

Climate change, snow cover and red deer – some thoughts based on observations from Kintail

Description



View from Beinn Fhada, Kintail, over to Applecross 10/1/25 with the only green in sight inedible to herbivores.

When the ground is frozen or covered in snow, as it was in the west for much of the week after New Year, it becomes very difficult for red deer to find enough food and they start to rely on the fat reserves they put on in the Autumn. On our first two days in Kintail the lower ground was still free of snow although on the second, returning down the west ridge of A Ghlas Bheinn, we found that deer had been clearing snow to find food:



Snow cleared vegetation, which had not been there on our ascent, with the Falls of Glomach path (from Morvich) below. Note how the slope on the other side of the glen has less snow.

Stags will use their antlers to help clear snow but, as I ascertained the next day, this clearance was almost certainly done by hinds. Some of it was along the trail we and another party had ploughed through the snow, uncovering the vegetation below in places. It looked like the deer had widened some of these areas to find food.

I suspect that deer can obtain very little of the daily minimum calorific intake they need to survive in way and it is hardly surprising that they will eat anything remotely edible which protrudes above the snow in such conditions.



Red deer hinds above the Falls of Glomach path before they noticed me.

There was significant snowfall overnight on Monday and I chose to wade up Carnan Cruithneachd the next day before descending to the Falls of Glomach path. I altered my course to circumvent the hinds in the photo but they hardly moved, as they would do in summer, because walking through the snow is as exhausting for them as it is for us – I regretted not having brought my skis.

The “clean” sides to the plantation in the photo and the absence of regenerating sitka were an indication of grazing pressure and high deer numbers in the area. While sitka may be the least palatable of trees to red deer, in snowy conditions young sitka provide a means of survival. Hence why

new plantations are fenced.



Once sitka have reached a certain size they become impervious to deer and land managers often leave gates open to provide shelter in bad weather. The only tracks I saw within the spruce forest, however, were of roe deer: there is so little food in most mature sitka plantations that red deer, originally thought to be a woodland animal, prefer the open hill.



Red deer hinds on the lower slopes of A Ghlas Bheinn viewed from just above the Falls of Glomach path

Red deer struggle for food during the winter months at the best of times but in snowy conditions it does not take long for them to begin to starve on the open hill: so they move down to lower ground and into deciduous woodland where possible.

On the far side of the forestry plantation, on the western side of Glen Croe under Beinn Bhuide (an outlier of Sgurr nan Airgid) the hillside was covered with stags. After just a day of snow on the lower ground, they were taking advantage of food put out for them by the Inverinate Estate:



I counted around 100 stags in all in about a square kilometre – besides those in the middle ground, more are visible top right.

The stags, like the hinds, were reluctant to move away in the snow, more like farm animals than wild animals. But their chances of survival boosted as a consequence.

All these deer are on the Inverinate Estate which marches with the Kintail Estate owned by the National Trust for Scotland. The latter is trying to increase native woodland in the area, which provides an attractive food source to deer, particularly in snowy conditions, and is protected by a maze of deer

fencing as a consequence:



New deer fence protecting native woodland with older deer fence behind along the boundary between the Inverinate and Kintail estates

Deer fencing only works for a short time as we saw on our last day in Kintail, walking through the native woodland plantation at the head of Glen Lichd on the way up Beinn Fhada:



From previous visits I knew the deer had got into this native woodland plantation and destroyed most of the rowan, the tree they find most palatable to eat. They were clearly still there but, having stripped the more edible trees from the plantation, were struggling to find enough to eat and were trying to scrape the snow off the ground just like the deer on the open hill:



Discussion

My observations in Kintail, as described in this post, got me thinking about the relationship between climate change, snow cover and deer populations.

There appears to have been little research on this. While the Rum Deer Project has been monitoring the impact of climate change on deer ([see here](#)), this has been about how climate change is affecting the timing of their life cycle (the rutting season, calving dates etc). There appears to be nothing about snowfall but then Rum, as an island, never got much snow compared to mainland Scotland. This is an issue which would have been better researched in the Cairngorms, which once used to be covered with snow for significant parts of the winter, but which was left almost bare of snow after the thaw two weeks ago.

Snow was also only mentioned once in the 370 page Report of the Deer Working Group and that within the context of a discussion about mortality of red deer on the open hill during winter:

“the Group considers that access to suitable woodland cover during winter should become a basic management standard for the welfare of open hill red deer in Scotland. While the current levels of winter mortality are continuing against the backdrop of the trend towards milder winters and reduced snow cover, the wind and rain during Scottish winters are also more challenging to the welfare of open hill red deer that do not have access to suitable woodland cover.” (P211)

I am not sure the implication here, that wind and rain are “more challenging” for deer than snow is

correct. The deer I saw appeared to be struggling greatly and that was only after a few days of comprehensive snow cover. It seems to me that snow will finish off deer far more quickly than wind and rain because it cuts off their food supply.

