

# RSPB submission to the Independent Evidence Review of Protected Site Management on Dartmoor

## Headline Comments

- Dartmoor is a much-loved by the people who live and work there, and by the many millions who visit every year. Yet Dartmoor and its designated SSSIs are not in good health, with many in unfavourable or declining condition and many species within them at risk. Unfortunately, many of the HLS agreements which were supposed to deliver improvements have not succeeded, and, in some cases, condition has actually deteriorated. Maintaining the status quo is not an option.
- The terms of this review are clear that amendments to the existing legal framework is out of scope. There is a clear statutory duty on all relevant public bodies and land managers to support SSSIs to achieve favourable condition.
- Getting places such as Dartmoor in good condition is critical to supporting the communities that rely on this special place, but also to meet legally binding Environment Act and Net Zero targets, and international commitments agreed under the COP15 Kunming Montreal Global Biodiversity Framework in 2022, including 30x30. The Environmental Improvement Plan (EIP) published earlier this year sets clear targets for recovering SSSI condition. Meeting these targets is vital to the UK's health and prosperity, but they are stretching and will require real changes.
- The UK Government must ensure those who manage SSSIs are truly supported to, and benefit from their efforts to, secure favourable condition. They should be at the front of the queue to access the most ambitious environmental land management schemes, with access to advice.
- To support this, Natural England must be properly resourced and empowered to provide advice; support the design and delivery of new environmental land management schemes; monitor environmental outcomes; assess the condition of SSSIs; and to work with farmers and commoners to ensure the recovery of these protected areas.
- Environmental land management schemes constitute public money for public goods, and this is what they must deliver. Rolling over, or otherwise continuing, schemes which have failed to deliver for nature undermines value for the taxpayer and represents a missed opportunity to help improve the resilience and profitability of the farm businesses dependent on Dartmoor. Instead of rolling over expiring HLS agreements, these should be replaced with new bespoke CS Higher Tier offers and /or access to Landscape Recovery funding which properly incentivise and reward farmers for delivery.
- This is not a case of nature vs farming. Nature friendly farming is vital to recover Dartmoor's natural habitats and help achieve these targets. Yet, the farmers and commoners of Dartmoor must be supported by Government to ensure the right management in the right place to enable the recovery of SSSIs to favourable condition, alongside their farm businesses. Having an effective environmental land management scheme offer that works for both nature and farming is absolutely critical to achieving our national and international targets in a just way.
- Significant changes will be needed to grazing regimes, however this will require a placed-based, rather than a one-size fits all approach, where the grazing involves the right mix of animals, at the right stocking density, in the right areas, at the right times of year.
- Climate change threatens the resilience of landscapes such as Dartmoor and the communities that rely upon it. Restoring these habitats with the right practices such as getting the right mix and intensity of stock, and rewetting the peat will help future proof Dartmoor. It will also ensure a wealth of benefits for the communities that live around Dartmoor providing clean water and managing flood risk. Climate change does not make

favourable condition unattainable. Instead, it highlights the growing importance of recovering habitats to ensure they are resilient and can adapt to the projected impacts.

## 1. Context

- 1.1. The UK is in the midst of a nature and climate emergency, currently ranking 12<sup>th</sup> worst in the world for biodiversity intactness.<sup>1</sup> The newly published [2023 State of Nature Report](#) highlights the scale of the challenge we're facing, with nearly one in six species in Great Britain now at risk of extinction. We have never had a better understanding of the state of nature and what is needed to fix it, however at present, nature inside our Protected Landscapes is faring little better than in the wider countryside. In Dartmoor National Park, only 16% of SSSIs are in favourable condition, compared with 43.5% of SSSIs outside of designated landscapes. This needn't be the case. A 2022 survey found that restoring wildlife was by far the public's top priority for National Parks and AONBs and that this was true for residents and visitors alike.<sup>2</sup> The same survey showed that most people would willingly accept changes to the visual appearance and land management of these landscapes, where these changes supported nature's recovery.
- 1.2. The UK Government has shown global leadership in committing to ensure that 30% of land and sea is effectively managed and protected for nature by 2030, as part of the Kunming-Montreal Global Biodiversity Framework. However barely more than 3% of England currently meets this definition.<sup>3</sup> With over 70% of land in the UK currently in agricultural use, including many sites legally protected for nature, how this land is managed will be critical to achieving this and other international and domestic nature recovery targets.
- 1.3. Agri-environment budgets are public monies provided for the delivery of public goods – including biodiversity. Designed and administered well, these schemes represent one of the most powerful mechanisms we have to drive the achievement of these targets, while supporting and fairly rewarding land managers who deliver positive environmental outcomes. The public have been promised – and will expect to see – the tangible results of this commitment. To date, between £30-50m of public money has been spent on agri-environment schemes on the Dartmoor commons over the past 10 years, yet these have not delivered favourable condition on designated sites.
- 1.4. To count towards the 30x30 target, land must be effectively protected and well managed for nature - for protected sites, this means being in favourable or demonstrably recovering condition. To support this, the Environmental Improvement Plan (EIP) published this year set clear statutory targets for 50% of SSSIs to have actions on track to recovery by January 2028. If the Government is to make good on its promises, then there must be guarantees that the money paid to farmers to deliver nature's recovery does just that. This means requiring and only paying for management that will genuinely drive environmental outcomes, monitoring to ensure that it is delivering, and taking action where it is not.
- 1.5. The future viability and sustainability of farming and land management on Dartmoor is fundamentally underpinned by the health of the natural environment, dependent on both nature recovery and the tackling of climate change. Positive ecological management (including measures such as supporting sustainable stocking rates and reduced inputs) can not only

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<sup>1</sup> RSPB

<sup>2</sup> [https://www.rspb.org.uk/globalassets/downloads/pa-documents/rspb\\_natural-parks-report-2022.pdf](https://www.rspb.org.uk/globalassets/downloads/pa-documents/rspb_natural-parks-report-2022.pdf)

<sup>3</sup> [https://www.wcl.org.uk/docs/WCL\\_2023\\_Progress\\_Report\\_on\\_30x30\\_in\\_England.pdf](https://www.wcl.org.uk/docs/WCL_2023_Progress_Report_on_30x30_in_England.pdf)

support the delivery of a range of public goods but also provide economic sustainability, and in so doing, secure local communities and drive the protection of culturally important farming systems and landscapes. The alternative is to risk artificially propping-up unsustainable practices, ultimately threatening the long-term viability of the very farm businesses it is trying to protect.

