Aspen, Mar Lodge Estate and the place of natural regeneration in the Cairngorms National Park

Description

Aspen on the upper reaches of the Allt Tarsuinn, on south side of Meall Coire nan Saobhaidh off Loc Arkaig

What the National Trust for Scotland (NTS) have discovered at Mar Lodge

While away in Lochaber last week I read a very interesting article in the latest Reforesting Scotland journal (Issue 64) on â??Regenerating aspen: â??spontaneous appearanceâ?• at Mar Lodge Estateâ??. The author, the ecologist Andrew Painting, recounts how in 2018, while undertaking fieldwork in Glen Quoich, he:

â??was surprised to stumble across a tiny grove of aspen seedlings, shyly poking their heads above the heather. What was surprising was that there were no mature aspens in sight. My understanding at that time was that, given how infrequently aspen sets seed in Scotland and how it tends to persist through suckering, the species was particularly poor at recolonising lost groundâ?•.

A couple of weeks later he came across another grove and then another. That prompted a proper survey which then discovered that in the Mar Lodge Regeneration zone, where the deer population is now under 3 per km, there were:

â??19 newly regenerating stands of aspen which were often occurring at some distance (generally more than 100m and in some instances over 500m) from mature treesâ?•.

In the Mar Lodge Estate Moorland zone, where the deer population is just under 10 per km, *â??no â??spontaneously appearingâ?• stands were recorded*,â?• despite this area have a higher number of mature aspen trees (315 as opposed to 212).

The evidence is clear clear. If you reduce the number of grazing animals, native woodland will recover and in unexpected ways.

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The implications for tree planting

This wonderful news from the National Trust for Scotland poses a significant challenge to the prevailing view that if we want nature to recover, the best thing we can do is plant trees.

While a number of conservation landowners are now retreating from that view, led by the example of Glen Feshie where, as a result of a sustained reduction in deer numbers, trees are now â??sprinting up the hillsidesâ?•, most still maintain there is a need to plant scarce species like aspen. The question that these people have failed to ask is how aspen and other rare species like the montane willows colonised Scotland in the first place, which brings me to the aspen I saw last week in Lochaber.

Autumn is the best time to spot aspen, their leaves turn a pure yellow and they stand out from a cons

This small stand of aspen is very isolated, the nearest aspen we saw was over three kilometres away. The first photo illustrates the main reason why it has survived here, itâ??s located on the side of small gorge out of the reach of grazing animals, though quite how the vertical branches on the nearside managed to escape hungry mouths after the large tree fell across the gorge is something of a mystery.

The more difficult question, however, is to explain how did the aspen, which has developed into a small stand through suckering, get here? The orthodoxy, which Andrew Painting admits he believed until he saw the evidence of his own eyes at Mar Lodge, is that because aspen seed is produced so infrequently in Scotland (less than once in ten years) and now replicate mainly through suckers, that

planting is needed to conserve the tree and the host of rare invertebrates which depend on it. The trouble with that tree planting orthodoxy is its incapable of explaining HOW aspen colonised Scotland, including remote corners such as that pictured above, after the ice ages.

Perhaps seeding once every ten years was sufficient for aspen to spread? Perhaps birds and animals inadvertently helped carry the seeds to new ground? Or perhaps the suckering roots extend far far further than anyone has imagined and if grazing pressures reduced â?? aspen is favoured by herbivores and the food of choice for beavers â?? it would pop up all over the glen below the stand in the photo? I can offer no definitive answer and nor did Andrew Painting in his article. He, being a good scientist, recommends further research to try and establish whether the new stands were established through seeding or have developed from hidden root systems. Whatever the answer, aspen have far more regenerative capacity and ability to colonise the land than anyone thought.

This doesnâ??t mean that there is no longer a need for the tree nurseries that are growing aspen in Scotland to stop doing so. But it does mean that we should be thinking very carefully about where we plant and should avoid doing so in places like Scotlandâ??s National Nature Reserves, Mar Lodge Estate included, whose purpose is to provide places where nature can evolve with minimum human interference.

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The current position at Mar Lodge

In 2017, before they discovered the â??spontaneousâ?• natural regeneration, NTS planted 2,500 aspen in the â??moorland zoneâ?• along the River Dee as part of the â??Pearls in Peril Projectâ?• (see here). Whatâ??s happened shows that wouldnâ??t have been necessary if they reduced deer numbers further in the Moorland zone.

