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Reform Committee  
The Scottish Parliament  
Edinburgh  
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## **Wildlife Management and Muirburn (Scotland) Bill**

Dear Greg,

Thank you for your letter of 4 May 2023 relating to the Delegated Powers within the above Bill following the Committee's consideration of this Bill on 2 May. In your letter, you sought clarification on two specific provisions within the Bill – at Section 10 and Section 18. I have provided further background on the rationale for these provisions and have addressed your question (in bold) below.

### **Section 10 – Power to amend the purposes for which a muirburn licence may be granted.**

As you set out in your letter, section 10 of the Bill provides that Scottish Ministers may, by regulations, amend the purposes for which a licence may be granted to undertake muirburn on peatland. You requested further explanation why it was considered appropriate to allow Scottish Ministers to amend these purposes by regulation.

As you note, paragraph 42 of the DPM advises that, “this power could be used to either relax or restrict further the purposes for which muirburn may lawfully be made on peatland”.

When developing the muirburn provisions in the Bill, we thought carefully about the purposes for which muirburn should be allowed on peatland. This drew on extensive data and reports, including the recommendations made by the independent review of grouse moor management. The review recognised the benefits of muirburn, however it also highlighted that there was strong evidence that muirburn can have a detrimental effect on biodiversity, hydrology and soil. The report stated: *“Muirburn can have both positive and negative effects on carbon storage, both directly, by affecting carbon contents of soil and vegetation, and indirectly, by affecting carbon storage potential through the changes in plant community composition after fire. There is often an assumed net loss of carbon under regular muirburn, but the evidence is not conclusive...”*

While there is currently no legislation for prohibiting muirburn on peatland, the existing Muirburn Code contains supplementary guidance that sets out some of the associated risks:

- Peatland can be damaged easily by incorrect management.
- Fires that ignite peat can be very damaging and difficult to extinguish.
- Inappropriate management can lead to impurities in the drinking water, which are expensive to remove.
- Bad burning practices can produce bare peat, which is easily eroded by wind and water, allowing it to enter watercourses.

In addition, in their 2020 report ‘Land use: Policies for a Net Zero UK’ the Committee for Climate Change recommended that there should be a ban on burning on peatlands: *“[muirburn] is highly damaging to the peat, and to the range of environmental benefits that well-functioning peat can deliver (e.g., water quality, biodiversity and carbon sequestration). A voluntary cessation of this activity by landowners has not produced the desired outcome so the practice should be banned across the UK with immediate effect.”*

In response to the lack of consensus in the scientific research, the Scottish Government commissioned a report to review the current evidence from the research conducted on muirburn and the impacts on carbon stores, implications for the wider environment and wildfires. The review reached the following conclusions:

- There is evidence that muirburn causes a proportion of wildfires that occur on moorland, however, there remains uncertainty regarding this proportion and the purpose for which muirburn is being undertaken. Studies suggest that fire intensity in heather is controlled by fuel structure, windspeed and fuel moisture content.
- There is evidence of burning of above-ground biomass on peat during muirburn with potential impact on carbon sequestration. The impacts of burning on carbon balance may be transient over longer burning rotations. There is no consensus as to the net impacts of muirburn on carbon budgets, with evidence supporting gains, losses and no difference in carbon stores/fluxes following muirburn.
- Burning on peatlands can change surface vegetation species and structure and can have a negative impact on carbon storage.
- Fire has the potential to get into the peat. Depending on the nature and characteristics of the fire, this can pose a significant risk to carbon stores.

The report found that there was an absence of complete evidence and the risks associated with muirburn were identified as:

- the risks of carrying out muirburn on peat is that it changes the vegetation structure, lowers the water table and damages peatland processes which in turn results in net carbon emissions and/or reduces the capacity for peat to store carbon.
- The risk of using fire as a tool to manage moorland is that it can lead to an uncontrolled fire (wildfire) and if this is on peat it can have serious implications for carbon emissions.
- The risks of not carrying out muirburn are that fuel load builds up which can influence the risk around the level of intensity of wildfires, which if close to peat/peatlands could damage these habitats.

In light of the available evidence we have taken the view that a precautionary approach should be taken. In this instance this means taking into account any activity which potentially carries a risk to carbon storage. Whilst the evidence around the role of muirburn as a tool to reduce the risk of wildfires is weak, it is acknowledged that the impacts of a wildfire would be significant. In this context, the precautionary principle would indicate that the role of muirburn as a potential tool to manage this risk must be considered.

