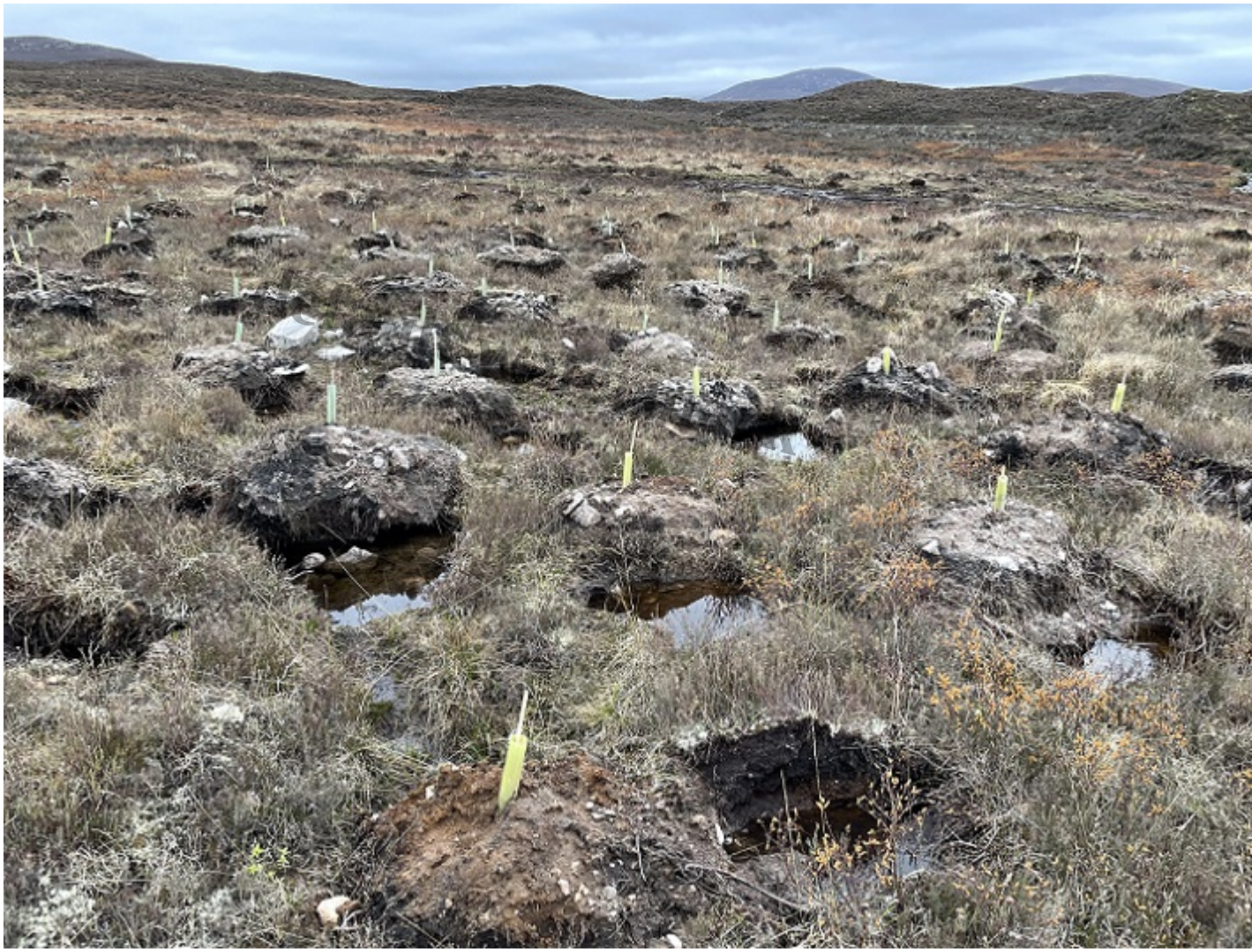
Greenwashing at Far Ralia in the Cairngorms (1) â?? ABRDN, AKRE and the Natural History Museum

Description



AKREâ??s planting at ABRDNâ??s Far Ralia estate in the Cairngorms National Park May 2024. The adverse impact on carbon emissions, from upturned peat and plastic tree tube pollution, should be obvious but how does the Natural History Museum think this will this help nature? (Photo credit Parkswatch reader)

Besides operating as a museum, the Natural History Museum (NHM) in London promotes itself (see here) as having â??world-class expertiseâ?• and being able to help tackle the biggest challenges facing the world today.â?• When it came to native woodland that certainly used to be the case, as anyone will know who has read Richard Forteyâ??s wonderful book, â??The Wood for the Trees: one manâ??s