## 2. Question from the panel:

***The most effective and appropriate management regimes to enable Dartmoor's protected sites to achieve and maintain favourable condition, whilst also contributing to the long-term, sustainable delivery of other public priorities on Dartmoor, reflecting its designation as a National Park.***

***These could include (but are not limited to) agricultural production, maintaining and improving biodiversity, supporting carbon capture and good hydrological management, managing appropriate public access, preserving Dartmoor's rich history and culture, fitting in with the requirements of the MoD in specific areas, protecting archaeology and wildfire prevention and control.***

- 2.1 Healthy habitats on Dartmoor deliver a range of public benefits including biodiversity, storage and filtration of water, moderation of water flows, carbon storage and capture, contributing to health and wellbeing, and are part of the area's landscape, history, and culture. Healthy and resilient habitats are also better placed to support resilient farm businesses, which are capable of adapting to the impacts of climate change.
- 2.2 Dartmoor's long-standing tradition of grazing is both culturally significant and a valuable and important habitat management tool across the landscape. Historically, the practice of transhumance with native breeds meant grazing was consistent with the natural carrying capacity of the land, and the mosaic of habitats and resources could be sustained. Since the Second World War, shifting agricultural policy drivers have encouraged significant changes in farming practices, underpinned by a focus on increasing food production. This has been accompanied by a shift away from native Dartmoor breeds, which would traditionally have been off-wintered on the home farms, towards hardier breeds, such as Blackface sheep, which graze year-round. Together with increases in stocking densities over this time, which peaked at the height of headage payments, this has meant that the vegetation comes under pressure year-round and no longer benefits from a rest period to enable regeneration and to build resilience.
- 2.3 Large areas of Dartmoor have been within agri-environment schemes since 1994 with the introduction of the Environmentally Sensitive Area (ESA). A significant amount of public money has been spent through agri-environment schemes in Dartmoor, but unfortunately this has not been accompanied by improvements in the condition of designated features across the SSSIs.
- 2.4 Stocking densities in some areas have placed significant additional pressures on the land, preventing succession and regeneration of dwarf shrubs and scattered trees and degrading areas that could provide high quality habitat. On the Upper Plym Estate in South Dartmoor SSSI, for example, recent Natural England surveys have revealed a decline in dwarf shrub cover from 21% to 1.4% over the last ten years, citing "a significant grazing/browsing effect" across the areas in question.<sup>4</sup> While in other areas lack of appropriate grazing has also had negative consequences. Meanwhile, farm businesses face narrowing margins whilst their natural assets degrade. This has

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<sup>4</sup> A habitat condition resurvey of the Upper Plym Estate in South Dartmoor SSSI 1. Current condition in 2023. Natural England report.

culminated in an unsustainable crisis point in the condition of the land, where a decisive change in management is now required to stabilise and recover its condition.

- 2.5 Grazing is important to manage habitats and maintain structural complexity, but management must be in keeping with the natural carrying capacity of the land. The right breeds, with the right species balance, grazing in the right densities, in the right places and at the right time of year can and should be a key part of Dartmoor's recovery. To allow dwarf shrubs and scattered trees to recover, winter grazing must be minimised. In some places, native breeds such as Greyfaced and Whitefaced Dartmoor sheep should replace hardier breeds, and the ratio of cattle to sheep (for example, Red Ruby Devon Cattle) must shift. This is because sheep graze more selectively than cattle, concentrating on sweeter areas of grazing and ignoring coarser vegetation, making it difficult for the former to recover.<sup>5</sup> Sheep can also access rockier areas and preferentially graze 'valued' dwarf shrubs and herbs, whereas light grazing by cattle creates more structurally diverse vegetation.<sup>6</sup>
- 2.6 Where *Molinia* dominance has taken hold, there is good evidence that cutting or flailing, followed by mob grazing with cattle is an effective means of breaking up this monoculture, while raising the water table and if necessary plug-planting with sphagnum can work to suppress regrowth. The RSPB has experience of practical delivery of *monilia* control on our Dove Stone reserve in the Peak District and would welcome anyone wishing to visit our site and discuss this topic further.
- 2.7 We recognise that farmers and commoners on Dartmoor are concerned that reduced grazing could impact their businesses. However, growing evidence and farmer testimony is demonstrating that matching stocking density and composition to the natural carrying capacity of the land provides a route to enhanced profitability and consequently the maintenance of traditional farming businesses. This may involve reducing stocking densities or introducing more cattle or ponies. It will not be a case of one size fits all but rather, getting the balance right will depend on the land in question and the habitat it supports.
- 2.8 Recovering the most degraded areas to a point where they can sustain significant grazing requires more significant, time-limited interventions. In some places this may require higher capital investment to block drains, while in other areas it may be appropriate to introduce temporary exclosures, which could be achieved through fencing or collars. These would be most effective in areas where there is no *Molinia* and where there is potential for dwarf shrub recovery. These areas must be identified in dialogue and consultation with landowners, tenants, and commoners, and those impacted should be rewarded through ELM. Collaboration and working in partnership will be key throughout this process and more broadly in Dartmoor's restoration.
- 2.9 The required changes in grazing regime will require ongoing farm advice and financial support through ELM. Yet, ensuring the stocking density remains within the natural carrying capacity of the land (which may mean a reduction) can also bring significant financial benefits for farmers inside or outside ELM.