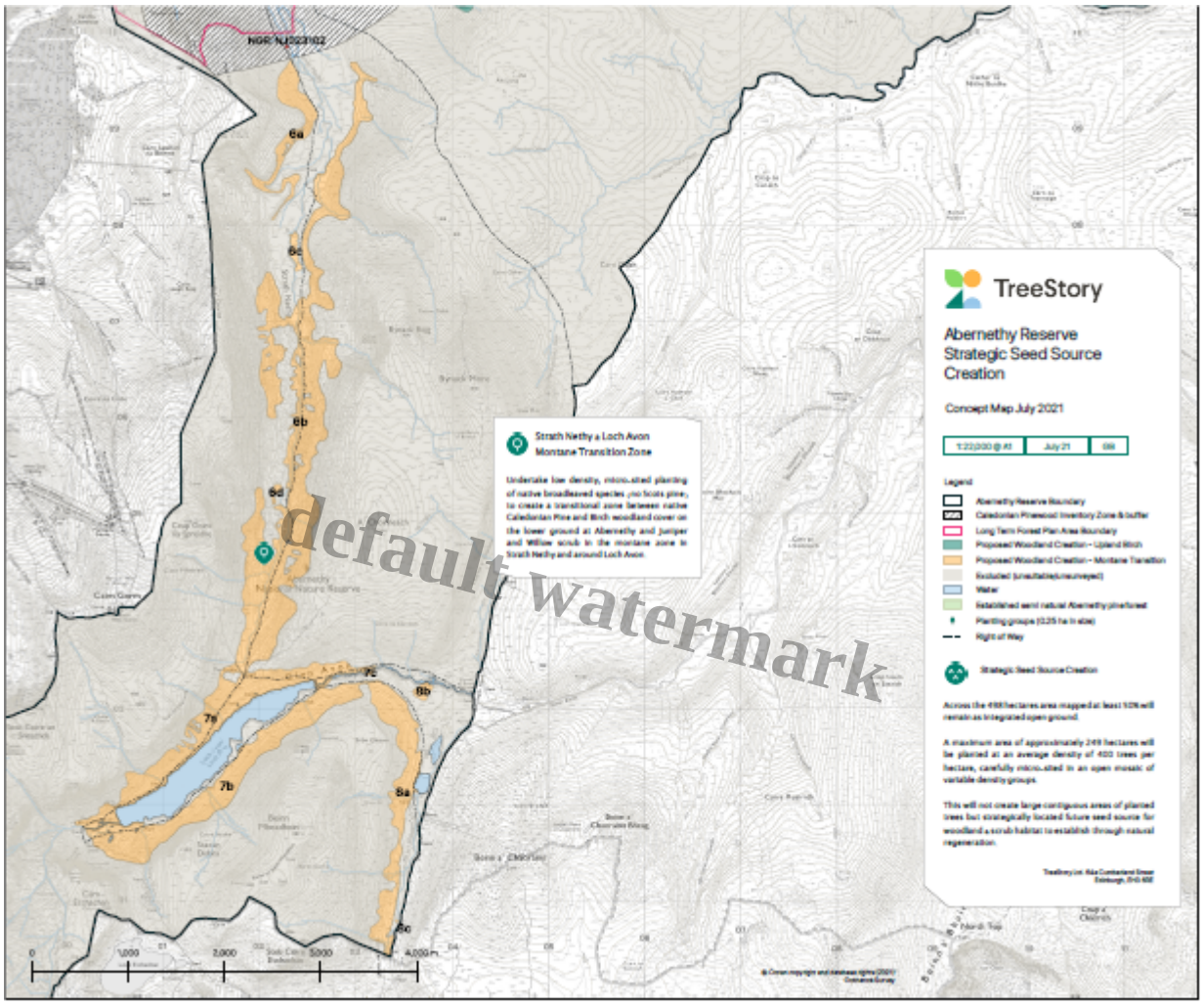
There appear to be elements of the tree planting orthodoxy that still survive among staff at NTS. Having decided that aspen needed minimal further â??conservation actionâ?•, Andrew Paintingâ??s article describes how NTS still decided to plant 10 plots of 100 aspen between stands in the regeneration zone to see if this would help them join up. But in an excellent blog post in February (see here) the Mar Lodge senior ecologist, Shaila Rao, explained how natural regeneration has been working and how NTS are now only planning to plant two species of montane willow.

In my view, NTS staff should be a bit more patient and allow time to see if the downy and whortle leaved willows start, like aspen, to pop up â??spontaneouslyâ?• as deer numbers reduce. But the direction of travel at Mar Lodge, to move away from planting and let nature do the job, is both clear and welcome.

The RPSBâ??s plans to plant the Loch Avon basin

Unfortunately, just over the watershed in the Glen Avon basin, the RSPB have started to plant â??missingâ?• deciduous trees in another National Nature Reserve and the Wild Land Area at the heart of the National Park.