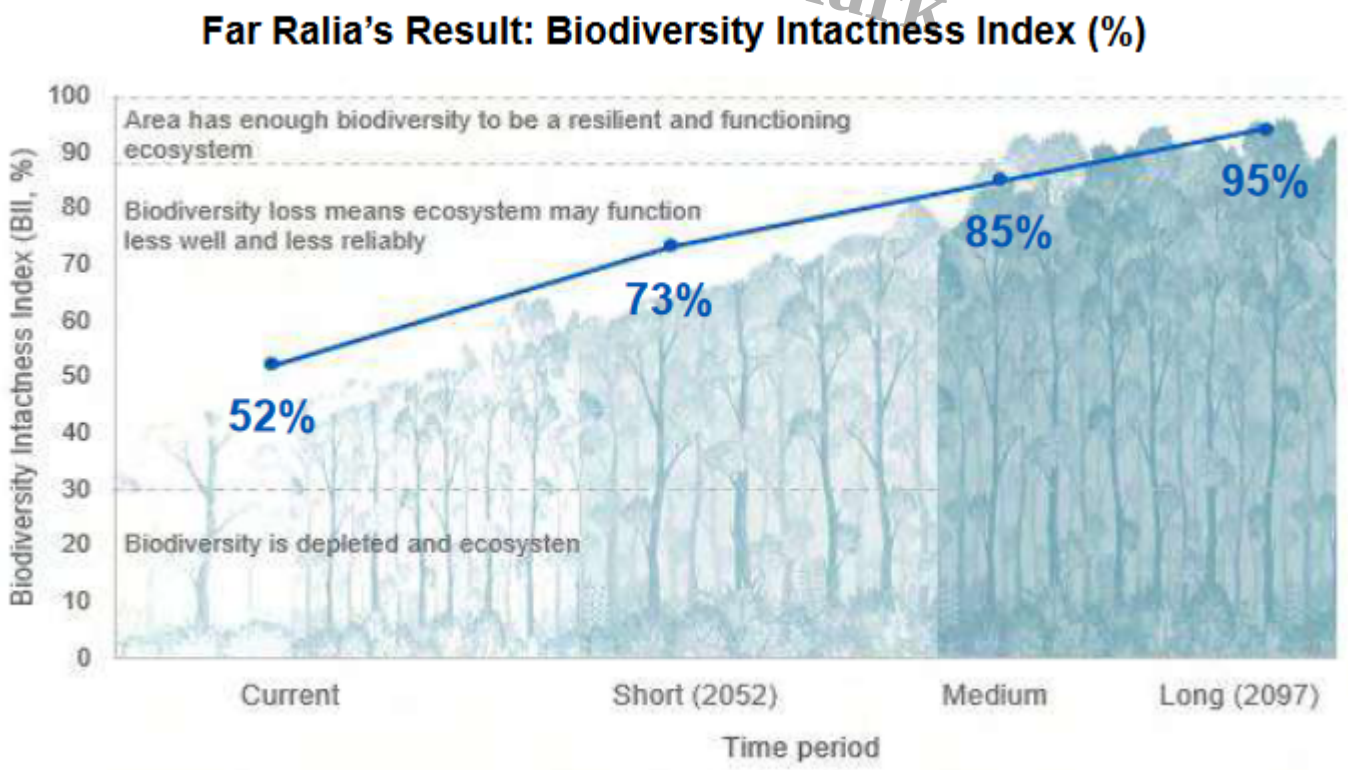
long view of natureâ?•. After buying 4 acres of ancient woodland in the renowned palaeontologist enlisted various former colleagues at the NHM to help study its wildlife. However, the NHMâ??s Biodiversity Intactness Index (BII), which is being used in conjunction with financial interests and has been used to help justify ABRDNâ??s planting at Far Ralia (see here) and (here) is another matter.

This is the first of two posts which will explore how the BII is being used and for what purpose.

The Biodiversity Intactness Index and Far Ralia

In its Far Ralia Case study (see here) Akre Trees, managed by Renwick Drysdale, a son of a trustee of the former owner who sold the land to ABRDN (see here) claimed his company, AKRE, had â?? *partnered with the Natural History Museum (NHM) to measure Far Raliaâ??s biodiversity using the Biodiversity Intactness Index (BII) that helps establish a baseline and also understand, monitor, and communicate biodiversity changes and track progress*â?•. As a consequence of this work, AKRE claimed that its woodland creation scheme with ABRDN at Far Ralia would restore Biodiversity Intactness from its current level of 52% to over 95% by 2097.