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<sup>5</sup> Yorkshire Dales Nature Recovery Plan (2023), p.34.

<sup>6</sup> Ibid.

2.10 Farm Business Survey data<sup>7</sup> provides valuable insights into the drivers of farm performance. High performing farms have lower average total costs per hectare than low performing ones, averaging 32% lower across all farm types. Farms characterised in the survey as ‘LFA livestock’ show more marked reductions in average costs per hectare than other farm types, with average total costs per hectare UAA being 52% and 45% lower respectively than for low performing farms.

2.11 It therefore appears that reducing costs plays a greater role than increasing output in improving the performance of LFA livestock farm businesses. This is consistent with findings from Clark et al (2019)<sup>8</sup> which show that upland livestock farms have a maximum sustainable output (MSO) based on natural grazing, beyond which production cannot increase without rising variable costs and diminishing profit margins. Clark worked with farm businesses to show that upland farms above this MSO threshold could enhance their profitability by reducing output and controlling costs.

2.12 Table 1 gives some further details of performance metrics of LFA grazing livestock farms from the England Farm Accounts summaries. For example, high performers have much lower output and variable costs, suggesting that they are farmed less intensively. On average high performing LFA grazing livestock farms in the sample in 2021/22 had 27% lower output per hectare and 41% lower variable costs per hectare than medium performers. This is consistent with the findings in the Clark et al report, and the overall message that “Less is More”.

**Table 1: Performance Indicators for LFA Grazing Livestock Farms, 2021/22**

	Performance Band:			
	Low	Medium	High	All
Average UAA (ha)	82	153	270	165
Total output (£/ha)	616	665	484	584
Livestock output (£/ha)	543	597	443	527
Variable costs (£/ha)	376	353	210	296
Gross margin (£/ha)	240	312	274	288
Fixed costs (£/ha)	507	375	273	349
Total costs (£/ha)	885	731	483	648
Farm business income (£/ha)	48	242	340	260

2.13 Building on this work, the Nature Friendly Farming Network (NFFN) and The Wildlife Trusts (2023) found that the staged reduction of costly inputs, such as artificial fertiliser, pesticides, and imported feed and concentrate, makes farmers significantly better off across all farm systems studied.<sup>9</sup> The predicted commercial returns, before BPS or ELM payments, sees an average increase of between 10% and 45%. This is particularly the case for upland farms, which already

<sup>7</sup>Defra - Farm Accounts in England 2021/22. <https://www.gov.uk/government/statistics/farm-accounts-in-england>

<sup>8</sup> Clark C, Scanlon B and Hart K (2019) Less is more: Improving profitability and the natural environment in hill and other marginal farming systems. Report for the RSPB, National Trust and The Wildlife Trusts. November 2019.

<https://www.wildlifetrusts.org/sites/default/files/2019-11/Hill%20farm%20profitability%20report%20-%20FINAL%20agreed%2015%20Nov%202019.pdf>

<sup>9</sup> *The Wildlife Trust and Nature Friendly Farming Network (2023) Farming at the Sweet Spot: How farming with nature can make you happier, healthier and wealthier.*

face narrowing margins and will need most support throughout the Agricultural Transition. By farm sector, the commercial return for MSO farming is 45.3% for lowland livestock, 39.1% for upland livestock, 32.7% for dairy systems, and 9.5% for lowland arable farms.

2.14 Despite intensification of grazing, Dartmoor's contribution to national food security has remained extremely low. Dartmoor falls within the least productive 20% of land, which produces less than three per cent of food produced in England.<sup>10</sup> Much of Dartmoor is grade 5 agricultural land, the least well suited to food production. Grazing within the natural carrying capacity of the land and with a more diverse mix of stock would still allow local abattoirs and butchers to be stocked, and thus retain the cultural and economic value of local produce. This landscape is particularly well suited to deliver public goods, alongside low volume, high quality food production, if habitats are recovered and peatlands are restored.

2.15 In addition to retaining and sequestering carbon, Dartmoor can also then provide higher-quality water to communities. Some of this work is already underway through the South West Peatland Partnership, which demonstrates the efficacy and potential value of a partnership approach. Wet peatlands can regulate hydrological units to slow flooding, a mitigation that will be urgently needed as climate change causes rainfall to become increasingly unpredictable and extreme weather events become more frequent. Without resilient ecosystem services, there can be no long-term food security.

### 3. Question from the panel:

*The appropriate investments, innovations or incentives needed to support Dartmoor's hill farm businesses and other land managers in providing effective management (including grazing) to achieve SSSI favourable condition on protected sites.*

3.1 Before the potential of any investments, innovations or incentives can be realised, the foundations for success must be in place. Collaboration and partnership working are necessary prerequisites for supporting effective management on Dartmoor. Consistently good communication will be needed to build these constructive, long-term collaborations between tenants, landowners, commoners, Natural England, the National Park Authority, South West Water and other key stakeholders. Bespoke, collaborative schemes such as Landscape Recovery are an essential tool in this regard. In addition, access to expert farming and business advice is essential to getting the most value from any investment, particularly those made through ELM. A lack of well-informed, clear and consistent advice is regularly cited by farmers as one of the greatest barriers to scheme uptake, so adequate resourcing of advice, including from Statutory Nature Conservation Bodies is essential to support uptake and ensure scheme designs secure the best possible outcomes for both nature and farm businesses.

