Consultation Response

Heather and Grass Burning in England

CLA consultation response

About the CLA

The Country Land and Business Association (CLA) is a membership organisation for landowners, land managers, and rural businesses in England and Wales. Collectively, our 26,000 members own or manage around half the rural land in England and Wales. Our membership encompasses the breadth of landowning interests, from smallholders to institutional landowners.

1. **Would you like your response to be confidential?**

   No

2. **What is your name?**

   Matthew Doran, on behalf of the CLA (Country Land and Business Association)

3. **What is your contact email or postal address?**

   matthew.doran@cla.org.uk

4. **In what capacity are you responding to this consultation? (Select all that apply)**

   Other: a membership association representing landowners, land managers, and rural businesses

A1: Do you agree with the proposal to change the boundaries of the Regulations to LFA to protect more upland peatlands?

No

Please provide reasons why.

We strongly disagree that expanding licencing to the whole LFA – a threefold increase in licenced area[1] – would protect more peatlands, and believe that it could put a greater area of peat at risk from wildfires. As evidenced below, controlled burning is a vital tool to reduce the risk of wildfire, without any conclusive negative consequences for biodiversity, carbon storage, or water quality.

Increasing the area subject to licencing would not be a major problem if Defra granted licences readily, swiftly, and at low cost where needed for wildfire control and conservation.

[1] From 222,000 ha to 677,000 ha – data shared by Defra Peat Protection Team via email based on the updated England Peat Map

However, licences are currently difficult to obtain. Changing the boundaries of the Regulations therefore seems designed to curtail the area managed through controlled burning. Our evidence for this assumption is as follows:

- The consultation proposes that burning "should be seen as a last resort" and used only "where absolutely no feasible alternatives exist", which will set an extremely high threshold for awarding licences, and will deter potential applicants.
- To our knowledge, only two licence applications have been awarded since 2021 under the existing Regulations.
- Defra's current guidance for applicants includes stringent tests like showing that burning – a rotational management tool – will be a one-time occurrence.
- Satellite observations show that Defra's application of licencing since 2021 was associated with a 73% reduction in the area burnt[2].
- There is no evidence that Defra and Natural England have the extra resourcing or capability to process applications from a threefold expansion in the area subject to licencing.

CLA members manage their moorland in a variety of ways, reflecting the heterogeneity of their peatland. Whether controlled burning is appropriate is a locally specific decision[3]. Some institutional landowners within CLA membership have stopped burning, for example, and are confident they can manage wildfire risk through alternative methods like rewetting, cutting, and patrolling for ignition sources. Other CLA members consider stopping controlled burns to be dangerous. We emphasise that controlled burning must remain an available management option for land managers to choose whether to use. The consultation proposes to foreclose this option based on an incomplete and inadequate grasp of the science on wildfire, biodiversity, carbon storage, and water quality, and without having conducted an Impact Assessment on either these proposals or the existing Regulations.

1. **Increased wildfire risk**

   Expanding the current licencing regime to the whole LFA will substantially increase the risk of more severe wildfires, with threats to life, carbon stores, biodiversity, water quality, and flooding. There is a direct, linear relationship between the amount of above-ground pre-fire vegetation and the amount of combustion during wildfire in the UK's moorlands[4]. Controlled burning is the only reliable, proven method that moorland managers have available to reduce moorland vegetation fuel loads to reduce the risk of wildfire[5]. Already, vegetation is accumulating beyond the control of common fire-fighting practices in the Peak District, according to an independent Wildfire Risk Assessment[6]. Fire chiefs emphasise the importance of controlling vegetation fuel loads through all available tools, including burning[7].

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[2] Shewring, M.P., et al. 2024. Annual extent of prescribed burning on moorland in Great Britain and overlap with ecosystem services. *Remote Sensing in Ecology and Conservation*, *10*(5), pp.597-614.
[3] Ashby, M.A. and Heinemeyer, A., 2021. A critical review of the IUCN UK Peatland Programme's "Burning and Peatlands" Position Statement. *Wetlands*, *41*(5), p.56.
[4] Davies, G.M., et al., 2016b. Vegetation structure and fire weather influence variation in burn severity and fuel consumption during peatland wildfires. *Biogeosciences*, *13*(2), pp.389-398.
[5] Ashby and Heinmeyer, 2021. op. cit.
[6] Barber-Lomax, A. et al., 2022. *Peak District National Park Wildfire Risk Assessment*. https://www.peakdistrictwildfire.co.uk/_files/ugd/9c9ad7_a594c151525a4878a241bac12e93d409.pdf
[7] National Fire Chiefs Council, 2025a. *Wildfires position statement* <https://nfcc.org.uk/our-services/position-statements/wildfires-position-statement/>; National Fire Chiefs Council, 2025b. *NFCC Response to Moorland Association Letter Concerning Wildfires*. < https://f20ead8a-2979-4fd6-9990-9784b9a21c0c.usrfiles.com/ugd/f20ead_7270186ef1254910b8eeb7356af23615.pdf>

Other vegetation management methods do not control fuel loads sufficiently to make it safe to restrict controlled burns as proposed[8]. Cutting leaves brash in-situ which is combustible when dry. CLA members and the published literature report differing perspectives on the success of rewetting in stopping wildfires. When rewetting is successful, members highlight it increases resilience[9]. Privately owned moors have rewet some 60,000 ha of peat alongside conducting controlled burns in recognition of these benefits[10]. However, complete landscape-scale rewetting is difficult[11] – for example, on steep slopes or on heavily eroded sites[12]. Many sphagnum-planting projects have failed[13]. Patches of drier vegetation persist where the (micro)topography of the land is higher and more free draining. All these can become ignition hotspots. Further, rewetting does not guarantee a high water table during dry conditions, given water tables can drop by 20-30 cm in summer[14]. Before the greening up of vegetation in spring, vegetation is flammable even on saturated peat. As a case study, one CLA member blocked 34 km of drainage ditches across 1200 ha of moorland over a decade ago, but reports that in dry years this is insufficient to control her wildfire risk. It is therefore risky to rely on rewetting as the only method of wildfire control[15].

