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# Open Forum

# Best thing we can do for the climate is to stop planting trees on peat

**Open Forum** *Dr James Fenton says the justification for nature carbon solutions is often contradictory*

Most changes to the landscape of rural Scotland are funded by the taxpayer, i.e you and me. The money, of course, goes directly to landowners and land managers, including crofters, but there is never any wider debate as to whether people are happy to see their land being changed out of all recognition. It is landscape change by default, with no planned overview of how all the different grant schemes interact to change the nature of our country.

The latest driver of landscape change is the attempt to mitigate global warming through 'nature-based solutions.' Global warming is ultimately caused by the release of fossil carbon from coal, oil and gas, and the idea is to manage the land to take some of this atmospheric carbon out of the air and store it on the land by planting trees – themselves a store of carbon in their trunks, branches and roots – and by encouraging peat growth. It has long been known that the bulk of terrestrial carbon in Britain is stored in the soil, especially in peat, for peat is merely carbon-rich dead plant remains which have not rotted away.

It is a worthy aim to use the land to benefit the climate, because it is obvious, surely, that planting trees and preventing peat erosion will achieve this? Hence the Scottish government has been pouring money into tree planting and peatland restoration schemes which landowners are taking full advantage of; and who can blame them? It has always been difficult to make money from the unforgiving land of the Highlands and Islands, so if government money is available, why not take it?

Because global warming is such a serious long-term issue, then people unthinkingly take the money and pat themselves on the back for doing their bit. Investment companies are buying up land to plant trees, for example at Ralia in Strathspey, and landowners are taking diggers and helicopters into the hills to take advantage of the bandwagon of peatland restoration.

For these are 'bandwagons' which everyone leaps onto – without bothering to look too deeply into their efficacy. But we do need to question these grant schemes because they present simplistic solutions to complex problems without any guarantee of success.

Taking tree planting first: trees dry out the soil causing the soil carbon to be oxidised, i.e. released into the air; this is why there are grants to remove trees from deep peat. But the trees on top do not know whether the peat is deep or shallow! It is much better, therefore, to let humus-rich soils and shallow peats go on to create deep peats by not planting trees on them. But, because most upland soils are humus-rich, to achieve government planting targets, there is little choice left but to plant on organic-rich soils.

Another factor not taken into account is the reflectivity of the land, that is, its albedo. Dark, three-dimensional trees absorb more radiation than open moorland, so the subsequent forest causes localised warming. Hence it is not certain that all this grant-aided tree planting will benefit the climate. Additionally, the tree planting is changing the moorland from its natural unwooded state to a designed landscape of woodland, which is not in keeping with the history and culture of the Highlands – but this is another story.

The benefits of peatland restoration are equally dubious – except in the case of repairing obvious human damage such as ditches and tree planting. Peat goes through millennial-long cycles of growth and erosion, and erosion is a perfectly natural aspect of peatlands. To say, as is often quoted, that '85% of Scotland's peatlands are degraded' is simply incorrect, although it might be true to say that 'there is erosion present on 85% of them' – but this is not the same thing.

Scotland is the world centre of temperate blanket peat, but conservationists appear contradictory when arguing for 'restoration' even though this is against one of the pillars of nature conservation, i.e. allowing natural processes to operate – erosion is a natural process.

In addition to damaging the nature conservation value of a globally rare habitat, it is also dubious whether the action will achieve its aims. Most erosion is on the older peats near the end of their life cycle and it is unclear if peat growth (i.e. carbon sequestration) can ever restart on these sites. Surely it is better to let the natural processes of erosion and new peat growth to continue to the benefit of their conservation – and not have high expectations of them playing an important role in global warming mitigation. The best thing we can do in the Highlands and Islands is to stop planting trees on peaty soils.

*(Dr James Fenton is a retired ecologist. His forthcoming book 'Landscape Change in the Scottish Highlands: Imagination and Reality' is to be published by Whittles later this year.)*