3.2 Farm businesses should be fairly rewarded for delivering environmental public goods, and this can be a powerful tool in Dartmoor's restoration. Yet, in addition to getting the financial incentives right, schemes must first be appropriately designed and tailored, and the outcomes then monitored over the lifetime of the agreement, to ensure effective ecological delivery. This should have happened for all legacy HLS agreements, but reductions in Natural England's budget, resulted in less staff working across important landscapes such as Dartmoor. This is particularly important on Dartmoor where expiring HLS agreements have clearly not resulted in the necessary ecological improvements. **Instead of rolling over expiring HLS agreements, these**

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<sup>10</sup> The National Food Strategy: The Plan (2021), p.93.

**should be replaced with new bespoke CS Higher Tier offers and /or access to Landscape Recovery funding.**

- 3.3 HLS roll overs were intended to be a short-term fix, as a consequence of under investment in CS higher tier. As increasing numbers of HLS schemes come to an end across the country, new Higher Tier agreements have not kept pace with replacing them. Between 2018 and 2022 (when latest data is available), 9,155 HLS agreements have expired and only 2,276 new CS Higher Tier agreements have replaced them – a 75% shortfall<sup>11</sup>. In 2023 1/5 farmers that applied for a new CS Higher Tier were turned away, this must change from 2024. Government must urgently invest in increasing access to CS Higher Tier on Dartmoor and nationally, by increasing capacity to support and process new agreements and making more funding available.
- 3.4 To support a long-term shift to sustainable management, future Countryside Stewardship Higher Tier agreements should be tailorable, with high paying, impactful options. This must operate on the basis of reward for environmental good and head off unintended consequences such as reinvestment of payments in inappropriate stocking elsewhere on Dartmoor.
- 3.5 These Higher Tier agreements should include some hybrid results-based payments, which combine action-based payments with results-based top-ups. This would enable farmers and commoners to access the highest rewards. Defra’s June 2021 policy paper “Environmental land management schemes: payment principles” supported such an approach. These could be introduced initially for ELM actions for which robust and measurable results-based indicators are already available, and, where successful, the results-based element could gradually be extended in scope and value. This ensures fairness, uptake, and adherence to cost-based methodology by part-funding farmers regardless of result, whilst also ensuring there is sufficient incentive to achieve the intended environmental outcome.
- 3.6 The Landscape Recovery (LR) scheme presents an additional solution, providing access to baselining, tailoring management, supporting collaboration and providing access to both public and private finance. ‘Off the peg’ schemes are unlikely to achieve the scale and longevity of nature of recovery required on Dartmoor. Indeed, one LR pilot is already underway in East Dartmoor<sup>12</sup> and two further LR bids have been submitted for land on Dartmoor, and nationally the scheme is consistently oversubscribed, demonstrating there is appetite for collaboration within this model. However, more investment is needed to scale up what can be achieved through LR, as the number of successful bids per round is currently capped well below demand. If we consider places like Dartmoor to be amongst England’s most valuable habitats, solutions available through ELM must reflect this. LR will also lever a blend of public and private finance and is explicitly set up to establish and aid collaboration between a range of partners. To do so successfully, there should also be clarity and advice on how farmers can verify and sell carbon and nature benefits.

**4. Question from the panel:**

***The adaptations required to adjust successfully to climate change and other environmental/ ecological challenges on Dartmoor and any associated implications for the achievement of favourable condition on particular sites.***

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<sup>11</sup> RSPB (2023) *RSPB Briefing: Westminster Hall Debate: Farming on Dartmoor*. 18<sup>th</sup> April 2023, p.4.

<sup>12</sup> [Wilder East Dartmoor | Devon Wildlife Trust](#)

4.1 Climate change is a serious threat to both nature and people on Dartmoor. With coming winters projected to bring more frequent and extreme rainfall events, followed by hotter and drier summers, the risk of flooding, drought and wildfire is expected to increase year on year. Habitats and ecosystems which are already in degraded condition are likely to suffer most, as are the local communities and farming systems that depend on them.

#### *Enhancing peatland resilience*

4.2 More than half of Dartmoor's moorland is designated SSSI.<sup>13</sup> Underpinned by peat soils, these areas if well managed, have the potential to be a major carbon store and sink. However, when dried out and eroded, these habitats instead become a carbon source, creating a negative feedback loop in which thousands of tons of carbon are emitted per year, accelerating the impacts of climate change. Worldwide, damaged peatlands are thought to be responsible for almost 5% of all human-induced CO<sub>2</sub> emissions.<sup>14</sup> If UK peatlands are not restored, they will emit twice as much carbon as tree planting in the Committee on Climate Change's UK forestry targets to capture.<sup>15</sup> Avoiding, halting and reversing the degradation of peatlands are proven, essential and effective nature-based solutions to climate change.

4.3 In addition to the importance of peatland in mitigating climate change directly through carbon sequestration and storage, how it is managed is a key factor in the resilience of the landscape to climate impacts. Degraded peatlands are less able to store water, which leads to increased flooding and poorer water quality as carbon from peat dissolves in the water, acidifying it and staining it brown. Drained or degraded peat soils are also drier, with denser vegetation producing higher fuel loading, leaving them more susceptible to drought and increasing the risk of wildfire.

