Glen Finglas – upland wood pasture restoration

Vision

The long-term vision for Glen Finglas is to create a dynamic ecosystem of wooded areas and open ground, managed as a wood pasture system. Tree cover and open areas will be allowed to expand and contract over time, in response to natural processes, and as long as the overall value of the habitat is maintained.

Upland wood pasture is more rugged in character than its lowland counterparts with smaller trees and lower growth, often due to its isolation and harsh winters. Widely spaced veteran trees occupy land that has not been converted to agriculture or forestry, mostly due to their inaccessibility (Quelch, 2001). The Glen Finglas Estate in the Loch Lomond and Trossachs National Park in Stirling, Scotland, is held up as a model of this type of system.

History

Glen Finglas is a 4,084 ha upland estate, including the impressive glens (river valleys) of Finglas, Meann and Casaig, and areas of Loch Venachar's shoreline. The site's altitude ranges from 80m to 850m above sea level. The land is a mosaic of remnant ancient wood pasture with veteran trees, mires (including the Brig o' Turk Mires SSSI and some containing the rare sedge *Carex magelanica*), calcareous grassland, and 220 ha of mature native woodland, 120 ha of which is of ancient origin. It is one of the best sites in Scotland for ancient/veteran trees.

Prior to humans settling, the area would have been grazed for centuries by elk, wild boar, red deer and wild cattle (auroch). The first evidence of humans dates back to 700BC. From Medieval times, people would drive their livestock to Glen Finglas to make use of the upland summer pastures. They lived in 'shielings' (summer huts), made initially of turf but later stone. They would leave before the harsh winter weather set in. From the 1400s to the 1700s there were nine townships at Glen Finglas. Tenants used the land for farming and livestock grazing. These activities maintained and supported the wood pasture system that had naturally evolved.

Aerial view of Glen Finglas © WTPL

In 1364 Glen Finglas was taken into royal ownership, and for 200 years was a popular hunting forest of Scottish kings. The estate lost favour in 1603 with the unification of the Scottish and English crowns, and livestock grazing by tenants began to increase. In 1743 the Earl of Moray took full advantage of the higher rents he could charge for grazing, which subsequently intensified. The shielings were largely abandoned in the early 19th century as permanent sheep farms took over. This has been the main land use over the last 200 years.

The wood pasture aspect was gradually reduced to a scattering of veteran alder, *Alnus glutinosa*, hazel, *Corylus avellana*, birch, *Betula* sp., and ash, *Fraxinus excelsior*. These show evidence of

historic pollarding and coppicing. Some are estimated to be 400 years old and they support an abundance of old-growth lichens and fungi. As the most unpalatable of the tree species, alder is now dominant, having best resisted grazing pressures.

The Woodland Trust acquired Glen Finglas in 1996, inheriting one of the largest commercial sheep farms in Europe. Sheep numbers were around 5,000, with roughly 100 cows. The increase in deer population across Scotland during the latter half of the twentieth century also contributed to the serious degradation of the semi-natural habitats present.

Initial tree planting took place from 1998 to 2000. While some of this was deer fenced, other areas were merely stock fenced. Deer were still able to enter the stock-fenced sections and browsing pressures were high, resulting in limited establishment.

Current grazing

The Estate has no perimeter deer fencing; deer culling was targeted at selected areas to support vulnerable planted areas. Despite culling, the deer levels still remain too high to allow tree establishment without fencing and deer control continues to be an important part of Glen Finglas' management. Today livestock numbers have been reduced to 200 traditional Scottish black face sheep, with cattle increased to 120 hardy Simmental-Luing crosses, and deer are maintained at a sustainable 180. Grazing priorities are primarily for deer as the natural grazers, secondly cattle as they encourage a diverse sward and regeneration, and lastly sheep. The cattle are hardy and remain out on the fell all winter without supplementary feeding.

Cattle in snow, Glen Finglas © WTPL/Glyn Satterley

Pollarded oak, Glen Finglas © WTPL/Glyn Satterley

Over one million trees have been planted on the estate, creating 404 ha of new woodland. A further 20 ha have naturally regenerated, mainly within the deer fenced areas on Lendrick Hill and Glen Meann West. While natural tree regeneration is preferable, the estates soils and seed availabilities are variable. Those areas with poor soil or lacking a seed source have been targeted for tree planting.

Of the land below 400m, 50-70% will be established with trees and shrubs, the density of which will vary from 5 trees per hectare to 100% canopy cover. At least 30% of the wooded area will be fairly open, less than 20% canopy cover, to maintain the overall wood pasture system.

Once the tree cover has established the wood pasture system should be self sustaining, offering a steady seed source. The fenced off areas will eventually be opened up to grazing animals and the boundaries between the fenced and unfenced areas will blur over time. The trees were pollarded for many centuries for timber and fodder. These ancient remnants have not been pollarded for many years, and some now have 'air or cuckoo' trees regenerating in the hollowing trunks. There are currently no plans to recommence pollarding of the ancient trees, but new pollards may be created in the future.

Future

By 2050 the vision is for 1025 ha of the estate to be native woodland of varying stocking density, from closed canopy woodland to open wood pasture, with sub-montane scrub at the tree line.

References

Quelch, P.R. (2001) Ancient Wood Pasture in Scotland. Forestry Commission Scotland, available online: http://www.forestry.gov.uk/pdf/ancient.pdf/$FILE/ancient.pdf