Notably, some of the worst moorland wildfires as of late May 2025 from the current, record-breaking wildfire season – including the Marsden Moor, Howden Moor, Rishworth Common, Ovenden Moor, and Goyt Valley wildfires – occurred on land on which we understand controlled burning had been terminated. Similarly, the Stalybridge (Saddleworth Moor) wildfire in 2018 occurred on land where burning had been terminated[16]. Correlational evidence from Scotland shows that 96% of wildfires in 2018 occurred outside the area subject to controlled burning[17].

Making burning a “last resort” action will also impair wildfire-fighting capacity in the uplands. The Fire and Rescue Service (FRS) depends on experienced moorland managers for their local knowledge, firefighting skills, equipment, and the training

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[8] Alday, J.G., et al. 2015. Above-ground biomass accumulation patterns in moorlands after prescribed burning and low-intensity grazing. *Perspectives in Plant Ecology, Evolution and Systematics*, *17*(5), pp.388-396.

[9] Granath, G., et al., 2016. Mitigating wildfire carbon loss in managed northern peatlands through restoration. *Scientific Reports*, 6, 28498. Andersen, R., et al.,. 2024. Blanket bog vegetation response to wildfire and drainage suggests resilience to low severity, infrequent burning. *Fire Ecology*, 20, 26. IIUCN Peatland Programme, 2024. *Wildfire resilience: why rewetting peatlands must play a key role* https://www.iucn-uk-peatlandprogramme.org/sites/default/files/2024-11/Wildfire%20Resilience.pdf

[10] Extrapolating data from Denny, S., 2025. *Wildlife Warden, Conservation Manager, Fire Fighter, and Educator: The Grouse Moor Gamekeeper in England in the Twenty-First Century* https://static1.squarespace.com/static/626ace9887c48e711b909618/t/681a367daca3da3f89f931b0/1746548353060/GrouseMoorGamekeepersReport.pdf

[11] Holden, J., et al., 2011. Water table dynamics in undisturbed, drained and restored blanket peat. *Journal of Hydrology*, *402*(1-2), pp.103-114.

[12] Wentworth, J. 2022. *Reducing peatland emissions*. *POSTnote 668*. Parliamentary Office of Science and Technology, London.

[13] Peak District Moorland Group, 2025. The blanket approach is failing: an independent review into Sphagnum Inoculation on Peak District moors. https://static1.squarespace.com/static/626ace9887c48e711b909618/t/66e870e94047c14ba6c10a15/1726509292802/3809+Snailsden+Report+%283%29.pdf

[14] Ashby and Heinemeyer, 2021. op. cit.

[15] ibid

[16] Chadwick, E. 2018. *Saddleworth Fire: Moorland 'needed controlled burning'*, BBC News https://www.bbc.co.uk/news/uk-england-manchester-44648348

[17] Fielding, D., et al. 2024. Limited spatial co-occurrence of wildfire and prescribed burning on moorlands in Scotland. *Biological Conservation*, 296, p.110700.

they provide to FRS staff, which are likely to be lost if they can no longer conduct controlled burns[18]. For private estates, ending controlled burning will also mean fewer land managers patrolling during the wildfire season and asking people to put out ignition sources[19], and it will take longer for responders to react to and reach wildfires, leading to more severe, larger fires. Reducing capacity and vigilance is especially dangerous given increasing recreational pressure in the uplands, and an expected doubling of days in the UK with 'very high' fire danger at 2°C of global warming[20]. Institutional estates report they can mitigate these risks by investing in rangers to minimise ignition sources, but for private estates patrolling is subsidiary to other management[21].

Controlled burns are very different to wildfires. Correctly executed controlled burns do not burn the peat layer, and should barely heat it; most moss and litter does not burn[22]. In contrast, the worst documented wildfires in the UK have combusted up to nine centimetres of peat, equivalent to over a century of peat accumulation[23]. Wildfires release huge quantities of carbon, air pollutants, and heavy metals stored in the peat[24]. Wildfires also worsen flooding because they produce a hydrophobic, bituminous crust on the surface of the peat, reduce surface roughness, and peat pores may become clogged with ash, further reducing infiltration[25]. Conversely, controlled burns appear to have modest-to-neutral effects on runoff[26] or even protective effects for low-intensity storms[27].

Overall, the CLA believes that the consultation's proposals to expand licence and make it an action of "last resort" contradict Defra's responsibilities under 3.3.7 of the Wildfire Framework for England (2021), which requires Defra to "encourag[e] sustainable land management practices that mitigate against wildfire risk". The Climate Change Committee has recommended that government works "with external stakeholders to identify and mitigate risks of wildfire", which Defra is contradicting in this consultation[28]. It also contradicts National Fire Chiefs Council's advice to focus

