The Scottish Hills are Natural!

James Fenton

In the 2014 issue of this Journal Mike Daniels penned an interesting article *Wild Land, Wild Deer: how Natural are Scotland's Munros?* His conclusion was 'not very', largely owing to there being too many deer on the hill. He states: 'It is not just patches of regenerating woodland that desperately need lower deer numbers but also heathlands, peatlands, montane scrubs, screes below tall herb cliff ledges and so on… So the next time you climb a hill and spot a deer (or dozen) think not only what a magnificent sight, but also… What if natural ecosystems and processes prevailed, with woodlands merging into montane scrub blending into the arctic alpine summits of our magnificent Munros? What if we valued our wild land and shared it with the full range of creatures which could (and should) be found here? What if our Munros were truly natural?'

His is a common viewpoint nowadays, but not one I share. Although I agree with him on many things such as the loss of naturalness through the spread of invasive, non-native species and an abhorrence of deer fences (who is ever going to remove them all?), I believe that amongst the Scottish hills are some of the most natural, the most pristine areas to be found in Europe.

Just because there are few trees present does not make an area less natural. There is an oft-quoted fact used by Mike, the Forestry Commission and others to justify more trees in Scotland that to me seems irrelevant: the fact that Scotland has one of the lowest percentages of woodland cover of any country in Europe. So? Italy has a lower percentage of peat bogs than the European

The unwooded Scottish hills are amongst the most natural in Europe (looking towards Ben Cruachan) (James Fenton)

average – does that mean there should be more peat in Italy? Maybe there are sound ecological reasons why different countries have different percentages of tree cover or bog? And surely the fact that a generally unwooded Scotland is not the same as the generally wooded Norway, or the Alps, or the Carpathians, adds to the distinctiveness of Scotland? Why do we want everywhere to be the same?

There is a very strong lobby in Scotland at present, comprising most of the conservation NGOs, the statutory agencies and the government itself, pushing for more trees: in fact I would call it almost an unstoppable juggernaut, so I am hesitant to stick my head above the parapet and argue the opposite. Amongst the arguments used is the rôle of trees in mitigating climate change, although this is over-hyped because trees planted in the Highlands can release soil carbon and also warm the air through reducing significantly the albedo of the landscape.

Moorland in Argyll (Musdale): the vegetation pattern here has been set by nature since time immemorial. It is wild, and cannot be 're'-wilded! (James Fenton)

But the main argument Mike uses to support his view is that there are too many deer, and hence too few trees because the deer eat all the young trees. However this is a circular argument: 'How do you know there are too many deer? Because there are too few trees.' 'How do you know there are too few trees? Because there are too many deer!' Not very scientific, and self-fulfilling! The correct questions are:

1) 'What factors determine the population size of deer?'

2) 'What factors determine the distribution of woodland at this stage of the interglacial process?'

How much woodland would you expect?

In terms of the second question, there is a recognised succession of vegetation in the interglacials between ice ages (and we are between two now, except that global warming is likely to put a stop to the next one), the phases being cryocratic, protocratic, mesocratic, oligocratic, and then back to cryocratic. Known for 50 years, but have you heard about it? The mesocratic is the phase of maximum woodland cover, followed by the oligocratic phase where soils become more acidic and woodland declines. We happen to be living in the oligocratic phase where we would expect woodland cover to be lower than in earlier eras. Note that such a natural woodland decline from a post-glacial maximum occurred in previous interglacials when humans were not present: hence humans cannot be 'blamed' for it.

Ancient tree stumps preserved in the peat, a sight we are all familiar with, indicate more trees in the landscape 4-5,000 years ago; however, if trees had been common in the landscape after this we would expect much more bogwood to be present. The rarity of bogwood from peats less than, say, 4,000 years old indicates that it is unlikely woodland has been common in much of the upland landscape for several thousand years. Even a cursory glance at the Roy Maps of the Highlands from 1747- 1752 (available to view on the National Library of Scotland website) indicates not much difference in native woodland cover then than now: in some places perhaps a few more trees, in others a few less.

Hence most of the woodland must have disappeared long before 1750, in a period before roads were present and before the introduction of free-ranging sheep and the later introduction of sporting estates; before the industrial exploitation of the woods (where research shows there was more woodland in these areas at the end of this era than the beginning); and in a period when wolves were still present, with livestock wintered off the hill. It is also worth quoting Tom Devine from his 2018 book *The Scottish Clearances*: 'Settlement in the western Highlands and Islands was mainly confined to very limited areas because of the challenging constraints of geology, climate and geography. Therefore, when modern visitors contemplate hills and glens which are empty of people, they should not assume they were inhabited in the past. Or that their present silence and loneliness were necessarily the consequence of later clearance and emigration.' Hence the woodland disappeared even in the glens without human populations: again, have a look at the Roy maps, which show area settlements and agriculture in addition to woodland.

Where is the evidence, then, for a large Caledonian Forest, destroyed by humans? I do not know of any! Perhaps in a few places, particularly the coastal settlements and glen bottoms, we got rid of the trees, but it is equally likely we tried to keep them for their economic use.

New plantations of native trees are slowly transforming the Highland landscape, here near Gairloch. But what if we have got our understanding wrong, and woods disappeared naturally? Should we still be changing things? (James Fenton)

Too many deer?