In June they enlisted 30 well-intentioned volunteers (see here) to carry saplings in over the hill for an extensive planting project in an area where soils have been undisturbed for millenia:



Map showing areas to be planted in Loch Avon basin

Besides the two montane willows NTS are still planting, the RSPBâ??s plans include a host of other species including aspen:

Strath Nethy & Loch Avon Montane Transition Zone
(NVC W4/W17/W19/W20 – Upland birch woodland transitioning to montane willow and juniper scrub)

Downy birch – *Betula pubescens*
Aspen – *Populus tremula*
Goat willow – *Salix caprea*
Grey willow – *Salix cinerea*
Earred willow – *Salix aurita*
Downy willow – *Salix lapponum*
Whortle-leaved willow - *S. myrsinites*
Dark-leaved willow - *S. Mysinifolia*
Tea-leaved willow - *S. Phylicifolia*
Creeping willow - *S. repens*

All montane willow species proposed are found in remnant, isolated populations within this area but their survival is currently threatened. This proposal will bolster and extend montane willow scrub habitat.

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The example of Mar Lodge demonstrates that much, if not all, of the planting that the RSPB have started in the Loch Avon basin (and Strath Nethy) is not necessary, let alone desirable. What they should be doing is bringing the deer numbers in the River Avon catchment down and then letting nature takes it course.

The RSPB as kind enough to consult me about their tree planting plans in the summer (I lodged an objection which I will come back to). I am still in dialogue with them and am still hopeful that they can be persuaded to change direction but believe it is time the issues were made public.

Rather than planting trees I think it would be more appropriate for the RSPB to research further the role that birds play in native woodland expansion in Scotland. That is widely appreciated in other parts of the world, but less so in Britain.

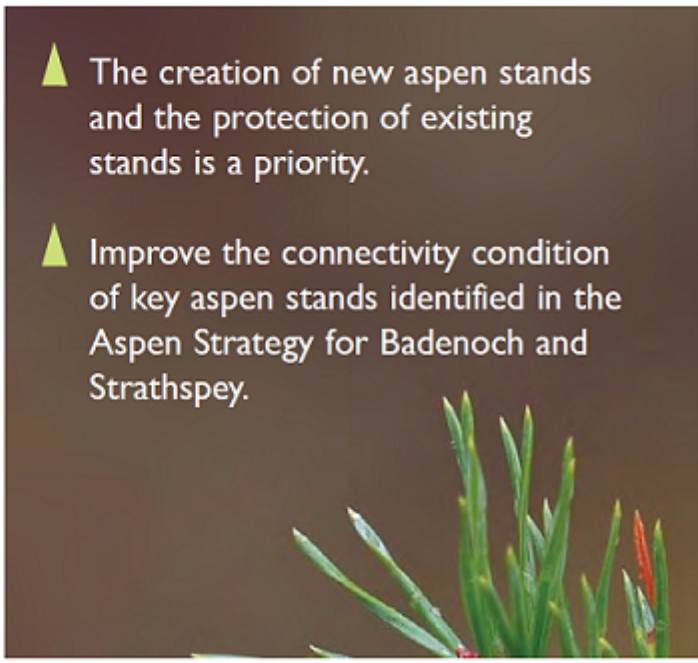
The Cairngorms National Park Authority, aspen and natural regeneration

In 2001 the Cairngorms Partnership, the predecessor of the National Park Authority, and the RSPB held a conference on aspen. The proceedings (see here) include a number of very interesting papers including one (P74) on the aspen at Invertromie on RSPBâ??s Insh Marshes Nature Reserve.The paper reported that although the RSPB had excluded sheep from the wood, aspen was still failing to regenerate because of grazing by rabbits and roe deer. The challenge for aspen, more than any other tree, is it is so palatable to herbivores. The corollary of this, however, is that if grazing animals are at levels that allow aspen to regenerate, then all our other native tree species should be able to do so too.

The Cairngorms National Park Authority has since it was formed, led a number of initiatives to conserve aspen. Currently, there are a plethora of plans and targets to conserve aspen and the species that depend on it, for example:

c) Aspen

The Cairngorms National Park contains some of the best examples of aspen woodlands in the country and consequently this species is a priority in the Cairngorms Nature Action Plan. Aspen is vital to the survival of a variety of nationally rare invertebrates, lichens and fungi that live in association with aspen and no other species of tree. Many aspen stands in the Park are over mature and have no young trees to replace them. Although widespread in the straths of the Park, large stands of pure aspen are relatively uncommon.