[18] Whitehead, S., et al. 2021. Post-burning responses by vegetation on blanket bog peatland sites on a Scottish grouse moor. *Ecological Indicators*, 123, 107336; Denny, 2025. op. cit.
[19] Denny, 2025. op. cit.
[20] Perry, M.C., et al. 2022. Past and future trends in fire weather for the UK. *Natural Hazards and Earth Systems Sciences*, 22, 559–575.
[21] Denny, 2025. op. cit.
[22] Davies, GM, et al. 2010 Fire intensity, fire severity and ecosystem response in heathlands: factors affecting the regeneration of Calluna vulgaris. *Journal of Applied Ecology* 47, 356– 365.
[23] Baker, S.J., et al. 2025. Spikes in UK wildfire emissions driven by peatland fires in dry years. *Environmental Research Letters*, 20(3), p.034028.
[24] Graham, A.M., et al., 2020. Impact on air quality and health due to the Saddleworth Moor fire in northern England. *Environmental Research Letters*, *15*(7), p.074018; McCarter, C.P., et al. 2024. Peat fires and legacy toxic metal release: An integrative biogeochemical and ecohydrological conceptual framework. *Earth-Science Reviews*, p.104867. Marcotte, A.L., et al. 2025. Potable water sources in a contaminated temperate peatland resistant to acute impacts but vulnerable to legacy effects of extreme wildfire. *Environmental Research: Water*.
[25] Allott, T., et al., 2019. *Peatland catchments and natural flood management*. Report to the IUCN UK Peatland Programme's Commission of Inquiry on Peatlands Update.
[26] Gao, J., et al. 2017. Modelling impacts of agricultural practice on flood peaks in upland catchments: An application of the distributed TOPMODEL. *Hydrological Processes* 31, 4206-4216
[27] Holden, J., et al., 2015. Impact of prescribed burning on blanket peat hydrology. *Water Resources Research*, 51(8), pp.6472-6484.
[28] Climate Change Committee, 2025. *Progress in adapting to climate change: 2025 report to Parliament*. See recommendation R2023-03, pg. 162.

on land management[29]. Worldwide, prescribed fire is widely recognised as a crucial wildfire management technique[30].

2. No evidence for overall negative hydrological and vegetation impacts from controlled burning

There is no conclusive evidence that stopping burning will improve biodiversity and hydrology outcomes, as asserted in the consultation as a reason why expanding licencing would protect more peatlands. The consultation implies that healthy blanket bogs have a single natural hydrology which is disrupted by rotational burning, identifiable by the presence or absence of at least six indicator species.

However, peat is an ecohydrologically diverse collection of habitats determined by geology, altitude, aspect, rainfall, slope, microtopography, and internal drainage networks, amongst other factors[31]. Blanket bogs also cycle through periods of wetness and dryness[32], and non-sphagnum vegetation can form and sustain healthy peat[33]. It is reductionist to assume that a fixed set of indicator species can determine the health of such diverse peatlands across the country. The above biotic and abiotic factors, as well as fire severity, burn rotation length, and other drivers like atmospheric deposition and artificial drainage, influence the impacts of controlled burns on biodiversity[34]. Decisions about the appropriateness of burning for biodiversity and hydrology must be made at a local scale, rather than a national, one-size-fits-all policy. This is consistent with the Corry Review's recommendation 2 that regulators should "tak[e] account of the place-based dynamics"[35].

Second, the consultation assumes that peatlands are not fire-adapted ecosystems, and states that "*rotational burning makes it difficult to restore blanket bog to its natural hydrology and impossible to return it to its natural state*". However, fire has been a non-anthropogenic component of upland ecology in the UK since deglaciation[36], and humans have modified England's uplands through fire for millennia – heather moorlands are inherently cultural, 'non-natural' habitats, created in many cases through fire[37]. Upland peat in England has varied considerably in

[29] National Fire Chiefs Council, 2025a. op. cit.
[30] Heinemeyer, A. and Ashby, M.A., 2023. Prescribed Fire in UK Heather-Dominated Blanket Bog Peatlands: A Critical Review of "Carbon Storage and Sequestration by Habitat: A Review of the Evidence " by Gregg et al., 2021. *Fire*, 6(5), p.204.
[31] Wheeler, B. et al., 2020. *Working towards the development of Ecohydrological Guidelines for Blanket Bog and Associated Habitat – A Scoping Study*. < https://www.iucn-uk-peatlandprogramme.org/sites/default/files/2023-12/SWE%20EcoHydro%20Report%20Main%20text_Aug%202020_v1.1_0.pdf>
[32] Gillingham, P. et al., 2016. *The historic peat record: Implications for the restoration of blanket bog.* Natural England Evidence Review, NEER011. Natural England; Webb, J.C et al., 2022. Evidence for the Little Ice Age in Upland Northwestern Europe: Multiproxy Climate Data from Three Blanket Mires in Northern England. *Holocene* 32, 451–467
[33] Ashby and Heinemeyer, 2021, op. cit.
[34] Holland, J.P., et al. 2022. *Reviewing, assessing and critiquing the evidence base on the impacts of muirburn on wildfire prevention, carbon storage and biodiversity.* NatureScot Research Report, 1302. NatureScot, Edinburgh.
[35] Corry, D. 2025. *Delivering economic growth and nature recovery: An independent review of Defra's regulatory landscape*
[36] Tsarkiridou, M., 2021. *Refining our understanding of wildfire during the Last Glacial-Interglacial Transition in the British Isles.* PhD thesis. University of Portsmouth
[37] Tallis, J.H. and Livett, E.A., 1994. Pool-and-hummock patterning in a southern Pennine blanket mire I. Stratigraphic profiles for the last 2800 years. *Journal of Ecology*, pp.775-788; Simmons, I. 2003 *The*

wetness, vegetation cover, and degree of burning over the last few millennia, including in response to climatic fluctuations[38]. Defining "natural state" is therefore virtually impossible for peat in England, and requires Defra to choose an arbitrary date for restoration. Justifications in the consultation like "*In its natural state, heather is naturally limited on peatland*" do not make sense.