Which brings us to deer: if the Highlands became a largely unwooded landscape over the thousands of years when wolves were present, then the idea that bringing wolves back will reduce deer numbers enough to allow the woodland to return seems far-fetched at least. It didn't in the past, so why should it now? It is more likely that food supply determines the population level of large herbivores, including red deer, rather than predation: if there is plenty of grazing for the deer, then there are likely to be plenty of deer. If trees cannot survive this grazing, then the landscape is likely to be more open. In other parts of Europe there are thorny shrubs such as brambles, hawthorn and sloe which protect young trees from grazing when herbivore numbers are high, or long periods of winter snow-lie which do likewise: but the Highlands generally have neither.

So why were there more trees in the past? The mesocratic phase of an interglacial is generally the period with the best climate and a period before leaching has caused soil fertility to decline (through podsolisation, iron pan development and peat growth). Hence a young tree might grow well and be out of the reach of deer after say, three years; but in the oligocratic phase with poorer growing conditions it may take, say, ten years for a tree to get above browsing height. Hence the probability of trees being browsed increases over time, making woodland less likely to be present.

The Highlands are perhaps one of the few areas of Europe which

Red deer have a bad press just because they eat trees. But why do we always want trees? (James Fenton)

has managed to keep unmanaged populations of indigenous herbivores (red deer): this surely is a conservation success story? People flock to the Serengeti to see huge herds of grazing animals, whereas here in Scotland people say there are too many deer! Norway is often used as a country indicating what Scotland should be like: but it is also a country where most deer were killed almost to extinction, so perhaps it has an even less natural landscape than the Highlands?

The Scottish hills are wild in the sense that since the dawn of time no-one has planned the vegetation pattern, saying where, for example, there should be montane heath, stands of mountain fern, areas of wet or dry heath, or peat bog. It is the natural forces of soil, climate, grazing and plant competition which have shaped our landscapes, not human planning, and where else in Europe is this the case? Are not our hills amongst the wildest there are? Certainly, regular muirburn for grouse in the east overlays a human pattern

A failed native woodland plantation above Glen Docherty: we have got something wrong here! (James Fenton)

on the landscape, but overall the hills there would be heather moorland, burning or no.

This is changing with the new emphasis on trees, with large-scale ecosystem planning being undertaken through planting the hills with trees to a pattern in accordance with grant conditions; or the reduction in numbers of our main indigenous herbivore (red deer) to unnatural levels way below the ecological carrying capacity in order to achieve a desired human end – more trees. This latter approach seems wrong to me: is it sensible to base the grazing level on the condition of the rarest habitat and the one most sensitive to grazing (woods)? In practice we are turning the Highlands from a wild landscape to a designed cultural landscape. Nature is not allowed a look-in.

Rewilding

'Rewilding' is currently in vogue, but it is something I support: in my view it means letting nature, not humans, determine the species composition of an area. Owing to the perception that the Highlands are an anthropogenically damaged landscape and 'should be wooded', 'rewilding' is also used in many quarters to mean 'putting back trees in the landscape'. However, if trees would not naturally be part of the landscape, then adding trees, together with associated woodland species, is not rewilding. If woodland declined naturally, then so would the associated obligate woodland species (e.g. red squirrels, capercailzie) – some to extinction – a natural process. Some species, particularly the wolf which is not an obligate woodland species, undoubtedly became extinct through human action so bringing it back would be 'rewilding'. However, as stated above, there is no evidence that bringing it back would change things much.

If the Scottish Highlands are mostly 'wild' already, they cannot be 'rewilded'. In some places, and some periods since 1750, introduced sheep have replaced the indigenous red deer: however this is unlikely to have made much difference to the overall vegetation pattern as the grazing impact of sheep and red deer are similar: in any case, the main pattern of vegetation was laid down pre-1750, in the era before sheep were introduced and before we started to manage the Highlands.

I find 'rewilding' a very liberating concept, if taken to mean the way the Scottish Highlands were managed pre-1750 (i.e. not managed). Before 1750 no-one worried about whether the mountain landscape was 'overgrazed' or 'undergrazed', whether there were 'too few trees' or 'too many', whether heather was common or rare in a given location, whether peat was eroding or not (peat erosion can be a natural process), whether a given species was declining or expanding. And look what we have inherited from this approach: one of the most natural areas remaining in Europe! Why does it suddenly now need managing, except to fulfil our own human wishes?

If we can let go of our desired outcomes, or to use modern parlance, the desire for a given habitat to be in a given condition, and not worry whether grazing is high or low – in other words just let it truly be wild, with nature deciding – then this is both relaxing and liberating! In the Highlands, all we then have to concentrate on is the minimisation of the impact of introduced species and the ever-increasing encroachment of human infrastructure into our cherished hills. If all the current 'rewilding' effort in the Highlands were concentrated in the Lowlands where there is little wildness left, then the Highlands might be better-off.

Our Scottish hills are not, to quote Fraser Darling, a degraded and devastated landscape, but amongst the most natural remaining in Europe. But for how much longer?

Strath na Sealga: natural or devastated? (Jeremy Fenton)

If readers would like to delve deeper into the issue, James Fenton has written a further paper on the subject, which you will find at the following web address:
https://www.fenton.scot/woodland%20history%20and%20ecology.htm

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