Scottish Environment LINK

On behalf of a wide range of Scotland's conservation organisations.

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Leading the way

How Balmoral can become a role model for nature-positive Highland sporting estates

“Unless we rapidly repair and restore Nature’s unique economy, based on harmony and balance, which is our ultimate sustainer, our own economy and survivability will be imperilled.”
His Majesty

Summary

Every business sector in the UK is having to re-think its models and ways of working in light of the twin nature and climate crises. The traditional Highland estate is no exception, and recent years have yielded important new insights from science and practice on key principles that would enable these estates to play a significant role in Scotland’s nature recovery.

As a group of Scotland’s conservation charities, we are grateful for His Majesty’s willingness to engage in an exploration of these issues and how Balmoral might become an exemplar that would inspire others in the sector to follow.

This report briefly sets out:

- A positive vision for how estates like Balmoral could play a leading role in nature recovery in Scotland while sustaining sporting traditional livelihoods and culture.
- How the nature crisis is unfolding in the Scottish Highlands.
- Developments in our learning and understanding that are shaping thinking and practice in managing upland landscapes.
- The importance of traditional rural skills and employment in nature recovery in Highland landscapes.
- Useful sources of further information and ways that we could support Balmoral in its development.

Our hope is that this report will lay the foundation for a constructive meeting with His Majesty that would allow us to explore these issues and support the estate in its future visioning and planning.

A nature-rich vision

Our vision for Highland sporting estates is to see nature thriving to its full extent while continuing to support traditional occupations and the local economy. In practice, for estates like Balmoral this means:

- Native woodlands expanding across the open hill from their current locations through natural regeneration to form a natural treeline. This would increase the extent, connectivity, diversity and resilience of these important habitats.
- Restoration of mountain birch and willow habitats to increase high altitude biodiversity and protect the future of endangered mountain willows and plant communities.
- Continued expansion of new riparian native woodland to safeguard freshwater habitats and improve ecological connectivity.
- Peatland restored to enrich biodiversity, sequester carbon and naturalise hydrology.
- Natural gradations between habitats and an increasingly complex mosaic of inter-connected habitat types with a move away from linear fenced boundaries between open ground, woodland and other habitats.

Many elements of this vision are articulated in the Cairngorms National Park Plan.

The nature crisis in Scotland's uplands

Nature in Scotland is in trouble. A recent study of 'Biodiversity Intactness' ranked Scotland 212th out of 240 countries [1] while 1 in 9 species is threatened with extinction [2]. Key challenges for nature in the uplands include:

- Loss of ancient woodland – with around 12% being lost over the last 40 years, primarily due to overgrazing by deer [3].

- Loss of woodland biodiversity and resilience – around 10,000ha of our ancient woodlands are now down to less than 20% canopy cover as a result of deer pressure [4]. The recent survey of Scotland's Caledonian Pinewoods found that 23% are critically threatened by overgrazing and risk being lost. Most native pinewoods lack essential characteristics of health and resilience [5].

- Many of our upland rivers have lost their natural riparian woodland, leaving them at risk of overheating in a warming climate and lacking an important deadwood habitat. During the summer of 2018, 70% of Scotland's rivers experienced temperatures that exceeded the lethal temperatures for juvenile salmon and UK salmon are now listed as 'endangered' in the IUCN Red List of Threatened Species [6].

- Montane woodland has almost disappeared as a habitat in Scotland's uplands and major works are underway in other parts of the Cairngorms National Park to restore this lost habitat. Three of Scotland's upland willows are classified as vulnerable or endangered in the Red Data Book of UK Vascular Plants [7].

- 80% of Scotland's peatland is degraded [8], emitting significant volumes of CO2 into the atmosphere rather than acting as a nature-rich carbon store.

Climate change is already compounding these issues, and we are recognising that ecosystems will need to increase in extent, complexity, dynamism and connectivity if they are to be resilient to the rapid changes that are already underway.

What we're learning

Over the last 30 years the conservation sector has learned (and re-learned) some important lessons, which are shaping practice on estates that are leading the way on nature recovery. These include:

- The importance of expanding native woodland through natural regeneration rather than planting. This creates a more naturally complex woodland structure and preserves important genetic ancient populations of Wild Trees, directly descended from the first trees to colonise Balmoral after the Ice Age. It helps to maintain soil carbon stocks and creates more opportunity for natural selection to adapt the gene pool to a changing climate and new pests and diseases.

- The importance of allowing habitats to adapt their boundaries and location naturally in response to changes in climate and environment, rather than be constrained by fences. The movement of habitats and species 'up the hill' will be an important way of adapting to climate change.

