitigated. This will frame discussions with neighbouring authorities through the Duty to Cooperate on how best to ensure that impacts from development outside the National Park are appropriately mitigated.
- 3.11.12 It is also recommended that the Authority adopt standards for equipped play space and outdoor sports provision through its Open Space, Sports and Recreation Study to ensure settlements have sufficient provision. This can help mitigate the recreational impact of growth within the National Park.
- 3.11.13 Improving footpath and bridleway connectivity as part of identified development opportunities and windfall development should be required by policy. A better connected access network across the National Park and to settlements outside the National Park will help draw visitors away from problematic hotspots.
- 3.11.14 Outside of the Local Plan process, DNPA is updating the policies and priorities in the Dartmoor Recreation and Access Strategy 2011-2017 as part of the Management Plan review to ensure the Authority has an up to date and holistic strategy for managing and a strategic approach to mitigating associated issues.

Regulation 19 consultation

- 3.11.15 The Local Plan includes policies to support public access and recreation but to ensure that associated development does not negatively impact on the National Park's special qualities. A response from Natural England (NE) on the regulation 19 Dartmoor Local Plan highlighted:
- a lack of support for the Dartmoor recreational impact impacts report; and
 - the presence of evidence which indicates part of Dartmoor National Park is located within the Zone of Influence for the Plymouth Sound and Tamara SAC/SPA recreational impacts study.
- 3.11.16 The basis for NE not supporting Dartmoor's recreational impact evidence was that the evidence relates to Dartmoor generally and was not SAC specific. Nevertheless an opportunity to work with DNPA to explore whether further research would be of merit has been identified, to understand the potential recreational impact arising from new development around the National Park. This is recorded in the Duty to Cooperate Statement of Common Ground. Notwithstanding this the draft policy has been retained to ensure any identified impacts are mitigated.

- 3.11.17 NE's comment prompted DNPA to ensure the HRA for the Local Plan is informed by the study carried out by the Joint Local Plan to better understand the potential recreational impacts of new development on the Plymouth Sound and Tamar Estuaries European sites. That study identifies that part of Dartmoor National Park lies within the Zone of Influence (Zol) for recreational users potentially visiting the site.
- 3.11.18 As part of this work, the Tamar Estuaries Consultative Forum (TECF) has developed a Mitigation Strategy, which, via contributions from new residential development within the Zol, seeks to avoid likely significant effects upon the integrity of the sites. This Mitigation Strategy (the Recreation Mitigation Management Scheme Nov 2019³¹) is costed based upon the level of growth planned for within the Plymouth, South Hams, West Devon and Cornwall areas; the small level of residential development anticipated within the Zol within Dartmoor National Park was not factored in and DNPA was not aware of this work progressing which included areas of the National Park. Subsequently it has been estimated that in the region 16 homes per year will likely be built within the part of Zol which is within Dartmoor.
- 3.11.19 The level of development within the National Park part of the Zol is therefore negligible within the context of growth across the whole Zol. The potential impact of seeking financial contributions from new housing within the Dartmoor part of the Zol would be significant, in the context of the priorities for development within the National Park (in particular around the viability of affordable housing delivery. This is recognised by the other Authorities, in the context of their Duty under Section 62 of the Environment Act. On this basis the parties have agreed that whilst new residential development within the National Park would be within the Zol, it would not be required to make a financial contribution, as the contributions from the quantum of development elsewhere in the Zol will deliver the mitigation strategy. This is documented within the Duty to Cooperate Statement of Common Ground. A framework to ensure appropriate ongoing monitoring of this approach, and the delivery of the Mitigation Strategy, is described in the Monitoring and Governance Topic Paper

³¹ <http://www.plymouth-mpa.uk/wp-content/uploads/2019/11/Recreation-Mitigation-and-Management-Scheme.pdf>

3.12 Biodiversity Offsetting and Net Gain

Biodiversity Offsetting

Biodiversity offsetting is a conservation activity designed to give biodiversity benefits to compensate for unavoidable losses - ensuring that when a development damages nature (and this damage cannot be avoided or mitigated) new nature sites will be created. Where appropriate, biodiversity offsetting is an option available to developers to fulfil their obligations under the planning system's mitigation hierarchy.

Biodiversity Net Gain

Net gain is an approach to development which uses biodiversity offsetting to ensure that any unavoidable impacts on biodiversity are compensated for to a level that is over and above the value of the existing biodiversity being affected. Importantly net gain as currently proposed by government, gives value to common unprotected habitats which have not previously been given a value in the planning system.

Importantly, both offsetting and net gain do not undermine the strategic biodiversity policies which seek to ensure important habitats and species are protected from harmful development. They are used when development proposals comply with these policies, but will nevertheless lead to unavoidable impacts which would not otherwise be accounted for.

3.12.1 Interest in biodiversity offsetting and net gain has grown in recent years as a way to mitigate against widespread biodiversity decline across the UK and respond to the inability of the planning system to account for cumulative environmental losses. Evidence for this is ubiquitous, but a summary of some broad indicators is provided below:

- Of the 3,148 UK species studied in the 2013 State of Nature Report 60% had declined over the last 50 years, with 31% declining strongly. It is well accepted that there were considerable (albeit largely unquantified) declines in the UK's wildlife prior to the last 50 years, linked to habitat loss. The 2016 State of Nature Report³² states that intensive management of agricultural land had the largest negative impact, followed by climate change, low intensity land management, hydrological change and then urbanisation.
- The UK insect pollinator biodiversity indicator has been assessed as showing long term decline since 1980³³. The overall trend for pollinators remains downward. An independent scientific review commissioned by Defra in 2013³⁴, identified the loss of flower-rich habitat as the likely primary cause of the recorded decline in diversity of wild bees and other pollinating insects. The area of lowland meadow in England and Wales declined by 97% between the 1930s and 1984. Loss of these habitats is associated with past intensification of agriculture, urbanisation and industrial development. The report concluded provision of such habitats within the landscape can help maintain pollinator diversity.

³² State of Nature Partnership (2016) 'State of Nature Report' <https://www.rspb.org.uk/our-work/stateofnature2016/>

³³ DEFRA (2014) 'The National Pollinator Strategy: for bees and other pollinators in England' https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/409431/pb14221-national-pollinators-strategy.pdf

³⁴ Vanbergen A.J., Heard M.S., Breeze T., Potts S.G., Hanley N., (2014) 'Status and value of pollinators and pollinating services'. We have published with this Strategy

- The Environment Agency found that in 2016 86% of river water bodies had not reached good ecological status, with the main causes being from agriculture, rural land management, the water industry and urban and transport pressures³⁵. In 2017 the Environment Agency found abstraction from around 28% of groundwater and up to 18% of surface waters were at higher than sustainable levels and that abstraction, drainage and altered water levels are major causes of damage to wetlands.
- State of the UK's Butterflies report (2011) concluded 72% of species had decreased over the previous ten years, including common "garden" butterflies had declined by 24%. The 2013 State of Nature Report concluded 65% of upland butterflies, including the high brown and pearl bordered fritillaries, have fallen due to habitat loss, change and fragmentation.
- Since 1950 the overall orchard area in England has declined by 63% and it has been reported that Devon has lost up to 89% over a similar period.

3.12.2 As should be expected for a National Park Dartmoor generally fairs better when assessed against these indicators but there nevertheless remains significant room for improvement. A net gain approach would go a long way to reducing the losses currently experienced.

3.12.3 Between 2012 and 2014 DEFRA established a pilot scheme to explore the concept of biodiversity offsetting in England and test Defra's biodiversity offsetting metric³⁶ in six local authorities, including in South Devon. Defra's concluding report³⁷ cited the metric was broadly beneficial by accounting for a wider range of biodiversity impacts than current practice and was useful in quantifying biodiversity losses rather than these being assessed subjectively.

3.12.4 Following this pilot project Defra announced in 2018 through the 25 year environment plan³⁸ the ambition to put the environment at the heart of planning and development by embedding a net environmental gain principle for all new development. Defra has since been working towards mandating biodiversity net gain. A government consultation³⁹ on net gain ran from December 2018 to February 2019 and included a preview of Natural England's revised biodiversity offsetting metric. DNPA responded to this consultation, and the results of the consultation were released in July 2019⁴⁰. In the Chancellor's Spring Statement presented on Wednesday 13 March 2019⁴¹ Phillip Hammond announced that, following the consultation, the government will use the forthcoming Environment Bill to mandate biodiversity net gain for development in England. This intent is echoed in the government response to the biodiversity net gain consultation alongside other policy commitments.

3.12.5 Biodiversity net gain represents a significant change to how we plan for biodiversity through the planning system. The current system relies on ensuring no net loss to biodiversity by protecting designated sites and priority habitats and species from harmful development. This system works well to avoid the most severe impacts on biodiversity and protect the best sites for wildlife, but less well to manage the gradual erosion of lower value and more common habitats which benefit a broad range of flora and fauna. Cumulatively, even 'insignificant' losses of habitat at a development scale add up to significant rates of biodiversity loss overall. Evidence of continued biodiversity loss in England clearly indicates

³⁵ <https://www.gov.uk/government/publications/state-of-the-environment>

³⁶ DEFRA (2012) *'Biodiversity Offsetting Pilots, Technical Paper: the metric for the biodiversity offsetting pilot in England'*

³⁷ DEFRA (2014) *'Evaluation of the biodiversity offsetting pilot programme'*

³⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

³⁹ <https://consult.defra.gov.uk/land-use/net-gain/>

⁴⁰ <https://www.gov.uk/government/consultations/biodiversity-net-gain-updating-planning-requirements>

⁴¹ <https://www.gov.uk/government/topical-events/spring-statement-2019>

that this policy is contributing to significant biodiversity losses occurring throughout England.

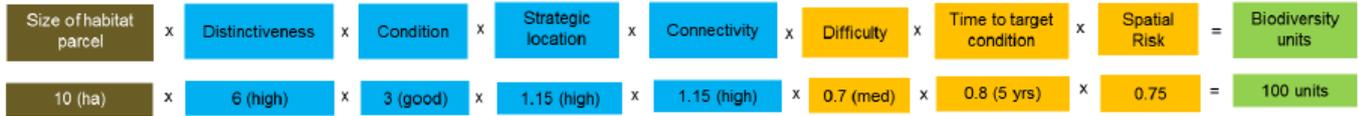
- 3.12.6 As proposed biodiversity net gain gives value to all habitats, even common non-priority habitats (e.g. rhododendron scrub, hazel scrub, improved grassland, arable fields etc.) which have not previously been recognised in the planning system and their loss not given any weight in decision making. Although the policy does not propose to protect these habitats it does require that their losses are accounted and compensated for in a way which results in net gain.
- 3.12.7 At the heart of net gain is Natural England's Biodiversity Metric⁴²; a tool that measures the biodiversity value of a habitat parcel on the basis of its area and quality. The metric measures habitat;
- Distinctiveness
 - Condition
 - Strategic significance
 - Habitat connectivity
- 3.12.8 The metric works by applying a score to each of these elements, then multiplying these together to give a number of biodiversity units that represents the biodiversity value of that habitat parcel. The initial calculation determines the 'baseline' or 'pre intervention' value in biodiversity units. The process is then repeated using a 'post development' or 'post intervention' scenario to account for the impact of the development or intervention (including any on-site measures to retain, enhance or create additional biodiversity within the development site). At this point additional factors to account for the risk associated with creating, restoring or enhancing habitats are considered. The risks are:
- Difficulty of creating or restoring a habitat
 - The time needed to restore or create the habitat and interim environmental losses
 - Spatial risk
- 3.12.9 The relative value in biodiversity units 'post development' is then deducted from the 'baseline' to give a value for the extent of change. If a 'net gain' is achieved on site there is no need to consider off site measures. However if the calculation does not result in a sufficient 'net gain' in biodiversity units the development proposal can be revisited to improve the number of biodiversity units obtained or, if there is no scope for additional on-site compensation or enhancement, off-site measures will need to be considered.
- 3.12.10 If off site measures are required, a similar process is undertaken to establish biodiversity unit values on the offsite land 'pre intervention' and 'post intervention' to calculate how many units that land can contribute as compensation. The change in biodiversity units on site is then added to the change in units off site to provide a total change in biodiversity units for the development. The total change in units needs to be sufficient to ensure a 'net gain' is achieved. Figure 11 illustrates this.

⁴² Natural England (2018) 'Defra Biodiversity Metric – Introduction to the proposed metric', <http://publications.naturalengland.org.uk/publication/602020453888192>

PRE - intervention biodiversity calculation



POST-intervention biodiversity calculation (for newly created habitat)



The net effect of an intervention (or a series of interventions) on biodiversity is calculated as follows:

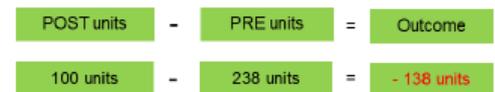


Figure 11 – Calculating the biodiversity value of habitat using Natural England’s biodiversity metric

3.12.11 The details of how the government intend to use the metric to achieve biodiversity net gain in legislation and policy have not yet been finalised. The national 2018/19 consultation included a general introduction, and the government response in July 2019 provides more certainty, but there remains room for shift. These policy areas are summarised below:

- **Threshold:** At what scale of development is it reasonable to require the policy be achieved? The government are not proposing to introduce broad exemptions beyond permitted development and householder development, but may introduce narrow exemptions for the most constrained development types, such as brownfield sites that meet certain criteria.
- **Maintenance:** The government has stated habitat enhancement should be maintained for a minimum of 30 years and will encourage longer term protection where acceptable to the landowner. The government has stated legislation for conservation covenants would be available in the Environment Bill.
- **The metric:** Whether the metric accurately accounts for habitat loss under all scenarios. DNPA raised in their consultation response that the metric gave too much weight to habitat condition and that this had perverse results which could incentivise habitat degradation and devalue priority habitats.
- **Managing off-site enhancements:** The metric is onerous and many development sites will need to offset their impacts off-site, as often relying on on-site would reduce a site’s developable area so significantly as to render the development unviable. A process for identifying sites needs to be established to identify suitable enhancement sites and ensure those likely to deliver the biggest enhancements are prioritised over those most convenient. The government have proposed a series of Local Nature Recovery Strategies (LNRSs) to cover the whole of England and support better spatial planning for nature by setting priorities for nature recovery and identifies opportunities for recovering and enhancing biodiversity. It is proposed LNRSs are produced by a designated public body, it is not yet clear whether this will be a function of National Park Authorities. Ideally LNRSs should also take into consideration other ecosystem services that biodiversity enhancement can improve,

such as natural flood management, pollination, air, soil and water quality, and carbon sequestration.

- Financial contributions in lieu: Where there are no on- or off-site opportunities for net gain, financial contributions in-lieu are permitted. Government propose to set a standard cost for biodiversity units in the region of £9000 - £15000 per unit. However the government have stated that they are to undertake a review of the rate and conduct further stakeholder engagement on this subject before announcing a specific cost.

