Grouse moors – their contribution to the rural economy and public goods and services

This briefing informs the debate on the petition to ban driven grouse shooting on 30th June 2025.

The banning of driven grouse shooting threatens to undermine local economies and to impact on public goods and services that support Government keystone policies. The GWCT[i] believes that the way forward is to promote a collaborative approach to moorland management through the development of mutually inclusive ways to enhance ecosystem functioning and health. This equates to the Government's ambition to "*continue to work to ensure a sustainable mutually beneficial relationship between shooting and conservation*" (Government response 16/1/25).

It is not a question of grouse shooting or space for people and wildlife. Open spaces foster a sense of belonging and social cohesion and are proven to aid our wellbeing and fitness. All of these are provided by the management that supports driven grouse shooting as every grouse moor is Open Access with a right to roam for all. It is not people or grouse – it is a wonderful balance of both.

Key points

1. We are reassured that this Government recognises the value of well-managed grouse shooting to wildlife and habitat conservation and the rural economy (Government response 16/1/2025). With less public money available for conservation our upland wildlife, habitats and landscapes will increasingly rely on private investment for their survival.
2. It is vital that those uniquely skilled jobs connected to the management of our uplands are retained to prevent loss of habitats to wildfire, ecological succession or alternative economic models such as blanket commercial forestry or wind farms. A recent report highlighted the £47 million annual economic contribution of 58 grouse moors to the rural community and the coexistent contribution to the social fabric and wellbeing of these remote areas. This Government has a stated aim of a thriving countryside underpinned by rural employment.
3. A GWCT audit of grouse moor management (GMM) indicates the management of moorland and peatland habitats for red grouse delivers a range of 25YEP goals; including conserving habitats and wildlife, delivering cleaner air and water, contributing to greenhouse gas management and mitigating climate change hazards notably wildfire.
4. Society would lose the public goods and services provided by GMM if the shooting incentive is significantly constrained. The net impact of all alternative land uses is less well evidenced.
5. Concerns that the intensity of GMM is permanently damaging the environment and biodiversity are based on inaccurate, incomplete and historical views of GMM.
6. The future policy approach to sustainable moorland management should engage with GMM; encourage it to evidence the net environmental gain for society; not restrict GMM options and recognise the shooting incentive which motivates investment in management.

	DEFRA 25YEP GOALS	ENVIRONMENTAL GOODS & SERVICES DELIVERED BY BEST PRACTICE GMM
1.	CLEAN AIR	Reducing polluting gas emissions*
		Removing air pollutants
2.	CLEAN & PLENTIFUL WATER	Trapping pollutants
		Ensuring water supplies*
3.	THRIVING PLANTS & WILDLIFE	Moorland habitat conservation*
		Moorland species conservation*/**
4.	REDUCED RISK OF HARM FROM ENVIRONMENTAL HAZARDS	Reducing flood risk*
		Reducing wildfire
		Controlling tick-borne disease
5.	MITIGATING & ADAPTING TO CLIMATE CHANGE	Protecting existing carbon (peat)*
		Storing more (sequestering) carbon*

Legend:

Green = indicates our assessment of a net positive

Yellow = indicates our assessment of an overall net neutral contribution

Supporting evidence from the 2022 GWCT audit

To address the points made by the sponsors of the petition, we have drawn on the conclusions from our 2022 audit of the contribution grouse moor management (GMM) makes to Defra's 25-year Environment Plan (25YEP): Sustaining Ecosystems – English Grouse Moors. Despite the positive findings for delivering 25YEP goals, our ability to undertake a comprehensive audit highlighted the challenges in assessing the true impact of grouse moor management due to evidence gaps and inconsistent methodologies. Without a standardised approach to evaluating outcomes, it becomes difficult to objectively demonstrate the benefits of best practice GMM or critically assess proposed alternative land uses. The lack of reliable data could influence upland public policy decisions, potentially favouring sentiment over evidence-based needs and benefits.

