

Protecting peatland habitats

Based on recent reviews on the impact of burning on peatland habitats (including on protected sites), peatland function, and available alternatives (e.g. cutting, peatland restoration)¹, **we urge government(s) to end the burning of peatland habitats across the UK uplands, especially blanket bog and wet heath**. Ending burning on upland peat (where peat depth >30cm) is supported by a wide range of environmental NGOs and other interests and is consistent with the action required to tackle the climate and nature emergencies and deliver government commitments to restore damaged peatlands. Informed by an improved understanding of the impact of burning on peatlands and the need to restore degraded peatlands, the RSPB stopped burning peatland habitats over 10 years ago.

Where vegetation management is required to restore peatland hydrology and condition (e.g. to reduce the dominance and cover of dwarf shrubs such as heather), cutting is a less damaging alternative to burning. Heather dominance can also be reduced (in time) by raising water levels (re-wetting) and by transplanting peat-forming bog mosses back onto the bog surface². On some sites, some light livestock grazing may also help reduce heather cover.

The incidence of wildfire is increasing³. Rather than using fire to reduce fuel load (e.g. by periodically burning dwarf shrub vegetation on bogs), we believe (based on our practical experience of the spread and impact of recent fires on Dove Stone and neighbouring land) that the **fuel load is best managed (reduced) by restoring peatland hydrology and ecology through raising water levels (re-wetting) and transplanting peat-forming bog mosses back onto the bog surface, both of which make the bog surface wetter**. These actions, in tandem with targeted vegetation cutting (if needed), can help slow the spread of unmanaged fires and increase the resilience of peatlands to prolonged drought and any associated wildfire.

Cutting may be deployed to manage vegetation (reduce fuel load, create firebreaks) close to known visitor honey pots and other more predictable ignition points, to prevent/slow the spread of accidental fire onto adjacent peatland habitats. Such interventions must be supported by improved public information (eg signage, fire risk warnings), enhanced monitoring (eg fire detection during periods of high fire risk) and arrangements in place for a rapid response when fires occur.

¹ Thompson & Wilson. An evidence review of the environmental impacts of grouse moor management. RSPB Unpublished Report 2020

² At RSPB Geltsdale reserve, cutting and re-wetting have been used in combination to improve habitat condition

³ Glaves et al. 2020. The causes and prevention of wildfire on heathlands and peatlands in England. Natural England Evidence Review NEER014. Peterborough

Supporting information

The UK uplands comprise a mix of open habitats, including large areas of blanket bog⁴ and Northern Atlantic wet heath (both listed as Annex 1 habitats on the EC Habitats Directive). Many of the best areas are protected as Special Areas of Conservation (SAC). Across the UK, 361,500 ha of blanket bog and 103,375 ha of wet heath are protected as SACs.

Fire is routinely used across the British uplands, especially in England and Scotland, to generate a mosaic of young and old heather to increase grouse numbers for shooting. Farmers, crofters (Scotland) and deer managers also use fire to improve the quality of grazing, particularly in Scotland, England and Northern Ireland and for red deer in Scotland. The repeated use of fire on upland bogs and heaths has increased heather cover with peat-forming vegetation replaced by heather in many areas⁵.

The English Heather and Grass Burning Code⁶ notes 'there should be a strong presumption against burning sensitive areas', including peat bog and wet heathland, except in special circumstances when the advantages of burning sensitive areas may outweigh the disadvantages. In Wales, there is a presumption that sensitive habitats (including peat bog and wet heath) should be included in no burn areas, unless burning of them is part of an agreed restoration or other environmental management programme⁷. Scotland's Muirburn Code⁸ notes that burning should not take place on peatland (except as part of a habitat restoration plan, approved by SNH) or damp heaths. Whilst there is no code of practice in Northern Ireland, it is against the law to burn on protected sites, to burn during the bird nesting season and to burn on peatland of a depth greater than 50cm.

The distribution, depth and condition of peatland soils is rather poorly mapped in the UK, making precise assessments of the impact of current management practices on peat and peatland habitats difficult. Here we define peat as a soil with at least 30% organic plant matter which has accumulated in situ (over millennia) and has a thickness of 30cm or more⁹.

Despite the recognised sensitivity of peatland habitats to fire (as noted in the various burning codes of practice and the law in Northern Ireland), peatland vegetation is widely burnt (and cut) each year across the UK uplands including on protected sites. A recent study found that 44% of 1km squares where burning was recorded in England occurred on deep peat (>0.5m deep), with 28% of 1km burnt squares classified as overlying deep peat in Scotland¹⁰. Douglas *et al.* (2015) also found burning was widespread across protected areas with burning detected in 55% of SACs and 63% of SPAs.

In 2012, the RSPB complained to the European Commission about the extent and impact of managed burning on protected areas in the English uplands, noting that the approach adopted by Natural England in permitting the routine burning of blanket bog on protected areas was in breach of the EC

⁴ Active blanket bog is listed as a priority habitat in the EC Habitats Directive.

⁵ IUCN UK Peatland Programme (2020) Position Statement – Burning and peatlands - <https://www.iucn-uk-peatlandprogramme.org/sites/default/files/2020-04/IUCN%20UK%20PP%20Burning%20and%20Peatlands%20Position%20Paper%202020%20Update.pdf>

⁶ The Heather and Grass Burning Code. 2007.

⁷ The Heather and Grass Burning Code for Wales in 2008. <https://gov.wales/sites/default/files/publications/2018-01/heather-and-grass-burning-code.pdf>

⁸ The Muirburn Code – Management of Moorland by Burning and Cutting. 2017.