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In 2020 the NHM published a report â??*Using the Biodiversity Intactness Index to estimate the biodiversity benefit of action: A pilot study of Far Raliaâ?•* (see here). AKREâ??s figures and graphic are basically the same â?? ignore the trees in the top graphic â?? as those in this report**:**

Results: Average BII over time for Far Ralia

Far Ralia's BII is currently just below 52%. When land is restored – either using active planting schemes or passive abandonment – biodiversity is allowed the time and space to recover. Full recovery can take decades. To our knowledge, we have predicted BII at Far Ralia for the first time over three coarse time steps - short term (<30 years after restoration), medium term (30-75 years after restoration), and long term (>75 years after restoration). Based on the planned planting and regeneration scheme and the subsequent improvements in local biodiversity over time, **BII will recover to a mark of 94% in the long term**. This increase in BII over time is demonstrated in the figure and table below.

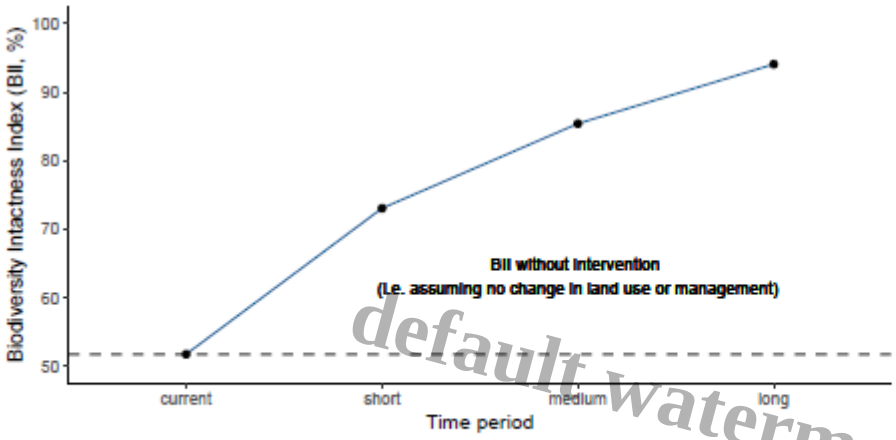


Figure 1: Change in Biodiversity Intactness Index (%) over time after planting scheme compared to no intervention (dashed line)

Table 2: BII for Far Ralia, rounded to two decimal places

Time period	BII (%)
current	51.78
short	73.05
medium	85.39
long	94.06

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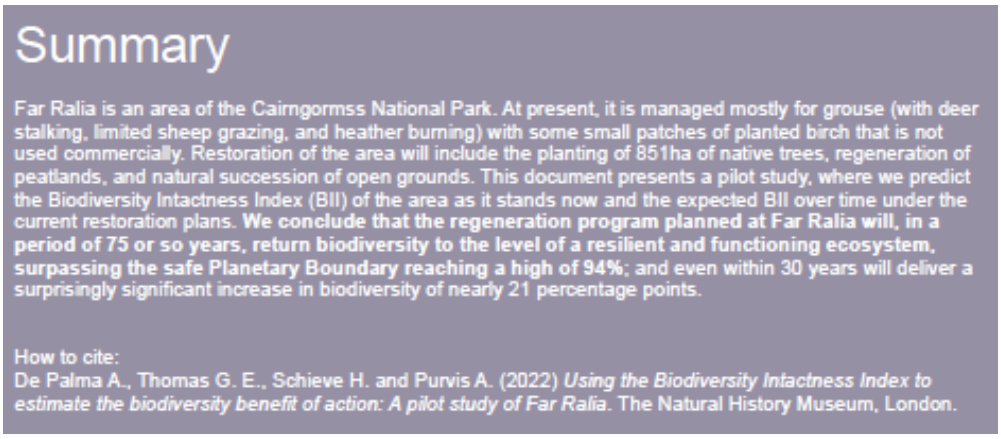
The message is that everything that AKRE and ABRDN is doing is Far Ralia is astonishingly good for biodiversity. But is it?

Might not, for example, the mounding, unlawful track upgrade, driving vehicles all over the moor and other human interventions on the site create a setback for biodiversity intactness in the short-term, much like the Carbon Calculator for Far Ralia (see link above) shows carbon will be released from the site for the first 15 years? If so, should there not be a â??dipâ?• on the graph before it commences its relentless ascent?