The provisions in the Bill that allow a muirburn licence to be granted on peatland for limited purposes are therefore intended to balance the two main conflicting arguments on this issue; that burning heather on peatland is a risk to biodiversity and carbon stores, versus not burning heather on peatland may allow fuel loads to build up, risking wildfire.

The Bill provides that the Scottish Ministers must consult NatureScot and such other persons they consider likely to be interested in or affected by the licensing of muirburn before making such regulations.

## **Section 18 – Power to amend the definition of “peatland” for the purposes of muirburn.**

In your letter, you also sought information on why it was considered appropriate to allow Scottish Ministers to be able to change the definition of peatland for the purpose of making muirburn by regulations. Similar to the power at section 10, this power could be used to make the definition more or less restrictive, thereby changing the amount of land subject to the stricter controls.

While the Bill requires that “peat” and “peatland” are defined, as muirburn can only take place on peatland for certain purposes specified in the Bill, there is no single definition of peat or peatland. The current Muirburn Code, which provides guidance on how muirburn should be conducted, defines peat as “an organic soil, which contains more than 60 per cent of organic matter and exceeds 50 centimetres in thickness.”

However, as a response to the independent review of grouse moor management, the Scottish Government committed to review the current definition of peatland to determine whether this should be revised.

The benefit of using the Muirburn Code’s current definition of peat was considered and a potential benefit would be that it is in line with the Scottish soil definition. This would allow current digital survey maps, to be used to help provide a desk-based licence assessment and help to interpret field survey data. However, it would allow muirburn on peatlands that may be associated with shallower peat.

The use of surface vegetation was also considered as a possible way to define peatland for the purpose of muirburn as a number of broad habitat types are associated with undisturbed peatlands, each with their own characterised surface vegetation. There are, however, areas of peatland that show atypical vegetation due to past management and land drainage. A narrow definition of a vegetation indicator could lead to muirburn being considered appropriate on degraded peatlands or areas that could be suitable for restoration, whereas a wider definition may include areas that are not peatland or degraded peatland.

A definition based on the hydrological or morphological typology alone was also considered. Expert understanding of the relationship between peatland and water tables can be used to recognise structured patterns of peatland and other habitat types. However, this requires a high level of expertise, and the findings can be significantly impacted by the weather conditions surrounding the time of the survey as well as historic land management practices. It was felt that, while the understanding of the hydrological systems associated with peatlands could be used to identify areas which may be at higher risk or have a higher potential for restoration, including such a definition in the Bill would be impractical.

Having considered these alternatives, it was decided that, in line with the Bill's wider muirburn provisions, the precautionary principle should be followed and a stricter definition should be imposed for the purpose of muirburn so that it may protect areas of peatland associated with shallower peat. Section 18 of the Bill therefore defines "Peat" as "soil which has an organic content (that is, content consisting of living and dead plant and animal material) of more than 60%". "Peatland" is defined as "land where the soil has a layer of peat with a thickness of more than 40 centimetres".

This definition is in line with The Heather and Grass etc. Burning (England) Regulations 2001 which provides that: "a person must not burn specified vegetation on a designated site on peat that is of a depth of more than 40 centimetres, except under (and in accordance with) a licence issued by the Secretary of State under regulation 4."

These considerations illustrated, similar to the lack of strong scientific consensus relating to muirburn on peatlands, that there is a lack of strong consensus on definition of peatlands. This is why it is considered appropriate for the Bill to contain a regulation making power to allow the Scottish Ministers to amend the definition of 'peatland.'

The Bill provides that the Scottish Ministers must consult with NatureScot and such persons they consider likely to be interested in or affected by the making of muirburn.

**The Committee requests further explanation from the Scottish Government as to why it considers it appropriate for Ministers to be able to change these aspects of the Bill by regulation, either to further restrict or relax muirburn on peatland, after the Bill is passed by Parliament.**

The provisions relating to muirburn licensing, including muirburn on peatland, are based on the best currently available evidence. However, it can be seen from the extensive reviews and reports discussed above that this comprises both data that is contested, and data that is not yet available. This means that while we believe the current provisions are the best approach, further findings from research, some of which is already under way means it might be considered necessary to amend these provisions to prevent sub-optimal or even harmful land management practices or to enhance carbon management or biodiversity outcomes.

Any proposed changes to the muirburn licensing scheme would be developed in consultation with relevant stakeholders before any amending regulations are brought to the Scottish Parliament for consideration and approval, as required by the provisions in the Bill. These amending regulations would be subject to the affirmative procedure, so the Scottish Parliament will be able to scrutinise their appropriateness accordingly.

Yours Sincerely,



**Cate Turton**

Deputy Director, Nature Division  
Directorate for Environment and Forestry