4.4 There is ample evidence that restoring the hydrology of peatland habitats not only benefits biodiversity, but improves ecosystems' resilience, supporting nature-based production systems and helping them adapt to the increasingly frequent extreme weather events associated with climate change. Healthy peat soils soak up excess rainfall in the winter, reducing flood risk, and retain water through dry summers, providing drinking water for livestock and wildlife, and crucial habitat for a wide range of invertebrates which underpin moorland foodwebs. Wildfire risk is also reduced as the wetter soils alter the vegetation structure, naturally reducing fuel loads, and being wet, are quite simply less likely to burn.<sup>16</sup>

4.5 Finally, there is evidence that slowing the flow and restoring peatland hydrology can help to combat *Molinia caerulea*, where this has become excessively dominant.<sup>17</sup> *Molinia* requires a good supply of dissolved oxygen, such a regular flow of fresh water through drained soils. Still or 'stagnant' water, as found on healthy intact bogs, suppresses its growth allowing other more diverse vegetation types to thrive. This would benefit farming as well as nature, breaking up the

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<sup>13</sup> [https://www.dartmoor.gov.uk/\\_\\_data/assets/pdf\\_file/0030/77646/Moorland-Key-Wildlife-Areas-Delivery-Plan.pdf](https://www.dartmoor.gov.uk/__data/assets/pdf_file/0030/77646/Moorland-Key-Wildlife-Areas-Delivery-Plan.pdf)

<sup>14</sup> [Peatlands and climate change - resource | IUCN](#)

<sup>15</sup> <https://storymaps.arcgis.com/stories/fe3455a345bf45ce9b72d70ae75f933b>

<sup>16</sup> <https://www.iucn-uk-peatlandprogramme.org/sites/default/files/2020-03/IUCN%20UK%20PP%20Burning%20and%20Peatlands%20Position%20Paper%202020%20Update.pdf>

<sup>17</sup> [Smith, D.M. Barrowclough, C., Glendinning, A.D & Hand A. 2014. Exmoor Mires Project: Initial analyses of post restoration vegetation monitoring data. In the Bog Conference Sept 2014.](#)



unpalatable *Molinia* monoculture, and allowing livestock to spread out, reducing pressure on those areas without *Molinia* in which they are currently concentrated.

- 4.6 Local evidence for the importance of peatland hydrology can be found in Natural England's condition assessments for North Dartmoor SSSI. Just under half of the SSSI units were last assessed in 2013, when almost all were noted to be in unfavourable-recovering condition. The remaining units (mainly blanket bog and upland shrub heath) were more recently assessed by Natural England in 2019, when their condition was determined to be unfavourable-no change, noting, "*In most cases the driver of poor condition seems to be the expansion of *Molinia* in both mires and heaths and this may reflect a combination of insufficient grazing in the main growing season, but also probably the continuing effects of historical drainage and/or turbarry, perhaps in combination with climate change and nitrogen deposition. Condition was noted as being positively affected in areas where re-wetting/peatland-restoration measures have been undertaken."<sup>18</sup>*
- 4.7 There is a wealth of knowledge, evidence, and expertise in the field of peatland restoration in the UK and through the Dartmoor Peatland Partnership, and the benefits this brings to both wildlife and people. What's needed now are the appropriate incentives and funding mechanisms in place to support its delivery.

#### *SSSIs and climate adaptation*

- 4.8 As the climate warms and climatic envelopes shift, the range, distribution and abundance of many key species and habitats are likely to change with it. This means that in the future, some species which our SSSIs currently support may no longer be present, while we may see the arrival of other new species with potentially positive and negative consequences. The extent and rate of this change will vary between sites, species and habitats, and we recognise that some flexibility will be needed across our designated sites network as a whole to facilitate climate change adaptation, while ensuring that no species or habitat is left behind and that there is no weakening of legal protections across the network. As any amendments to the existing legal framework are rightly out of scope of this Review, focus should be on how best to enhance the resilience of Dartmoor's SSSIs within the framework we have, to move towards favourable condition.
- 4.9 Natural England are already taking positive steps to assess the likely impacts of climate change on our protected sites network and what this means for their designated features into the future. This includes undertaking site-specific climate change risk assessments and, where the risk is deemed to be high, the ability to record climate change as a specific pressure against individual site features, on their CMSi database for protected sites. It is not clear whether such risk assessments have already been carried out for the Dartmoor SSSIs in question, however if not, this work should be prioritised.
- 4.10 Whilst modelling and projections give a good indication of the trajectory of climate change, there are still uncertainties in predicting exact changes at specific time points in the future. It is therefore important that the focus must be on the broad direction of changing climatic conditions with an adaptive management approach in place supported by rigorous monitoring. Furthermore, the evidence is clear that the best means we have of supporting future adaptation of species and habitats, and land management systems, is to restore ecosystem processes which

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<sup>18</sup><https://designatedsites.naturalengland.org.uk/SiteFeatureCondition.aspx?SiteCode=S1001721&SiteName=North%20Dartmoor%20SSSI>

inherently helps build resilience whilst working with, rather than against, the complex dynamics of ecological change.

- 4.11 East, South and North Dartmoor SSSIs are each designated for a range of distinct vegetation communities, which in favourable condition should act as a rich natural mosaic of habitats and ecological niches. As the climate changes, restoring this diversity will help to support the greatest range of species, including those which are current visitors or residents in the landscape, and those which may need to shift their range to survive, providing greater opportunities for new species which may move into the landscape and enhancing the availability of climatic refugia.
- 4.12 There is good evidence that grazing with a diversity of livestock, and particularly larger animals such as cattle and ponies, at appropriate levels can enhance both structural and species diversity of vegetation. For instance, a 2019 peer-reviewed study from the University of Plymouth, found that the use of traditional Dartmoor ponies reduced the dominance of *Molinia caerulea* and encouraged new heather growth.<sup>19</sup> However, excessive grazing may have the opposite effect as cited previously with the Upper Plym Estate case study.

#### *Defining favourable conservation status*

- 4.13 'Favourable Conservation Status' (FCS) describes the situation in which a habitat or species is thriving throughout its natural range and is expected to continue to thrive in the future. In other words, it's a clear definition of what good looks like. Natural England have an ongoing project to define FCS for all priority species and habitats<sup>20</sup>, however this vital information is currently still lacking for the vast majority of the designated features on Dartmoor's SSSIs. Defining FCS is essential if we are to understand what our designated species and habitats need to support their future adaptation to climate change.