- A key finding from the recent Caledonian Pinewood survey [9] is that while fences can provide a short-term approach to protecting pinewoods, they are a poor long-term solution, offering limited protection and treating the symptoms rather than the causes of decline. After 40 years of experience, foresters have concluded that the only hope for long-term recovery and expansion of Caledonian Pinewoods is landscape scale reduction of deer grazing pressure. This is embedded in the draft Pinewood Management Principles [10] agreed at the recent Scottish Pinewood Conference [11].

- A comprehensive evidence review [12] has demonstrated the importance of expanding riparian woodland to protect our rivers and burns from the impacts of climate change, stabilise riverbanks, reduce sediment loads, provide nutrient inputs for invertebrates and fish, reduce downstream flooding and improve ecosystem connectivity. The importance of riparian woods for the future of Scotland's salmon is well described in a recent Channel 5 documentary.

- Recent work by Stirling University has shown that mountain woodlands are an important, but largely missing ecosystem in Scotland's uplands and have the potential to provide a wide range of benefits for nature and people [13]. Our understanding of the 'natural tree line' at which trees can grow has changed dramatically in the last decade, with native trees naturally regenerating at altitudes above 900m when pressure from burning and grazing is reduced.

- Comparisons between Highland landscapes and sites in Norway with similar geology, climate and altitude show that our uplands could naturally host a much greater degree of native woodland cover, with significant benefits for insect, bird, mammal and plant life [14]. We are recognising that much of Scotland's open upland landscape is not 'natural' but a function of historic land management.

- Practitioners are learning that collaboration across ownership boundaries and at a landscape scale leads to better outcomes for nature and lower costs. This is particularly true for deer management and the control of invasive non-native plants and diseases.

Skills, employment and a nature-positive future for field sports

Around 30% of Scotland's land area is managed with deer and grouse shooting as a primary objective. To that end, the Scottish Government's biodiversity delivery plan highlights the important role of sporting estates in Scotland's nature recovery [15].

The nature-rich vision we have shared is compatible with sporting culture and rural livelihoods. Indeed, the skills and knowledge of estate staff will be vital in realising the vision and there is already strong evidence that nature recovery projects in Scotland have led to a significant increase in rural employment [16].

However, achieving the potential for nature recovery on sporting estates will require two main changes to the current model:

- A move towards hunting smaller numbers of larger, healthier deer in more ecologically diverse and complex landscapes.

- A move away from intensive management for driven grouse towards a more Nordic model of walked up shooting in landscapes that are developing into complex habitats that include open mountain woodland, restored peatland and thriving upland plant communities.

There are already a number of estates developing these approaches and in time we believe that they will become mainstream. A move in this direction from Balmoral would help accelerate the transition by inspiring other estates to follow and a new generation of field sports enthusiasts to seek out this kind of experience.

