

Policy Perspectives 2

Upland peat and burning – policy needs to adapt to emerging knowledge



Key perspectives:

- The research on which the no-burn approach is largely based is out of date and so a comprehensive review of the science relating to burning and alternative management strategies is needed.
- Suggestions that **controlled** burning is damaging to the **peat** is mis-leading. The aim of the quick ‘cool burns’ undertaken in **winter** on grouse moors is not to burn the peat just the surface vegetation (heather) and usually not even the underlying moss and litter layer. The different types of burning are explained below.
- Controlled burning is an important tool in the prevention and mitigation of **uncontrolled** burning (wildfire) which tends to take place in **summer** and can burn down into the **peat**.
- Alternative vegetation management strategies are cited such as cutting. But little is known about the long-term effects of these on encouraging ‘active’ bog vegetation, wildlife, wildfire mitigation and other ecosystem services.
- There is a common vested interest in conserving the peat. Policy needs to promote adaptive management to avoid unintended consequences.

No burn evidence out of date: With calls for a ban on burning on peatland continuing, Baroness Bakewell of Hardington Mandeville, the Liberal Democrat EFRA spokesperson, raised an important point in an October 2020 debate in the House of Lords. She said “*Considerable damage was caused by the [wildfire] on Saddleworth Moor These fires were not the result of rotational heather burning, which has many benefits. it is important to note that, despite what the Minister says about the scientific evidence, that evidence is out of date*”ⁱ. In other words scientific understanding has progressed since the research upon which the no burn approach was largely based. The Game & Wildlife Conservation Trust’s Peatland Reportⁱⁱ considers the current science in detail.

Alternative management strategies: The alternative to rotational burning should not be no-burn policies. These allow large fuel loads (in the form of surface vegetation) to build up potentially creating hotter, more dangerous, harder to put out fires. If a no-burn policy on peat is introduced, vegetation management strategies (including, in our view, controlled burning wildfire mitigation measures) will be needed if we are to avoid the increasing risk of uncontrollable wildfires, which can destroy the peat and create huge carbon losses, impacting on peatland policy objectives. In America, a move to no-burn policies is now seen as near disastrous on similar fire-prone ecosystems. It is salutary to note that the worst recent summer wildfire - Saddleworth Moor - occurred on moorland that was being managed with a no-burn policy.

In addition little is known about the *long-term* effects of cutting as an alternative vegetation management strategy on encouraging ‘active’ bog vegetation, wildlife, wildfire mitigation and other ecosystem services, given that there is no long term data available on, for example, changes to vegetation composition, impacts on net GHG emissions and impacts on micro-topography. Further these alternative strategies will inevitably come at a cost and currently it is unclear who will pay for it and who will undertake the management.

Other ecosystem services at risk: In addition currently research is weighted towards carbon fluxes without an appreciation of the contribution that controlled burning makes to other

ecosystem services. Recent peer reviewed research has demonstrated that low severity burns, when undertaken in accordance with the Heather & Grass Burning Codeⁱⁱⁱ, can support both upland biodiversity (e.g. red-listed curlew) and carbon sequestration ambitions (as well as other ecosystem services).

Distinguishing between types of burning important: Suggestions that controlled burning is damaging to the **peat** is mis-leading – the aim is not to burn the peat. Indeed burning the peat implies also burning the rootstock of the heather the manager is trying to enhance which achieves the opposite of what is intended. It is the **surface biomass** that is burnt. This is a subtle but key distinction and the reason why it is important to differentiate between controlled and uncontrolled burning.

'Cool burns' meet policy objectives: **Controlled** (or managed/prescribed burning) occurs in upland areas between 1 October and 15 April when the surface vegetation is damp resulting in 'cool burns' that do not penetrate the surface of the peat or moss layer. In fact US scientists have found that quick surface fires made moist peat more stable, often creating a protective crust that allowed it to retain more of its stored carbon for longer^{iv}. Whilst carbon is released when heather is burnt, it is captured both in the recovering, re-growing heather vegetation and in the black charcoal left behind (biochar, sometimes called 'stick' by gamekeepers).

Wildfire threats to policy objectives: In contrast **uncontrolled** wildfires spread rapidly burning not only the surface biomass but often the peat beneath. Liverpool University estimated that the Saddleworth Moor 2018 wildfire resulted in 7 centimetres of peat being lost, which will take over 200 years to restore. With wildfire set to increase due to climate change, managing the volume of surface biomass (keeping vegetation reasonably short) will be essential if we are to avoid catastrophic and uncontrollable wildfires.

Best practice burning strategies: The new and evolving knowledge base should be used to inform best practice and to develop ecologically-based burning strategies e.g. using data on fuel moisture content for wildfire control. In other peatland ecosystems fire is a valued conservation tool used to protect and restore globally rare heathland and moorland.

Adaptive policy needed: As there are knowledge gaps and scientific understanding continues to evolve, policy needs to be able to adapt to this to avoid unintended consequences. We believe that without a comprehensive review of the science there is a real risk that the policy objective of **restoring** healthily functioning peatlands will fail.

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ⁱ <https://hansard.parliament.uk/Lords/2020-10-14/debates/3BD77BF1-34F0-42E6-80A8-CDA76D5D798F/details#contribution-ED1B1F5C-70DA-4B79-A0CE-B6939CF0E4F8>

ⁱⁱ <https://www.gwct.org.uk/media/1127842/GWCT-Peatland-Report-2020-1r.pdf>.

ⁱⁱⁱ Heather & Grass burning code 2007

^{iv} Flanagan *et al* (2020) Low-severity fire as a mechanism of organic matter protection in global peatlands Global Change Biology.