Third, research does not support the conclusion that burning has an overall negative impact on biodiversity. A major review concludes that "managed fire super-imposes or replaces natural fire regimes and reinforces ecological processes that depend on fire disturbance"[39]. For instance, smoke improves germination across at least 10 species of sphagnum mosses[40], and as many studies as not show that sphagnum responds well to burning[41]. Various individual studies and meta-reviews conclude that fire-managed bogs are as rich in plant species, if not more so, than unburnt bogs, due to the mosaic of habitat niches created by rotating burns through the landscape[42]. A mosaic of different upland vegetation management methods also supports a greater diversity of bird species[43]. Where vegetation communities differ between management regimes, which community is 'better' is a value judgement, rather than something empirically determinable. Some CLA members report their moorlands were designated SSSIs by Natural England due to controlled burning.

Fourth, managed burns help to prevent wildfires, which have serious negative effects on moorland biodiversity, including via incineration of slow-moving wildlife, loss of surface vegetation, loss of prey, and water pollution from ash and phosphate

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Moorlands of England and Wales: An Environmental History 8000 BC to AD 2000. Edinburgh: Edinburgh University Press; Yallop, A.R. et al., 2005. *A history of burning as a management tool in the English uplands 1: Estimates of the areal extent of management burning in the English uplands*. English Nature Research Reports, No. 667. Holden, J. et al., 2007. Environmental change in moorland landscapes. *Earth-Science Reviews*, *82*(1-2), pp.75-100. Vandvik, V., et al., 2014. Management-driven evolution in a domesticated ecosystem. *Biology Letters*, *10*(2), p.20131082. Blundell, A. and Holden, J., 2015. Using palaeoecology to support blanket peatland management. *Ecological Indicators*, *49*, pp.110-120. McCarroll, J., et al., 2017. Application of palaeoecology for peatland conservation at Mossdale Moor, UK. *Quaternary International*, *432*, pp.39-47.

[38] Webb et al., 2022. op. cit.

[39] Davies, G.M., et al. 2016a. The role of fire in UK peatland and moorland management: the need for informed, unbiased debate. *Philosophical Transactions of the Royal Society B: Biological Sciences,* 371(1696), p.20150342.

[40] Yusup S., et al. 2023. Smoke promotes germination of peatland bryophyte spores. *Journal of Experimental Botany*, 74, 251–164.

[41] Davies et al., 2010. op. cit.. Davies, et al., 2016a, op. cit.. Chapman, S., et al. 2017. *Muirburn, peatland and peat soils: An evidence assessment of impact*. ClimateXChange Report, Edinburgh. Grau-Andrés, R., et al. 2017. Sphagnum abundance and photosynthetic capacity show rapid short-term recovery following managed burning. *Plant Ecology and Diversity*, 10, 353–359. Noble, A. et al., 2018. Impacts of prescribed burning on Sphagnum mosses in a long-term peatland field experiment. *PLoS One* 13(11): e0206320. Whitehead, S., et al. 2021. Post-burning responses by vegetation on blanket bog peatland sites on a Scottish grouse moor. *Ecological Indicators*, 123, 107336. Ashby and Heinemeyer, 2021, op. cit.

[42] Milligan, G., et al., 2018. Effects of rotational prescribed burning and sheep grazing on moorland plant communities: Results from a 60-year intervention experiment. *Land Degradation and Development*, 29, 1397–1412. Marrs, R.H., et al., 2019. Experimental evidence for sustained carbon sequestration in fire-managed, peat moorlands. *Nature Geoscience,* 12, 108–112. Table 28 in Noble, A., et al., 2025. *An evidence review update on the effects of managed burning on upland peatland biodiversity, carbon and water.* Natural England Evidence Review, NEER155. Natural England.

[43] Buchanan, G.M., et al. 2017. Quantifying the importance of multi-scale management and environmental variables on moorland bird abundance. *Ibis*, 159, 744–756.

release[44]. The charred, hard surface that follows prolongs recovery, and homogenises vegetation[45]. This contrasts with managed burns that introduce landscape heterogeneity.

Overall, the evidence above contradicts Natural England's assertion that rotational burning causes blanket bogs to be in unfavourable status[46]. Neither Natural England, nor Defra in the consultation, provide clear links to evidence to explain why stopping controlled burning will improve biodiversity and hydrology outcomes, or why expanding licencing to control managed burns will protect more peatlands.

3. **Carbon emissions**

Expanding licencing is unlikely to reduce carbon emissions as implied in the consultation. There is no conclusive evidence that controlled burning causes higher carbon emissions than other management regimes[47]. The consultation elides upland and lowland peat, given only 12% of England's peat emissions come from upland peat[48], and controlled burns may reduce total peatland emissions when considering avoided wildfire emissions.

No research has conducted a full assessment of the net ecosystem greenhouse gas exchange over the entire 20-year burning cycle, which means that there is no robust evidence to determine which management approach performs best for carbon[49]. Studies which report increases in net emissions following controlled burns are short-term[50] or based on inaccurate evidence[51]; other studies are inconclusive[52], and another reports an improved carbon balance following burning[53].

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[44] Reid, N., et al. 2023. Impact of wildfires on ecosystems and bird communities on designated areas of blanket bog and heath. *Bird Study*, *70*(3), pp.113-126. Messenger, S. and Hutchinson, C., 2025. UK's rarest wildlife being 'pushed to extinction' by grass fires. *BBC News*. https://www.bbc.co.uk/news/articles/c2dej3x9432o

[45] Davies et al., 2016a. op. cit.

[46] Crowle, A. et al., 2025. *Definition of Favourable Conservation Status for Blanket bog RP2967.* Natural England.

[47] Heinemeyer and Ashby, 2023. op. cit.

[48] UKCEH, n.d. The LowlandPeat3 Project https://lowlandpeat.ceh.ac.uk/lowlandpeat3#:~:text=In%20England%2C%20lowland%20peat%20under,country's%20total%20emissions%20from%20peat.

[49] Chapman et al., 2017. op. cit.. Holland et al., 2022. op. cit.. Heinemeyer and Ashby 2023. op. cit.