The report states the â??*BII is an indicator of the â??healthâ?? of nature, with a value between 0 and 100%. A BII value of 100% is what we would expect to see if an area is unimpacted by humans â?? it still supports only native species at their natural abundances*â??. This is also referred to as a natural environment in pristine condition. While the report provides no example of the other end of the range, 0%, the BII is defined as â??the percentage of the original ecological community that remains across an areaâ?•.

How sound is the NHM report?

While described as â??a pilotâ?•, the NHM report contains some basic errors and fails to answer some fundamental questions about the methodology used to justify its claims.



Summary

Far Ralia is an area of the Cairngormss National Park. At present, it is managed mostly for grouse (with deer stalking, limited sheep grazing, and heather burning) with some small patches of planted birch that is not used commercially. Restoration of the area will include the planting of 851ha of native trees, regeneration of peatlands, and natural succession of open grounds. This document presents a pilot study, where we predict the Biodiversity Intactness Index (BII) of the area as it stands now and the expected BII over time under the current restoration plans. **We conclude that the regeneration program planned at Far Ralia will, in a period of 75 or so years, return biodiversity to the level of a resilient and functioning ecosystem, surpassing the safe Planetary Boundary reaching a high of 94%**; and even within 30 years will deliver a surprisingly significant increase in biodiversity of nearly 21 percentage points.

How to cite:
De Palma A., Thomas G. E., Schieve H. and Purvis A. (2022) *Using the Biodiversity Intactness Index to estimate the biodiversity benefit of action: A pilot study of Far Ralia*. The Natural History Museum, London.

The claim that Far Ralia â??at present (i.e. December 2022) is managed for grouse, deer stalking, sheep grazing and heather burningâ?• is contradicted by AKREâ??s website which claimed that the land had not been â??used for rural sporting pursuits or farming for decadesâ?• while their application to Scottish Forestry for a Woodland Grant (they were awarded cÂ£2.5m) stated that sporting activities ceased in 2020:

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Land	
The land has been used extensively for game and little else and should continue as such.	The land was until recently used for many decades for deer stalking and driven grouse shoots. Sporting activities ceased in 2020 due to the vast reduction in deer numbers caused by neighbouring estate's cull policies, as well as increasing presence of heather beetle on the estate. There has been no agricultural use of the site for numerous decades.

The mistake is important as it affects the theoretical baseline for the graph with some areas having started to recover from overgrazing and muirburn, as evidenced by the natural regeneration on site which was described and included in Akreâ??s Woodland Grant Application and partly attributed to an unnamed neighbouring estate [Wild Land Ltd] culling deer (see here for photos)..

The NHMâ??s graph contains two lines, a solid one showing â??change in biodiversity intactness index (%) over time after planting schemeâ?• and a dashed one comparing this to â??no interventionâ?•, i.e. if farming, grouse shooting etc had continued. The implication is that, without intervention, the BII at Far Ralia would stay the same as it is now. However, the box accompanying the graph also acknowledges that nature can recover through â??passive abandonmentâ?•. Despite that, there is no line on the graph to represent or record the natural regeneration that has been taking place across Far Ralia or what might happen in future as a result of passive abandonment without any planting.

This omission/muddle is further demonstrated by Table 3 from NHMâ??s report which is full of jargon (YSV, ISV and MSV are not explained but mean Young, Intermediate and Mature Secondary Vegetation (see here), while PREDICTS is the acronym for a worldwide â??Projecting Responses of Ecological Diversity In Changing Terrestrial Systemsâ?• (see here):

Table 3: Translating Far Ralia land uses into PREDICTS categories

Map Abbreviation	Meaning	Current PREDICTS Category	Future PREDICTS Category	Notes
DP	Deep Peat	YSV intense	YSV/ISV minimal	Drained and Modified Deep Peat will be restored and will be allowed to recover over short, medium, and long-term projections
EX	Other Land	NA	NA	Exclude from analysis
NUB	Native Upland Birch	YSV intense	YSV/ISV/MSV minimal	Will be allowed to 'mature' over short, medium, and long-term projections
wood	Existing woodland	ISV minimal	MSV minimal	Approx 30 years old, being left to recover naturally
NSP	Native Scots Pine	YSV intense	YSV/ISV/MSV minimal	Will be allowed to 'mature' over short, medium, and long-term projections
OG	Open Ground	YSV intense	YSV/ISV/MSV minimal	This is partially managed land, now unused and will be left to recover naturally
NR	Natural Regeneration	YSV minimal	YSV/ISV/MSV minimal	Approx 5 years old, left to recover naturally, will be allowed to 'mature' over short, medium, and long-term projections
LDNBL	Low-Density Native Broadleaf	YSV intense	YSV/ISV/MSV minimal	Will be allowed to 'mature' over short, medium, and long-term projections

