

# **Annex C to the Moorland Association submission to the Environment, Food and Rural Affairs Committee inquiry: Wildfire risk and response 2026**

## **Post-Glaves/Ashby evidence review: executive summary and independent peer-review statement**

### **Purpose of this annex**

1. This document is Annex C to the Moorland Association's submission to the Environment, Food and Rural Affairs Committee inquiry, *Wildfire risk and response*. It summarises relevant extracts from Dr Mark Ashby's review of the post-Glaves et al. evidence on managed burning, together with the independent peer-review statement by Dr Gavin Stewart.
2. The purpose of this annex is not to ask the Committee to resolve the scientific debate about managed burning on upland peatland. It is to show that the relevant evidence base is contested, context-dependent and uncertain; that the review identified findings inconsistent with earlier conclusions; and that the independent peer-review statement recognised adaptive management as an alternative to a one-size-fits-all approach.
3. This matters to EFRA's wildfire inquiry because restrictions on prescribed burning and other vegetation-management tools affect fuel load, wildfire severity, peat ignition risk, firefighter safety and the practicality of upland wildfire mitigation.

### **1. Source document**

4. **Peatland Protection - Report 1: *The effects of managed burning on upland peatland biodiversity, carbon and water. A review of the post-Glaves et al. (2013) evidence***  
Dr Mark Ashby, Lancaster Environment Centre / Whitebeam Ecology.  
Peer review by Dr Gavin B. Stewart, Newcastle University.
5. The report states that it reviews the post-Glaves et al. evidence concerning managed burning on upland peatland biodiversity, carbon and water. It also records that the review was produced by Dr Mark Ashby on behalf of the Moorland Association and in consultation with Natural England, and peer reviewed by Dr Gavin Stewart.

### **2. Relevance to EFRA's wildfire inquiry**

6. The Committee is considering how land management can prevent and control wildfire, how Defra funding should support adaptation to wildfire risk, how wildfire monitoring should be improved, and how government should coordinate a cross-departmental response.
7. The post-Glaves/Ashby review is relevant because it addresses issues directly connected to those questions, including:
  - the effect of managed burning on fuel load;
  - the relationship between vegetation structure and wildfire risk;
  - the uncertainty and inconsistency of the evidence base;
  - the need for adaptive management and monitoring;
  - the risk of relying on one-size-fits-all conclusions in a heterogeneous upland landscape.
8. The Committee does not need to decide whether prescribed burning is desirable everywhere. The relevant point is narrower: the evidence base is contested and context-dependent, so restrictions

affecting fuel management should be justified by transparent, auditable reasoning that weighs wildfire consequences alongside peatland, biodiversity, carbon and water objectives.

### 3. Executive-summary findings relevant to wildfire and fuel management

9. The executive summary states that the updated evidence differed from earlier conclusions in several important respects. It records findings concerning carbon, water quality, vegetation, Sphagnum recovery and wildfire risk.
10. The most relevant points for EFRA are summarised below.

Topic	Summary of relevant finding	Why it matters for wildfire policy
Carbon	The review states that updated evidence disagreed with earlier conclusions that burning reduced peat accumulation and carbon storage compared with no burning. It records that newer evidence on peat accumulation in burnt areas was neutral rather than negative.	Carbon policy should not assume that all managed burning has the same carbon consequence in all circumstances.
Water	The review states that updated evidence found a neutral effect on water colour and dissolved organic carbon, contrary to earlier conclusions.	Water-quality claims used to justify restrictions should be assessed against the updated and contested evidence base.
Vegetation and Sphagnum	The review states that <i>Calluna</i> becomes more abundant with increasing time since burn, and that the new review found a neutral effect on Sphagnum abundance, with <i>Sphagnum capillifolium</i> recovering after low-severity fire.	Vegetation succession, fuel accumulation and Sphagnum recovery are all relevant to wildfire severity and peatland resilience.
Wildfire	The review records that fuel load and structure are critical factors in fire behaviour, including fireline intensity and rate of spread. It also states that burning reduces fuel load and may have benefits for fire-risk management.	Fuel load and structure should be central to wildfire policy, not treated as secondary to habitat prescription.
Adaptive management	The executive summary concludes that adaptive management through tests and trials across multiple sites is recommended to explore the best balance of outcomes under differing conditions.	Supports site-specific, monitored management rather than blanket rules.

### 4. Wildfire-specific findings

11. The executive summary's wildfire section is directly relevant to EFRA's inquiry. It records that fuel load and structure are critical to fire behaviour, particularly fireline intensity and rate of spread. It also notes that residence time and depth of heat penetration into soil are important in determining severity of impact.
12. The review further states that burning reduces fuel load and may therefore benefit fire-risk management, while recognising the increased need for fire-risk management as climate-change scenarios become a reality.

13. This supports the MA's central submission that wildfire policy should be judged by whether it reduces severity before ignition: fuel continuity, fuel structure, access, suppression opportunities and peat ignition risk should be treated as public-safety variables.