Recommendations for Policy

3.12.12 There is clear commitment to biodiversity net gain becoming an important new policy area for the planning system. However, there remains some uncertainty around the details of the national biodiversity net gain approach which presents challenges for incorporating it within the Dartmoor Local Plan at this time.

3.12.13 As a National Park with a statutory purposes for conserving and enhancing biodiversity there is a strong argument that the Authority should lead in improving how we plan for the natural environment and account for habitat loss. Although there are challenges establishing a policy position, there is also an opportunity to shape the new policy by working closely with government.

3.12.14 Paragraph 170 of the 2019 NPPF incorporated an amendment which encourages local planning authorities to pursue biodiversity net gains. Paragraph 170 states:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...”

3.12.15 On balance there are compelling reasons for pursuing net gain within the Local Plan so long as there is built-in flexibility to accommodate any future national policy. It is therefore recommended that a draft policy is pursued, but that detailed guidance of how net gain will be calculated and delivered is left to a supplementary planning document which can be updated independently of the local plan. As a minimum the draft policy should set out:

- The development threshold above which net gain will be sought
- The preference of delivery to be: on-site, then off-site, then as contribution in-lieu and only allowing a less preferential delivery route where a more preferential option is not possible or that evidence demonstrates the contribution will deliver greater environmental benefit
- That Natural England’s Biodiversity net gain metric will be used to calculate enhancements
- The minimum maintenance period expected for enhancements

3.12.16 Off-site enhancements will need to be carefully controlled through a legal agreement to which any independent land owner is signatory. The legal agreement will need to set out:

- What results are expected from the enhancement
- The timeframe for achieving the results
- At what point evidence should be submitted to demonstrate enhancements are being achieved, bearing in mind baseline data may be needed so that progress can be reviewed against this

- A break clause in the case that goals for enhancement are not achieved in the required timeframe and a means to ensure improvements are made, additional enhancements are introduced, or funding can be clawed back.
- Whether there is a need for overage
- Whether any events or activities should be restricted
- Whose responsibility it is to secure public liability insurance
- A process for resolving any disputes

3.13 Biodiversity enhancement for small-scale development

3.13.1 Small-scale development, such as householder, equestrian and replacement dwelling applications, represent the vast majority of applications submitted to the Authority. Small scale development also presents an opportunity to deliver environmental enhancement albeit at a smaller scale. The benefit of introducing requirements at this scale are that it can:

- require many more home and land owners to create small but valuable gains;
- raise applicants' awareness of their environment
- result in more people living closer to wildlife and therefore foster a greater appreciation for its importance; and
- hopefully encourage applicants to pursue more significant enhancements beyond those required by the policy.

3.13.2 At this scale of application it is essential any policy is proportionate, straightforward and avoids any additional assessment requirements. It can do this by:

- not aiming to quantitatively ensure net gains, but instead adopting an approach which encourages 'off-the-peg' solutions;
- taking a collaborative approach with the applicant;
- focussing on easy-wins, that is improvements which have nil or low cost and have negligible impact on viability; and
- ensuring the requirements are achievable on-site for the vast majority of development scenarios.

Recommendations for policy

3.13.3 The quantity of enhancement should broadly be related to the scale of a development's typical impact (rather than its actual assessed impact), the ease in which environmental enhancements can be incorporated and taking into consideration typical development costs. The focus should be on enhancements which have low cost relative to the development, with the smallest contribution having a cost of no more than approximately £100. As above, national policy requires net gains only to be pursued where possible, therefore in circumstances where enhancement is clearly not possible an off-site contribution in lieu of on-site provision should still be allowable. For smaller developments where it is not possible to deliver off-site a financial contribution at a rate of £100 per unit of enhancement should therefore be allowable.

Table 7 – Recommended thresholds for providing biodiversity enhancements alongside minor development

Development type	Typical Build Cost	Environmental Impact	Difficulty including enhancement	Threshold for 1 unit of enhancement
New and replacement dwellings, ancillary buildings and extensions	£1000-1500/sqm	Low to high	Medium	20 sq ms GIA

Commercial and community buildings	£500-1500/sqm	Medium	Medium	30 sq ms GIA
Agricultural, forestry and equine buildings	£100-200/sqm	Medium to high	Easy	30 sq ms GIA
Vehicle tracks and hardstandings	£50-100/sqm	Medium to high	Easy	40 sq ms
Telecommunications	various	Medium	Easy	1 mast
Car parks	£300-500/sqm	Medium to high	Easy	30 sq ms

3.13.4 The recommended enhancements need to be sufficiently broad so they can be delivered in the vast majority of development scenarios, the most challenging scenario being an inner town location with minimal garden or associated land. Recommended enhancements are shown in **Error! Reference source not found.** and are based on delivering a variety of biodiversity enhancements which contribute to bigger and better connected habitat networks which in turn support biodiversity. These improvements can also contribute to improved drainage, water, soil and air quality, pollination and other environmental benefits. The list is not intended to be exhaustive and should be applied flexibly and collaboratively. Applicants should be able to bring forward alternative enhancements and be allowed to part provide a variety of enhancements where they are of equivalent value. The intention of the policy being to encourage learning and action as much as it does require it.

Table 8 - Recommended environmental enhancements

Biodiversity Enhancement	1 Unit of Enhancement =
Habitat:	
• Native wildflower meadow	10m ²
• Native hedgerow	10 metres
• Native trees	3 trees
• Native fruit trees	3 trees
• Integrated bird or bat boxes	2 boxes
• Permanent pond	2m ³ (0.6m depth)
• Stone hedgebank (inc. corridors)	2 metres (1m high)
Habitat connectivity:	
• Permeable boundaries, including wildlife corridors under fences and walls	All site boundaries, at least 1 corridor per 2m
• Wildlife corridors under main roads and amphibian friendly kerbing	2 corridors and 1 kerb
Sustainable drainage:	
• Simple rainwater harvesting	1
• Swale / wetland	8m ²
Agriculture and equine:	
• Fence rivers, woodland, ditches, scrapes, scrub or other habitats to prevent grazing	25m of fencing
Alternative and more appropriate enhancements of equivalent value will be allowed Part provision of a variety of enhancements will be acceptable where they are of equivalent value.	

3.13.5 To ensure the enhancements are required as part of planning permission, proposed enhancements should be included on submitted drawings as a requirement of validation and this requirement included on the Authority's Local Validation List. Corresponding conditions on decisions should require that environmental enhancement measures are retained and maintained for a minimum period.

4 Geodiversity

4.1.1 Dartmoor’s most significant sites of geological importance are designated as earth science SSSIs and protected via the same legislative framework afforded to biological SSSIs. The majority of Dartmoor’s geological SSSIs have been assessed by Natural England as being in favourable condition (see Figure 12- Geological SSSI condition for Dartmoor National Park in 2016. Source: Natural England¹⁰). As discussed in 3.4 there is significant and robust existing policy and legislative framework in place to ensure these assets are protected from harmful development. The existing local plan makes no reference to sites of geological importance outside of SSSIs.

Condition	Favourable	Unfavourable recovering	Unfavourable no change	Unfavourable declining	Partially destroyed	Destroyed	Not assessed
Sites	29	1	1	0	1	0	0
%	90.63%	3.13%	3.13	0%	3.13%	0%	0%

Figure 12- Geological SSSI condition for Dartmoor National Park in 2016. Source: Natural England

4.1.2 Regional Important Geological Sites (RIGS) are currently the most important places for geology and geomorphology outside of SSSIs. RIGS are selected in a different way to SSSIs, which are designated by Natural England for their national importance, while RIGS are selected on a regional basis using four nationally agreed criteria:

- Importance of the site for educational purposes;
- Importance of the site for study by professional and amateur earth scientists;
- Historical importance of the site in terms of important advances in earth science knowledge, events
- Aesthetic value of the site in the landscape, particularly in relation to promoting public awareness and appreciation of earth sciences

4.1.3 Whilst not benefitting from national statutory protection RIGS are nevertheless regionally and locally representative sites which contribute to local distinctiveness. There are currently 38 RIGS on Dartmoor which mostly comprise rock exposures on tors and in disused quarries and mines. No up to date surveys available on RIGS other than that used to justify their designation throughout the 90s.

4.1.4 RIGS can be affected by a wide range of development practices which may cover or damage exposures or contribute to unfavourable landscape management practices. The greatest threats are likely to be posed by mineral and waste developments. Development can just as much help ensure that geological sites are protected and enhanced by re-exposing them, introducing public access, securing long term management and previously unidentified features are recorded in environmental assessments.

Recommendations for Policy

4.1.5 Dartmoor’s existing Development Plan makes no specific mention of RIGS, although they are effectively afforded protection through Policy DMD14’s mention of ‘other defined sites’. There are no known instances where development has threatened a geological site and therefore it is not possible to determine the effectiveness of the policy. Explicit mention of these assets in policy and requirement that they be respected by forthcoming development proposals is essential to encouraging their preservation and positive consideration.

5 Landscape

5.1 Policy Context

- 5.1.1 The European Landscape Convention (ELC) provides the international policy context for how our landscapes should be considered in local policies and plans. The ELC sees the understanding of landscape as vital for developing a 'clear vision' and embedding spatial plans in their locality.
- 5.1.2 At the national level, the special qualities of the Dartmoor landscapes are recognised nationally through their inclusion within the National Park. The NPPF attaches great weight to conserving the landscape and scenic beauty in National Parks and affords these features the highest status of protection.
- 5.1.3 The English National Parks and the Broads Circular (2010) furthers this by siting landscape as fundamental to quality of place and central to attractiveness, distinctiveness, diversity and quality of place in the National Parks.
- 5.1.4 The 2010 circular requires National Park Authorities to document and clearly express the special qualities of the Park, their status and condition. Para 170 of the NPPF requires planning policies and decisions to protect and enhance valued landscapes. Planning practice guidance states that to ensure conservation and enhancement of the countryside's intrinsic character and beauty landscape character assessments should be prepared where appropriate and to complement Natural England's National Character Area profiles.

5.2 Forces for Change

- 5.2.1 Landscapes have always changed and will continue to change, but there are a wide variety of threats which over time could have a negative impact on or even lead to loss of Dartmoor's valued landscape character. It is not within the remit of the planning system to control many of these threats, for example afforestation does not require planning permission, erection of sub-dividing fences can often be completed with permitted development rights and planning cannot control falling stock numbers on the high moor which threatens the management and conservation of moorland. Nevertheless planning has an important role in ensuring the scale and location of development is appropriate and conserves and enhances Dartmoor's distinctive landscape. Current forces for change are detailed in the updated Landscape Character Assessment, however a summary of the key forces which are related to planning and the effects of development are provided for each landscape character type below:
- Uncertain future for the agricultural economy due to uncertainty of future funding and pushing up house prices house prices out of the reach of local people leading to a decline in upland farming and levels of livestock grazing.
 - Inappropriate extensions to settlements have the potential to harm historic and locally distinctive landscape features, such as orchards or ancient field systems.
 - Large scale wind and solar energy development have the potential to cause significant landscape harm and is inappropriate within the National Park, they also have the potential to impact on National Park setting and tranquillity⁴³
 - Impact of growing recreational demand from expanding urban centres close to Dartmoor (such as Exeter and Plymouth), particularly in honeypot sites close to the road network. Impacts include erosion, disturbance of wildlife and car parking.
 - Increase in UK-based tourism with associated demands for new facilities and

⁴³ LUC (2013) 'Devon landscape policy group advice note 2: Accommodating wind and solar PV development in Devon's landscape'

infrastructure, as well as an increase in traffic levels, recreational pressure and farm conversions.

- Regional development pressure may lead to demands for increased water supply and the creation of a new reservoir on Dartmoor.
- Light pollution from Dartmoor Prison in Princetown detracts from the experience of dark night skies and sense of wilderness on the open moor.
- Increased numbers of telecommunications masts (relating to increased demand for mobile infrastructure and broadband internet) can introduce prominent vertical structures which are out of character.
- Inappropriate development of isolated buildings which are out of character with the prevalent historical development pattern across Dartmoor and can be visually intrusive.
- Historic bridges are at risk in some areas due to increased traffic and larger vehicles requiring stronger structures.
- Inappropriate equine development can lead to the splitting up of parcels of land and associated facilities resulting in the gradual encroachment of development into the landscape.
- The rapid growth of Plymouth to the south-west, whilst remaining outside the National Park boundary, threatens its setting, tranquillity and compounds recreational pressure.
- Development within settlements on prominent slopes and ridgelines has the potential to erode historical settlement patterns and views.
- Long-term possibility of re-opening the railway between Tavistock and Okehampton if coastal routes become unviable due to increased extreme weather events.
- Increased pressure for signage, advertisements and above-ground cabling can create visual 'clutter'⁴⁴.
- Demand for small-scale quarrying within the National Park – particularly to provide local stone to new development.
- Visual and noise impacts from quarrying at Lee Moor (China Clay) and Drakelands (Tungsten), south west of the National Park boundary.

