

## Restoring native woodland at Dùn Coilich

One of HPCLT's Charitable Purposes is *to advance environmental protection and improvement by the restoration of native woodland and other habitats as important means of conserving and increasing biodiversity*. In pursuit of this, much of the activity at Dùn Coilich has been the planting of native trees and improving the circumstances for regeneration. It is worth considering, therefore, why we should want to restore native woodland. We should also examine what we mean by 'restoration': does this suggest a return to a former wooded landscape, with the implication that we have a vision of what we are trying to achieve in terms of an earlier historic or prehistoric landscape? This article also reviews briefly the wider native woodland restoration movement in Scotland in order to set our work at Dùn Coilich in context.

### Why plant native trees?

There are many well-documented reasons:

- Help combat climate change – trees, like other plants, remove CO<sub>2</sub> from the atmosphere through photosynthesis.
- Soft engineering – trees reduce surface run-off, help prevent floods and stabilise the soil (for example, in Glen Croe, near the Rest and be Thankful, Forest Enterprise and Transport Scotland plan to plant a new broadleaved woodland on the slopes above the A83 as a long term approach to preventing the landslips that frequently block the road.
- Support agriculture – trees help prevent soil erosion, stabilise river banks and provide shade and shelter for livestock.
- Improve health and well-being – trees reduce air pollution in cities, provide attractive places in which to exercise and improve mental well-being.
- A natural resource – wood can be used as fuel and as the raw material for furniture making and numerous other crafts.
- Improve the landscape – groups of trees and woodlands improve the landscape, giving visual interest and diversity of colour and texture.
- Encourage wildlife and build landscape resilience – native woodland constitutes a rich ecosystem with a high biodiversity; a good mix of native species increases landscape resilience against pests and diseases.

The last two bullet points are particularly relevant to Dùn Coilich. The land here was typical of much of the uplands of Scotland, having been overgrazed for years by sheep, deer and feral goats: it was an impoverished ecosystem, lacking biodiversity. A management programme was established to promote restoration of a healthy ecosystem, including the planting of native trees, such as Scots pine, downy birch, rowan and sessile oak, and other species such as hawthorn, blackthorn, juniper and eared willow, supported by the Forestry Commission Scotland's Woodland Grant Scheme. Perimeter fencing is necessary to keep out deer, and the results can now be seen: young trees are growing well clear of the heather and bracken and a wealth of plants, fungi, birds, insects, spiders and mammals is to be found. It is heartening too to see extensive regeneration, especially of birch, which is acting out its role as a pioneer species, a role it has had since the end of the last Ice Age, when it was among the first tree species to establish in Britain.

## **The problem with deer**

It is very clear that the bare hills of the British uplands are not what nature intends. When access by sheep and deer is difficult because of local topography or prevented by fences, woodland begins to develop. Look at any of the gorges created by hill burns and you will see ribbons of native trees, which have developed free from browsing; or look at the difference a fenced enclosure makes, such as at the nature trail on the approach to Beinn Ghlas/Ben Lawers, on the flanks of Beinn Cheathaich in Glen Lochay or indeed at Dùn Coillich. And then enter any of these little woodlands and experience the enormous contrast with the bare hills outside: there is bird song, a diverse ground flora and all the signs of a rich ecosystem. You don't need to make a scientific survey of the flora and fauna, the fungi and animal life because the abundance of life supported by the woodland is self-evident.

It is true, of course, that red deer and roe deer are native mammals and what they are doing is natural. But it is also true that they have no predators here to keep their numbers in check, a problem exacerbated by some sporting estates keeping numbers artificially high. Deer densities in Scotland are perhaps 12-15 per km<sup>2</sup>, much higher than in other countries, such as in SW Norway, which has a very similar climate and geology, where the density is nearer to 0.5 deer per km<sup>2</sup>. One consequence of this is that red deer in Scotland are smaller than their counterparts in SW Norway, most likely because in Scotland there is more severe competition for food; and this includes young trees. A density of 4 to 5 deer per km<sup>2</sup> might allow trees to establish without the need for fencing (data from *Report on Deer Management in Scotland: Report to the Scottish Government from Scottish Natural Heritage 2016*, <https://sp-bpr-en-prod-cdneq.azureedge.net/published/ECCLR/2017/4/3/Report-on-Deer-Management-in-Scotland--Report-to-the-Scottish-Government-from-Scottish-Natural-Heritage-2016/5th%20Report.pdf>).

As the Forest Policy Group notes in written evidence to this SNH Report, public money indirectly subsidises the maintenance of high deer densities, with the resultant degradation of the land; for example, the £13m pa of public costs dealing with road traffic accidents caused by deer, and the £5m pa spent on forest fencing. And while the Forestry Commission has to spend a further £30m of public money pa to expand woodland cover by 10,000 hectares (justified largely on the basis of their contribution to sequestering atmospheric carbon) effective deer control would allow woodland to regenerate grow naturally, free of charge, on several times that area.