## **5. Ecological evidence on condition and future management of Dartmoor SSSIs**

- 5.1 More than half of Dartmoor's moorland is designated SSSI<sup>21</sup>. The RSPB has conducted surveys and research for various bird species and their habitats. While these have not focussed specifically on SSSI condition, they provide valuable evidence relating to some of the features of the North Dartmoor and East Dartmoor SSSIs, both of which are notified for their breeding bird assemblages in addition to a range of habitat features.

#### *North Dartmoor SSSI*

- 5.2 This site is notified for multiple features including blanket and valley bog, dwarf shrub heath, assemblages of breeding birds of upland moorland/grassland with water bodies, and breeding birds of upland moorland/grassland without water bodies. The species listed in the assemblage without waterbodies include Red Grouse, Buzzard, Peregrine, Dunlin, Golden Plover, Snipe, Curlew, Raven, Ring Ouzel, Whinchat, Stonechat and Wheatear. The assemblage with water bodies includes Goosander and Dipper. Natural England's CMSi database currently lists the

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<sup>19</sup> Lunt P.H., Leigh J.L., McNeil S.A. & Gibb M.J. (2021) Using Dartmoor ponies in conservation grazing to reduce *Molinia caerulea* dominance and encourage germination of *Calluna vulgaris* in heathland vegetation on Dartmoor, UK. *Conservation Evidence*, 18, 25-30. <https://www.conservationevidence.com/individual-study/9458>

<sup>20</sup> <https://publications.naturalengland.org.uk/category/5415044475256832>

<sup>21</sup> [Moorland-Key-Wildlife-Areas-Delivery-Plan.pdf \(dartmoor.gov.uk\)](https://www.dartmoor.gov.uk/Moorland-Key-Wildlife-Areas-Delivery-Plan.pdf).

condition of the bird assemblages respectively as unfavourable-recovering, and favourable, however this is based on the last formal condition assessment which was carried out in 2013. The condition of the blanket valley bogs and upland heath were assessed as unfavourable-no change in 2019, due to the dominance of *Molinia* and browsing of dwarf shrubs.

- 5.3 Monitoring has shown that Dunlin appear to have responded positively to peatland restoration. The RSPB has undertaken comprehensive breeding bird surveys of the blanket bog in 2010, 2014 and 2018 on behalf of Dartmoor Mires Project<sup>22,23,24</sup>. All surveys were undertaken within the North Dartmoor SSSI and were aimed at establishing the population and distribution of breeding birds on the blanket bog, with methods tailored to detect breeding Dunlin, a blanket bog specialist species. Surveys were undertaken before and after peatland restoration works. The 2010 survey recorded a pre-restoration baseline of 16 territories, similar to numbers recorded in earlier surveys. The subsequent 2014 and 2018 surveys recorded 22 and 24 territories respectively, with the increase attributable to sites where restoration work had been carried out. Restored areas created pools, retaining water for longer during dry weather. Dunlin presence is strongly associated with these pools, which provide accessible invertebrate food. Breeding Snipe also increased from 3 to 16 birds between 2010 and 2018.
- 5.4 Few livestock were noted during the blanket bog breeding bird surveys. The 2018 survey report recommended further hydrological restoration and to explore with commoners ways to increase grazing by cattle and/or ponies on the *Molinia* dominated areas of blanket bog.
- 5.5 Golden Plover have not bred on Dartmoor for the last 15 years<sup>25</sup>. This species favours short vegetation so the habitat may now be largely unsuitable due to the dominance of *Molinia*. Curlews have undergone huge decline and are now restricted to the Haytor area of Dartmoor (outside the SSSI) and are subject to a major recovery project: [Curlew Conservation | Dartmoor](#).
- 5.6 MoD commissioned breeding bird surveys of the Dartmoor Training Area were conducted by RSPB in 2006<sup>26</sup> and 2018 with the aim of examining changes in bird populations and correlating changes in habitat. The survey area was mostly within the North Dartmoor SSSI. Declines in both species and diversity were reported in 2018 with a total number of birds reduced by 30.5%. Severe short-term declines were noted in species such as Wheatear and Whinchat, though Wheatear was the fourth most abundant species (behind Skylark, Meadow Pipit and Carrion Crow). A decrease in grazing pressure was recorded across the survey area and an increase in the height of vegetation, however, no significant correlations were identified between bird abundance and changes in habitat. It was concluded that possible reductions in bird populations may have been due to other factors such as the severe weather in winter/spring 2018<sup>27</sup>.

#### *East Dartmoor SSSI*

- 5.7 This SSSI is notified for multiple features including assemblages of breeding birds of submontane grassland and heaths assessed in 2012 as Unfavourable Declining. The citation lists Red Grouse,

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<sup>22</sup> Price D & Slader P 2010. Dartmoor Mires Project Breeding Bird Survey 2010. Unpublished Report.

<sup>23</sup> Price D & Slader P 2014. Dartmoor Mires Project Breeding Bird Survey 2014. Unpublished Report.

<sup>24</sup> Townend C, Eynon R and Booker H. 2018. Dartmoor Mires Project Breeding Bird Survey 2018. Distribution and population of breeding Dunlin and other bird species on Dartmoor blanket bog. RSPB unpublished report.

<sup>25</sup> [devonbirdatlas.org](http://devonbirdatlas.org)

<sup>26</sup> Stanbury, A.N., Salter A., Slader P. & Tayton J. (2006) *Breeding Bird Survey of Dartmoor Training Area*. RSPB report to Defence Estates. (PDF) [Dartmoor Breeding Bird Survey 06 \(researchgate.net\)](#)

<sup>27</sup> [Dartmoor Steering Group minutes of the 59th meeting, 5 December 2019 - GOV.UK \(www.gov.uk\)](#)

Snipe, Curlew, Whinchat and Wheatear. Also in 2012, upland heath was assessed as Unfavourable Declining, and blanket bog and valley bog as Unfavourable Recovering.