5.3 *Landscape Character and Landscape Character Assessment*

- 5.3.1 At the national level, England's landscapes are divided into 159 distinct National Character Areas (NCAs). Each is defined by a unique combination of landscape, biodiversity, geodiversity, history, and cultural and economic activity. There are descriptive profiles available for each NCA (published in 2014), setting out information on landscape character, changes happening in the landscape and an assessment of ecosystem services delivered. Much of Dartmoor National Park is covered by one NCA – 150: Dartmoor⁴⁵, with land on the fringes included within two further NCAs which extend beyond the national park boundary into adjacent landscapes.
- 5.3.2 At a county level, Devon's landscape character assessment⁴⁶ describes the variations in character between different areas and types of landscape in the county. It divides Devon up into 68 Devon Character Areas (DCAs), each representing areas with a unique and distinct identity recognisable on a county scale. There are 16 DCAs which include land within the National Park.
- 5.3.3 Feeding up to the DCAs is a framework of Devon-wide Landscape Character Types (LCTs),

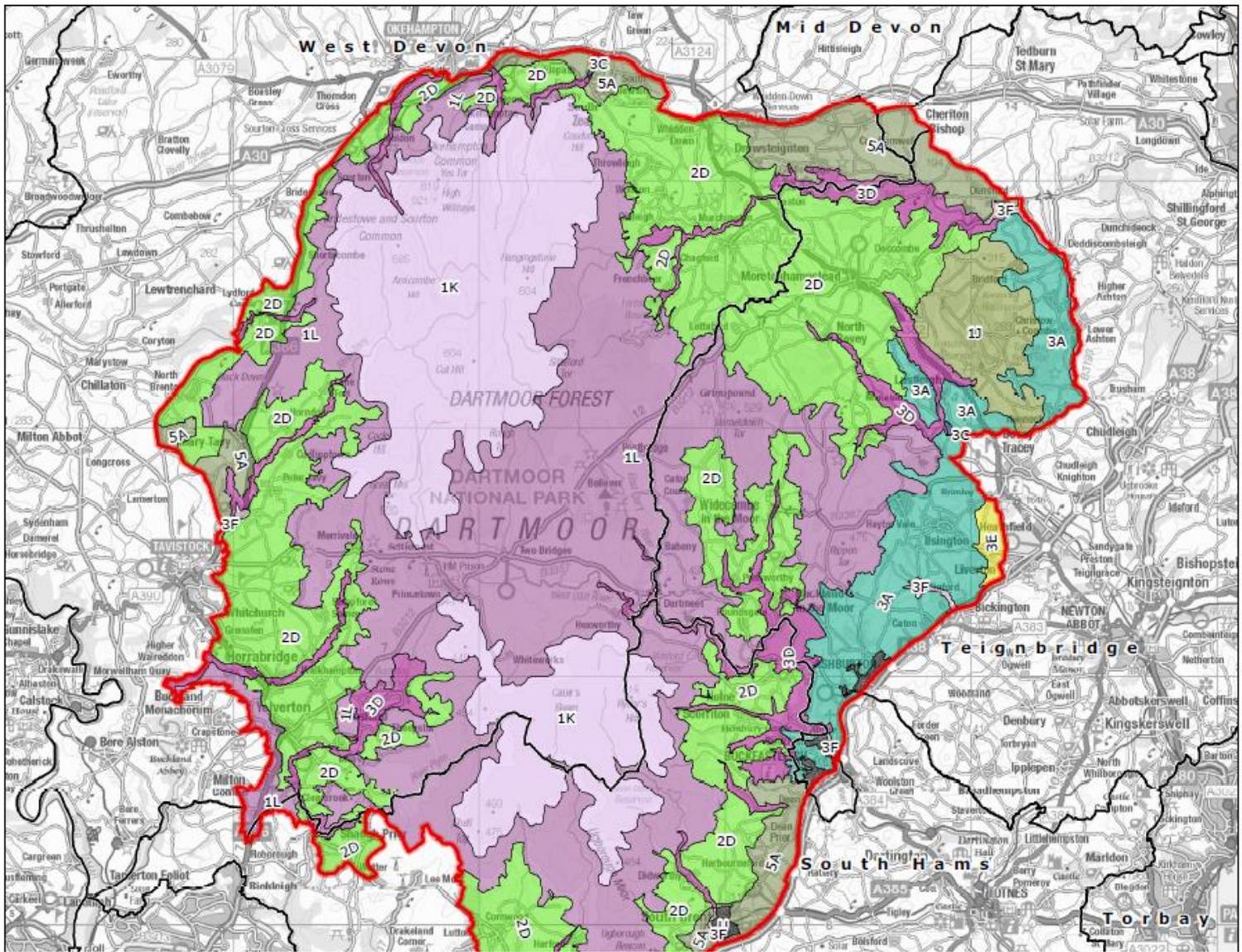
⁴⁴ Natural England (2014) '*National Character Area Profile: 150 Dartmoor*'

⁴⁵ The NCA profiles are available at: <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles#ncas-in-south-west-england>

⁴⁶ Further information available at: <https://new.devon.gov.uk/planning/planning-policies/landscape/devons-landscape-character-assessment>

each sharing similar characteristics. Some types of landscape occur throughout the county, for example, 'Sparsely settled farmed valley floors' while others may occur only once, for example, 'Upland moorland with tors' – which is only found in Dartmoor. The Dartmoor Landscape Character Assessment is based on this LCT framework, with a total of 10 representing the different types of landscape found in the National Park.

- 5.3.4 The Dartmoor National Park Landscape Character Assessment (LCA) identifies the features and elements that make up Dartmoor's landscape character and represent a more fine grained assessment of character than the NCA or DCAs. The primary aim of the assessment is to ensure the area's distinctive and varied landscapes are considered when siting new development or activities, with opportunities to enhance and strengthen character pursued wherever possible. To do this the LCA identifies ten areas of similar landscape character (Landscape Character Types, see Figure 13) and identifies valued attributes for each area which, if they were to cease to exist, would have a major impact on the character of the landscape. The document is produced in accordance with the articles of the European Landscape Convention.
- 5.3.5 Dartmoor's LCA is a crucial evidence base which allows the Authority to effectively identify the landscape features which are fundamental to their character and qualitatively assess whether development proposals will conserve and enhance landscape character, in accordance with National Park purposes.

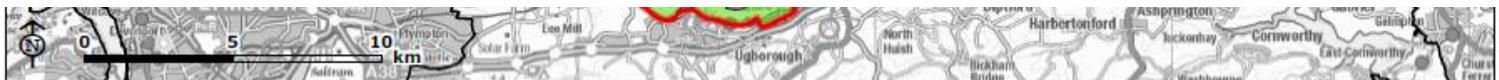


Landscape Character Assessment of Dartmoor National Park

Figure 3.2: Dartmoor's Landscape Character Type Classification

- Dartmoor National Park
 - District boundary
- Landscape Character Types**
- 1J: Farmed and Forested Plateau
 - 1K: Unsettled High Upland Moorland
 - 1L: Upland Moorland with Tors
 - 2D: Moorland Edge Slopes
 - 3A: Upper Farmed and Wooded Valley Slopes
 - 3C: Sparsely Settled Farmed Valley Floors
 - 3D: Upland River Valleys
 - 3E: Lowland Plains
 - 3F: Settled Valley Floors
 - 5A: Inland Elevated Undulating Land
 - 7: Main cities and towns

Figure 13 - Landscape Character Type Classification (DNPA LCA, 2017)



- 5.3.6 The LCA has proven particularly valuable in guiding the design, scale and location of development so it respects the valued attributes of the landscape character types identified. The LCA also serves as a shopping list for developers seeking to enhance landscape character and provides an assessment of landscape features which is spatially relevant. The LCA has served as a valuable tool in the formation of planning policy, identifying appropriate development locations and informing decisions on planning applications. The need for this evidence base is all the more apparent in the context of continual pressures to accommodate new development and land uses in the National Park, against the backdrop of a changing climate.
- 5.3.7 The LCA was reviewed in Spring 2017 to ensure it is up-to-date and consistent with national and regional LCAs and reflects new forces for change which have emerged since it was published.

Recommendations for Policy

- 5.3.8 The Authority have found that the general understanding of landscape character among applicants can be poor and the concept can often be confused with visual impact and the need to mitigate this with screening in the form of bunds or tree banks. More could be done to assist applicants, agents and developers in understanding landscape character and allowing them to bring forward proposals that conserve and enhance it. A clear definition of landscape character in the local plan is recommended.

What is Landscape Character?

Landscape character can be defined as the distinct and recognisable pattern of elements, or characteristics, in the landscape that make one landscape different from another. The 'landscape wheel' (Figure 14) illustrates how the different natural, cultural and perceptual attributes of a landscape combine to produce landscape. Development which results in changes to these attributes will affect the character of the landscape, regardless of whether the development can be seen from a publically accessible vantage point.

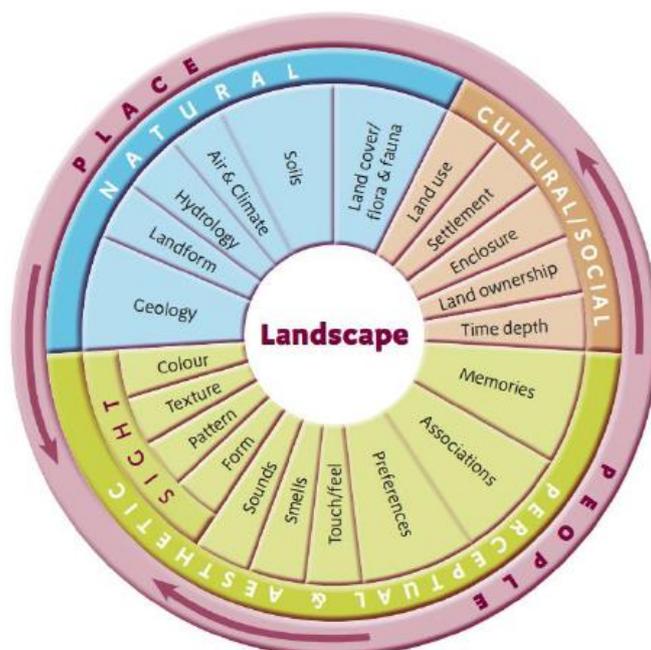


Figure 14 - Landscape Character Wheel (Natural England, 2014)

- 5.3.9 Policy DMD5 sets out the Authority's policies on landscape character and details how it is expected to be protected by development. A crucial element of these policies is that they

make direct reference to the LCA and require development to respect the valued attributes of the landscape character types. It is important that this connection to the LCA remains a feature of future planning policy. Similarly, other criteria referred to in DMD5, design, siting, prominent natural and cultural features, tranquillity and dark skies, are important elements of landscape deserving of specific mention in future policy.

5.3.10 With the updated LCA, Policy DMD5 remains fit for purpose and it is proposed that it should be retained in broadly its existing guise.

5.3.11 Policies COR3, COR4 and COR5 include aspects which seek to conserve and enhance the character and special qualities of the Dartmoor landscape. Protection of landscape character is also a fundamental part of policies relating to:

- development affecting moor, heath and woodland (DMD6)
- residential development outside Local Centres and Rural Settlements (DMD23)
- agriculture, forestry and rural business related development (DMD34)
- equestrian development (DMD33)
- telecommunications development (DMD20)
- large and small scale renewable energy schemes (COR 10 and DMD15)
- mineral development (COR22)

5.3.12 To aid clarity and avoid repetition it is recommended that where protection of landscape character is required in other development policies that the core landscape policy is referenced directly.

5.3.13 A common requirement of these policies is that where the landscape character assessment identifies that isolated buildings do not feature in the landscape proposed development should be well related to existing development, consistent with the predominant historic development pattern across Dartmoor. This is an important principle of the National Park's existing policy framework and a crucial measure in ensuring conservation of the valued attributes identified in the landscape character assessment, as such it should be retained. More explicit wording, such as 'clustered development' or 'development which is not isolated', might help avoid misinterpretation which the Authority has often experienced.

5.4 *Landscape Sensitivity Assessment*

5.4.1 Landscape sensitivity assessments (LSAs) are a further tool for assessing landscape at a finer spatial scale. Sensitivity assessments assess the sensitivity of landscapes surrounding settlements. An LSA for Ashburton was completed as part of the evidence base to support the adoption of the Development Management and Delivery Development Plan Document.

5.4.2 As part of this local plan review further sensitivity studies have been completed for the eight Local Centres, Mary Tavy and Christow. These studies serve three main purposes:

- Provide a qualitative assessment of the National Park's landscape and its sensitivity to development
- Assist development management and site allocations by providing an informed evidence base to understand and manage landscape change
- Inform more detailed landscape studies which may be necessary to support planning applications

5.4.3 The sensitivity study found that the landscape surrounding the National Park's main settlements is generally of high quality and has a high sensitivity to development.

Recommendations for Policy

5.4.4 The LSA forms an important evidence base to inform decision making on site allocations, helping the Authority make strategic decisions on where new development is located to limit its impact around its larger settlements. The LSA will also be used when assessing the acceptability of exception sites which come forward as windfalls during the plan period and other types of development (equestrian, telecommunications, agricultural etc.) in the study areas. However, direct reference to the LSA will only likely be necessary in the pre-ambles to the principle landscape policy.

5.5 *Previously Developed Land*

5.5.1 A core planning principle of the NPPF is for local plans to encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value (para 117).

5.5.2 The NPPF defines previously developed land as:

'Land which is or was occupied by a permanent structure, including the curtilage of the developed land (although it should not be assumed that the whole of the curtilage should be developed) and any associated fixed surface infrastructure. This excludes:

- *land that is or has been occupied by agricultural or forestry buildings;*
- *land that has been developed for minerals extraction or waste disposal by landfill purposes where provision for restoration has been made through development control procedures;*
- *land in built-up areas such as private residential gardens, parks, recreation grounds and allotments; and*
- *land that was previously-developed but where the remains of the permanent structure or fixed surface structure have blended into the landscape in the process of time.'*

5.5.3 The use of brownfield land is an important component of sustainable development, particularly in the National Park setting as it helps to ensure efficient use of the Park's limited land resource. As demonstrated by the Landscape Sensitivity Study, the landscape surrounding the National Park's larger settlements is highly sensitive to development. Making most use of brownfield land will ensure the high quality landscape of the National Park's settlements is best protected where possible.

Recommendations for policy

5.5.4 Policies COR2, COR15 and DMD21 all make specific reference to the preference for development to come forward on previously developed land where appropriate and in accordance with other policies. It will be essential for this policy to remain an integral part of the local plan's development vision. The definition of 'previously developed land' as set out in the NPPF should be clearly stated either within the local plan or in a separate glossary.

5.5.5 Settlement boundaries in the National Park's local centres are an important spatial element of existing policy which encourages development on brownfield land. Settlement boundaries provide a clear spatial reference and, together with supporting policies, encourages development within settlements on previously developed land rather than greenfield sites outside settlements. Settlement boundaries should be an integral feature of future policy in settlements, such as Local Centres, where significant development is likely to occur over the plan period.

5.5.6 In assessing the suitability of the existing settlement strategy for the National Park, the Authority may decide to introduce a third settlement tier. In the event of this the Authority will need to carefully consider whether settlement boundaries around these new middle tier

settlements will be necessary to ensure applicants are clear which land is within, adjoining or outside the settlement.

6 Tranquillity, Remoteness and Dark Night Skies

6.1 *Tranquillity and remoteness*

- 6.1.1 The wildness, peace and tranquillity found within the National Park are rare special qualities which contribute to Dartmoor's significance. These are increasingly rare qualities cherished by local communities and visitors alike. Wildness, tranquillity and dark night skies are fragile resources easily diminished by noise, lighting and intrusive development both within and beyond Dartmoor's boundaries. Dartmoor is made more fragile by being bounded on all sides by major trunk roads.
- 6.1.2 Para 180 of the NPPF requires planning policies and decisions to identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.
- 6.1.3 Although through the inclusion of tranquillity in the NPPF the term is now commonly used in the planning lexicon, there is no precise definition of tranquillity and its precise interpretation in planning terms is a developing area⁴⁷. Para 012 of the Noise PPG confirms there are no precise rules for identifying areas of tranquillity, but that they are likely to be relatively undisturbed by noise from human sources that undermine the intrinsic character of the area and are likely to be seen as special for other reasons, including their landscape quality. Evidently tranquillity is relevant to the National Park, but its subjective nature poses difficulties for measuring and monitoring it quantitatively. This being the case no 'areas of tranquillity' have been formally designated on Dartmoor to date.
- 6.1.4 CPRE worked with Natural England and the Universities of Northumbria and Newcastle during 2005-2006 and, using 44 criteria that affect people's experience of tranquillity, produced a tranquillity map of England⁴⁸. On this map Dartmoor in the single largest unbroken area of tranquillity in southern England. 70% of Dartmoor is classified as tranquil or very tranquil.
- 6.1.5 Two other National Parks are currently undertaking work on tranquillity which builds on CPRE's work. The New Forest commissioned a new Tranquil Areas study in 2014/15 to map the different levels of tranquility across the National Park. It was based on the CPRE work, but was customised to take into account particular circumstances in the New Forest. The South Downs are producing their own study; building on the New Forest methodology by supplementing it with site survey work to 'ground' what is otherwise only a desk based study.
- 6.1.6 Policy COR11 is the Authority's strategic policy referencing tranquillity and seeks to ensure it is sustained throughout the National Park. The policy uses a broad definition of tranquillity which goes beyond acoustics and includes experiences of natural and semi-natural habitats and wildness, sources of physical and spiritual relaxation and areas where peace, solitude and enjoyment can be found in the landscape.
- 6.1.7 Further references to tranquillity are made throughout the DMD, both directly in policy and the supporting text. Most notably, in seeking to protect Dartmoor's landscape character, policy DMD5 requires development to respect tranquillity.