[50] Heinemeyer, A. et al., 2019. *Defra Project BD5104. Restoration of heather-dominated blanket bog vegetation on grouse moors for biodiversity, carbon storage, GHG emissions and water regulation: comparing burning to alternative mowing and uncut management*. Defra.

[51] Garnett, M.H., et al., 2000. Effects of burning and grazing on carbon sequestration in a Pennine blanket bog, UK. *Holocene,* 10, 729–736, critiqued in Heinemeyer, A., 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. *Geography and Environment*, 5 (2), e00063.

[52] Marrs et al., 2019. op cit.. Heinemeyer, A. et al., 2023 *Restoration of heather-dominated blanket bog vegetation for biodiversity, carbon storage, greenhouse gas emissions and water regulation: comparing burning to alternative mowing and uncut management: Final 10-year Report to the Project Advisory Group of Peatland-ES-UK*. https://eprints.whiterose.ac.uk/id/eprint/194976/23/Peatland_ES_UK_10_year_final_Report_Jan_2023.pdf

[53] Clay, G.D., et al. 2010. Carbon budgets of an upland blanket bog managed by prescribed fire. *Journal of Geophysical Research-Biogeosciences,* 115, 14.

Various factors – particularly the carbon locked up in charcoal from cool, controlled burns[54], and the role of deep-rooted, older heather which has lower photosynthetic rates but stimulates peat respiration[55] – complicate the assumption that controlled burns have higher lifetime carbon emissions. These require further research. The consultation also does not consider the counterfactual emissions from wildfires if unmanaged vegetation combusts[56], which one estimate puts at around an extra 0.4 tonnes of carbon per ha per year stored on peat managed through controlled burning[57]. As wildfires become more frequent, more carbon is likely to be saved by increasing the frequency of controlled burns[58].

The management regime with the lowest methane emissions also remains uncertain. Whilst methane emissions may be higher immediately post-burn[59], a 10 year Before-After-Control-Impact (BACI) study found unmanaged heather to have the highest methane emissions over the decade, even compared to plots with higher water tables, i.e., rewetting[60].

Importantly, cutting – which the consultation proposes as an interim measure – had a third higher carbon emissions compared to burning in the same 10-year BACI study[61].

In sum, the CLA rejects the idea that expanding licencing to the whole LFA, and the consequent reduction in controlled burning, would protect peatlands from carbon release.

4. Water quality impacts

Another justification in the consultation for expanding licencing is that controlled burning "*negatively impacts water quality by increasing dissolved organic carbon (DOC) and causing water discoloration*". The consultation cites only a single scientific paper to support this view. In contrast, at least four reviews have found no conclusive evidence that controlled burning worsens DOC and discolouration[62]. The ecohydrological consequences from controlled burning identified in the EMBER

[54] Heinemeyer et al., 2018. op. cit.. Leifeld, J., et al. 2018. Pyrogenic carbon contributes substantially to carbon storage in intact and degraded northern peatlands. *Land Degradation & Development,* 29(7), pp.2082-2091.
[55] Walker, T.N., et al., 2016. Vascular plants promote ancient peatland carbon loss with climate warming. *Global Change Biology,* 22, 1880–1889.
[56] Allen, K.A., et al. 2013. Matrix modelling of prescribed burning in Calluna vulgaris-dominated moorland: Short burning rotations minimize carbon loss at increased wildfire frequencies. *Journal of Applied Ecology,* 50, 614–624. Clay, G.D., et al. 2015. Carbon stocks and carbon fluxes from a 10-year prescribed burning chronosequence on a UK blanket peat. *Soil Use and Management*, 31, 39–51
[57] Clay et al., 2015. op cit.
[58] Allen et al., 2013. op cit.
[59] Grau-Andrés, R., et al., 2019. Burning increases post-fire carbon emissions in a heathland and a raised bog, but experimental manipulation of fire severity has no effect. *Journal of Environmental Management*, 233, 321–328
[60] Heinemeyer et al., 2023. op. cit.
[61] Heinemeyer et al., 2023. op cit.
[62] Holden, J., et al., 2012. The impacts of prescribed moorland burning on water colour and dissolved organic carbon: A critical synthesis. *Journal of Environmental Management*, 101, 92–103. Chapman et al., 2017. op. cit.. Harper, A. R., et al., 2018. Prescribed fire and its impacts on ecosystem services in the UK. *Science of the Total Environment*, 624, 691–703. Williamson, J., et al. 2023. Reviews and syntheses: Understanding the impacts of peatland catchment management on dissolved organic matter concentration and treatability. *Biogeosciences,* 20, 3751–3766.

project[63] are important, but disputed[64]. Cutting increases phosphorous inputs to the catchment as much as threefold compared to burning, and any benefits to water quality from reduced nitrogen exports following cutting[65] are at the expense of peat health, given peat has been degraded through over-enrichment with nitrogen from atmospheric deposition.

In contrast, wildfires worsen water quality because they cause ash to be transported into water. This has immediate negative ecological effects by reducing light and dissolved oxygen levels, and chronic effects through higher erosion and leaching of heavy metal-rich and carcinogenic material in the months and years after the wildfire[66]. Wildfires cost water companies an estimated £16 million per year in the UK[67], which is the same order of magnitude as costs from peat discolouration[68].

The CLA therefore also rejects the claim that expanding licencing and limiting controlled burning will guarantee improved water quality on peatlands.

A2: Please use the box below to provide your thoughts, if any, on the proposal to remove protection from those SSSIs that fall outside of the LFA. Please provide comments.

The consultation does not provide data on the number, size, or location of SSSIs outside the LFA which would be affected, which would enable us to make an informed decision. This contravenes principle C of the Government's Consultation Principles 2018[69] that consultees must be given sufficient evidence to make informed responses.