- 5.8 RSPB carried out an extensive breeding bird survey of East Dartmoor in 2016<sup>28</sup> as part of the DNPA led National Lottery Heritage Fund (NLHF) partnership programme 'Moor than Meets the Eye' (MTMTE). Most of the survey area was not SSSI, however it included all the East Dartmoor SSSI, about 20% of the survey area.
- 5.9 The East Dartmoor SSSI held 64% of all Whinchat territories recorded in the MTMTE survey area, which makes this SSSI particularly significant for the species within the wider survey area. The SSSI also appeared to hold a significant proportion of the Cuckoo, Red Grouse and Reed bunting territories recorded in the survey. No curlew were recorded within the SSSI.
- 5.10 The previous breeding bird survey of this area was 1979<sup>29</sup> using a different survey method and therefore making population comparisons difficult. However, of these species, Whinchat and Wheatear were considered to have possibly declined, while Stonechat, Reed Bunting and Grasshopper Warbler were considered to have strongly increased.

#### Individual species evidence

##### *Whinchat*

- 5.11 Whinchat is a component of the assemblage feature for the North Dartmoor SSSI and listed on the citation for the East Dartmoor SSSI. Whinchats have declined by 57% nationally over the last 25 years. Dartmoor is one of the last remaining Whinchat strongholds in SW England, but the local population is mirroring the national trend with strong, rapid declines. In 2022, under the 'Our Common Cause – Our Upland Commons' NLHF project, RSPB conducted research to establish why Whinchat have disappeared from some areas of the moor but not others.
- 5.12 The study looked at habitat composition at the fine, broad and landscape scale at 1979 breeding locations, and compared habitat composition and structure in the early and late season with where Whinchats have been lost or retained based on recent surveys. The study found that:
- Whinchats have been lost from 104 of the 164 1979 locations and retained in 60.
  - Within the North Dartmoor SSSI, Whinchats have been lost from 14 locations and retained in two.
  - Within the East Dartmoor SSSI, Whinchats have been lost from four locations and retained in 10.
  - Historic (1979) territories situated in steep sided valleys, at mid-altitudes (350-400 m) further from arable or improved pasture were more likely to retain breeding Whinchat. Historic territories that contained a light scattering of trees (c. 5 trees per ha) were more likely to retain Whinchat. Retention was also more likely in areas where Bracken dominance was greatest, but only where ericaceous vegetation was also abundant.

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<sup>28</sup> Booker H and Rylands K. 2017. East Dartmoor Moorland Breeding Bird Survey 2016. RSPB survey report. [Results \(moorthanmeetstheeye.org\)](https://www.rspb.org.uk/our-work/conservation/conservation-reports/2017-east-dartmoor-moorland-breeding-bird-survey-2016)

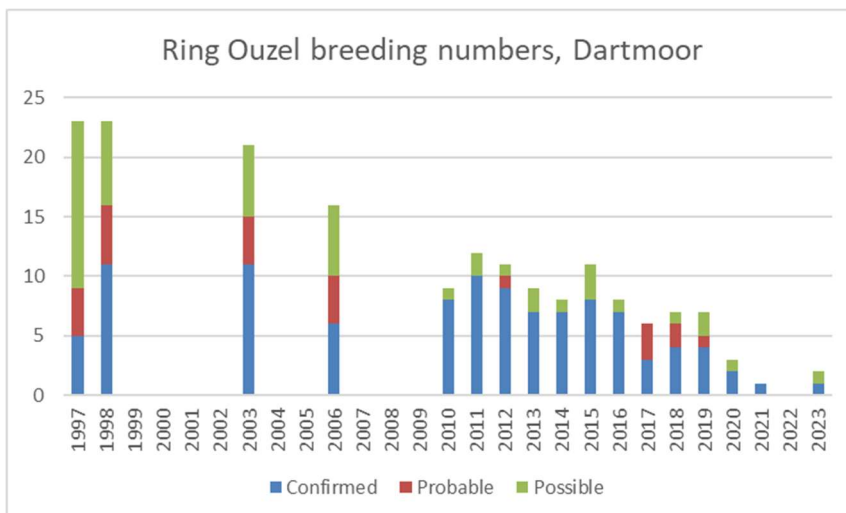
<sup>29</sup> Mudge, G.P., Croke, C.H., Booth, R.G. & Smith S.E.A. (1979) *An ecological study of bird populations and vegetation on open moorland areas of Dartmoor, 1979*. A report to RSPB and Dartmoor National Park Authority.

- A summary document with habitat management recommendations has been prepared for landowners and managers.
- The full results of this work will be published in a peer-review paper<sup>30</sup>.

### Ring Ouzel and upland heath

5.13 Ring Ouzel is a component of the breeding bird assemblage feature of the North Dartmoor SSSI. Dartmoor is now the only breeding location for this species in southern England, and here it is on the brink of local extinction. In light of strong national declines and uncertainty over the status of the Dartmoor population, RSPB and partners monitored the population closely between 2010 and 2017, although effort varied to some degree each year. Monitoring now continues through independent enthusiasts with key sites covered by experienced observers. There is therefore a good level of confidence in the estimate. No breeding was recorded in 2022 and just a single pair in 2023. The graph below shows the population trend over this time, with estimates prior to 2010 included for historic context.

**Graph 1. Ring Ouzel Breeding Numbers on Dartmoor 1997-2023**



5.14 The 2010 to 2015 intensive monitoring led by RSPB included locating breeding pairs, recording breeding outcomes, calculating nest productivity, and observations of habitat use, extent and condition of both nesting and foraging habitat. Ring Ouzels nest on steep slopes or crags, clad in heather, gorse or bilberry, but intermingled with areas of short-grazed acid grassland where they forage for their soil invertebrate prey. Breeding sites often contain a few scattered trees which act as song and bounce perches and there is usually running water nearby.