⁴⁷ Campaign to protect Rural England (2014) *'Planning Campaign Briefing 11 – Tranquillity'*

⁴⁸ Campaign to Protect Rural England (2007) *'Tranquillity Map: England'*

- 6.1.8 It is important to understand that tranquillity, in its broad sense, is a finite resource which has economic value and requires protection. A number of threats to tranquillity exist on Dartmoor, of relevance to planning is the impact (including cumulative impact) of isolated development in the open countryside, new noisy operations (such as mining) and new light sources impacting on dark night skies. Also worthy of consideration are indirect impacts from development, such as increased traffic, utility infrastructure and recreational pressure.

Recommendations for Policy

- 6.1.9 It is without doubt crucial that tranquillity continues to be understood as one of the key characteristics which gives Dartmoor its special and unique character. However, it is not within the scope of this local plan review to establish a quantitative definition of tranquillity which is unique for Dartmoor. As such, it is recommended that the broad definition of tranquillity used in COR11, which references both acoustic and experiential factors in accordance with work undertaken by CPRE, is retained.

6.2 *Dark Night Skies*

- 6.2.1 Dartmoor's dark night skies are an integral part of tranquillity and the sense of wildness in the National Park. Figure 11 shows light pollution in the National Park and surrounding areas. Dartmoor's dark-sky resource is under increasing threat as artificial lighting becomes more prevalent and skyglow from the rapidly growing urban centres of Exeter and Plymouth increases. Research has demonstrated the effect light pollution can have on wildlife, by interrupting natural behavioural rhythms such as migration, reproduction and feeding patterns⁴⁹. Light pollution is also attributed to distress in humans, including sleep disturbance⁵⁰.
- 6.2.2 The International Dark-Sky Association (IDA) work to protect dark night skies and designate areas under several categories for their well-preserved dark-sky qualities. Achieving dark-sky status requires a rigorous application process and requires applicants to demonstrate robust community support.
- 6.2.3 There is a possibility of the National Park achieving dark-sky status during the course of the next plan period, but this is subject to resources and is currently being explored. Were the National Park to pursue dark-sky status this would require that external lighting installations in designated core and periphery/buffer areas meet stringent criteria set out by the IDA⁵¹ and that this is achieved through a Lightscape Management Plan (LMP). In addition to the LMP development policies are required to protect dark-skies and support the LMP objectives..
- 6.2.4 Installation of small-scale external lighting units which do not materially change the external appearance of an existing building is not development and it is not within the remit of the planning system to control installation of these. However, planning policy can manage the installation of new lighting schemes which require planning permission or are associated with proposed development to ensure new development complies with Dark-Sky Association Guidelines. It will not be possible to make reference to specific criteria or designated areas until these have been established by relevant evidence.
- 6.2.5 It is nevertheless important to recognise that achievement of dark night sky status during the course of the plan period could affect how industry lighting standards are applied both within the National Park and outside it. The Institute of Lighting Professionals (ILP) has produced

⁴⁹ Royal Commission on Environmental Pollution (2009) *'Artificial Light in the Environment'*

⁵⁰ CPRE (2010) *'Lighting Nuisance Survey'*

⁵¹ International Dark-Sky Association (2015) *'Dark-Sky Reserve Program Guidelines'*

'Guidance Notes for the reduction of obtrusive light'⁵² which include lighting standards that inform how lighting schemes on developments within and outside the National Park are restricted through planning condition.

- 6.2.6 The ILP guidance recommends that Local Planning Authorities specify the environmental zones for exterior lighting control in accordance with the standards set out in Table 9 and Table 10, stating that where an area to be lit lies on the boundary of two zones the obtrusive lighting limitation values used should be those applicable to the most rigorous zone.
- 6.2.7 It is acknowledged therefore that were the whole National Park designated as a Dark-Sky Reserve then this could impact on development proposals in adjacent areas which would see the recommended lighting standard increase from Zone E2 to E1. Such a change could have impact on allocated sites and would need to be a matter addressed through the National Park Authority's Duty to Cooperate. However, in the case of Dartmoor, the presence of significant settlements on the National Park's boundary mean it is not anticipated these areas would be eligible for dark sky status. As such, the risk is considered minimal.

Table 9 - ILP recommended environmental zones for lighting schemes

Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark	UNESCO starlight reserves, IDA Dark Sky Parks
E1	Natural	Intrinsically dark	National Parks, Areas of Outstanding Beauty etc.
E2	Rural	Low district brightness	Village or relatively dark outer suburban locations
E3	Suburban	Medium district brightness	Small town centres or suburban locations
E4	Urban	High district brightness	Town/city centres with high levels of night-time activity

Table 10 - ILP Obtrusive light limitation for exterior lighting installations

Environmental Zone	Sky Glow ULR [Max %] ⁽¹⁾	Light Intrusion (into Windows) Ev [lux] ⁽²⁾		Luminaire Intensity I [candelas] ⁽³⁾		Building Luminance Pre-curfew ⁽⁴⁾
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	Average, L [cd/m ²]
E0	0	0	0	0	0	0
E1	0	2	0 (1*)	2,500	0	0
E2	2.5	5	1	7,500	500	5
E3	5.0	10	2	10,000	1,000	10
E4	15	25	5	25,000	2,500	25

ULR = Upward Light Ratio of the Installation is the maximum permitted percentage of luminaire flux that goes directly into the sky.

Ev = Vertical Illuminance in Lux - measured flat on the glazing at the centre of the window.

I = Light Intensity in Candelas (cd)

L = Luminance in Candelas per Square Metre (cd/m²)

Curfew = the time after which stricter requirements (for the control of obtrusive light) will apply; often a condition of use of lighting applied by the local planning authority. If not otherwise stated - 23.00hrs is suggested.

* = Permitted only from Public road lighting installations

⁵² Institute of Lighting Professionals (ILP), 'Guidance Notes for the reduction of obtrusive light' (2011) <https://www.theilp.org.uk/documents/obtrusive-light/>

(1) Upward Light Ratio – Some lighting schemes will require the deliberate and careful use of upward light, e.g. ground recessed luminaires, ground mounted floodlights, festive lighting, to which these limits cannot apply. However, care should always be taken to minimise any upward waste light by the proper application of suitably directional luminaires and light controlling attachments.

(2) Light Intrusion (into Windows) – These values are suggested maxima and need to take account of existing light intrusion at the point of measurement. In the case of road lighting on public highways where building facades are adjacent to the lit highway, these levels may not be obtainable. In such cases where a specific complaint has been received, the Highway Authority should endeavour to reduce the light intrusion into the window down to the post curfew value by fitting a shield, replacing the luminaire, or by varying the lighting level.

(3) Luminaire Intensity – This applies to each luminaire in the potentially obtrusive direction, outside of the area being lit. The figures given are for general guidance only and for some sports lighting applications with limited mounting heights, may be difficult to achieve.

(4) Building Luminance – This should be limited to avoid over lighting, and related to the general district brightness. In this reference building luminance is applicable to buildings directly illuminated as a night-time feature as against the illumination of a building caused by spill light from adjacent luminaires or luminaires fixed to the building but used to light an adjacent area.

Recommendations for Policy

- 6.2.8 The principle aim of future planning policy should be not to prevent dark-sky status being achieved during the course of the plan. It is therefore recommended that the plan's tranquillity policy is extended to include a general requirement for development proposals to reduce external lighting where possible with reference to achieving the ILP standards referenced above. Consideration should also be given to wording which requires development to eliminate all unnecessary forms of artificial lighting, reduce light spillage and avoid adverse impacts on dark night skies, landscape character, historic character, visual amenity and biodiversity.
- 6.2.9 This position should be reviewed regularly alongside any progress towards achieving dark-sky status. Neighbouring local planning authorities potentially affected by any changes to the National Park's dark sky status should also be given sufficient notice and given opportunities to comment on proposals.

Dartmoor National Park

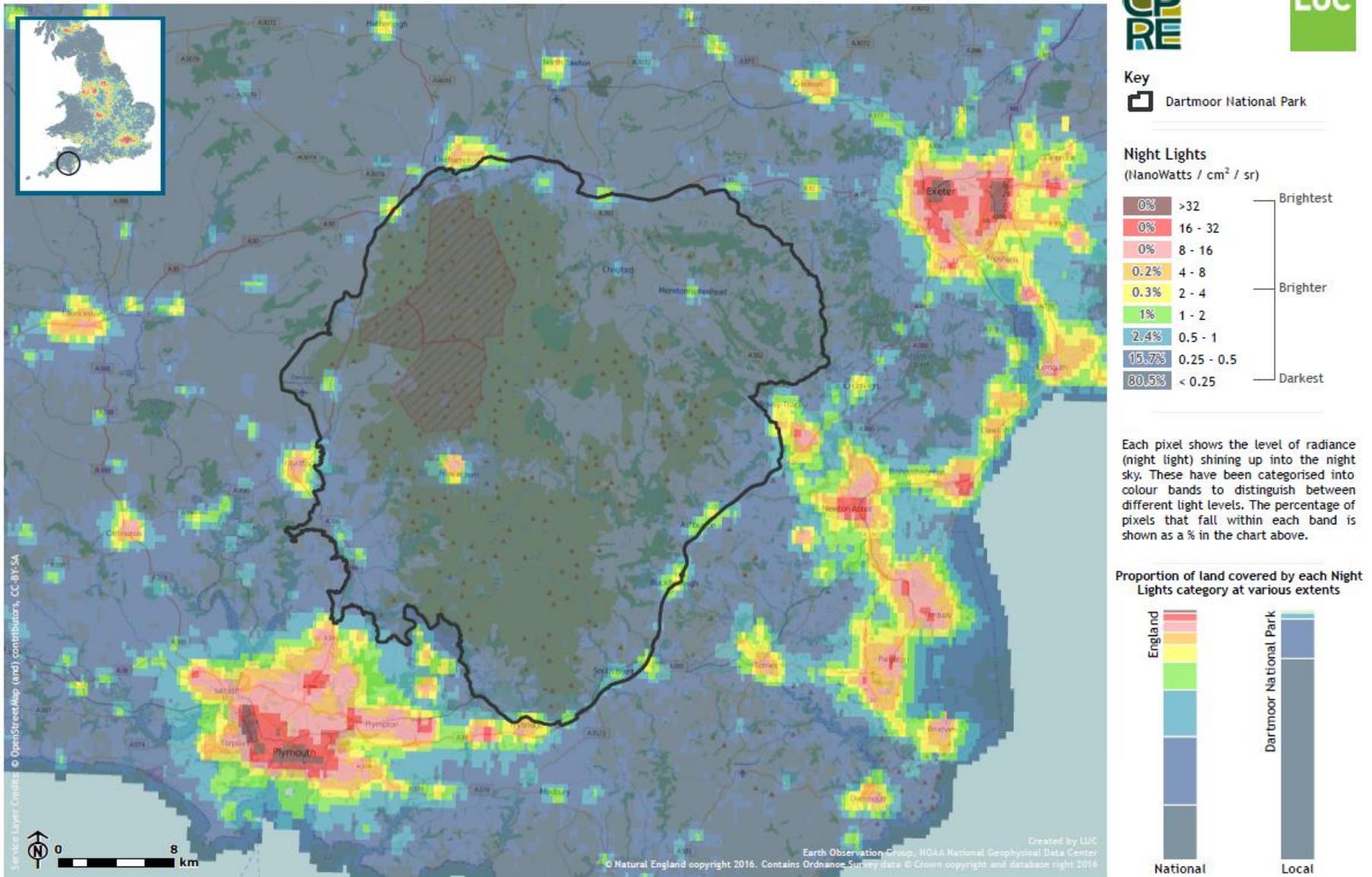


Figure 15 – Light pollution and dark skies in Dartmoor National Park and surrounding areas (Source: CPRE)

7 Climate Change

7.1 Introduction

7.1.1 Climate change is the greatest long-term challenge facing people and wildlife in the present day. Scientific evidence which demonstrates we are experiencing a warming climate is unequivocal. Global atmospheric carbon dioxide levels have increased rapidly since the industrial era and now stand over 400ppm, which is some 33.3% higher than the highest historic carbon dioxide levels experienced on earth over the last 400,000 years⁵³. The overriding challenge for the planning system is to deliver sustainable development and make a significant contribution to both mitigating and adapting to climate change.

7.2 Threats and Opportunities

7.2.1 The impact of climate change on Dartmoor will likely be wide reaching. 'Climate Change – What does it mean for Dartmoor?' was produced in 2011 to assess the impacts of climate change on the National Park over the coming century and identified the important aspects of the National Park which would likely be affected. Projected summer and winter average temperature increases remain the same today as in 2011 and it is therefore considered the report's findings remain valid⁵⁴. Table 6 summarises those affects which were identified as being likely and having the potential to have a major impact in the medium (2050s) to long (2080s) term. These serve as an important indicator of the major issues which are likely to impact on the Park in the future.

Table 6 – Likely major impacts from climate change	
Warmer, wetter winters	
Increased frequency of river torrent and floods	<ul style="list-style-type: none"> • increased tendency for ground to flood / be waterlogged leading to rights of way becoming more difficult and less enjoyable to use, more maintenance required • increased damage to bridges and other access infrastructure
Longer growing season	<ul style="list-style-type: none"> • some species lose out to others leading to loss of biodiversity • reduction of invertebrates in moorland ecosystem (e.g. pearl-bordered fritillary)
Milder conditions affecting hibernation patterns	<ul style="list-style-type: none"> • raised metabolism in hibernating species leading to abnormal need to feed during winter when there are minimal food resources and cold spells, overall result is reduced rate of survival and loss of biodiversity
Variable weather leads to increased stress on infrastructure	<ul style="list-style-type: none"> • increasing cost of maintaining power cables, telecommunications, broadband and other exposed infrastructure
Increase in air humidity and increased likelihood of fungal growth on thatch roofs	<ul style="list-style-type: none"> • decrease in lifetime of thatch roof and increase in maintenance costs
Hotter, dryer summers	
Drier conditions and increased	<ul style="list-style-type: none"> • loss of moisture in soil leading to loss of upland

⁵³ Dlugokencky, E; Tans, P (6 May 2015). "[ESRL Global Monitoring Division](#)". *Earth System Research Laboratory. National Oceanic & Atmospheric Administration*.