Air quality – reducing polluting gas emissions and removing air pollutants (EIP goals)

1. Wildfire risk is hugely increased by the abandonment of vegetation management that would accompany the cessation of driven grouse shooting. The main components of wildfire smoke are particulate matter (PM), gases such as carbon dioxide (CO_2), carbon monoxide (CO), nitrogen oxides (NOX) and volatile organic compounds (VOCs) such as acrolein, formaldehyde and benzene. These are an increasing risk to human health. (Chapter 10: Wildfires and health in Climate change: health effects in the UK - GOV.UK).
2. The controlled burning, cutting and grazing of moorland vegetation undertaken by moorland managers is likely to reduce the risk of high particulate matter (PM) emissions and methane from increasingly frequent wildfires by lowering the fuel load and reducing fire risk and severity. This reduces the risk to public health of raised PM emissions from wildfires.
3. The impacts of wildfire on air pollution can differ by type (flaming or smouldering) and materials fuelling the fire. Smouldering wildfires deep in the peat produce smoke that accumulates close to the ground whilst large wildfire events can generate secondary pollutants such as Ozone which is also hazardous to health.
4. Moorlands have a heterogeneous perennial leaf cover (when not stripped by wildfire) which may trap air pollutants and reduce healthcare costs by £1.26m pa.

Clean and plentiful water

Grip blocked on grouse moor in 1980s (GWCT image)

1. GWCT has estimated that the area of peatlands under GMM supply drinking water worth £84.5m pa.
2. Run-off, which affects the quantity and quality of water downstream, is reduced by diverse habitat and blocked drains, such as found on grouse moors (see picture on right) compared to bare peat and drained moorland.
3. By reducing the fuel load, GMM can minimise the damage of severe wildfire and therefore minimise creation of large areas of unvegetated, bare ground susceptible to erosion and the release of heavy metals and other pollutants into watercourses.
4. Evolving training and best practice GMM ensure minimised risk to water quality from pesticides, herbicides and prescribed burning.

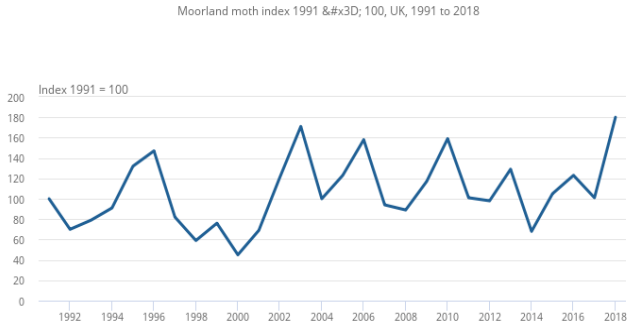
Thriving plants and wildlife

1. 74% of the area of upland Special Protection Areas (SPAs) were designated as and remain managed as grouse moors. Three of the four upland Special Areas of Conservation were in good or excellent condition for wet heath, dry heath and blanket bog.

2. Best practice legal GMM can support the six bird indicator species (hen harrier, merlin, lesser black-backed gull (migratory), peregrine falcon, short-eared owl and golden plover) on the four upland SPAs. In addition, the conservation of the red-listed curlew is related to the percentage of controlled burning and breeding success improved where predators were legally controlled – two activities intrinsically connected to GMM.

Curlew – egg predation by stoat (GWCT image)

3. Recent research has shown that 10 years after the cessation of predation management, increases in predator numbers were associated with the local extinctions of Black Grouse and Grey Partridge, together with significant declines in Golden Plover (−81 %), Snipe (−76 %) and Curlew (−24 %). These bird declines occurred whilst most habitat measures showed no change (The role of predation management: Ten years on from a predator removal experiment - Game and Wildlife Conservation Trust).
4. The hen harrier brood management trial is an example of successful collaboration between grouse moor managers and harrier conservation and indicates how GMM can integrate with social-legal objectives when public policy is supportive.
5. A unique group of invertebrates, some important to carbon cycling, benefit from GMM habitat structure. Specialist moorland moths, considered a good indicator of environmental change, have increased by 80% (1991-2018) (Semi-natural habitat natural capital accounts, UK - Office for National Statistics).