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What this illustrates is that the NHM appears to have calculated the overall BII at Far Ralia by segmenting it into different areas, which it describes as â??land-usesâ?• but are in some cases â??land-typesâ?• (eg â??deep peatâ?•, â??open groundâ?•) and then calculating the potential improvements for each of these areas, e.g as Native Upland Birch changes from â??Young Secondary vegetation Intenseâ?• â?? ie just planted! â?? into â??Mature Secondary Vegetationâ?• with minimal human intervention. The BII then predicts how many species will be associated with each of these areas as they mature.

There are a number of major problems and issues with the PREDICTS categories being applied to Abrdn and Akreâ??s plans for Far Ralia in this way, including:

â?? How â??Other Landâ?• â?? which presumably covers tracks, the bothy etc â?? is used clearly impacts on biodiversity but by excluding this from the analysis the â??intactnessâ?• of the site is exaggerated.

â?? The table lists â??Native Upland Birchâ?• and â??Natural Regenerationâ?• as being different categories when a large part of the regeneration at present is also birch (there is also alder along the river banks). This begs the question of what are the differences in biodiversity intactness between woodland that has regenerated naturally (which is likely to have a diverse age structure, done less damage to the biodiversity found in soils) and that which has been planted?

â?? The calculation is based on the assumption each â??land-useâ?• category will remain until 2097. This will clearly not be the case: some open ground, for example, left free from planting or peatbog restoration, is likely to start turning into woodland like the â??natural regenerationâ?• area. Do these change in â??land-useâ?• affect their intactness rating or is the assumption that if everything goes well ALL categories will recover their biodiversity intactness equally?

The NHM report is based on ABRDN and AKREâ??s proposals for land-use, mainly woodland creation with areas of peatland restoration on the areas of deeper peat in-between. It gives the impression that having more trees results in a higher BII without giving any consideration to the value of different habitat types or how the interrelationships between them affect biodiversity. For example, if there was sufficient moorland for merlins, short-eared owls and meadow pipits and sufficient woodland for goshawks, sparrowhawks and their prey such as blue tits to colonise the area as the trees grew, then perhaps biodiversity would be higher. However, if most of the unplanted moorland eventually evolves into woodland and there were fewer moorland species, would biodiversity not be lower? How is the BII affected by the proportion of moorland and woodland in an area? Scotland had lots of open ground that was â??pristineâ?• thousands of years ago before human deforestation.

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The fact is that an increase in BII by a habitat or group of habitats becoming â??less impactedâ?• by humans does not automatically mean an increase in overall species biodiversity. ABRDN and AKRE are planting Scots pine and birch, what I call two a penny species in the Highlands as they are widespread and regenerate easily if deer numbers are reduced, and it is difficult to see how in themselves they will contribute to Biodiversity Intactness. How then can the NHM claim this 1400 ha of woodland will have achieved 94% intactness (AKRE appear to have rounded up this figure to 95%) when we know that ancient woodland, which is so important for biodiversity, takes hundreds of years to develop its value â?? as Richard Fortey so eloquently demonstrated in his book and the NHM themselves admit in their report?

Nowhere does the report explain what species the NHM expects to see at Far Ralia as its Biodiversity Intactness Index improves. For example, is NHMâ??s prediction that the planting at Far Ralia will result in a 94% BII score c2097 based on top predators, like the lynx or brown bear, having returned to Scotland and controlling herbivore numbers or do they think nature in Scotland can be 94% â??intactâ?• without these species? Which tree species would need to be thriving by 2097 to reach this figure?

The NHM report also ignores the fact that Far Ralia is part of the wider landscape and surrounded by other estates whose management will affect what wildlife is present. Some, like the conservation management by Wildland Ltd in Glen Tromie, might make a positive contribution but others, like the hundreds of square kilometres of nearby land managed for farming, forestry or field sports, are unlikely to do so. How, for example, would the pheasants, which are currently reared on the adjacent ground at Ralia and will inevitably colonise the woodland, affect the Intactness score for Far Ralia?