⁵⁴ UK Climate Projections (2016) UKCP09 <http://ukclimateprojections.metoffice.gov.uk/>

likelihood of drought.	<p>heath habitat, poorer grazing pasture, reduced fodder yield and reduced drinking water availability for livestock</p> <ul style="list-style-type: none"> • drought impacting on smaller more susceptible species and habitats (e.g. rhos pasture) • conditions will favour invasive species • consequent reduction in viability of farming and biodiversity • increased pressure on water resource, lower water table, threat to potable and irrigation water supply leading to either need for a further reservoir on Dartmoor, or to source water from outside region at large cost for water companies and consumers • controlled fires (swaling) increasingly difficult to manage and leading to loss of moorland habitat and biodiversity
More people holidaying at home leading to increased visitor numbers and consequent pressures on landscape.	<ul style="list-style-type: none"> • increased pressure on land • loss of flora and habitat in heavily visited areas • reduced quality of grazing pasture and sward
Earlier seasonal changes causing mis-timing of migrant birds with food sources.	<ul style="list-style-type: none"> • greater food resources for native/wintering species • reduced success of migrant populations
Increased incidence of health issues associated with heat and sun exposure	<ul style="list-style-type: none"> • increased rate of skin cancer and heat stroke leading to greater medical costs and pressure on local medical facilities
Extreme weather events	
Loss of habitat from wild fire during periods of drought	<ul style="list-style-type: none"> • increased risk of accidental fires and swaling significantly more difficult to manage • forced movement of populations • potential loss of habitat and fauna • health and safety risk
Increased risk and frequency of extreme flooding events (e.g. flash food)	<ul style="list-style-type: none"> • rapid soil erosion and habitat impacted/destroyed forcing movement of fauna into new areas • large economic expenditure to maintain buildings and infrastructure in vulnerable areas • potential impact on landscape of prone areas • increased emotional stresses • flooding causing blanket bog erosion leading to loss of soil and important habitat • greater cost for road maintenance and need for means of emergency access to be established

7.2.2 Figures 12-14 present a small portion of available summary trend data which evidence climate change and suggests the local effects of climate change predicted in Table 6 are beginning to be experienced. Figure 12 shows a steady increase in the growing season has been experienced since 1961 as a result of increasing temperatures. Figure 13 shows average rainfall for the last three climatic periods (20 year periods) have steadily increased in both winter and summer, interestingly we have not yet witnessed the drier summers predicted. The breeding time of pied flycatchers is strongly related to spring temperatures. Figure 14 shows how these birds are adapting to warmer temperatures by advancing their breeding time.

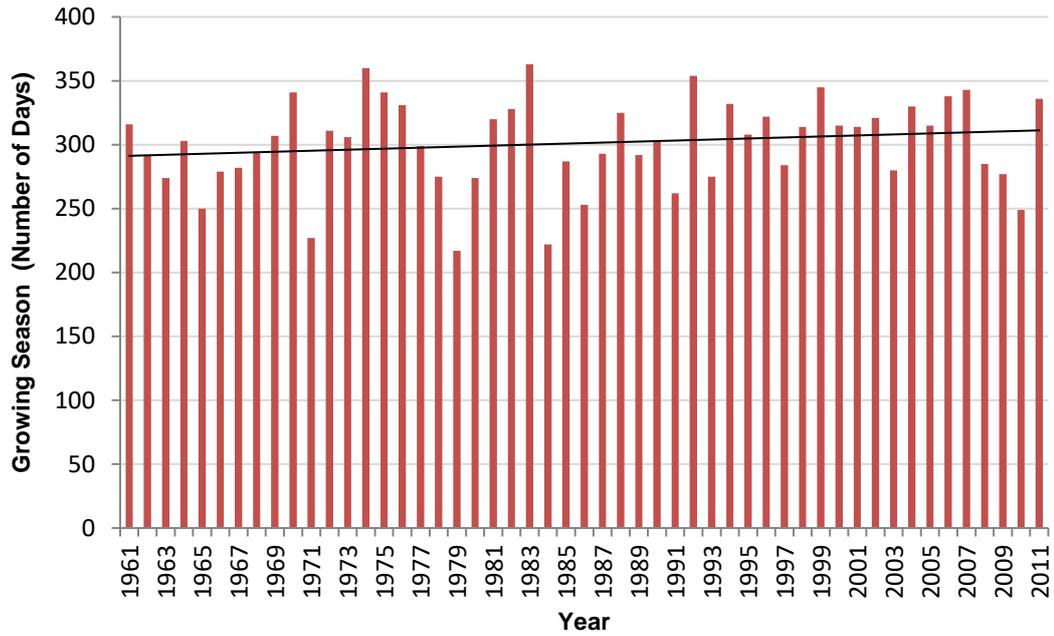


Figure 16 - Growing season length (period where daily mean temperature +5C for >5 consecutive days) for Prinetown, Dartmoor. Source: Met Office

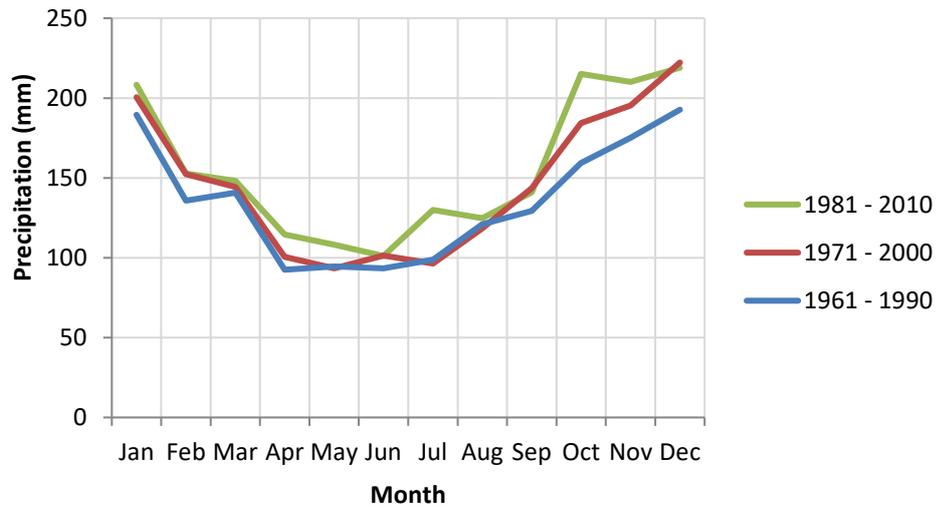


Figure 17 – Mean total precipitation (mm) for Prinetown, Dartmoor. Source: Met

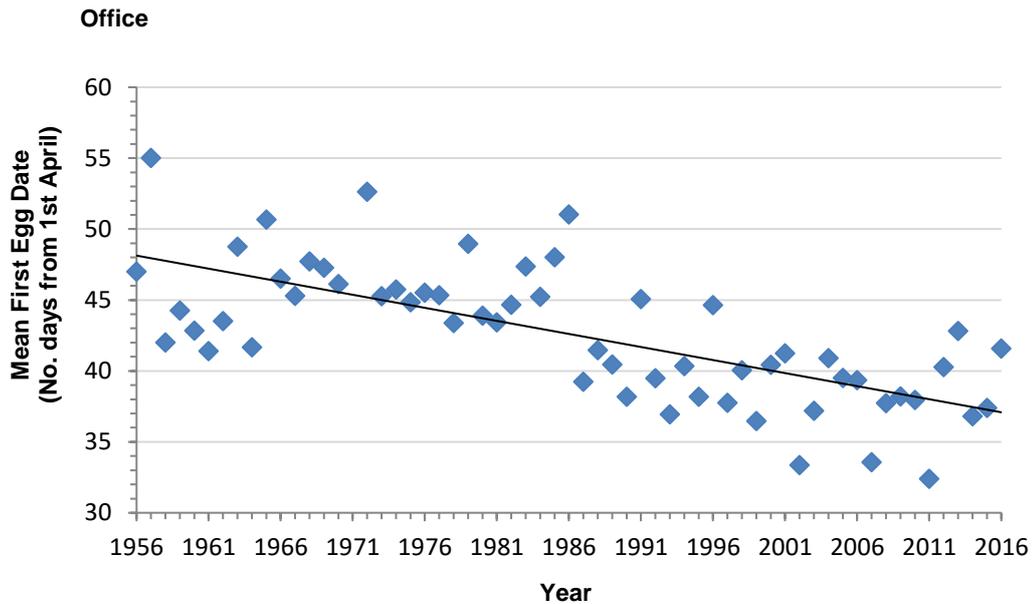


Figure 18 – First egg of Pied Flycatcher in Spring. Source: Natural England piedfly.net

7.2.3 Local development policies can assist in meeting the challenge of climate change on Dartmoor by:

- Mitigating climate change by reducing emissions:
 - Ensure development reduces the need to travel and provides for sustainable transport options
 - Provide opportunities for and encourage use of renewable and low carbon energy technologies
 - Promote low carbon design approaches to reduce energy consumption in buildings
 - Promote green infrastructure which can help species adapt to climate change
- Adapting to a changing climate:
 - Consider future climate risks when allocating development sites to ensure risks are understood over the development's lifetime
 - Consider the impact of and promote design responses to flood risk for the lifetime of the development
 - Consider availability of water and water infrastructure for the lifetime of the development and design responses to promote water efficiency and protect water quality
 - Promote adaptation approaches in design policies for developments and public realm
 - Be aware of potential maladaptation, i.e. a solutions to climate change which could lead to more harm

7.3 Settlement Strategy

7.3.1 NPPF paragraph 148 states to support the move to a low carbon future, local planning authorities should plan for new development in locations and ways which reduce greenhouse gas emissions. Adopting a settlement strategy to deliver this will remain a fundamental feature of the new local plan. Evidence supporting the settlement strategy will be the subject of a stand-alone research paper.

7.4 Renewable Energy

- 7.4.1 Para 151 of the NPPF states 'to help increase the use and supply of renewable and low carbon energy and heat, plans should:
- provide a positive strategy for energy from renewable and low carbon sources, that maximises the potential for suitable development while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts);
 - consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and
 - identify opportunities where development can draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.'
- 7.4.2 NPPF para 152 requires planning authorities to support community-led initiatives for renewable energy, including developments outside areas identified for renewable and low carbon energy, including developments outside areas identified in local plans or other strategic policies that are being taken forward through neighbourhood planning.
- 7.4.3 The National Park has experienced a sharp uptake in renewable technologies. Installed renewable energy capacity in the National Park grew a remarkable 340% between December 2011 and December 2015 (see Figure 15). The efficiency and viability of photovoltaics has improved most significantly over the last plan period and been by far the most popular type of renewable technology installed (see Figure 16). The take up in renewable energy technologies has been subsidised by Government feed in tariffs introduced in 2008 (Energy Act 2008) and which came into effect in 2010. Under the feed in tariff scheme photovoltaics have benefitted from favourable rates and a longer 25 year contract term, as opposed to the 20 year contract term for wind energy, hydropower, biomass and anaerobic digestion technologies. Renewable technology installations have also been assisted by permitted development rights. The Town and Country Planning (General Permitted Development) (England) Order 2015 sets out that many small scale renewable energy technologies are permitted development. For buildings other than dwellings there is a 45 kilowatt thermal capacity threshold, over which planning permission is required.

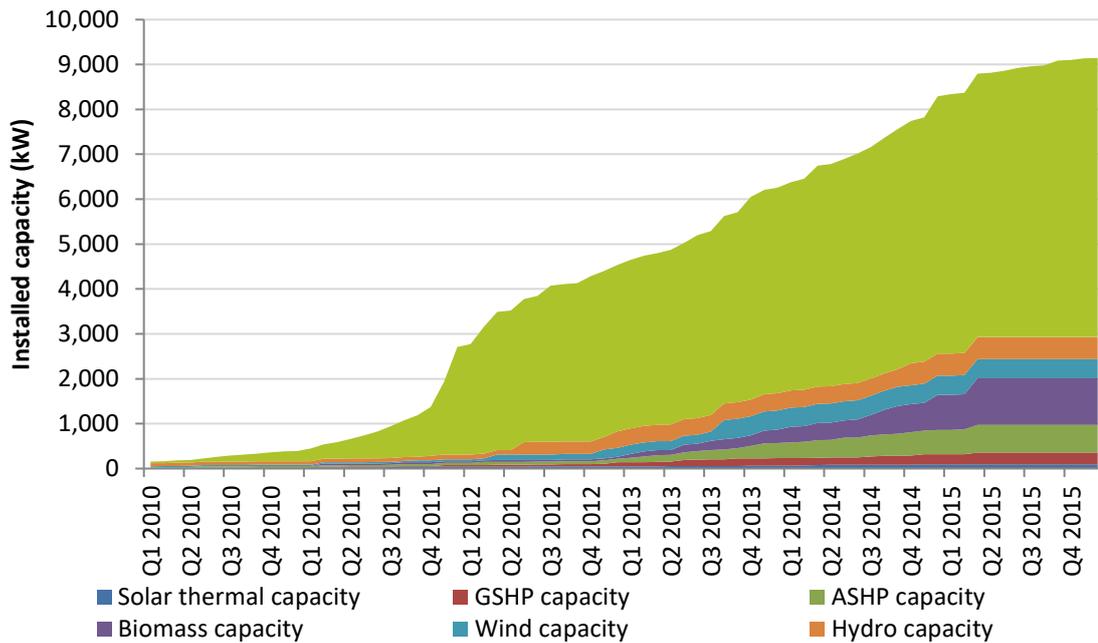


Figure 19 - Growth of renewable energy installed capacity by technology in Dartmoor National Park Source: Devon County Council

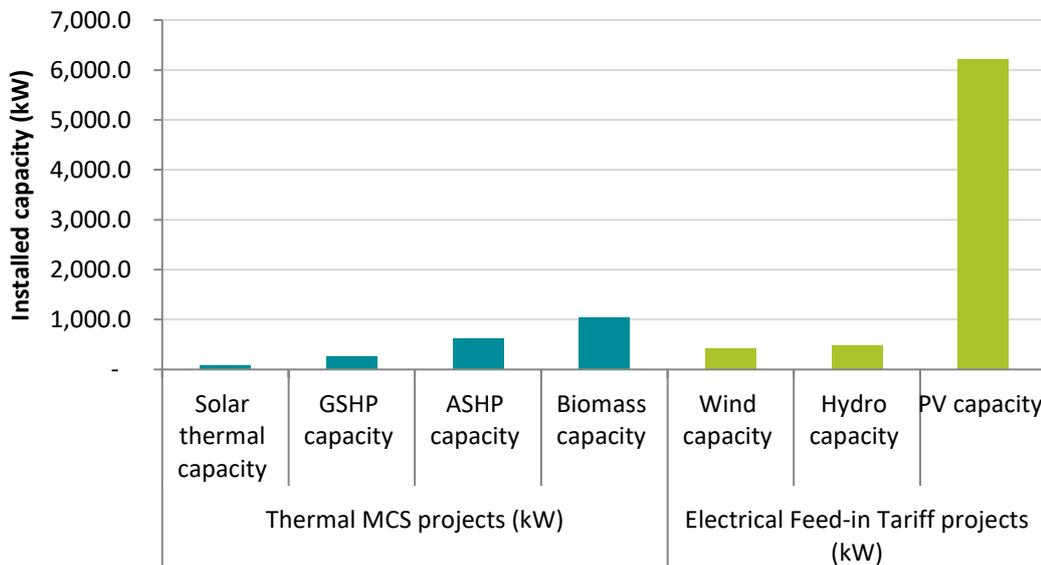


Figure 20 - Installed renewable energy capacity by technology in Dartmoor National Park Source: Devon County Council

7.4.4 Table 7 shows a summary of the change in feed in tariff rates over the last plan period. The feed in tariff rates have decreased significantly since the scheme's conception with rates for photovoltaics dropping most; 83% on average. Hydro-generating stations and anaerobic digestion facilities have seen more moderate cuts. The feed in tariff rate drops indicate that some renewable technologies are becoming increasingly viable without the need for public subsidy, although inevitably the drop in rates will also serve to slow the installation rate as they are no longer seen as such an attractive short term investment. It is likely the National Park will see less demand for standalone photovoltaics over the next plan period. The

National Park has seen less hydroelectric power station installations than expected given its favourable river conditions, this may change over the next plan period if the viability of the technology improves and average fluvial flows increase with climate change as predicted (see Table 8).