For the reasons given in our response to Question A1, we are not concerned by the removal of licencing from previously regulated, non-LFA habitats, and we see land managers as capable of judging where and when controlled burns are necessary. Additionally, burning is regulated through Operations Requiring Natural England's Consent (ORNECs) in SSSIs outside the LFA, and this will not change if these areas are exempted from licencing.

Defra's willingness to remove licencing from lowland peat habitats whilst tripling the areal extent of licencing in upland peat habitats is a double standard which indicates that the consultation's proposals are not rooted in evidence. Other fire-adapted habitats, like lowland and coastal heath, are managed through controlled burning, but are not subject to licencing, which is a further inconsistency.

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[63] Brown, L.E., et al., 2014. *Effects of moorland burning on the ecohydrology of river basins: Key findings from the EMBER project.* University of Leeds, Leeds

[64] Ashby, M. and Heinemeyer, A. 2019. Prescribed burning impacts on ecosystem services in the British uplands: A methodological critique of the EMBER project. *Journal of Applied Ecology*, 57, 2112–2120.

[65] Heinemeyer et al., 2019. op. cit.

[66] Nunes, J.P., et al. 2018. Assessing water contamination risk from vegetation fires: Challenges, opportunities and a framework for progress. *Hydrological Processes*. 32: 687–694. Kibble, A. et al., 2023. *Chapter 10. Wildfires and health*, in *Health Effects of Climate Change (HECC) in the UK: 2023 report.* Marcotte et al., 2025. op cit.

[67] Doerr, S. et al., 2021. *Impact case study (REF3) Enabling international land managers to mitigate water-contamination risks from wildfires*. https://results2021.ref.ac.uk/impact/5e29301d-903b-40b0-bb23-947c21bcfd3f/pdf

[68] Smyth, M.A., et al., 2015. *Developing Peatland Carbon Metrics and Financial Modelling to Inform the Pilot Phase UK Peatland Code Project NR0165. Report to Defra*.

[69] https://www.gov.uk/government/publications/consultation-principles-guidance/consultation-principles-2018

A3: Do you agree with the proposed change of the prohibition of burning on peat over 40cm deep to peat over 30cm deep?

No

Please provide reasons why.

First, controlled burns should not burn the underlying peat if conducted correctly, and should barely heat it[70]. Therefore, the depth of peat below the surface should be immaterial to the suitability of controlled burning as a management tool. Given that wildfire is a hazard across moorlands with high fuel loads regardless of the depth of peat substrate, controlled burning should remain a management tool across the full peatland area, rather than being arbitrarily restricted on peat more than 30 cm deep.

Second, peat depth simply measures distance to the bedrock; it does not provide information on geology, altitude, aspect, rainfall, slope, microtopography, and drainage which influence what is a suitable action. A single depth is inappropriate to determine inclusion or exclusion from the licencing regime across England's diverse peatland habitats. Further, blanket bog is not an ecohydrologically precise term, and the depth ascribed to it has varied across different government administrations. It also varies internationally, which contradicts Defra's assertion that the change would align us with international definitions[71]. The consultation's justification for 30 cm is Natural England's 'Definition of Favourable Conservation Status for Blanket bog RP2967'[72], but this report states that "blanket bog may occur on peats shallower than 0.3 m", which highlights the arbitrariness of the 30 cm cutoff on ecological grounds.

Third, the recently updated England Peat Map does not provide a secure foundation to determine which peat is 30 cm deep, meaning that depth will be open to interpretation and dispute. The England Peat Map acknowledges that it is not accurate at a site level for estimating peat depth[73]. Physical peat probe measurements for licence applications are not currently reliable or consistent. For example, there is no advice on how to measure the depth of the sand or grit between the peat and bedrock, and whether or not to remove the surface layer of decaying matter. Both of these should be subtracted for an accurate peat depth measurement. Land managers are likely to face unfair and worrying liability because it is hard to guarantee replicability of results, particularly if reporting results by a grid reference within which substantial variability in peat depth will exist. In turn, government will have difficulties assessing compliance. Scottish Government has not fully enacted the Wildlife Management and Muirburn Act 2024 due to the difficulties agreeing the sampling methodology, which highlights the difficulty operationalising the consultation's proposal.

Fourth, Defra has not conducted a risk assessment of the potential damage from thousands of holes created by probing peat. Drier peat does not close up readily, creating pathways for decomposition, erosion, and drainage, particularly if the probe punctures an underground peat pipe[74].

Fifth, Defra has neither conducted an Impact Assessment to determine whether this change is proportionate, nor an Impact Assessment on whether licencing under the 2021 Regulations for 40 cm peat has achieved its policy aims.

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[70] Davies et al., 2010. op. cit.
[71] Lourenco, M., et al. 2023. Peat definitions: A critical review. *Progress in Physical Geography: Earth and Environment*, *47*(4), pp.506-520.
[72] Crowle et al., 2025. op cit.
[73] Kratz, C., et al. 2025. *England Peat Map Project Final Report.* Natural England Research Report NERR149. Natural England.
[74] Heinemeyer, A. pers. comm.

A5: Do you agree that ground (d) because the specified vegetation is inaccessible to mechanical cutting equipment and any other method of management is impracticable should be removed?

No

Please provide reasons why.

Ground (d) enables vegetation management on steep, rocky, and otherwise uneven ground which is difficult, dangerous, or otherwise untenable to use mechanical cutting equipment on, e.g., for economic reasons due to damage to cutting blades. Ground (d) also covers activities to remove dead, damaged heather after heather beetle damage, and to manage the tick burden for sheep (which is required under Section 4 of the Animal Welfare Act 2006). Cutting and rewetting leave brash and vegetation in-situ.