AKREâ??s woodland creation scheme is based on packing in as many trees as possible to maximise grants from Scottish Forestry and carbon credits under the Woodland Carbon Code. If left to natural

regeneration of course, there would likely be a mixture of wooded and more open areas, but it would need species re-introductions, both herbivores and predators, to re-create the grazing patterns that took place thousands of years ago in Scotland and re-create near â??pristineâ?• habitats. Nowhere in the report does the NHM explain its assumptions about how grazing will be managed for the BII to increase so dramatically.

In short, the NHMâ??s calculation that 1,400 hectares of new native woodland at Far Ralia could become â?? just like that! â?? 94% â??intactâ?• in terms of biodiversity in just over 75 years is completely unsubstantiated and completely implausible

The secret methodology used by the NHM to establish its Biology Intactness Index at Far Ralia

As a result of these fundamental questions, parkswatch submitted a number of Information requests to the NHM. These were revealing:

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> No, NHM staff did not visit Far Ralia to carry out BII modelling.
>
> The current index level was estimated by combining a map of current land use provided by Abrdn with land-use specific BII coefficients, which were in turn produced by statistical modelling of relevant data from the PREDICTS database as described in our publications. This database holds data on species' identity, presence/absence and abundance at tens of thousands of sites worldwide, alongside land-use data on those sites. These species are a taxonomically representative sample of invertebrates, vertebrates, plants and fungi.

No-one from the NHM appear to have visited Far Ralia, either to understand the ecology or to undertake any surveys of the species on site. Instead, they conducted a desk top exercise using a map showing current land-use, provided by ABRDN, referring to a worldwide data-base of species. What that suggests is the NHMâ??s report on BII at Far Ralia is more or less meaningless and stating the obvious: if trees grow, peat bogs recover and grazing pressure is reduced there should be an increased presence of other species.at Far Ralia.

Asked to provide the specific figures and formulae that had been extracted from this desk top exercise to calculate their BII for Far Ralia, NHM refused to provide this information:

> **This information is withheld under Section 43 (2) of the FOIA as it is commercially sensitive as its release would affect the Museum from using this tool for scientific consultancy. The public interest in the Museum being able to secure consultancy or other business and thus saving taxpayers' money which can be spent on continuing to provide a high-quality public offer, education facilities and a world-class scientific research institute is considered to outweigh the interest in disclosure. The income that we generate from our science consultancy work will go back into funding the science research.**

Proper scientific reports, as NHM staff should know, usually include sections on methodology and data to allow readers to understand how figures are calculated and enable the results to be considered and reviewed in peer journals. This enables an assessment of the strengths and weaknesses in the methodology, areas for further work etc. The fact that the NHM are refusing to provide this information should raise serious concerns in the scientific community about the validity of the BII.

The NHM were asked if they had done any other BII reports:

Response

As well as the report on the Cairngorms there is one other that the team have worked on and produced a report on since the start of 2020.

We have completed a report for Federated Hermes for a nominal fee to cover scientific costs as another pilot case study in October 2022

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Federated Hermes is another large financial organisation, like ABRDN, which supports the idea that the report on Far Ralia was produced for greenwashing purposes. If the NHMâ??s reports using the BII are so good, why have conservation organisations and other landowners not asked the NHM to adopt the BII for predicting their future biodiversity intactness?

And finally, here is what Doug Gurr, the director of the NHM, was prepared to quote about the work at Far Ralia at COP15, the 2022 United Nations Biodiversity Conference in Montreal, Canada:

From: Doug Gurr
Sent: 29 November 2022 08:37
To: [redacted]
Cc:
Subject: RE: Use-case for Public Release at COP15 | Ecosystem Alliance Collaboration abrdn + NH + TNFD | Loree's follow up

Thanks for sending round the draft, looks good. Suggested quote:

Dr Doug Gurr, Director of the Natural History Museum, *"I congratulate Abrdn on their thoughtful and long-t approach to the stewardship of this important land asset. As the data clearly shows, we can begin to restore biodiversity and help mend our broken planet."*

The photo at the top of this post should disprove the claim of â??thoughtfulâ?• stewardship â?? its industrial type forestry â?? while in terms of â??long-termâ?• ABRDN was reported as selling their Property and Income Trust that owns Far Ralia.

My second post will take a further look at how global finance is linked with the NHMâ??s development of the BII and how the state, in both England and Scotland, has been supporting this.

Category

1. Cairngorms

Tags

1. climate change
2. conservation
3. forestry
4. grouse moors
5. landed estates
6. restoration

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