Table 7 - Change in feed in tariff rates from 2011 to 2016 Source: Ofgem

	Total installed capacity**	Feed in Tariff (p/kWh)		Percentage Change
		2011 forecasted rate for 2016/17	Actual tariff April 2016	
Solar voltaic (not standalone)	10 kW or less	25.2	4.32*	-82.86%
	10 kW but not exceeding 50kW	20.9	4.53*	-78.33%
	50 kW but not exceeding 250kW	10.2	2.38*	-76.67%
	250 kW but not exceeding 1 MW	8.5	1.99	-76.59%
	greater than 1 MW	8.5	0.74	-91.29%
	Stand-alone solar photovoltaic	8.5	0.74	-91.29%
Hydro generating station	100kW or less	15.1	7.68	-49.14%
	greater than 100kW but not exceeding 2MW	11.5	6.14	-46.61%
	greater than 2 MW	4.7	4.43	-5.74%
Wind	less than 100 kW	22.7	7.61	-66.48%
	greater than 100kW but not exceeding 1.5 MW	14.8	4.89	-66.96%
	1.5MW	4.7	0.85	-81.91%
Anaerobic digestion	250kW or less	14	8.21	-41.36%
	greater than 250kW but not exceeding 500kW	13	7.58	-41.69%
	greater than 500kW	9.4	7.81	-16.91%
	Combined Heat and Power less than 2kW	10.5	13.45	28.10%

* Higher rate, only applied to schemes associated with building of EPC level D or above

** Where capacity categories have changed tariffs have been averaged

Table 8 - Forecasted percentage change in peak fluvial flows with climate change⁵⁵

	2°C Projection			4°C Projection		
	2020s	2050s	2080s	2020s	2050s	2080s
South West	+5%	+10%	+18%	+21%	+28%	+47%

7.4.5 There is a chance that new renewable energy technologies may come forward during the plan period and it is not possible to account for the impact these may have on the National Park. A policy which therefore seeks to protect the Park's special characteristics is likely the best way to protect against inappropriate development. Notwithstanding this a list of some of the current technologies which need to be accounted for in the policies of the local plan are provided below:

⁵⁵ Committee on climate Change (2015) 'UK Climate Change Risk Assessment 2017: Projections of Future Flood Risk'

- Biomass boilers
- Combined heat power units
- Anaerobic digestion
- Waste to energy
- Micro hydrogenation
- Photovoltaics (small or large scale deployment)
- Solar thermal (usually small scale)
- Solar space heating
- Air, water and ground source heat pumps
- Micro district heating
- Stand-alone wind turbines (various sizes and single or multiple installations)
- Hydroelectric power

7.4.6 Policy COR10 and DMD15 set out the strategic and development policies for Dartmoor National Park respectively. The fundamental principle behind both these policies is to offer support to renewable energy schemes which do not compromise the objectives of National Park designation. Large scale renewable energy projects aimed at power generation at the regional or national level have been viewed as major development for which there is a presumption against in the National Park (Policy DMD2). The National Parks Circular (2010) emphasises that Government planning policy is that major development should not take place within a National Park except in exceptional circumstances. Whilst recognising that National Parks offer important opportunities for renewable energy generation, the Circular (2010) emphasises that these must be appropriate to the national value of the landscape.

7.4.7 The National Character Area Profile 150 for Dartmoor identifies an increase in demand for large wind turbines within the open, exposed landscapes of the moorland as well as outside, but visible from, the National Park. The character profile identifies the negative impact these installations can have on the landscape. Evidence also exists on the impact wind farms have on biodiversity⁵⁶⁵⁷.

7.4.8 Notwithstanding the presumption against large-scale renewable energy development the National Park remains an appropriate location for small-scale renewable energy projects and technology which can harness the energy of its natural environment without compromising the character and value of its landscape, biodiversity, tranquillity or water and air quality. Policy DMD15 recognises the contribution a broad uptake of smaller scale initiatives can have on meeting overall renewable energy targets.

7.4.9 Some renewable energy schemes involving combustion, such as biomass boilers, do impact on air quality, others may create a noise nuisance and these technologies may not be appropriate in residential areas⁵⁸.

Recommendations for Policy

7.4.10 Existing policy correctly encourages small scale renewable energy schemes which do not harm the landscape character, biodiversity, tranquillity and air and water quality of the National Park. The existing policy presumption against large-sale projects has successfully

⁵⁶ Convention on the Conservation of European Wildlife and Natural Habitats (2003) *Windfarms and Birds: An analysis of the effects of windfarms on birds, and guidance on environmental assessment criteria and site selection issues*

⁵⁷ Jones, G., Hooper-Bohannon, R., Barlow, K. and Parsons, K. (2009) *Determining the Potential Impact of wind Turbines on Bat Populations in Britain*

⁵⁸ Environmental Protection UK (2009) *Biomass and Air Quality Information for Developers*

protected the National Park's valued assets during the last plan period.

- 7.4.11 In the likely event of increasing development pressure for renewable energy schemes to meet the challenges of climate change it is recommended existing policies should be retained in broadly their existing format. Particularly important is to ensure the definition of a small-scale renewable energy project includes one which meet the energy demands of a single property or local community within the National Park, but which does not lead to any of the adverse impacts mentioned in current policy.

Regulation 19 Consultation

- 7.4.12 The Regulation 19 consultation of the final draft Dartmoor Local Plan highlighted that the proposed policy position unnecessarily restricted large scale renewable energy development which did not impact upon the National Park's special qualities. Emphasising that this could needlessly restrict proposals and was not consistent with the Authority's declaration of acclimate emergency. The policy is proposed to be amended so that the relevant test for determining the acceptability of renewable energy developments is dependent on whether they are considered Major Development and have a significant adverse impact on the National Park's special qualities.

7.5 Wind Energy

- 7.5.1 The Government issued a written ministerial statement related to wind energy on 18 June 2015, it states:

'When determining planning applications for wind energy development involving one or more wind turbines, local planning authorities should only grant planning permission if:

- the development site is in an area identified as suitable for wind energy development in a Local or Neighbourhood Plan; and*
- following consultation, it can be demonstrated that the planning impacts identified by affected local communities have been fully addressed and therefore the proposal has their backing.'*

- 7.5.2 Further details are provided in planning practice guidance which states, *'planning applications should not be approved unless the proposed development site is in an area identified as suitable for wind energy development in a Local or Development Plan'*. PPG goes on to state, *'whether the proposal has the backing of the affected local community is a planning judgement for the local planning authority'*.

- 7.5.3 There are no permitted development rights for wind turbines within National Parks so all such developments require planning permission. It follows that any wind turbine of any size must be located in an area identified as suitable for wind energy development in a local or neighbourhood plan to be considered acceptable.

- 7.5.4 By reasons of their significant impact on landscape character and tranquillity, as discussed in 7.4, large-scale wind turbines are not an acceptable form of development in the National Park. However there are many locations where small scale wind turbines could be acceptable if they are well designed and sited so as to be assimilated with existing development. Small-scale wind turbines could make a valuable energy contribution to small communities, farms and residential properties.

- 7.5.5 Mapping areas as suitable for wind energy development does however risk sending mixed messages to applicants and careful consideration of how best to respond to the WMS in the local plan is required.

Recommendations for policy

- 7.5.6 By not including a specific policy on wind energy (as in the current development plan) applications for wind turbines will be determined by the WMS and effectively cannot be approved; by virtue of their being no areas identified as being suitable in the local plan. Without a specific policy this situation would continue until the WMS was replaced or rescinded at which time the National Park could be vulnerable to a more lenient national policy.
- 7.5.7 To ensure protection against future changes to the WMS the Authority will need to consider whether Landscape Sensitivity work is sufficient to assess the impact wind energy developments may have on the Landscape Character Types of the National Park. The evidence base should be sufficient to assess the impact different types and sizes of wind energy development would have on the National Park's landscape character and identify any areas which may be capable of accommodating small scale wind energy development. The evidence base would be used to directly inform a policy on the issue.
- 7.5.8 Any future policy permitting wind energy developments would need to have very precise wording and accompanying maps identifying where suitable locations may exist and be careful not to permit inappropriate structures in isolated locations. It is recommended that the definition of small-scale remain consistent with that used within the renewable energy policy.

7.6 *Energy Efficiency in Buildings*

- 7.6.1 Improving the energy efficiency of Dartmoor's existing housing stock and future housing stock is an important element of responding to climate change by minimising emissions and improving energy efficiency.
- 7.6.2 The issues surrounding the energy efficiency of new buildings and whether to include a policy in the local plan which improves upon nationally described standards will be explored in the Housing Topic Paper.
- 7.6.3 The issue surrounding how the policies of the local plan can best ensure the energy efficiency of existing buildings can be improved will be explored in the Historic Environment Topic Paper.

8 Agriculture and Forestry

8.1 Background

- 8.1.1 Agriculture and forestry are the two most extensive rural land uses in Dartmoor National Park. These two industries make the biggest contribution to ensuring the National Park's landscape is maintained and have the most to offer in conserving and enhancing our natural environment. Of Dartmoor's 95,400Ha area, 82,313Ha is utilisable agricultural land (86.3%) and 11,242Ha is woodland (11.8%)⁵⁹. There is no data for the amount of commercial forestry land in the National Park, the total amount of woodland in active management is 6,295Ha (6.6%), but this includes conservation sites such as SSSIs.
- 8.1.2 Since 1945 there have been major changes in the agricultural industry. Up to the 1980s the government encouraged increased production and the construction of new buildings was promoted through grant aid. Mechanisation during this time and the need to produce more with less labour led to the creation of large farm units with larger buildings required for efficient housing of livestock, storing of produce, fodder and general equipment.
- 8.1.3 More recently food surpluses and growing concern about the conservation of the natural environment and rural landscape have resulted in the Government encouraging farmers to limit output. In Environmentally Sensitive Areas, such as Dartmoor National Park, grant schemes like Environmental Stewardship and Countryside Stewardship have sought to incentivise sustainable land management practices. Farm diversification has also been encouraged through relaxation of planning policy.
- 8.1.4 Despite the changes in Government Policy there has been a continuing trend towards agricultural mechanisation and increasing scales of production. As a result larger buildings with wider roof spans which are industrial in appearance and scale are more prevalent.
- 8.1.5 The problems these trends present are:
- New large-scale agricultural buildings can have a significant impact on the character of the rural landscape and visual quality of existing farmsteads by:
 - Being poorly sited without regard for existing development or valuable landscape features
 - Inappropriate design and use of materials
 - Finding an appropriate alternative use for historic buildings which become redundant due to modern practices (this topic will be discussed within the Historic Environment Topic Paper)
- 8.1.6 Changes in land ownership patterns are also changing how farming occurs on Dartmoor and inevitably impacts on the type of agricultural development coming forward. Splitting up of large holdings can directly create the need for new development. Where land is separated from the farm and buildings which have traditionally served it, agricultural need for new agricultural buildings, workers dwellings and other infrastructure can be created.
- 8.1.7 Figure 17 shows that agricultural holdings on Dartmoor under 50ha in size were in decline between 2009 and 2013 whereas the number of larger farms over 50ha in size have remained constant. Interestingly the decline in smaller holdings has not been twinned with a decrease in labour; over the 2009-2013 period the total number of people employed in agriculture increased steadily. The decrease in smaller agricultural holdings is likely caused by worsening viability caused by increasing land and labour costs which the larger holdings

⁵⁹ Natural England (2016) Protected Landscapes Framework

have remained resilient to because of their economies of scale.

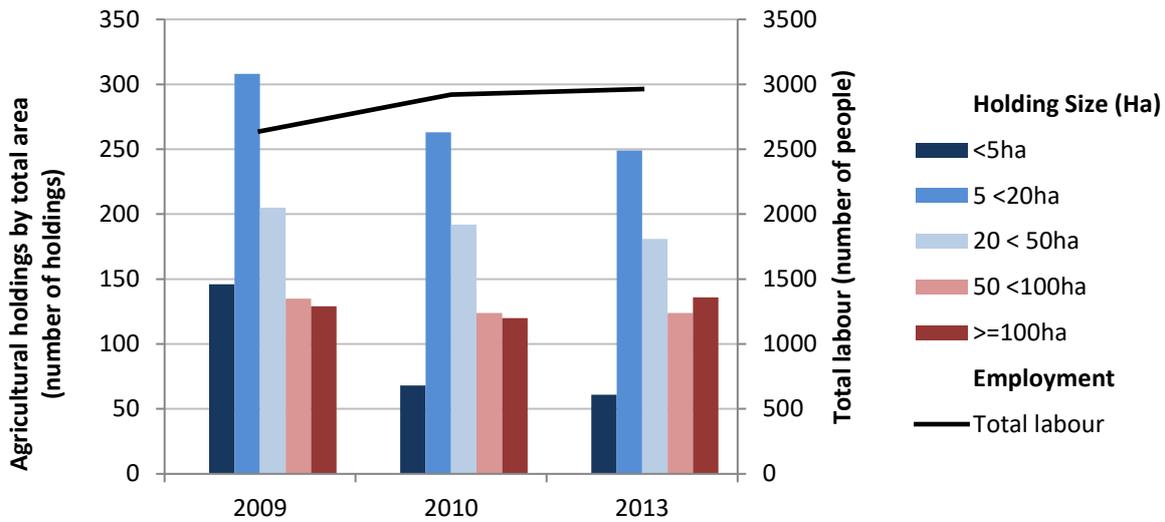


Figure 21 - Total agricultural labour force and agricultural holdings by total area within Dartmoor National Park⁶⁰

- 8.1.8 Looking forward there currently exists significant uncertainty over the future of farming subsidies which are vulnerable to reform in the wake of Brexit. The current Government have guaranteed to protect existing farm subsidies, including agri-environment schemes, up to 2020⁶¹. Unfortunately at this stage it is only possible to speculate how farm subsidies will change after 2020. If significant changes to farm subsidies come forward after 2020 it could have a major impact on how agriculture is undertaken on Dartmoor and the type of agricultural development which comes forward during the next plan period.
- 8.1.9 Background information on Dartmoor’s forestry industry is more difficult to obtain due to the relative small size of the sector. Forestry Commission data does however provide an indication of the forestry area currently under active management (Figure 22), based on whether it has a current Forestry Management Plan or has been granted a felling licence recently. It is however impossible to ascertain how much of this activity is related to commercial forestry activity.
- 8.1.10 Dartmoor’s limited transport infrastructure (e.g. ancient sunken lanes and narrow stone bridges) has traditionally made timber transportation from felling and onwards transport to secondary processing and treatment (e.g. storage and saw mills) more difficult and this has directly affected the viability of forestry businesses. However, the availability of the English Woodland Grant Scheme (EWGS)⁶² and a growing wood fuel market over recent years has improved profitability.