## **We are not alone**

In July 2017, The Heart of Scotland Forest Partnership was launched. Its vision is to create a restored and vibrant landscape that provides opportunities for wildlife to thrive, for local employment and for people to enjoy. The partnership is made up of seven organisations – Forestry Commission Scotland, HPCLT, the John Muir Trust, the Kynachan Estate, the Scottish Wildlife Trust, the Woodland Trust and Garth Wood Wilding Project – working together to connect woodlands across Highland Perthshire from Schiehallion to Loch Tummel. In this way, wildlife corridors will be created across more than 3,000 hectares.

This is just one small example of Landscape Scale Ecological Restoration; there are other examples throughout Scotland. In 1951 the Forestry Commission bought most of Glen Affric and initially set about felling the native pines and planting lodgepole pine and spruce. However, 400 hectares of ancient forest were enclosed with a fence to encourage native pines to regrow, and gradually the attitude of the Commission changed, such that in 1960 this area was declared a pine reserve. (It became the nucleus of what, by 2001, was a 14,500 ha National Nature Reserve.) This change in attitude, seeking to preserve the native woodland for its landscape and wildlife value, was greatly influenced by the publication in 1959 of *The Native Pinewoods of Scotland* by Steven and Carlisle, who advocated that “*these woodlands should be preserved and perpetuated*” and laid the principles for a conservation approach to native woodland management. National Nature Reserves at Beinn Eighe and Craig Meagaidh followed. By the 1980’s momentum was growing to preserve native woodland and increase its spread. In 1985 the Secretary of State for Scotland announced the outcome of a Forestry Commission review, agreed across the UK, to “*maintain and enhance the value of Britain’s broadleaved woodlands for timber production, landscape, recreation and nature conservation*”.

This was a turning point that has been built on in successive years. For example, the Forestry Commission has now established Britain’s biggest National Nature Reserve – the Great Trossachs Forest – on land around Loch Katrine. This will be a mixture of habitats: meadows and moors, as well as ancient and restored ancient woodland which will be given the space and the opportunity to expand over the years. The Reserve’s neighbours are also partners in the project: the Woodland Trust’s Glen Finglas Estate and RSPB Scotland’s Inversnaid. In 1989 the charity Trees for Life was set up, its core purpose being to restore the Caledonian Forest and its wildlife; by 2008, money had been raised to buy the 10,000 acre (4047 ha) Dundreggan estate in Glen Moriston. By planting trees at Dundreggan and encouraging natural regeneration, the aim is to create an unbroken native woodland link between Glen Moriston and Glen Affric.

Now there are many reforestation projects, on a variety of scales and ranging across public, private and charitable ownership. The owner of the Glenfeshie Estate in the Cairngorms decided in 2006 to halt the decline in the native pinewoods and restore the forest to its former glory. A deer management plan was introduced aimed at reducing red deer numbers from around 35 deer/ km<sup>2</sup> to less than 5 deer/ km<sup>2</sup>, in order to allow tree seedling regeneration. At Glenfeshie it is clearly recognised that restoration of the forest must include restoration of the patchy, low canopy of montane woodland (or scrub), which occupies the zone between the tall pine forests below and the open mountain tops above. Here, scattered pine, birch and rowan, much reduced in size by temperature and exposure, give way to rare mountain willows, dwarf juniper and dwarf birch (*Betula nana*). Restoration of montane scrub means restoring a natural tree line to the hills of Scotland. The tree line is the upper altitude at which native trees grow – about 650 m in the central (continental) region of Scotland to around 250 m in exposed places near the west coast – and it is perhaps the most telling indicator of the unnatural state of our hills that there is hardly any natural tree line in Scotland at present.

There are other, smaller reforestation projects, more like Dùn Coilich than Glenfeshie or the National Nature Reserves. Examples include the Carrifran Wildwood (Borders Forest Trust)

in the Scottish Borders and Birse Community Trust in Aberdeenshire. There are many others, along with umbrella organisations to provide networking opportunities and support, such as *Reforesting Scotland*, the *Forest Policy Group* and the *Community Woodlands Association*. It is important, therefore, to see Dùn Coillich not just as a local endeavour but as part of a national movement to increase native woodland cover and enjoy the environmental, economic and social benefits this will bring.

And finally, does restoration imply that we are trying to recreate a particular historic or prehistoric past for Dùn Coillich? No, we are not: we do not know the vegetation history of Dùn Coillich and it would be wrong therefore to have such a target in mind. In fact, the question misses the point: we are re-wooding parts of the landscape at Dùn Coillich for all the benefits this will bring; in particular, reversing the ecological degradation which it has suffered and increasing its biodiversity. That surely is an aim worth working for.