

## Landslips, flooding and riverside tree planting in Balquhiddar – tackling the source of the problems

### Description



Landslips on Stob an Duibhe March 2020

On Sunday I went for a walk in Balquhiddar, which I had not visited since a beautiful day just before lockdown in 2020 when people were being advised to stay at home. On that day we came across just one person but we did see from close up the multiple land slips on both sides of the glen which had been triggered by the “extreme” rain event in August 2019. Balquhiddar appears to have been at the centre of the downpour which caused landslides and flooding in Glen Falloch to the north ([see here](#)) and Loch Katrine to the south ([see here](#)).





Landslip on south slope of Beinn a Chroin. Note how the volume of water has washed clean a strip down the centre of the landslip. March 2020.

While the heavy rainfall on Friday was not reported to have been quite as extreme as three years ago, I was keen what impact it had had and to combine that with a hill walk.



We were greeted by a forest of plastic tree tubes on the flood plain just before the road end at Inverlochlarig which the Loch Lomond and Trossachs National Park Authority (LLTNPA) had boasted about back in March ([see here](#)). The photo illustrates how the LLTNPA has paid no regard to the landscape, carbon emissions – plastic is derived from oil – or how it is killing wildlife in our rivers and seas.





The LLTNPA stated the purpose of this tree planting was to improve river habitats by creating riparian tree cover. This photo shows it was completely unnecessary and a waste of public funds. There are already lots of trees along this section of the River Larig and these would regenerate naturally if given a chance. .



Trees enclosures above Inverlochlarig, March 2020.

The reason that the River Larig, part of the River Teith Special Area of Conservation, is in poor ecological condition is because of the level of sheep and deer grazing in the glen. This has had consequences not just for habitats but also flooding and landslips. Under the current system, landowners are allowed to continue with high levels of grazing, while the state helps pay to fix the damage with yet more postage stamp sized planting ([see here](#)). Our National Park Authorities should know better but have become part of the problem.





Just 50m beyond the car park, we came across evidence that the rain on Friday had been sufficient to cause significant flooding





Looking back towards the car park. You can just see some of the sheep which were scattered over the hillside beyond in significant numbers.

Even small scale damage like this will have caused significant cost to the landowner





It looked like not everyone locally was prepared for the rainfall

Once on the hill – we traversed Stob Breac and Stob a' Choin – we did not see further signs of flood damage until descending back to the glen but we did see some areas of significant peat erosion:





Eroded peat on the undulating south east ridge of Stob a' Choin. The height of the hag in the distance is an indication of the former height of the bog and how much carbon was stored here. Note the animal hoof marks visible in the foreground and the watercourse on the right, both of which are causing the erosion.

This and other areas of degraded peatland between Balquhiddar and Loch Katrine could be helping to absorb rainfall which has been triggering landslips on both sides of the watershed. This particular area would appear need very little restoration work to start functioning again as a bog. If grazing levels were reduced, the flat areas would quickly re-vegetate with cotton grass. The other main intervention that would be required would be to block up the water course and create bog pools.

We chose to descend Stob a' Choin from the Bealach Coire an Laoigh (pass of the coire of the cattle), a more difficult route than it name implies, and after threading our way through the crags came across a new landslip:





The flattened vegetation and smaller debris, which was soft and unconsolidated, indicates that this landslide was only days old.

A small watercourse was visible below the crag above the landslide which then disappeared under the vegetation. It appears that the volume of water flowing down this underground burn triggered the landslide exposing the burn once more.







Top section of landslip.

There was also enough water running down the hill to allow these blocks to slide over the vegetation without causing it significant damage



Looking down from near the point where the previous photo was taken

The landslip continued scattering debris for several hundred metres down the hillside







Note the projecting spear of wood to the right of the post in the foreground

The force of the water and the debris it was carrying was sufficient to flatten this stock fence well below and snap one its posts in two – more costs for the estate



The course of the landslip is visible to the right of what is now a small waterfall.

And finally this large boulder freshly deposited on vegetation. How far was it carried?





Note how the landslips are above the native woodland plantation, an illustration that we need to stem flow of water much higher up the hill

Looking across and up the glen we could see a number of other signs of recent landslips, not as large as in 2019 but an indication that what we had seen was an example of a much wider problem.





Part of the postage sized planting above Inverlochlarig Farm. Note the many watercourses on the far side of the glen. Once rainfall gets into these the water flows rapidly down the hill

Down in the glen below, there has been extensive tree planting along the river banks. The primary purpose of this appears to be flood protection, not habitat improvement, as it has been accompanied by work to protect the river banks.





Works to stabilise the river bank visible left of centre

Some of the enclosures, particularly where broadside on to the flow of water, had taken quite a battering in the flood.





While there was no tree surviving in this enclosure, the way the wire serves to catch the vegetation probably helps to protect the trees and reduce the chances that they will be uprooted by the force of water or chopped or crushed by flood debris (though alder have evolved to survive such challenges). A larger flood, however, might destroy the enclosures and the trees with it.



Placing tree trunks across rivers is now quite fashionable in conservation circles. While it serves to hold back some debris, potentially creating spawning beds for fish, in a flood it is likely to quickly bank out so that water and debris flow over the top. Neither in-river works like this nor planting trees is likely to reduce flood flow significantly.





Once water is in the river its too late and the only real option in terms of natural flood prevention is to let the water spread out over flood plains.





The trees in about half the tubes in this enclosure had taken – note the moss filled tube on the right. The wire netting makes it very difficult for anyone to remove the redundant tubes and reduce the amount of plastic that may end up in the river.

Two and a half years ago many of the tree enclosures above Inverlochlarig were still in the process of being constructed but many of those that had been planted then have had three seasons to grow and are doing quite well. What this will achieve, however, is another matter and in my view far from the landscape scale conservation we need in Scotland.

## **What needs to happen**

If we are to address the climate and nature crisis in our National Parks and Scotland more widely, focussing attention on woodland planting along rivers alone, as is happening at present, is not going to achieve very much (I hope to write soon about further woodland planting in the River Geldie and Glen Banchor in the Cairngorms National Park). If we could enable extensive areas of natural woodland to regenerate on the hillsides, however, that would make a big difference. In terms of flood



and landslip prevention, for example, each tree or dead log would serve to hold back a little water and in total that would be significant. In the longer term woodland regeneration would contribute to the development of soils that might help absorb even more water.

But we need to enable other vegetation, including that which helps create bogs, to recover too.

Landscape scale conservation cannot happen until we reduce the levels of grazing in upland areas drastically. Fences and tree tubes are just a symptom of the failure to tackle the grazing problem. For this to change we need to replace the current rural payments system, including grants for tree planting, so that landowners are rewarded for keeping the numbers of grazing animals low or confined to fence areas and not if they don't.

I have every sympathy for the people who own and work at Inverlochlarig and similar farms. They need to earn their living. But, if they continue to do so as at present, they are the people most likely to suffer directly in the long-term, whether this is being caught in a flood or seeing the soils on which their farming operation depends being washed away. It's in their interests to keep rural subsidies but use them in radically different ways.

### **Category**

1. Loch Lomond and Trossachs

### **Tags**

1. conservation
2. Deer
3. fencing
4. flooding
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6. landscape
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### **Author**

nickkempe

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