### **5. Evidence uncertainty and contested conclusions**

14. The independent peer-review statement by Dr Gavin Stewart is particularly important because it does not present the evidence base as settled. It states that the evidence underpinning decisions about burning management is highly uncertain, despite the number of papers on the topic. It identifies three major causes of uncertainty:

- difficulty synthesising studies that measure different outcomes at different spatial and temporal scales;
- high inconsistency across studies;
- high risk of bias, including difficulty attributing causation and potential confounding.

15. The peer-review statement also notes that interpretation of recent evidence differs from the interpretation of older evidence reviewed by Glaves, particularly in relation to Sphagnum abundance and carbon accumulation. It says burning impacts are context-dependent, and that carbon accumulation remains subject to unresolved academic debate.

16. This is highly relevant to EFRA. A policy that restricts fuel-management tools should not be presented as a simple consequence of settled science where the evidence base is uncertain, inconsistent and context-dependent.

### **6. Independent peer-review statement: policy implications**

17. The peer-review statement says deficiencies in the evidence base require decision-making under high uncertainty. It recognises the precautionary principle as one possible approach, particularly for high-value sites on deeper peats where hydrological functioning is intact or easily restored.

18. However, the same statement also identifies adaptive management as an alternative approach. It describes adaptive management as undertaking different management at different sites, subject to monitoring outcomes, in order to mitigate uncertainty, avoid a one-size-fits-all solution and facilitate evidence acquisition.

19. That is the central point for this annex. The peer-review statement does not support unrestricted burning. Nor does it support an over-confident blanket restriction. It supports the proposition that, where uncertainty is high and sites differ, policy should permit monitored, site-specific management.

### **7. Review methods and limitations**

20. The report states that its objectives were to:

1. produce a coded database of post-Glaves studies;
2. critically appraise and summarise the post-Glaves evidence;
3. highlight contradictions and similarities between the new review and Glaves et al.;
4. determine research gaps and priorities.

21. It describes a four-stage search strategy, including searches of Web of Science and Scopus, examination of reference lists from six recent reviews, searches of PhD and MSc theses in EThOS, and addition of known articles not picked up during those stages.

22. It also records inclusion criteria, including that studies had to be post-2012, original empirical investigations, and focused on relevant peatland, biodiversity, carbon, greenhouse gas, water, soil and managed-burning topics.

23. The report's main findings state that 62 studies from 65 articles were included, covering 55 outcome measures. However, most studies were correlative, short-term and plot-scale, and the overall quality of evidence for each outcome measure was low. It also states that most outcome measures were supported by inconsistent evidence, and that evidence for 23 outcome measures was inconsistent with Glaves et al.
24. The conclusion states that the contradictory nature and low quality of the evidence make it difficult to draw firm conclusions about burning impacts on upland peatland ecosystems, and that it would be unwise to make policy recommendations on that basis alone.
25. For EFRA, this supports three linked propositions:
  - restrictions on fuel-management tools should be evidence-assured and transparent;
  - uncertainty should be recorded rather than hidden;
  - policy should use adaptive, monitored, site-specific management where appropriate.

## **8. Relevance to the Moorland Association's recommendations**

### **8.1 Wildfire policy should be severity-led**

26. The review records that fuel load and structure are critical to fire behaviour, including fireline intensity and rate of spread. That supports a severity-led policy framework in which government decisions are tested against whether they reduce or increase fuel continuity, fire intensity, suppression difficulty, peat ignition risk and danger to people and infrastructure.

### **8.2 Active fuel management should remain part of the toolkit**

27. The review states that burning reduces fuel load and may have benefits for fire-risk management. That does not mean burning is appropriate everywhere. It does mean that policy should preserve a site-appropriate fuel-management toolkit, including grazing, cutting, mowing, bracken and scrub control, rewetting where feasible, and prescribed burning where appropriate and lawful.

### **8.3 Evidence assurance matters**

28. The peer-review statement identifies high uncertainty, inconsistency and risk of bias. That means Parliament should be able to scrutinise how government reviews assess uncertainty, contrary evidence, causation and applicability before those reviews are used to justify restrictions affecting wildfire-relevant land management.

### **8.4 Adaptive management is justified**

29. The peer-review statement expressly identifies adaptive management as an alternative to a one-size-fits-all solution. That supports the MA's recommendation for regional wildfire resilience planning, outcome monitoring, site-specific consent routes and a statutory Wildfire Severity Reduction Duty.

## **9. Conclusion**

30. The post-Glaves/Ashby review and independent peer-review statement do not prove that prescribed burning is appropriate everywhere. Nor do they show that burning is harmless in all circumstances. Their significance for EFRA is different and more limited: they show that the evidence base is contested, uncertain and context-dependent, and that adaptive management is a legitimate policy response.
31. Annex C therefore supports the MA's recommendation for a statutory Wildfire Severity Reduction Duty, a fast public-safety consent route for fuel-reduction work, and an evidence-assurance function within a national Wildfire Resilience Board. The annex shows why policy should not impose one-size-fits-all restrictions on fuel-management tools without transparent assessment of wildfire risk, firefighter safety, smoke exposure, peat ignition, habitat condition, carbon consequences and rural-urban interface risk.