

Landslips and the Nature Emergency – the A83 is just part of the problem

Description



Slopes of Beinn Luibhean and A83 from Ben Donich Autumn 2020 – a huge volume of material still to go. Photo credit RP.

Backed by a host of environmental NGOs, the Greens have secured a debate in the Scottish Parliament this week about the Nature Emergency. With the A83 at the Rest and Be Thankful still closed, it seems to be a good time to highlight further the challenges posed by landslips (see [here](#) for Glen Falloch and [here](#) for the Trossachs). While a natural phenomenon, the frequency, size and destructive potential of landslips appears to be increasing significantly due to both the climate emergency and the degraded state of the natural environment in Scotland, the nature emergency.

Loch Katrine



The landslip followed the gully line to the right the buildings, with bare patches just visible below skyline and debris reaching the shore below the trees

In September, 13 months after the extreme rainfall which triggered landslips in Glen Falloch and Strathard, I managed to take a closer look at the damage they had caused at the head of Glen Gyle. This has now been cordoned off from the public for almost a year. On my first attempt to visit I had been turned back on the track from Stronachlachar by a charming security guard from Maryhill, but this time arrived courtesy of boat. I should have guessed that in twelve months the trail of many of the landslips would have greened over, with vegetation being given a boost by a new spread of mineral soil, so that most are now scarcely visible. We should not forget what happened.



While the area around has now been restored by Scottish Water, debris from the landslip on this hillside piled up behind the house to its eaves. It must have been extremely frightening for the people staying there. Had the landslip moved fast like an avalanche, it would have probably destroyed the house. The debris moved slowly, however, giving time for people to escape.



The road below the cottage in top photo, with demolished wall on left and new wall on right

Though slow, the landslip was powerful enough to carry away two dry stane dykes.



The brown line marks the height of the debris which piled up against a lower building

All the people staying at Glen Gyle had to take refuge in Rob Roy's old house, the only building unaffected. I understand the other buildings are unlikely ever to be used again – they have become uninsurable – and Scottish Water has been negotiating with their owners to buy them up. The threat of landslips has made most of Glengyle too dangerous to live.



Had the landslips further round towards Stronachlachar actually toppled the powerline, that would have had a major impact on the national grid and we would have heard a lot more about it. As it is, it has taken more than a year to fix the damaged tower.

In both landslips, what struck me was how small the scar on the hillside appeared compared to the area of ground affected. Just think of the amount of material and the damage it could do if the whole hillside went. Unlikely around Loch Katrine perhaps, because of the angle of the slope and because the hillsides are broken up with rocky outcrops and trees. But Beinn Luibhean, above the Rest and Be Thankful (top photo), is a different matter.

The risks posed by landslips are a Scotland-wide problem



View down landslip from above the village of Kinnesswood, with Loch Leven in distance



time in the east of
That same rain
falls overlooking Loch

It appeared to have

been triggered by the force of water down a small burn cutting away part of the bank on some rock

slabs.



The landslide started just above the trees

Below the trees, the landslide gathered a significant amount of material and spread out like an avalanche. An interesting question is whether trees lower down might have limited its progress. In this case the landslide followed the line of the burn and its banks, so even if it had been much bigger and reached the village, it would probably have flowed through it.



Footpath, partially cleared

I wouldn't, however, have liked to have been on the footpath.

The risk from landslips and what needs to be done

The evidence from the last year and a half shows that landslips now pose a significant risk to human life as well as to property, electricity infrastructure, roads and railway lines. Personally, I would now think three times before driving through the Rest and Be Thankful on the Old Military Rd in the heavy rain. Thankfully, Transport Scotland appears to be getting their act together and closing that route when the forecast is bad, but what about the risks elsewhere?