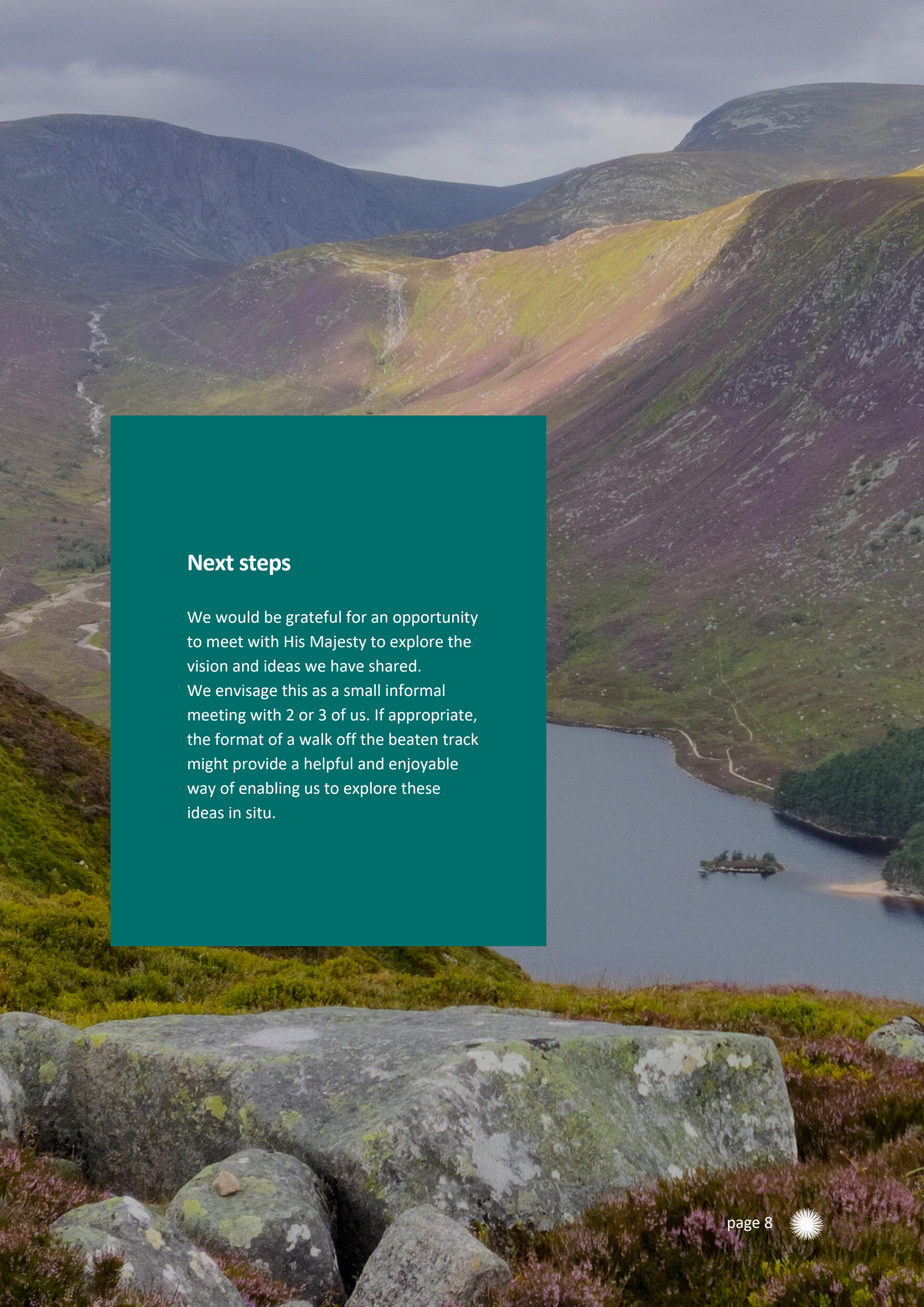
How we can help

As conservation bodies we own estates across Scotland, including in the Cairngorms, where we are already implementing these approaches. We are also supporting other Highland estates that are at the cutting edge of nature recovery. We would be delighted to host a visit at one of these sites to share what we are learning.

Across our organisations we have a wide body of conservation expertise drawn from Scotland and comparable landscapes across Europe, which we would be pleased to make available to the team at Balmoral.

Following the recent Caledonian Pinewood Conference, we are establishing a new 'Pinewood Partnership' of landowners and conservationists, united in our efforts to restore and expand this iconic habitat. We warmly invite Balmoral to join this partnership as a forum for useful technical exchange and as an endorsement of our ambition to restore Scotland's ancient Caledonian pinewoods.

We are exploring the possibility of a field trip to Norway, hosted by the Norwegian Government Game Management Service, to enable Scottish grouse moor owners and managers to explore and learn from the Nordic approach to land management for game in the uplands. We would be delighted if someone from the Balmoral team was able to join the trip.



Next steps

We would be grateful for an opportunity to meet with His Majesty to explore the vision and ideas we have shared.
We envisage this as a small informal meeting with 2 or 3 of us. If appropriate, the format of a walk off the beaten track might provide a helpful and enjoyable way of enabling us to explore these ideas in situ.

Resources

1. https://community.rspb.org.uk/ourwork/b/scotland-directors-blog/posts/the-scottish-biodiversity-strategy-to-2045
2. https://www.nature.scot/doc/state-nature-scotland-report
3. https://reforestingscotland.org/wp-content/uploads/2015/09/Armstrong-p11-13.pdf
4. https://futurewoodlands.org.uk/a-new-tool-to-identify-ghost-woodlands/
5. https://treesforlife.org.uk/about-us/caledonian-pinewood-recovery/
6. https://www.gov.scot/publications/scotland-river-temperature-monitoring-network-srtmn/
7. http://www.msag.org.uk/uploads/4/0/7/3/40732079/bpg1_introduction.pdf
8. https://soils.environment.gov.scot/resources/peatland-restoration/
9. https://treesforlife.org.uk/about-us/caledonian-pinewood-recovery/
10. https://www.pinewoods.scot/_files/ugd/8acf6b_89be0742d85e4d2f904734f1521a6dba.pdf
11. https://www.pinewoods.scot/
12. https://www.riverwoods.org.uk/resource/riverwoods-evidence-review/
13. https://onlinelibrary.wiley.com/doi/full/10.1111/rec.13701
14. https://www.rewild.scot/rewilding-stories/the-search-for-scotlands-mountain-trees
15. https://www.gov.scot/publications/scottish-biodiversity-delivery-plan-20242030/documents/ p17
16. https://www.rewild.scot/jobs-increase

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