6. Peatland restoration ambitions can be enhanced by the removal of the heather canopy, benefitting the Sphagnum moss understorey (How does peatland vegetation respond to prescribed burns? - Game and Wildlife Conservation Trust) and reducing wildfire risk.
7. GMM has been instrumental in re-wetting peatlands to support bog species, some moors beginning such actions up to 40 years ago A bastion for birdlife: The Raby Estate in County Durham - Game and Wildlife Conservation Trust (see picture above on p2).

Cheshire Fire and Rescue Service
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This week, partners came together to debrief and learn from the Goyt Valley wildfire in the Peak District in late April/early May.

We'd like to extend our sincere thanks to the Peak District Moorland Group and Derby Mountain Rescue Team and show our appreciation to the teams outside of the fire service who worked tirelessly alongside crews from Cheshire Fire and Rescue Service and Derbyshire Fire & Rescue Service to help tackle the wildfire for several days.

Reducing risk of harm from environmental hazards – flooding, wildfire and tick-borne diseases

1. Best practice GMM maintains vegetation cover and surface roughness at the catchment scale. Grouse moor managers have blocked 7000km of drains and re-vegetated bare peat.
2. Reducing wildfires through fuel load management may reduce flood risk caused by severe wildfires resulting in bare peat.
3. Controlled burning, grazing and cutting with brash removal reduces the risk of wildfire by reducing the fuel load i.e. the volume of burnable vegetation. Fighting Fire with Fire in the Peak District | Working for Wildlife

4. GMM staff support Fire & Rescue services in fighting wildfires (see Facebook post on p3).
5. Severe wildfires are more damaging to carbon sequestration and biodiversity than a best practice 'cool burn' prescribed fire. The costs of mitigation through fuel load management are a fraction of the economic and environmental costs associated with one uncontrolled wildfire. Wildfires have cost an estimated £350million so far this year (source Moorland Association).
6. GMM and sheep farms are the only current motivation to control ticks, one of the most significant disease vectors globally (UKHSA) and a carrier of diseases such as Lyme disease which can result in human mortality, on mountains and moorlands which are destinations for recreational users.

Mitigating and adapting to climate change

1. Peatlands emit carbon when their delicate balance is disrupted, turning them from carbon sinks to carbon sources. Grouse moors emit between 0.9 and 4.8% of total peatland emissions in England, offset by vegetation regrowth. In contrast lowland arable agriculture, which covers c.24% of England's peat area, emits 88% of total peatland emissions.
2. Between 66 and 205mt of Carbon are stored on English grouse moors. Careful GMM of the surface vegetation reduces the chances of carbon being lost from these stores through wildfire. Public policy has been slow to recognise the increased risk of wildfire, driven by climate change, and subsequent erosion of upland carbon stores and is myopic in seeking management solutions to fuel load build up.
3. Each year about a quarter of the UK's land burnt by wildfire is peatland. These fires contribute around 90% of wildfire driven carbon emissions. An estimated 0.8Tg from peatland wildfires has been emitted between 2001 and 2021 which is equivalent to the annual energy use of roughly 100,000 homes - the size of Luton.
4. GMM provides a viable alternative economic model to tree planting on peat-rich soils thus protecting carbon stores.

Marsden Moor wildfire 2025 (GWCT image).

5. Biochar (the black stick left following a cool burn) can be a significant source of stable carbon and contribute to carbon sequestration.
6. Restoring heather cover on grassy moorland could double carbon sequestration as Calluna-rich habitat typical of GMM has a carbon sequestration potential equating to c.60% of the annual UK forest carbon sink.
7. No burn and pro-cutting management policies have a weak evidence base and may risk long-term carbon cycles on some moorland (What effect does heather cutting have on mosses? - Game and Wildlife Conservation Trust).

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19th June 2025
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[i] The **Game & Wildlife Conservation Trust** is a leading UK charity conducting conservation science to enhance the British countryside for public benefit. For over 80 years we have been researching and developing game and wildlife management techniques. We use our research to provide training and advice on how best to improve the biodiversity of the countryside. www.gwct.org.uk