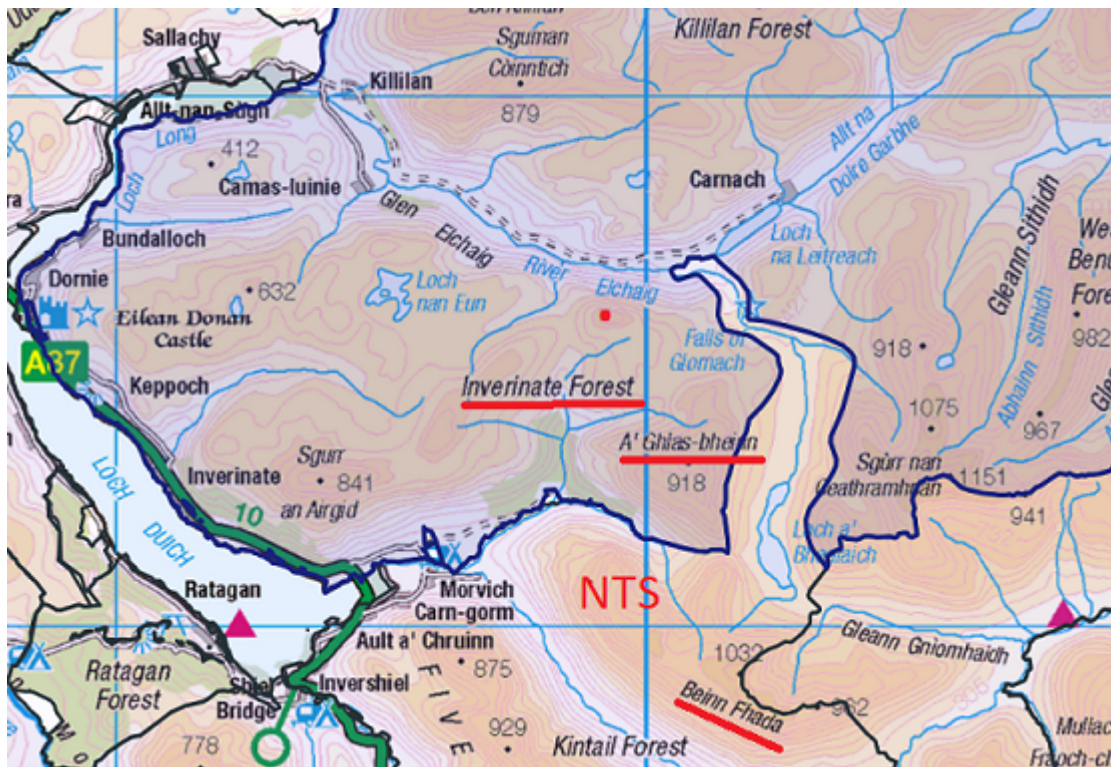
To consider reduced snow cover, however, only within the context of welfare issues (death through starvation because of snow is of course natural) misses the most important points:

1) The extent of snow cover is one of the primary natural factors which acts as a control on deer populations in the absence of predators like wolves. When we had snowier winters in Scotland, it was very difficult for red deer to survive. I remember as a child in the 1960s hearing from my father about the dozens of dead red deer he had seen in the Ben Alder area after a period of deep snow. While the amount of snow varied from year to year, like now, overall there was a lot more of it and that served to control the total red deer population and deer density on the open hill.

2) More extensive snow cover served to reduce grazing pressure on vegetation during the winter months, with the protection this offered greater in inland, eastern and higher areas than those low down and close to the sea.

The most important consequence of reduced annual snow cover in Scotland, therefore, is that it has enabled more deer to survive the winter, removed a natural brake on their population and resulted in them being able to graze more areas for longer periods of time. The impact of climate change and reduced snow cover on deer populations should therefore be informing all policy discussions about deer density on the open hill and should have resulted in higher culls.

Instead landowners like Mohammed bin Rashid al Maktoum, the ruler of Dubai and apparent owner of the huge 25,000+ hectare Killilan, Inverinate, West Benula and Glomach stalking estate, have been allowed to boost deer numbers further through feeding.



Map, with annotations in red, showing part of the Inverinate Estate which is owned through Smecht Properties Ltd Guernsey but whose beneficial owner appears to be the ruler of Dubai. Map and info credit Who Owns Scotland. The red dot marks summit of Carnan Cruithneachd.

In the last few years NatureScot, the public authority responsible for deer management in Scotland, has allowed the Deer Management Group system to collapse over large parts of Scotland. Inverinate is part of the Lochalsh DMG ([see here](#)) but the last information it published was an “Annual Update” in 2020 ([see here](#)). That shows a count of 2,871 deer. While deer density is not given, 220 square kilometres of land at Inverinate is described as accessible by deer, i.e. not fenced, which means there were over 14 deer per square km. What I saw suggests that is still the case.

That density of deer is well over the 10 per square km recommended by the Deer Working Group as an upper limit and subsequently adopted by NatureScot as a general benchmark despite all the evidence that this is far too high ([see here](#)). Within that context it is striking that despite all the criticisms of the ruler of Dubai for building more houses at Inverinate for his entourage ([see here](#)), there has been no public criticism of the root cause of the problem that the reason they wish to come to Scotland is to shoot deer easily. That explains why he appears to have failed to reduce deer numbers even to NatureScot’s target and all the problems and costs this is causing for the National Trust next door.

While its trying to snow in Glasgow as I write this, our winters are now far too warm and snow cover generally too limited to provide a natural limit to the numbers of red deer in Scotland in the absence of natural predators. Recognition that climate change means that “natural mortality” of red deer is not as high as it once was should be driving higher culls and resulting in lower targets for deer density. Instead, Scotland’s allows the people who have got rich through burning fossil fuels, which has helped destroy our winters, to buy up land and increase the number of deer for sporting purposes which then wrecks further damage to the natural environment.

Category

1. Cairngorms
2. Other parts Scotland

Tags

1. climate change
2. conservation
3. Deer
4. landownership
5. NatureScot
6. sporting estates

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