5.15 Observations of breeding outcomes and habitat use indicated that outcomes were better where there was good vegetation cover for nests and fledgelings, such as mature heather or western gorse cover on steep rocky slopes. Forage grasslands did not appear to be lacking.

<sup>30</sup> Hawkes, R.W., Stanbury, A.J., Booker, H., Meikle, M., Buckingham, D.L., Burgess, M., Anderson, G.Q.A., Whittle, A., Douglas, D.J.T. In review. Environmental correlates of Whinchat *Saxicola rubetra* breeding territory retention in a declining upland population.

However, bilberry berries, an important late summer food source, were scarce in most breeding sites.

- 5.16 There have been losses of dwarf shrub heath in parts of Dartmoor (as reflected in SSSI condition assessments) in recent history including some Ring Ouzel sites. The reasons for this loss are likely to be complex; some of these losses or declines in heathland quality are attributed to climatic and air quality issues, incidence of heather beetle damage and disease, as well as shifts in grazing pressure and patterns of grazing. Whilst fencing areas of Dartmoor to control grazing was not considered the long-term solution it was felt that small scale, experimental plots could at least test the impact of reducing or excluding grazing on the vegetation.
- 5.17 Three small temporary grazing exclosures were erected with agreement from owners and graziers, two in 2014 and one in 2016, all within the North Dartmoor SSSI. Locations were selected where there was considered potential to regenerate *Calluna* dominated dwarf shrub cover. Exclosures were in place year-round, one with mixed summer grazing, the smallest (c30m<sup>2</sup>) had no grazing, and another was not fully stock proof so received light sheep grazing. The vegetation response was monitored annually and summarised in an interim report in 2020<sup>31</sup>. Two of the exclosures, situated on drier, rocky slopes at the outset supported very close cropped bent/fescue/moss dominated grasslands. The vegetation height increased significantly and changed from grass dominated vegetation communities to predominantly heathland and bilberry communities.
- 5.18 The third exclosure, which contained a regular breeding site that often failed, was situated on a steep north facing slope in damp habitat, received mixed summer grazing (sheep, cattle and ponies) to help control *Molinia*, but grazing was very light. There were increases in western gorse and heather cover over rocky crags, with bilberry, cross-leaved heath and sphagnum development in the wetter areas, however the site became increasingly *Molinia* dominated. The fence and gate positions at the top and bottom of this exclosure may have hindered livestock access to the habitat.
- 5.19 In the first two exclosures, the habitat was considered to have improved for Ring Ouzel through recovery of the upland heath, but deteriorated in the third, wetter exclosure, probably due to the *Molinia* dominance and loss of short grazed foraging areas. It is also recognised that there could be external factors affecting Ring Ouzels away from breeding areas impacting breeding populations (Ring Ouzel Study Group).

### *Snipe*

- 5.20 Snipe are a component species of the breeding bird assemblage of the North Dartmoor SSSI and are listed on the citation of the East Dartmoor SSSI.
- 5.21 The RSPB has conducted two specific breeding Snipe surveys at targeted Dartmoor valley mires, in 2008/9 as part of the partnership 'Operation Wader'<sup>32</sup> and more recently in 2018/19 under the partnership Dartmoor Moorland Bird Project<sup>33</sup>. The 2018/19 survey concluded an estimated 162-180 pairs on Dartmoor, indicating the population remains relatively stable and a very significant area for breeding Snipe in the SW and in England as a whole.

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<sup>31</sup> Booker H and Freshney F 2020. Dartmoor Grazing Exclosures Interim Monitoring Results and Notes 2020. RSPB/Dartmoor Moorland Bird Project Unpublished document.

<sup>32</sup> Slader P and Price D 2009. Breeding Snipe survey 2009. Unpublished report to the Dartmoor Wader Project.

<sup>33</sup> Freshney F. 2019. Dartmoor Snipe survey 2018/19. RSPB/Moorland Bird Project unpublished report.

- 5.22 The 2018-19 survey recorded 26 territories in the East Dartmoor SSSI compared to 16 from the 2016 MTMTE survey however this may reflect the more targeted methodology in 2018/19. A significant number of Snipe territories were recorded on land that was outside the Dartmoor SSSIs.
- 5.23 As outlined above, Snipe appear to have benefited from peatland restoration works within the North Dartmoor SSSI.
- 5.24 The 2018/19 breeding Snipe survey reinforced the findings of the 2008/09 surveys which demonstrated the importance of wet habitat and variety of structure, *“Even within wet marshy areas, Snipe were located in areas of above average wetness – often close to a ditch or runnel....Their preference was for a mosaic of habitat with different heights of vegetation; the presence of a good scattering of tussocks was of particular importance”*.
- 5.25 The survey recommendations included small-scale ditch-blocking/re-wetting measures to ensure particular sites remain more resilient in very dry weather and that some sites remain under-grazed and would benefit from greater cattle and pony grazing which would help open-up dense Molinia habitat and create the areas of shorter feeding habitat required; soft rush may require mechanical intervention as stock are rarely able to suppress dense, older growth rush.

#### Summary of ornithological evidence

- 5.26 In summary, moorland breeding birds occupy a range of habitats across Dartmoor, each species with individual requirements relating to topography, hydrology, vegetation composition and structure. We recognise there are a range of impacts including climatic changes and migration pressures on some species, however breeding habitat condition is also vital. This evidence highlights major declines in Ring Ouzel and Whinchat within the North Dartmoor SSSI, while Dunlin and Snipe appear to have increased in response to peatland restoration on the blanket bog. East Dartmoor SSSI appears to be a relative stronghold for Whinchat, though there are declines here too. We now have good evidence for the habitat requirements of Whinchats on Dartmoor, which highlights the importance of a bracken/ericaceous vegetation mosaic and low density of scattered trees in steep valleys. Snipe appear to be relatively stable across the valley mires, though in places there is a need to restore habitat wetness and structure.