Removing ground (d) would be less concerning if Defra readily granted licences to prevent wildfire and improve conservation outcomes, as these are the prime reasons for controlled burns. However, we are not confident that licences under ground (c) will be granted for wildfire control, given the consultation states that licences will be refused except “where absolutely no feasible alternatives exist”, and the consultation gives rewetting as a suitable alternative. Defra’s guidance to satisfy wildfire risk requires applicants to “describe how [they] plan to manage the burn area in the future so that burning does not have to be repeated”, yet burning is by definition a rotational tool, so this cannot easily be satisfied. We therefore think that ground (d) should be retained in situations where no other practical solutions can be proven through the current licencing system.

A6: Do you agree with adding ‘research’ as a ground to apply for a licence under the Regulations?

Yes

Please provide reasons why.

This new ground would streamline researchers’ ability to get consents to address the many evidence gaps regarding peatland management. Securing landowner permission should be a prerequisite for a licence to be granted under this ground.

A7: Would you support a move to link the revised Heather & Grass Management Code to the Regulations, making it compulsory to follow rather than advisable?

No

Please provide reasons why.

Defra has not published the scope and content of the revised code, therefore, we cannot endorse it or comment on whether it should be made compulsory. As with question A2, this contravenes principle C of the Government’s Consultation Principles 2018, that consultees must be given sufficient evidence to make informed responses.

The workshops in February and March on the Code indicated its revised scope will cover wider vegetation management, not just controlled burning. We are concerned about overreach into topics such as grazing which are even more locally contextual than controlled burns. To have utility, the Code should be narrowly framed on how burning should be conducted. Whilst outdated given the introduction of the 2021 Regulations, the existing Burning Code 2007 remains a solid compilation of good practice.

We are not aware of evidence for noncompliance with the existing Code which would make mandating the Code proportionate. Doing so would introduce the need for an enforcement mechanism, and we have no evidence that Defra or Natural England have the resources for this. For land managers, avoiding liability for actions which Defra or Natural England could enforce against requires substantial recordkeeping, and mandating the Code would consequently introduce unnecessary costs. Defra should be aware that if management becomes too uneconomical, land managers will be forced to withdraw management, and wildfire incidence will increase.

A mandatory Code also risks introducing an ambiguous legal position if licences or ORNEC consents contain conditions which are different from the Code's interpretation of a particular action.

A separate Cutting Code should be introduced to ensure equity, given cutting also has environmental harms, including removal of tussocks and hummocks[75].

A8: Would you support a move to make it a requirement to complete an accredited training course prior to burning under a licence granted under the Regulations?

Yes, for supervisory practitioners only

Please provide reasons why.

Controlled burning is an activity which poses serious risks if handled incorrectly. It fits the category of actions which require accreditation, and we think a well-designed training course has a role. The quality of the training must be high given that experienced gamekeepers are the experts on moorland fire, and regularly train members of the Fire and Rescue Service[76]. Accredited training should be for supervisory practitioners only for the following reasons:

- Applicants will not know who will be involved in carrying out each burn several months in advance when applying for a licence, e.g., because seasonal, casual staff have supporting roles, meaning it would be unnecessarily demanding and impractical to require all staff to have completed training.
- Requiring all burn participants to be accredited could lead to burns being understaffed, which would be more dangerous.
- Controlled burns involve those in apprentice and junior roles who need to gain experience over several seasons before they manage burns themselves. This practical experience is not replaceable through a short training course.
- Some people may be involved in burns in a supporting capacity only, such as driving vehicles or securing access points. These staff have limited or no contact with fire, and therefore would not require training.

The supervisory role could be similar to how the licensee system works in pubs or licenced premises, where the licenced premises holder checks staff for compliance.

The Forestry Commission's Vegetation Fire Training course accredited by LANTRA is well-received within the sector, and would be the most obvious candidate for a training course, although its cost should be monitored if it becomes a monopoly provider. Anyone who has passed the LANTRA course should not have to retake it to be accredited under the updated Regulations. If Defra's decision to refuse licences causes a loss in knowledge over time, a different, more intensive course may be needed.

[75] Heinemeyer et al., 2019. op. cit.
[76] Denny, 2025. op. cit.

Defra should plan transitional arrangements to cope with overdemand for a limited number of training places in the first few years after training becomes compulsory. Lack of training places has been an issue in Scotland following the Wildlife Management and Muirburn Act 2024. Other issues have included the monopoly on training by a single provider, limited weather windows for practical components, and limited locations to receive training, which presents access issues.

B1: Are you aware of the Regulations and what they cover?

Yes.

Please provide any relevant details.

The 2021 Regulations are clear as to what land managers must do or not do, but it is unclear how the Regulations translate into licences being awarded. The Regulations do not define what constitutes the various grounds for being awarded a licence, and Defra's guidance introduces additional requirements – e.g., to "describe how you plan to manage the burn area in the future so that burning does not have to be repeated" and to "show that you've considered alternative solutions to burning and why they are not suitable". The guidance also states that "it is unlikely a licence will be issued if [ground (d)] is the only reason for burning", which differs from the 2021 Regulations, with no apparent legitimacy.

Under their current areal extent, it remains unclear why the Regulations are necessary given that burning is an Operation Requiring Natural England's Consent (ORNEC) in SSSIs, and is de facto licenced without the 2021 Regulations.

C3 Using the table below, please indicate whether the proposed amendments to the Regulations would impact on your operations and what changes might you need to make.

Would you need to adjust how you manage your land in the future with this change?

Yes. It is likely to increase the area managed through cutting. Given that ORNECs already restrict burning in SSSI, the change in management from these consultation's proposals would arguably be greater than the change after the 2021 Regulations were introduced, which coincided with a 73% reduction in area burnt[77].

