Muirburn is a significant cause, not a solution, to wildfires

Description


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The Highlands ablaze on 5th April. View south across Loch Nevis from Meall Bhuidhe on Knoydart, I

I was provided with this incredible photo through a friend who had been Knoydart 2 weeks ago and, for four days between 2nd and 5th April, had watched a fire on Morar to the south. An alert was raised for Knoydart and the community started to muster and prepare a response. It was not long before information was circulating that the fire had been caused by muirburn in the middle of the dry spell, when the Scottish Fire and Rescue Service had issued warnings of very high fire risk. The muirburn quickly got out of hand and the wildfire then appears to have burned for a whole week in the course of which the Fort William-Mallaig railway was closed for a time (see here).

When I asked a friend who lives near Mallaig about the fire they independently told me the community there were also saying the fire had been caused by muirburn. Both named the same people as being responsible. A quick google search shows significant wildfires were also reported by the media on Morar in 2021 (see here) and (see here). Significantly in no cases does the media explain the cause of these wildfires although I am sure members of the local community, as elsewhere in Scotland, know. It is time that the Scottish Fire and Rescue Service properly investigated and publicly reported on the cause of all wildfires.

If you search on X for Backyard Alchemist there are links to a video of this massive fire

Following my last post on the out of control muirburn in Glen Shee (see here) I was sent the photo above of Scaut Hill and Tinto south of Glasgow, hills which are subject to intensive muirburn:

Muirburn on Scaut Hill from main path up Tinto 2014. The recent wildfire was on the far side of Scaut Hill

Ironically, where muirburn for shooting gets out of control it undermines its very purpose which is to artificially increase red grouse numbers by producing a patchwork of young heather, which is more nutritious for feeding, and of older heather for cover and nesting. The fire on Scaut Hill will have completely destroyed any value it had left for grouse shooting.

NatureScot's 2022 research overview on muirburn (see here) provided a summary of the main evidence on the relationship between muirburn and wildfire at the time. I recently cited the research by Richard Luxmoore in 2018 into Scottish Fire and Rescue records which found that out of 233 wildfires recorded between 2009/10 and 2014/15 140 or 60% were potentially caused by muirburn. Other researchers, using different methods came up with different results which the NatureScot report summarises as follows:

"The review process identified six primary sources which estimated the proportion of wildfire that results from managed burning (Table 4), giving a range of 15% to 60%, or 24% to 68% if lowland statistics are excluded. Due to the limited evidence base and caveats acknowledged by the source authors the review team note no basis to offer a degree of confidence in this range. ***The review concludes that there is evidence that muirburn directly causes a proportion of wildfires that occur, however there remains uncertainty regarding this proportion****."*

That is a very wide range and clearly the data on causes of wildfires is not good enough but even the lowest estimates were that a quarter (24%) of upland wildfires are caused by muirburn. Recent research from the James Hutton Institute, an organisation which I normally respect and has done great work on Scotland's soils, is therefore very surprising (see here). It claims that:

"Overall, 96 % of the total wildfire area occurred outside moorlands managed by muirburn, with wildfires covering 1.1 % of total moorland area."

This figure is now being used by grouse moor interests, like the Heather Trust today (see here), to justify muirburn on grouse moors, claiming not only that it is a negligible cause of wildfires but also that it actually helps prevent wildfire.

It is important to note here that the James Hutton research does not report the number of wildfires recorded on moorland managed by muirburn, only on the area affected and that the research methodology they used suggested this was very small. This raises some important methodological questions about the extent to which the aerial survey methods used would pick up on relatively small wildfires and how the researchers determined when muirburn had got out of control and should be recorded as a wildfire. The recent damaging wildfire caused by muirburn west of the Cairnwell, which took place on a steep slope and would be hard to detect from satellite images, provides an example:

Would this wildfire west of the Cairnwell triggered by muirburn have been detected by the research methodology?

There are reasons, therefore, to be sceptical about the headline conclusion from the research as well as the fact that it involved the Game and Wildlife Conservation Trust – a front for sporting estates – and was funded by the Scottish Government (as part of the 2022–2027 Strategic Research Programme (JHI-D4-4, JHI-C3-1, JHI-D5-2), previous Strategic Research Programmes (2016–22), Underpinning National Capacity and Contract Research Funded projects – Grouse Phase 1 and Phase 2 (see here)). However, its "finding" that wildfire affects a far far greater area of land outside of grouse moors managed by muirburn should not come as any surprise and is undoubtably correct. The wildfires in the west of Scotland in the recent very dry period, some caused by muirburn and some not, were far more extensive than any caused by intensive grouse moor management. The photos above illustrate the differences.

As the research puts it:

"Heather grasslands, peatbogs and habitats on peat soils had a greater proportional area of wildfires than other moorland habitats and habitats on non-peat soils. In contrast, heather heathlands with non-peat soils had a greater proportional area of muirburn".

