The state of the Cairngorms (3) – land falling apart

Description

The recent landslip above the Allt Fionndrigh, off Glen Banchor above Newtonmore from Creag Liath. Note the multiple green lines, marking tracks created by animals, traversing the hillside. Photo credit Dave Morris

Late last Friday afternoon I went for a walk up Glen Banchor and over Creag Liath, via the track by the Allt Fionndrigh. The track featured on Parkswatch 18 months ago due to the Glen Banchor and Pitmain estate's plans to extend it for the purposes of grouse moor management (see here). All the ground featured in these photos is part of the Monadliath Site of Special Scientific Interest (SSSI) (see here for details) and Monadhliath Special Area of Conservation (SAC), while the Allt Fionndrigh is part of the River Spey SAC. Designations intended to put conservation first.

About 3km along the track, just past Creag na h-Iolare (NH 666015), we came across recent flood damage.

Looking back down the flood line

I was not that surprised as ten days earlier intense but localised rainfall had been forecast. I had also had heard from two people I know that that day two inches of rain had fallen in Grantown on Spey, the heaviest downpour they had ever experienced. But it took me a couple of minutes, by which time we had moved a little further up the glen, to work out why the flood was above the main river. It had originated from up the hillside, rather than up the glen, and was associated with a large landslide.

The scale of the landslide and the damage that been wrought to the hillside became evident as we got closer.

Note figure bottom left for scale. Photo credit Dave Morris

Alongside the large landslip were a number of smaller ones.

The top of the main landslip was marked by the equivalent of a half depth avalanche which had swept down peaty soils across a front 10-20 metres wide:

Below the shear-line the former drainage line down the central axis of the landslip had been gouged out down to the glacial till below. It had formed a new burn which was still trickling. This sudden erosive event has removed significant quantities of peaty soils which have been storing carbon and retaining water, possibly for for thousands of years.

A large patch of peat within the hags (top left) has eroded away completely, allowing water to flow freely downhill, while below that you can see evidence of a drainage line.

There is a peat bog at the top of the slope immediately above the landslip but this appears severely eroded. Had this bog been in better condition, might the damage from the rain event been reduced, or even avoided completely?

Flowers caught up in the debris provided evidence that the landslip was very recent.

Note the absence of any flood debris on the river opposite. That and my first photo suggests this rain event was very restricted in extent and the main river did not flood. How much silt, however, was washed into the River Spey Special Area of Conservation?

Just beyond the landslip, the former track was covered in debris. It then turned uphill to cross the burn that drains the southern slopes of Geal Charn, a subsidiary top of the Munro A'Chailleach.

What had happened is the burn had partly diverted down the line of the track from former crossing point, gouging it out in the process. The force of water that created this must have been extraordinary. It would have been amazing, but very frightening, to watch.

The former crossing point had been completely overwhelmed with boulders disgorged from the gully above.

The large landslip is on the hillside just to the right of this photo

The gutted gully and the largest landslip were in close proximity, but nearby there had been other significant landslips.

Landslip below the crags on Geal Charn, about 400m beyond the gully (off photo to the right)

Landslips on the opposite bank of the Allt Fionndrigh, about 400m upstream.

And on the western flank of Creag Liath, about 700m as the crow flies from the main landslip, we spotted another……

Evidence from the photos suggests that most if not all of these landslips have been triggered by the recent extreme rain event. Rainfall alone, however, is not responsible.

Overview of the largest landslip and the gully, with eroded material at the bottom of both then flowing rightwards down the glen. Note the absence of trees and the multiple lines marking where deer have traversed the hillside. Photo credit Dave Morris

When I had walked up the Allt Fionndrigh track in November 2019 there were dozens of deer on this hillside:

A section of the deer covered hillside on Creag na h-Iolaire, 30th November 2019

The mud deposited by the landslips was covered with red deer hoof prints:

Photo credit Dave Morris

Discussion

The evidence strongly suggests that high population of red deer has been one of the main causes of the environmental degradation that has made these slopes so vulnerable to climate change. Deer have trampled the hillsides, munched the vegetation that might have helped hold these slopes together and helped erode the peat bog above.

Erosion is a natural process which has moulded the Highland landscape and landslips have historically played a significant part in this. However, their incidence and scale reduced as vegetation colonised the land after the ice receded. You can see evidence of landslips from the not too distant past on the right of the overview photo above. But their scale and impact is dwarfed by those that took place recently. It's the same in the Loch Lomond and Trossachs National Park, whether at the Rest and Be Thankful (see here), Glen Falloch (see here) or Loch Katrine (see here)where large areas of hillside have been torn apart by recent extreme rain events.

A combination of climate change and environmental degradation means its only a matter of time before

something really catastrophic happens in Scotland, such as the recent flood and landslip destruction in Germany and just before that the Atami mudslide in Japan (see here). Imagine what might have happened if instead of a small localised extreme rain event, that only affected a small part of Glen Banchor, such rain fell over the whole of the upper Spey catchment. The consequences downsteam could be terrible.

The Cairngorms National Park Authority and NatureScot, responsible for protecting SSSIs and SACs, have sadly sat on their hands when it comes to reducing deer numbers. With climate change, we cannot afford to spend years in endless negotiations with "sporting" estates about how to reduce deer numbers voluntarily and rely on the actions by estates being managed for conservation purposes to protect the land and us from the impacts of climate change.

What has happened in Glen Banchor should be sufficient for the Scottish Government to instruct NatureScot to use the powers it has under Section 8 of the Deer (Scotland) Act 1996 (see here) to force the estates in the Monadliath which are managed for "sporting" purposes to reduce deer numbers. Over the hill in the upper River Dulnain catchment, those high numbers of Red Deer descend the glen when the weather is bad and start feeding off the regenerating Caledonian Pinewood at Kinveachy undermining the work that is being done there to provide more habitat for the capercaillie which once again faces extinction. The landslips around the Allt Fionndrigh provide more evidence of the urgent need to change how sporting estates manage land in the Cairngorms.

Note

After my walk, I showed my photos and described what I had seen to Dave Morris. He walked up the glen the next day to take a look for himself so the photos were taken on two different days.

Category

1. Cairngorms

Tags

1. climate change
2. CNPA
3. conservation
4. Deer
5. hill tracks
6. landed estates
7. landscape
8. landslips
9. natural environment
10. NatureScot

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