What would you need to change?

Moorland managers wishing to apply for a licence would need to survey peat depth across their management area. SFI CMOR1 Moorland Assessment action does not require a peat depth survey, so this would be an additional action and cost for moorland managers, and it would need to follow an accredited methodology.

Moorland managers would probably shift further to cutting to manage fuel loads in accessible areas. Moorland estates have already blocked drainage channels across an estimated 60,000 ha[78], so the available hydrologically suitable area to block drainage ditches may be smaller than Defra expects.

We have heard mixed reports about whether driven grouse shooting could continue with cutting. The balance of evidence suggests that it could, but some estates may change to walked-up shooting. This is associated with fewer staff and less overall investment in nature

[77] Shewring et al., 2024. op. cit.
[78] extrapolating data from Denny, 2025, op cit.

conservation[79], with a greater burden of peatland restoration costs falling on taxpayers and water companies.

Moorland managers would need to cope with more extreme and frequent wildfires, but whilst employing fewer staff experienced in burning. There would also be less investment in wildfire equipment such as foggers and water bowsers, further increasing the risk of uncontrolled wildfire.

How much would these changes cost?

Available evidence suggests that shifting to cutting costs six times more than burning per unit area[80]. CLA members report cutting is an order of magnitude more labour intensive than burning. Additional costs include the purchase of new equipment and maintenance of this, which will become more frequent the stonier the ground, or paying for contractors where equipment purchase cannot be justified. Grants should be available for cutting equipment if Defra pursues its stated approach.

The costs of more frequent wildfires are hard to forecast, but significant. Large wildfires cost around a million pounds each in emergency response costs[81]. Damage to fencing is in the tens of thousands and loss of previous restoration work in the hundreds of thousands per wildfire, with similar or higher reinstatement costs[82]. Indirect costs from smoke are high; the 2018 Saddleworth/Stalybridge Moor fire caused an estimated £21 million in health-related costs[83]. Road closures due to smoke are further indirect costs. Loss of carbon from peat is valued in the millions of pounds when applying the government's Social Cost of Carbon. Additional water filtration costs following wildfires has been estimated at £16 million annually[84]. Overall, a conservative cost for single wildfire events is around £5,000-£10,000/ha[85]. In 2025 so far, this would translate to up to £350 million in losses. The consultation's proposals could lead to similar or greater losses annually.

Could you adapt your operations to eliminate burning on your site?

CLA members have emphasised that they could not eliminate burning without a major increase in wildfire risk. We are aware that 90% of Moorland Association members surveyed in relation to this consultation felt they could not eliminate burning either.

D1: Do you have concerns about the impacts of burning on the environment?

No

Please provide details below.

Controlled burning is a management tool which must be judged relative to environmental harms from other options. The CLA is deeply concerned that restricting the use of controlled

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[79] Thomson, S. et al., 2020. *Summary Report - Socio-economic and biodiversity impacts of driven grouse moors in Scotland.* Commissioned report for Scottish Government (CR/2019/01),
[80] Heinemeyer et al., 2019. op cit.
[81] University of Manchester, 2014. *Impact case study (REF3b): Policy Support for Wildfire Management and Contingency Planning in the United Kingdom* https://ref2014impact.azurewebsites.net/casestudies2/refservice.svc/GetCaseStudyPDF/28108
[82] Game & Wildlife Conservation Trust, 2019. *Written evidence submitted by the Game & Wildlife Conservation Trust (GWCT) (PLD0024)* https://committees.parliament.uk/writtenevidence/105415/pdf/
[83] Graham et al., 2020. op cit.
[84] Doerr et al., 2021, op. cit.
[85] Moorland Association, 2025. *Cost of UK Wildfires per Hectare: Methods and Estimates* https://f20ead8a-2979-4fd6-9990-9784b9a21c0c.usrfiles.com/ugd/f20ead_2a16ea6bd06d4f6481b4e03e5136a351.pdf

burns will increase the risk of wildfire for reasons outlined in answer to Question 1A. Peatland wildfires were responsible for 90% of the UK's fire-related carbon emissions between 2001 and 2021; controlled burns were modelled as having comparatively negligible emissions, given peat should not burn when conducted correctly[86]. Peatland wildfires, particularly in the Peak District, are a major air quality hazard due to PM2.5 and volatised heavy metals[87]. Wildfires have negative effects on freshwater quality, and significant negative impacts on biodiversity as described in response to Question 1A. Wildfires worsen flood risk by creating water-repellent surfaces and reducing infiltration[88].

Cutting heather has been shown to have negative environmental impacts like removing tussocks and hummocks used by ground-nesting birds; a threefold higher phosphorous inputs to the catchment compared to burning; increasing sedge dominance; and soil compaction and rutting from machinery manoeuvring[89]. Natural England's own review of cutting found "limited evidence" was available on cutting's impacts[90], and we do not understand its long-term consequence, making it risky to rely on it when a proven, less expensive technique is available.

The CLA agrees that there are trade-offs from managed burning, such as increased air pollution compared to cutting[91]. However, when assessed relative to cutting and unmanaged vegetation growth, the available evidence does not find managed burning to be more environmentally harmful. Its impact and use must be evaluated at individual sites without national policy predetermining as the option of "last resort"[92].

[86] Baker et al., 2025. op. cit.
[87] Graham et al., 2020. op. cit.
[88] Allott et al., 2019. op cit.
[89] Heinemeyer et al., 2019. op. cit.
[90] Moody, C.S. and Holden, J. 2023. *The impacts of vegetation cutting on peatlands and heathlands: a review of evidence*. Natural England Evidence Review NEER028. Natural England, York.
[91] Heinemeyer et al., 2019. op cit.
[92] Heinemeyer et al., 2023. op. cit.