⁶⁰ Department for Environment, Food and Rural Affairs (2014) *Farming Statistics*

⁶¹ HM Treasury (2016) *Chancellor Philip Hammond guarantees EU funding beyond date UK leaves the EU* <https://www.gov.uk/government/news/chancellor-philip-hammond-guarantees-eu-funding-beyond-date-uk-leaves-the-eu>

⁶² Forestry Commission, English Woodland Grant Scheme <https://www.forestry.gov.uk/ewgs>

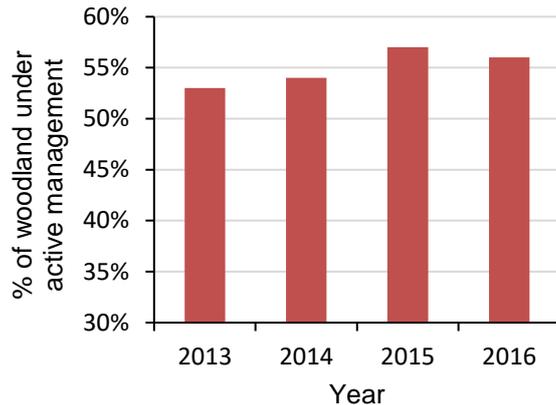


Figure 22 - Percent of Dartmoor Woodland under active management (Source: Forestry Commission)

8.1.11 Changes to the woodland grant system and the uncertainty of future grants due to Brexit will likely have affected the attractiveness of forestry and may have led to the 2016 decrease in forests in active management shown in Figure 22.

8.1.12 The Countryside Stewardship scheme⁶³, which replaced EWGS, was introduced in 2014 and includes a competitive element meaning funding is only available to those delivering the most for the environment (supporting wild pollinators, improving water quality, reducing flood risk etc.). As a result, support for woodland planting and maintenance as a whole could reduce across the National Park over the next plan period.

8.1.13 Alongside the above, the current plan has witnessed the following trends in the UK agricultural land market⁶⁴:

- steadily increasing agricultural and forestry land values;
- a high proportion of farmers selling off land for reasons of retirement and debt; and
- a decreasing proportion of farmer buyers and consistently high proportion of non-farmer buyers.

and UK forestry land market⁶⁵:

- Strong historic upwards trend in forestry land values although uncertainties about the availability of woodland grants for management and replanting has led to a recent check on growth; and
- A high proportion of non-forestry buyers purchasing mixed woodland for amenity purposes.

8.1.14 Locally there has also been growth in the value of amenity woodland and a the practice of subdividing larger woodlands to sell on as small amenity woodland. This practice can have implications for the management of woodlands, with there less likely to be a cohesive management plan for the wider woodland in place. The demand for woodland infrastructure; e.g. tracks and buildings, also increases with multiple owners. The use of woodland for amenity purposes also raises the likelihood of buildings not being used for the original forestry use they were justified for.

8.1.15 These market trends indicate the use of agricultural and forestry land for traditional

⁶³ Department for the Environment, Food and Rural Affairs, Countryside Stewardship: Woodland Creation <https://www.gov.uk/government/publications/countryside-stewardship-woodland-creation-grant-manual-2017>

⁶⁴ Savills (2016) UK Agricultural Land Market Survey

⁶⁵ Tilhill Forestry and John Clegg and Co (2016) The UK Forest Market Report 2016

commercial purposes is in decline. This continuing trend will likely affect the type of development coming forward over the next plan period with greater demand for domestic, recreational and amenity development.

8.2 *Non-residential Development*

- 8.2.1 Using land and existing buildings for the purposes of agriculture or forestry does not constitute development for which planning permission is required. The construction, extension or alteration of a building can be permitted development; where it is reasonably necessary for the purposes of agriculture or forestry, depending on the building's size, the size of the holding and other criteria⁶⁶. Permitted development rights also exist for a variety of engineering operations.
- 8.2.2 Policy DMD34 sets out the Authority's current approach to agricultural, forestry and rural business related development which requires planning permission. The Design Guide also sets out broad design guidance for agricultural and forestry development. Policy DMD34 includes important criteria which this type of development is required to comply with to ensure development proposals have no significant impact on the National Park's special qualities.

Recommendations for policy

- 8.2.3 Supporting the agricultural and forestry industries will continue to be a priority over the next plan period, but it is of equal importance to ensure any development is compatible with the National Park's purposes and statutory duties. The criteria set out in Policy DMD34 are all important elements in achieving high-quality agricultural and forestry development and should be retained broadly in their current format.
- 8.2.4 Criteria ii) of Policy DMD34, which states development must relate well to local landscape features and other building groups, would benefit from more direct language. It should be clear from reading the criteria that it generally requires new development not to be isolated so as to be consistent with the prevailing traditional development pattern across Dartmoor. Introducing a further element to this criteria which required development to respect the valued attributes of the landscape character types identified in the Landscape Character Assessment, and direct reference back to the principle landscape character policy would strengthen this policy.
- 8.2.5 A common issue with existing policy is it does not resolve the conflict between agricultural or forestry need and landscape character. In some cases this has resulted in agricultural and forestry need being prioritised over landscape character impact (e.g. 0671/15 and 0654/12). To aid decision making this policy could provide explicit direction on how to resolve the conflict by highlighting the Sandford Principle and the need to prioritise first purposes to conserve the natural beauty and cultural heritage of the National Park, including its landscape character.

8.3 *Permitted Development Rights*

- 8.3.1 The agricultural and forestry industries are afforded significant development rights though Part 6 of the Town and Country Planning (General Permitted Development) Order 2015 (GPDO) which helps ensure unnecessary and excessively costly planning requirements are not imposed on these industries. s58(1) and s59(2) of the TCPA (1990)⁶⁷ establish that

⁶⁶ Part 6 General Permitted Development (Town and Country Planning Act) (England) Order 2015

⁶⁷ s58(1) and s58(2) Town and Country Planning Act (1990)

planning permission may be directly granted by a development order, such as the GPDO.

- 8.3.2 Part 6 of the GPDO allows for the erection and extension of buildings reasonably necessary for the purposes of agriculture and forestry to be completed with permitted development rights. Through the prior notification system applicants are required to notify the planning authority of a development proposal included as permitted development under Part 6 of the GPDO before it may commence. The planning authority then have the opportunity to determine whether the prior approval of the Authority will be required as to the siting, design and external appearance of the building or development.
- 8.3.3 In circumstances where prior approval for the design, siting or external appearance of the development is necessary the precise design criteria which an application for prior approval is assessed against has, until recently, been a grey area left to the discretion of the Local Planning Authority. It might have even been desirable to better define these design criteria in the local plan to improve transparency for applicants and ensure satisfactory protection of the National Park's natural environment and special qualities.
- 8.3.4 Criteria for the determination of prior approval applications were set out in Annex E of Planning Policy Guidance 7⁶⁸, this annex was later saved by Planning Policy Statement 7⁶⁹, but has now been fully superseded by the NPPF and online Planning Practice Guidance. Planning Practice Guidance is not prescriptive about the criteria for determining prior approvals, but states: 'Where no specific procedure is provided in the General Permitted Development Order, local planning authorities have discretion on what processes they put in place. It is important that a local planning authority does not impose unnecessarily onerous requirements on developers, and does not seek to replicate the planning application system.'
- 8.3.5 *Patel v SoS Communities and Local Government (2016)* provides clear guidance on whether the development plan is a relevant consideration in the determination of prior approval applications;

'There is no statutory obligation to decide the application [for prior approval] on the basis of the approach in s38(6) of the 2004 Act [which requires regard to be had to the development plan for any determination made under the Planning Acts]. S70 of the 1990 Act [which requires the local planning authority to have regard to the development plan so far as material to an application for planning permission] does not apply to an application for prior approval, and there is no other provision to like effect for applications for prior approval. So there is no means whereby s38(6) can supply the hook for the application of its decision-making duty. It only applies "If regard is to be had to the development plan...". There is no such statutory requirement in relation to prior approvals.'

Recommendations for Policy

- 8.3.6 *Patel v SoS* establishes that the local plan is not a relevant consideration in the determination of prior approval applications and it would therefore not be appropriate for the local plan to set out criteria for determining these applications.
- 8.3.7 Nevertheless the prior approval process and the criteria against which developments will be tested remains a grey area. For the benefit of clarity the Authority may wish to explore

⁶⁸ Office of the Deputy Prime Minister (1997) *Planning Policy Guidance 7: The Countryside – Environmental quality and economic and social development*

⁶⁹ Office of the Deputy Prime Minister (2004) *Planning Policy Statement 7: Sustainable Development in Rural Areas*

whether setting these criteria out in a supplementary planning document would be possible and help applicants make effective use of the prior approval process in the Dartmoor context. It would also be an opportunity to clearly define how the Authority determine whether a development is reasonably necessary for the purposes of agriculture or forestry.

8.4 Agricultural Dwellings and Agricultural Diversification

- 8.4.1 The viability of the agricultural industry will continue to be a prominent issue throughout the next plan period and the demand for agricultural diversification schemes will likely be sustained. Similarly planning policies related to agricultural dwellings will need to carefully balance floorspace needs with affordability to ensure farm businesses are viable concerns for future potential owners, particularly in view of the increasingly high proportion of agricultural land being sold to non-farming buyers⁶⁴. Planning policies related to these topics will however be fully discussed with relevant evidence in other topic papers.

9 Equestrian Development

9.1 Background

- 9.1.1 The keeping and riding of horses in Dartmoor's rugged landscape brings pleasure to many and can also make a notable economic contribution through direct employment, providing opportunities for agricultural diversification and stimulating tourism. However, poor quality equestrian development and inappropriate land management practices can result in a significant adverse impact on the special qualities of the National Park.
- 9.1.2 An increasing amount of land in the National Park is used for equestrian purposes, in the form of grazing, stabling, paddocks and other enclosures, such as manéges and sand schools (Figure 23). Planning permission for a change of use to equine is necessary where supplementary feeding, stabling, or recreational riding is taking place on the land, a change of use is not necessary where horses are only turned out for grazing.

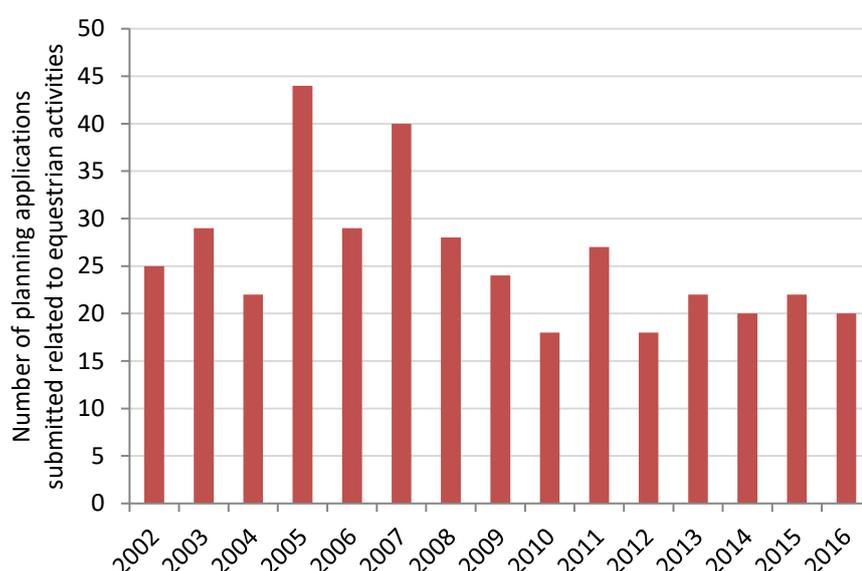


Figure 23 - Number of planning applications submitted related to equestrian activities between 2002 and 2016 (Source: DNPA)

- 9.1.3 The potential adverse impacts of equestrian development in the Dartmoor context are as follows:
- Construction of new stables, buildings, vehicle tracks, vehicle and horse box parking areas and other ancillary development in isolated locations away from existing development which contributes to the sprawl of development into the open countryside and harms landscape character^{70 76}
 - Poor siting of equestrian buildings and structures so they are visually prominent, do not relate well to landscape features or involve excavation of sloping ground^{70 76}
 - Poor land management practices leading to poaching (where the pasture is broken into wet muddy patches by the action of the horse's feet on wet ground) of land and damage of valued habitats
 - Use of fencing and horse tape to subdivide fields leading to loss of traditional field patterns and erosion of the area's landscape pattern^{70 71}
 - The use of permanent building materials (e.g. concrete block, concrete foundations etc.)