Unfortunately to date our Public Authorities have taken almost no interest in landslips, why they are happening or the risks they pose. The Loch Lomond and Trossachs National Park is a landslip hotspot, but so far the Park Authority, which could have been showing a lead, has remained totally silent. The Scottish Environment Protection Agency, the authority best placed to raise the alarm across Scotland, is focussed lower down on flooding some of which results from the type of extreme rainfall events that precipitate landslips. The British Geological Survey maps landslips where it can – a group of students had been lined up to report on the Loch Katrine landslips until Covid intervened – but is not resourced and has no responsibility to do so. Transport Scotland, slow to appreciate the dangers at the Rest and Be Thankful, doesn't appear to have started thinking about other roads. The only public authority to respond so far appears to be Network Rail which, following the Aberdeen accident, has committed to review the safety of railway lines across Scotland. Even where it identifies risks, what Network Rail can do will be limited unless it is given powers to take action on the surrounding land.

Arising from this lack of interest, there is no national methodology for assessing landslip risks. In a mountainous country like Scotland that seems extraordinary. To my mind government should, as an integral part of our response to the climate and nature emergencies, be assessing all slopes above settlements and key infrastructure for landscape risk. It will be only able to do this if it assembles and pays for expertise from a range of disciplines: geomorphologists, soil scientists, hydrologists, foresters, ecologists etc.

Alongside understanding the risks, we need to develop nature based as well as civil engineering solutions to mitigate them.



civil engineering solution Glengyle

Allowing sheep to continue to graze the slopes above the Rest and Be Thankful as late as 2019 was to my mind criminal negligence. Over much of the uplands in Scotland high numbers of Red Deer are helping to break up peat bogs, that soak up water, and preventing woodland regeneration. After viewing the landslips in Strathard in 2019 I wrote to Jo O'Hara, then head of Scottish Forestry, about what t Forest and Land Scotland, who own much of the land in the area, were doing to address the problem. Although she rejected my suggestion of an inquiry (I believe one is still needed), the reply ([see here](#)) was far more informative than anything I have ever received from the LLTNPA:

“FLS (Forest and Land Scotland) have been culling significant numbers of deer in this catchment and will continue to do so. However, a consequence is that deer from surrounding (privately-owned) properties move across the ownership boundary to occupy the land made available by the culling. Most of these properties are members of the Balquidder Deer Management Group (as is FLS), and many also rely on income generated by deer to support their land management activities. Over a number of years, FLS has been collaborating with the group, setting cull levels in Katrine at a level which reduces the local deer population but still leaves a population of sufficient size to satisfy other landowners. In return, FLS has expected, and encouraged, these landowners to cull significant numbers of deer on their land as part of a landscape-scale approach.”

As yet, the cull levels required for the sustainable development of native woodland across the catchment have not been achieved. As a consequence, FLS now intends to implement further significant increases to the cull on the land that it manages in Katrine. These increases will be implemented starting this year, with the cull level being set using data on the population from helicopter counts.”

In effect, Forest and Land Scotland’s attempts to persuade private landowners to reduce deer numbers voluntarily have failed. The deer keep flowing onto the publicly owned land around Loch Katrine preventing woodland re-generation in an area which forms part of the Greater Trossachs National Nature Reserve and Forest and was designated to do just that, .

Trees won’t in themselves prevent landslips, as the photos here and in previous posts show. There are hints though (second photo) that woodland may help contain landslips. We know too that woodland helps hold back water which is what triggers most landslips in Scotland. The development of a scrub zone would have slowed and limited the volume of water flowing down the hill, potentially reducing the number of landslips triggered above the current tree line and in woodland on the lower slopes. That is not possible at present at Loch Katrine, Glen Falloch or many other parts of upland Scotland due to high deer numbers.

Landslips should provide further evidence, as if more were required, as to why it would be in the public interest for there to be compulsory reductions in deer numbers in Scotland as part of our response to the nature emergency.

Category

1. Loch Lomond and Trossachs

Tags

1. climate change
2. conservation
3. Deer
4. LLTNPA
5. natural environment
6. Scottish Government
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