<https://www.nature.scot/sites/default/files/2017-11/Guidance%20-%20Management%20of%20Moorland%20-%20Muirburn%20Code.pdf>

⁹ Lindsay & Andersen (2018) Peat. In Finlayson *et al.* 2018. The Wetland Book (ii) Distribution, Description and Conservation

¹⁰ Douglas *et al.* 2015. Vegetation burning for game management in the UK uplands is increasing and overlaps spatially with soil carbon and protected areas. *Biological Conservation* 191, 243-250

Habitats Directive¹¹. Contrary to the idea that burning would only be permitted in exceptional circumstances, Natural England (and their predecessors) have issued over 400 formal consents to burn on protected areas, covering c95,000ha of blanket bog designated as SAC. In 2016, the European Commission commenced legal action against the UK Government, escalating the action in 2017. In response, the UK Government agreed to ask consent holders in England to voluntarily relinquish active consents to burn on blanket bog. Though some estates did agree to give up their permission to burn, the Government failed to revoke more than 50% of agreements and confirmed they would introduce new legislation to end burning of blanket bog. Despite repeated promises to bring forward new regulations to end burning on blanket bog, the UK Government has yet to act.

In Scotland, the Scottish Government-commissioned Grouse Moor Management Group reviewed the evidence on the environmental impact of burning and concluded that **all muirburn** should be subject to increased legal regulation¹². The Scottish Government has yet to respond to this report.

Despite a UK-wide commitment to monitor the condition of protected sites and species, upland sites are poorly monitored in the UK, with the result that the condition of peatland habitats and the species that rely on them is poorly documented. The most recent report on the State of Nature in the EU (Article 17 Reporting) concluded that blanket bog and wet heath in the UK are in an unfavourable/bad state and that the future-prospects (structure and function) of these habitats is bad¹³. The poor state of peatland habitats in the UK uplands is attributable to a combination of historic (atmospheric pollution, burning, afforestation) and current land management practices (burning, drainage, inappropriate grazing) with large areas of blanket bog and wet heath, including protected sites, in poor condition. Blanket bog in poor condition is often characterised by a low water table, a high cover of dwarf shrubs, and low cover of peat-forming mosses.

Wildfire is a growing concern with major peatland fires recorded across all four countries of the UK in recent years. In the spring of 2020, coincident with the introduction of the UK-wide lockdown (in response to Covid-19 pandemic) and during a period of drought and un-seasonally warm weather, Scottish Land & Estates and The Moorland Association called on members to stop burning in Scotland and England before the end of the burning season. Calls for restraint were initially ignored, with burning reported in several areas.

The impact of managed burning on peatland ecology and peatland ecosystem services is increasingly contested. A recent Natural England review on the effects of managed burning on upland peatland biodiversity, carbon and water concluded that burning had largely negative impacts on flora and fauna, carbon and water¹⁴. These findings were supported by a later study on the effects of moorland burning on the ecohydrology of river basins¹⁵. Whilst there is a growing body of evidence highlighting the negative impact on burning on peatlands and peatland function, some argue that burning has a key role to play in reducing fuel load (thereby reducing the impact of any unmanaged fire on peat) and that the impact of burning on carbon cycling may not be as bad as suggested¹⁶ or

¹¹ <https://www.rspb.org.uk/our-work/our-positions-and-casework/casework/cases/walshaw-moor/#:~:text=Blanket%20bog%20should%20not%20be,are%20brought%20under%20positive%20management.>

¹² Grouse Moor Management Group. Report to Scottish Government. November 2019

¹³ JNCC Article 17 Habitats Directive Report. 2019. <https://jncc.gov.uk/our-work/article-17-habitats-directive-report-2019-habitats/>

¹⁴ Glaves et al. 2013. The effects of managed burning on upland peatland biodiversity, carbon and water. Natural England Evidence Review NEER004.

¹⁵ Effects of Moorland Burning on the Ecohydrology of River Basins - <https://water.leeds.ac.uk/our-missions/mission-1/ember/>

¹⁶ Marrs et al. 2019. Experimental evidence for sustained carbon sequestration in fire-managed, peat moorlands. Nature Geoscience 12, 108-112 <https://doi.org/10.1038/s41561-018-0266-6>

that burning might benefit carbon cycling¹⁷. It is our view that the contradictory nature of some of the recent research on carbon cycling should not over-ride the wider-known impacts of burning on habitat condition, air quality, water quality and water flows and aquatic invertebrates. Despite some uncertainty on the scale of impact of burning on carbon cycling (e.g. sequestration and emissions of carbon dioxide and methane emissions), this should not mean that other impacts are overlooked.

Though there is much less evidence on the impact of cutting, a recent Defra-funded study concluded that cutting was less damaging than burning¹⁸, with cutting used successfully at RSPB Geltsdale reserve to improve the condition of blanket bog on Geltsdale and Glendue Fells SSSI, the majority of which was formerly intensively burnt for driven-grouse shooting¹⁹.

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¹⁷Heinemeyer et al. 2018. Peatland carbon stocks and burn history: Blanket bog peat core evidence highlights charcoal impacts on peat physical properties and long-term carbon storage. *Geo: Geography and Environment*. 2018;e00063. <https://doi.org/10.1002/geo2.63>

¹⁸Heinemeyer et al. 2020. Restoration of heather-dominated blanket bog vegetation on grouse moors for biodiversity, carbon storage, greenhouse gas emissions and water regulation: comparing burning to alternative mowing and uncut management. Defra project BD5104.

¹⁹Garnett et al. 2019. RSPB Geltsdale – a case study of upland management. *British Wildlife* 30, 409-417