⁷⁰ Dartmoor National Park Authority (2017) Landscape Character Assessment

⁷¹ Natural England (2014) National Character Area Profile: 150 Dartmoor

which can have greater visual impact and make removing the building difficult upon redundancy

- Poor siting of muck heaps leading to contamination of water courses and causing a nuisance to neighbouring residents or users of public rights of way
- Creation of additional field accesses which can have an undesirable urbanising effect and involve loss of hedgerows of biodiversity value
- Inappropriate external lighting on isolated buildings in the open-countryside which can impact on dark-night skies

Policy Recommendations

- 9.1.4 Policy DMD33 sets out the Authority's existing approach to private and commercial equestrian development. The criteria based policy remains valid and continues to help ensure equestrian development is appropriate.
- 9.1.5 A particular issue which has arisen on Dartmoor throughout the last plan period is poaching as a result of keeping horses on too little land and subdivision of fields to allow for rotational grazing and better land management on small sites both of which have an adverse impact on landscape character.
- 9.1.6 DEFRA's Code of Practice for the Welfare of Horses, Ponies, Donkeys and their Hybrids⁷² sets out broad guidance on the acreage of pasture needed to support equine species. The guidance emphasises there is no hard and fast rule for appropriate pasture acreage and that it is dependent on the type of grass, ground conditions, time of year, type of horse and degree of pasture management employed. An indicative minimum acreage of 1.25 to 2.5 acres is given for a single horse where no supplementary feed is provided.
- 9.1.7 On Dartmoor's high altitude, often nutrient poor and poorly draining soils the ground is more susceptible to poaching and takes longer to recover than it would do on other low altitude soils, particularly sandy/loamy soils. Therefore, although guidance is clear that each case should be determined on its merits, it is recommended a guideline acreage of 2.5 acres is given for a typical horse grazing on Dartmoor. This higher guideline acreage also allows for there being rotational grazing without subdivision of fields, a practice which generally has an unacceptable impact on landscape character in Dartmoor's well preserved landscape setting.
- 9.1.8 Equestrian development should continue to be tightly clustered with existing development to avoid unnecessary sprawl and detrimental landscape character impacts. It is recommended this policy makes direct reference to the landscape character policy (discussed in 5.3) to ensure it is properly considered as part of forthcoming applications.
- 9.1.9 In association with this paper's biodiversity recommendations any future policy should be clear that applications for equestrian development which impact on the priority habitats listed in Table 5 should be accompanied by an ecological assessment and only approved where it is demonstrated the development will conserve and enhance those habitats identified.
- 9.1.10 The policy could also be further enhanced by stating that conditions requiring the following will be considered when granting planning permission for equestrian development:
- Muck heaps sited so they do not discharge to or pollute a water body
 - Equestrian paraphernalia, including jumps, field shelters, horse tape or structures to

⁷² Department for the Environment, Food and Rural Affairs (2009) *Code of Practice for the Welfare of Horses, Ponies, Donkeys and their Hybrids*

further subdivide fields should not be sited on the land without prior written approval

- No external lighting should be installed
- Any approved structures should be removed from the land upon redundancy

10 Water and Air Quality

10.1 Air quality

- 10.1.1 The largest threat to air quality over the next plan period is from increased road traffic, agriculture, international shipping and imported emissions from continental Europe. Development in the National Park is most likely to affect air quality through increased road traffic. Combustion of fossil fuels results in the emission of nitrogen oxides and in the UK this contributes to approximately one half of all NO_x emissions.
- 10.1.2 The most significant effect of nitrogen oxides on ecosystems is through nitrogen deposition and gaseous nitrogen oxides close to sources (e.g. road verges). Nitrogen (N) is a major growth nutrient required by all plants for growth. It is absorbed by vascular plants mainly through the roots and by lichens and bryophytes in gaseous form through the plant's surface. Despite its importance for growth, when N accumulates in high concentrations it can become toxic and is widely accepted as one of the main factors in biodiversity change throughout the world⁷³. N deposition has the greatest impacts on bryophytes and on plant communities characterised by slow-growing, small or low-growing species which are typically found in Dartmoor's rare and valued habitats. When exposed to high N concentrations slow growing species are easily outcompeted for light or other limited resources by more vigorous species (often grasses) able to exploit increased N made available by N deposition. Changes in species and ecosystem characteristics (such as canopy height, leaf area and Ellenberg N) can occur at low levels of N deposition e.g. <10 kgN/ha/yr⁷⁴. Changes in species occurrence continue as N concentrations increase which indicates that there are benefits to reducing deposition even if it remains relatively high.
- 10.1.3 The impacts of N deposition have been studied for a range of habitats (e.g. Maskell *et al.* 2010) and more detailed information and references can be found on the Air Pollution Information System (APIS) website⁷⁵. Nitrogen deposition can occur in two forms: wet deposition and dry deposition. Wet deposition is when nitrogen in the atmosphere is absorbed by precipitation (rain, fog and snow) and transported to the earth's surface. Dry deposition occurs when gaseous nitrogen is deposited directly to the surface without the aid of precipitation.
- 10.1.4 Figure 17 shows annual mean Nitrogen Dioxide (an emission mostly associated with vehicle emissions) concentrations in locations across the National Park and indicates there has been a steady decrease in emissions, likely due to improved fuel efficiency in modern cars. The critical level is the threshold where *gaseous* concentrations of NO_x are known to have an adverse effect on the environment. Ashburton, Dean Prior and Buckfastleigh's proximity to the A38 has resulted in higher annual average concentrations.

⁷³ Sala, O. E.; Chapin, F. S.; Armesto, J. J.; Berlow, E.; Bloomfield, J.; Dirzo, R.; Huber-Sanwald, E.; Huenneke, L. F.; Jackson, R. B.; Kinzig, A.; Leemans, R.; Lodge, D. M.; Mooney, H. A.; Oesterheld, M.; Poff, N. L.; Sykes, M. T.; Walker, B. H.; Walker, M.; Wall, D. H. (2000) [Biodiversity - Global biodiversity scenarios for the year 2100](#) Science 287 1770-1774

⁷⁴ Stevens, C.J.; Smart, S.M.; Henrys, P.; Maskell, L.C.; Walker, K.J.; Preston, C.D.; Crowe, A.; Rowe, E.; Gowing, D.J.; Emmett, B.A. (2011) [Collation of evidence of nitrogen impacts on vegetation in relation to UK biodiversity objectives](#)

⁷⁵ <http://www.apis.ac.uk/>

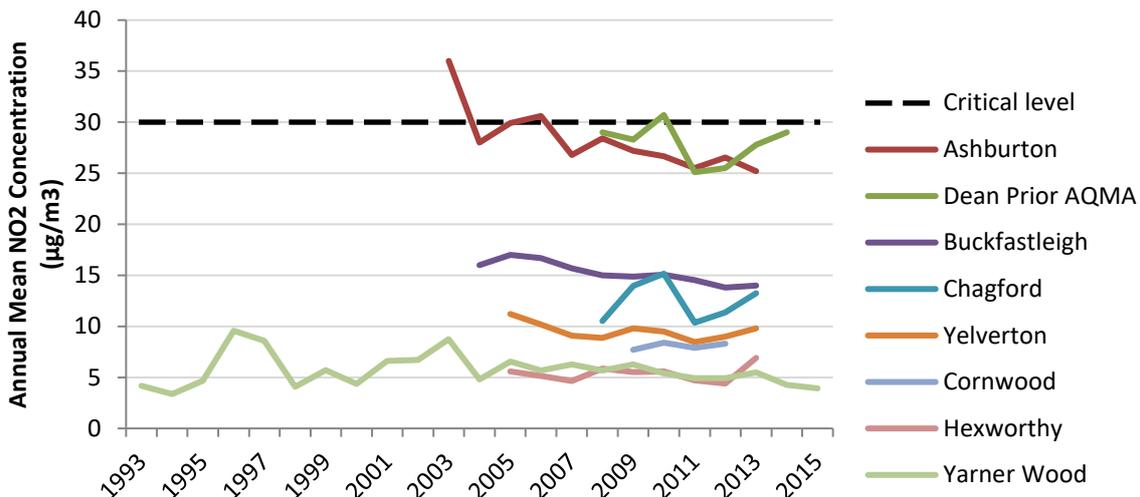


Figure 24 - Annual mean NO₂ Concentration across Dartmoor National Park Source: District Authorities

10.1.5 Nitrogen deposition is attributable to a variety of sources which includes emissions of ammonia (NH₃) from livestock. For example, for the Dartmoor SAC around 4.6% of Nitrogen deposition is considered to be from road traffic, more significant contributors are livestock (41.5%), European imported emissions (28.4%) and international shipping (11.7%)⁷⁶. Critical load thresholds are used to help define the thresholds at which *deposited* pollutants may have adverse effects on certain species. Despite the small reduction in gaseous NO₂, overall Nitrogen deposition on Dartmoor has been found to exceed critical load thresholds for certain habitats (See Table 9 - Dartmoor, South Hams and South Dartmoor Woods SACs). The JNCC have identified air pollution as having a high negative effect on the Dartmoor and South Dartmoor Woods SACs⁷⁷.

Table 9 – Modelled concentrations of N deposition on Dartmoor SACs 2013⁷⁸

Habitat	Critical Load (Kg N/ha/yr)	SACs		
		Dartmoor	South Dartmoor Woods	South Hams
Woodland	10-15	33.1	31.5	-
Slopes, screes and ravines	15-20	-	-	23.1
Dry Heath	10-20	20.8	22.3	15.8
Wet Heath	10-20	20.8	-	-
Dry grassland and scrubland	15-25	-	-	15.8
Blanket bogs	5-10	20.8	-	-

Recommendations for Policy

10.1.6 Vehicle emissions are a contributing factor to nitrogen deposition and significant increases in traffic volumes in the vicinity of important habitats is likely to have a negative impact. Vehicle emissions should therefore be taken into consideration when determining planning

⁷⁶ <http://www.apis.ac.uk/srcl/source-attribution?submit=Source+Attribution&sitetype=SAC&sitecode=UK0012929&sitename=Dartmoor>

⁷⁷ JNCC (2015) Natura 2000 standard data form (Dartmoor SAC: <https://sac.jncc.gov.uk/site/UK0012929>; South Dartmoor Woods SAC: <https://sac.jncc.gov.uk/site/UK0012749>)

⁷⁸ <http://www.apis.ac.uk/srcl/select-a-site?SiteType=SAC&submit=Next>

applications in close proximity to designated wildlife sites. The cumulative impact of increased traffic volumes over the plan period is likely to be most significant along the A38 corridor, given Exeter and Plymouth's growth aspirations. Cumulative impacts are more difficult to account for.

- 10.1.7 With regards to human health, the National Park will work closely with District Authorities to improve air quality within the current and any future Air Quality Management Areas.
- 10.1.8 More widely, improving the National Park's air quality is an important element of improving the quality of the National Park and forms an important element of achieving sustainable development and creating safe and enjoyable places to live. Conserving air quality should be a cross-cutting objective delivered through policies related to sustainable development, health and well-being, sustainable transport, minerals, biodiversity and business related development.
- 10.1.9 Significant improvements to air quality are not within the scope of the planning system to control or deliver and will be largely dependent on industry and transport emissions and whether these are curtailed in response to climate change.

10.2 *Water quality*

- 10.2.1 Para 170 of the NPPF states the planning system should prevent both new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution.
- 10.2.2 The National Park includes several major river catchments and supplies 45% of South West Water's supply. The National Park therefore has a cross-boundary role in maintaining and improving water quality and reducing downstream flooding.
- 10.2.3 Development can affect water quality for wetland habitats (e.g. rivers, lakes, ponds, bogs) in a variety of ways:
 - Increased human population in an area can increase demand on the waste water system thereby increasing phosphate levels
 - Increased hard surfacing can increase pressure on combined sewage and storm water system potentially resulting in overflows or spills of raw sewage
 - Increased catchment can result in increased pollutants (oil, fuel, soap etc.) entering the drainage system and potentially water bodies either directly or during sewer overflow events
 - Increase in excavation can impact negatively on groundwater, surface water or local abstractions, particularly with regards to minerals extraction and quarrying work.
- 10.2.4 The impact new development has on water quality may seem small in comparison to existing development and other sources of water pollution such as agriculture, industry and land management practices, but over time changes in development practices can have a significant positive effect.
- 10.2.5 The local plan should protect and enhance local surface water and groundwater in ways which steer development away from the most sensitive areas, particularly those in the vicinity of potable water supplies or designated wildlife sites and protected habitats. The local plan policies may also need to set out development types or location where an assessment of the potential impacts on water bodies may be required and where particular types of sustainable drainage systems may not be practicable. Sustainable drainage systems will be discussed in more detail in the Strategic Flood Risk Assessment.

- 10.2.6 The Environment Agency are the regulatory Authority responsible for monitoring water quality in accordance with Water Framework Directive (WFD) criteria, issuing fishing licences, and controlling discharge and abstraction to and from water bodies and groundwater. Planning Practice Guidance states plan-making may need to consider how to help protect and enhance local surface water and groundwater in ways that allow new development to proceed and avoids costly assessment at the planning application stage.
- 10.2.7 The Environment Agency have defined Source Protection Zones (SPZ) for 2000 groundwater sources throughout the UK such as wells, boreholes and springs used for public drinking water supply. These zones indicate there is a risk of contamination from any activities that might cause pollution in the area and should be protected from harmful development.
- 10.2.8 There are currently 533km of monitored river length within the National Park; the number of water bodies and monitored river length has decreased since 2010 following the 'de-designation' or combining of water bodies under the 2nd river basin management plan. In 2015 98% of the 51 water bodies were in 'good' or 'moderate' condition (Figure 18). The WFD classification system is based on various chemical and biological quality elements. If one element is classified as good, whilst the other is moderate the entire waterbody will be classified as moderate. WFD status of large river catchments is typically based on a single monitoring point and therefore monitoring does not always provide a complete picture of the condition of rivers on Dartmoor, especially the minor tributaries and headwaters. Improvements in WFD status have been achieved through catchment-scale partnership projects to reduce diffuse and point-source pollution and improve fish passages.

Condition of monitored river length

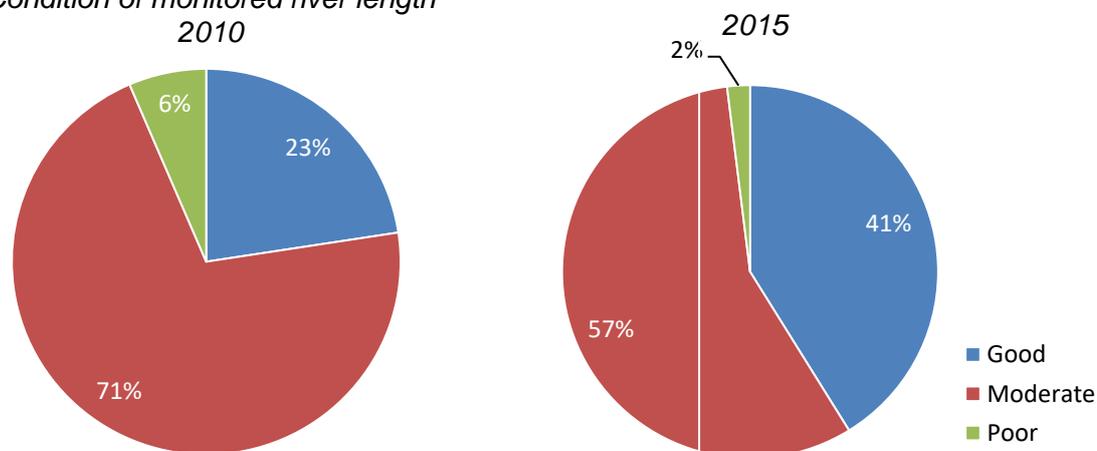


Figure 25 - Condition of monitored river length on Dartmoor 2010 and 2015 (Source: Environment Agency)

- 10.2.9 The South West River Basin Management Plan⁷⁹ identifies key reasons rivers have failed to achieve WFD standards, including:
- Physical barriers to fish movement on the River Dart
 - Impact of agriculture and other polluting land uses on nutrient balances
 - Problems associated with historic metal mining causing acidic metal-rich water

⁷⁹ Environment Agency and Department for Environment, Food and Rural Affairs (2015) *Water for life and livelihoods: River Basin Management Plan South West River Basin District*

draining into rivers and causing ecological impacts

Recommendations for Policy

10.2.10 Water quality is an important element of achieving sustainable development and enhancing the National Park. Conserving and improving water quality should be a cross-cutting objective delivered through policies related to sustainable development, health and well-being flooding and sustainable drainage systems, minerals, renewable energy, biodiversity and business related development.