The important point here in my view is the amount of vegetation in Scotland, however described, that is going up in smoke and the impact this has on nature and carbon emissions. This is being caused by "controlled" muirburn and wildfires, a significant proportion of which are caused by muirburn getting out of control. The report does not provide any data on the extent of the destruction but does reveal its bias in its explanation for the relatively low proportion of grouse moors affected by wildfire:

"We suggest the limited co-occurrence of muirburn [this should have said muirburn on intensively managed grouse moors to distinguish it from muirburn intended to improve grazing] and wildfires, may be due to fuel load reduction following muirburns, but may arise due to wildfire prevention strategies on estates and/or lower occurrence of recreational caused wildfires. In addition to muirburn regulation, our findings emphasise the need for policy, management, awareness and education outside of muirburn areas to reduce the risk of wildfires."

Extraordinarily the James Hutton research does not include any reference to the data provided by the Scottish Fire and Rescue Service to the Cairngorms National Park Authority for their consultation on the introduction of byelaws to ban campfires (see here):

5.6 Causes of primary fires

Table 6 – causes of primary fires

Cause	Number of fires	Percent of tot
Heat source and combustibles brought together	16	30%
Intentional burn, out of control (muirburn, woodland etc – breakdown of type not available)	10	19%
Overheating, unknown cause	4	8%
Accumulation of flammable material	2	4%
Bonfire out of control	2	4%
Careless handling – careless disposal	2	4%
Natural occurrence	2	4%
Negligent use of equipment	1	2%
Other (suspected causes below)	14	
Campfires	7	13%
Discarded cigarette	1	2%
Fallen tree breaking electricity cables	1	2%
Spark from train	1	2%
Not known	4	8%

* Does not total 100% due to rounding

Primary fires are those attended by SFRS which are recorded as having a significant impact. Data fr
Appendix 1 on outdoor fire incidents in the Cairngorms National Park. This information was publishe
months before the James Hutton research paper was published in August 2024.

This data shows that muirburn on grouse moors in the Cairngorms is NOT as benign as implied by James Hutton's headline finding, being responsible for c19% of all out of control fires. This undermines their proposition that the relatively low proportion of land of land on grouse moors destroyed by wildfire is as a result of grouse moor owners' "fire prevention strategies". The truth is the purpose of muirburn on grouse moors never has been to prevent fires, its been to produce more grouse to shoot and to suggest otherwise is highly misleading. If grouse moor owners cared a jot about wildfire, all muirburn would have ceased as soon as the SFRS had issued its warnings of high fire risk and on windy days but, following King Charles' appalling example (see here), they have carried on regardless.

The SFRS data also shows that the researchers' apparent assumption that outdoor recreation is a

primary cause of wildfires in areas outside intensively managed grouse moors is questionable. Yes, 13% with the Cairngorms National Park is significant but it is far from being one of the main causes of wildfire and less important than muirburn. Where the researchers are probably right, however, is in stating that outdoor recreation plays a very small role in causing wildfires in areas intensively managed as grouse moors. The reasons for this should be obvious, intensively managed grouse moors are not great places for camping or barbecues, but stating it further exposes the lack of any justification for the Cairngorms National Park Authority's introduce a blanket ban on recreational fires across the National Park (see here).

Where the James Hutton researchers are in my view correct, however, is in their claim that the relatively limited extent of wildfires on grouse moors is because of "fuel load reduction". Another way of putting that would be to have said that as the land on grouse moors is regularly burnt to bits there is very little left to burn. The challenge facing conservationists is that grouse moor interests are now using this fact, made respectable by the James Hutton researchers, to present muirburn as a means of preventing wildfire when in act it is a disaster for carbon emissions, destructive of nature and a health hazard for humans.

In the last year or so grouse moor interests have had considerable success in getting our public authorities to present muirburn is part of the solution to wildfires, rather than a significant cause and a problem in its own right. The Wildfire Conference 2024, organised by the Heather Trust, was full of presentations (see here) advocating burning as a solution to wildfire risk and climate change rather than "nature based solutions". Hence too why NatureScot is proposing to water down the Moorland Code, as I have described in recent posts, and hence too why the Cairngorms National Park Authority's draft Integrated Fire Management Plan (see here) – the public consultation on which ends this week -proposes to give those responsible for destroying the National Park through muirburn the key role in tackling wildfires in the National Park!

The power and influence of grouse moor interests over those in authority appears to be growing unchecked. Its time to revive Revive, the Coalition for Grouse Moor Reform and to create a much broader coalition to ban muirburn completely.

Note

Please keep those photos of wildfires caused by muirburn coming. I intend to write soon about the impact that muirburn has on peatland formation and carbon emissions.

Category

1. Cairngorms
2. Other parts Scotland

Tags

1. CNPA
2. grouse moors
3. landed estates
4. muirburn
5. NatureScot

6. Scottish Government

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nickkempe