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Extract from Cairngorms Forest Strategy 2018

Aspen	Work with land managers to manage and improve the conditions of key sites identified in the Aspen Strategy for Badenoch and Strathspey	R1	R3	**CNPA**, CA, SNH, SF, BCS, agents
	Work with land managers, partners and volunteers to improve connectivity and create new aspen stands across the National Park			
	Develop an Aspen Management Plan for Deeside			**CNPA**

Extract from Cairngorms Nature Action Plan 2019-24 â?? not how it refers to two other aspen management plans

Priority	Action	Species Recovery Curve		Partners (lead in bold)
		Current	Target	
Aspen hoverfly	Work with land managers to deliver sustainable management suitable for population expansion	T2	R3	**SNH**, SF, FLS, RSPB, CNPA, Buglife, CA, RZSS
	Promote as ambassador for aspen woodland, eg include in discussions on beavers			

It would be interesting to know if ANY of these plans have done anything to help aspen extend its range and protect the species that depend on it. I am fairly confident, however, that the reduction of deer numbers in the Mar Lodge conservation zone, which was NOT in any of the aspen management plans, will have made far more difference than anything these plans have achieved.

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The lesson for the Cairngorm National Park Authority (CNPA) and other conservation organisations is that if we bring down the number of grazing animals, nature will recover, and there will be no need for targetted management interventions, whether these are for breeding rare insects or planting â??missingâ?• trees.

But that means taking on the sporting estates in the Cairngorms, it would mean the RSPB taking on the owner of the Glen Avon estate, whose deer comes over into Abernethy and impact on the natural regeneration there, and it would mean the Cairngorms National Park Authority tackling the deer issue.

Deer, natural regeneration and the National Park Partnership Plan

The draft Cairngorms National Park Partnership Plan (NPPP), currently out for consultation (see here), shows that while the CNPA is moving slowly in the right direction on deer numbers, it is not nearly far enough:

TARGET / INDICATOR	**Average red deer densities on the open range are five to eight per km² across the National Park by 2030.** **Sika and fallow deer (non-native species) will be contained within their current distribution in the National Park by 2030.** **Establish deer population in the woodlands of the National Park by 2025.**
Why are we proposing this objective?	Average red deer densities on the open range are currently 11.5 per km² across the National Park, but vary from four to 20 depending on location. To enable peatland and woodland work to proceed at the scale necessary to meet our targets, deer numbers will have to decrease in the National Park, with particular focus given to areas with high deer numbers. This is a complex picture and we will need to look at densities, occupancy and impacts on current and desired habitats, as well as impacts on estates and businesses.

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A deer density of 5-8, while an improvement on the usual 10 deer per square kilometre target favoured by NatureScot, the organisation responsible for overseeing the management of deer in Scotland, is still hopeless from a conservation and climate change perspective.

During the period that NTS were aiming for five deer per square km in their regeneration zone, natural regeneration was so slow as to make little appreciable difference. Now that they have reduced deer to levels to 3 per square km, not that much greater than in Glen Feshie, aspen, pine and a host of other species are popping their heads above the heather. The CNPA needs to explain why it has ignored this evidence in setting its targets.

The woodland expansion section in the draft NPPP indirectly provides confirmation that the targets for numbers of red deer are still far too high:

OBJECTIVE	**A2.** Increase the amount of woodland cover in the National Park to ensure bigger, more natural woodlands, expanding up to a natural treeline, providing connections across river catchments and around the central core of the mountains. The majority of this will be native woodland and will be allowed to regenerate naturally, without the need for planting or fencing.
TARGET / INDICATOR	**A minimum of 35,000 ha of new woodland cover created by 2045.**
Why are we proposing this objective?	It is important to place this increase in context. When we achieve these ambitious targets, over three quarters (77%) of the Park will still be open habitat by 2045.

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While the emphasis on natural regeneration rather than planting is welcome, the aspiration of this landowner dominated National Park is that by 2045 (what emergency?) just 23% of the Cairngorms will be covered by trees. That is still way below the 38% average tree cover in the European Union in 2015 (see here). And the Cairngorms is meant to be a National Parkâ?¦â?¦â?¦â?¦â?¦.

While I will consider the CNPAâ??s draft National Park Partnership Plan in more detail over the next couple of months, it only needs to contain two main actions to address the climate and environmental crises:

- reduce deer numbers to an average of 2 per square kilometre across the National Park by 2025, and
- end all muirburn now.

Nature will then do the rest (and we wonâ??t have to worry about raptor persecution any longer because all the traditional sporting estates will have shut up shop allowing new green jobs to be developed).

Category

1. Cairngorms

Tags

1. CNPA
2. conservation
3. forestry
4. NTS

5. wild land

Date Created
October 29, 2021
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