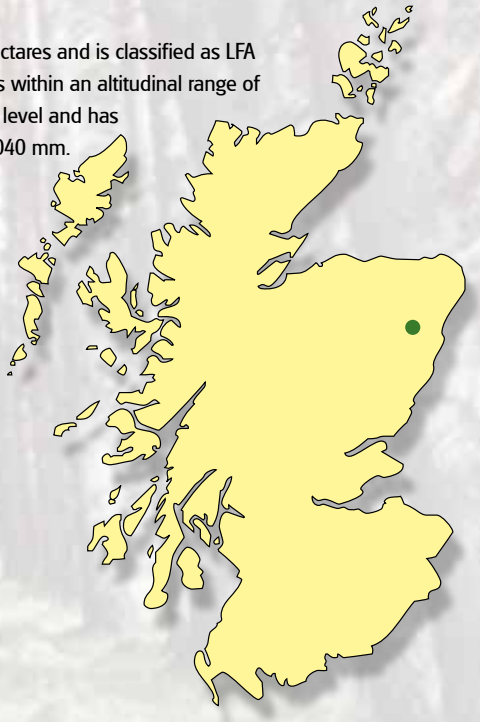
Farm woodland case studies

Glensaugh Aberdeenshire

Donald Barrie

Donald Barrie is manager of the Glensaugh Research Station located in the eastern Grampians straddling the Highland Boundary Fault. Although Glensaugh operates as a hill livestock farm and a multi land use estate to serve the experimental programme of The James Hutton Institute (which leases the farm from the Scottish Government),, the estate's commercial enterprises are run to generate a profit. Glensaugh merits inclusion because there is a story to tell; it contains the best-monitored agroforestry trials in Scotland, and Donald has a keen interest in appropriate woodland expansion.

Glensaugh extends to 1,000 hectares and is classified as LFA (Severely Disadvantaged). It lies within an altitudinal range of 120 and 450 metres above sea level and has an average annual rainfall of 1040 mm. The landholding comprises 865 hectares of upland grasses and moorland, 60 ha of predominantly rotational grassland and 88 ha of permanent pasture.



Donald has thought hard about trying to create a more sustainable farming system at Glensaugh. For him, this means minimizing the use of energy-intensive bought-in inputs and matching livestock enterprises to the potential of the ground.

He also argues that there has been a need to diversify the income base of the property which explains the retention of deer enterprise and the development of a 50 kW wind turbine, as well as the planting of several small woodlands with stock shelter a major motive.

Glensaugh is also the setting for a system of agroforestry trials where sycamore, Scots pine and hybrid larch have been planted at wide spacings to assess the scope for silvopastoral systems in Scotland.

Glensaugh has 50 blue-grey breeding cows (mated with Limousin or Charolais bulls) and sells progeny as weaned calves. Numbers have been reduced in the last decade largely because of their lower profitability compared to sheep and Donald is considering reducing numbers further.

The sheep flock comprises 500 Cross-bred ewes and 400 Blackface ewes with a strong focus on quality lamb production, almost all sold fat. The arable ground is used for growing clover-rich grass and this year some forage rape on which to fatten lambs.

The third livestock enterprise is a red deer herd of 100 hinds. Calves are sold as forward stores.

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Making the woodland work for the farm

Glensaugh lost most of its woodland to emergency felling during the First World War, although there are remnant stands of trees from this period, and small areas planted in the 1970s, Donald's main aim is to restore the shelter woodland lost to this wartime felling, but to do so in ways that fit in with his vision of developing a sustainable upland land use system at Glensaugh.

In total, about 20 hectares of grant-aided planting has been undertaken since 2010 in six separate blocks. In all cases, the land taken for forestry has been rough grazing, some of which was previously useful for out-wintering of stock, but none of the forestry has been of a sufficient scale to require a reduction of stock numbers.

The research use of the farm left Donald a legacy of agroforestry trials. An area of 10 hectares of Scots pine, hybrid larch and Sycamore planted at 5 metre spacing was set up as part of a UK network of trials to look whether there were synergies between farm and forest enterprises. It has now been incorporated into the working farm. Most of the 0.7 Ha trial plots are now unfenced and under grazed. The plots have a healthy stock of poor quality timber which, with the expanding interest in woody biomass, makes it an opportune time to think about further biomass heating. Strategic planning and management is a team effort between Donald and a professional forester, while professional contractors do most of the planting and maintenance work. Farm staff carry out vermin control and assist with spraying, planting and beating up.

How it all adds up: the costs and benefits of farm woodland

The woodland benefits the farm in terms of shelter, and SRDP grants have covered almost all of the establishment costs. A proposed new woodfuel development will take advantage of the Renewable Heat Incentive. The existing woodland will go a long way to meeting the heat needs of the research buildings and farm cottages but there would still be a need to buy low grade timber from neighbouring forest owners for chipping. There is a loss of Single Farm Payment and LFASS support, but this has a negligible overall financial impact because the percentage land take is so small.

The set up and management costs of the agroforestry system were high, but the woodland now provides valuable winter shelter for crossbred ewes. The farm will also gain useful biomass from the experiment which will be eligible for RHI support, and there is no doubt that the livestock gain from the shelter. Clearly, the average upland farmer does not need replicated experimental plots, but the outcome has been something that contributes positively to the farm in several ways.

Looking forward: where do we go from here?

The primary benefit from restoring woodland at Glensaugh has been shelter for livestock, but environmental enhancement has also been a driver of farm policy. Experimental establishment of silvopastoral woodland in the 1980s has shown that stock grazing and wood production can go hand in hand, but with wide-spaced trees in an upland setting timber quality is poor and fuelwood the most likely market.

Today, wood energy production and the favourable grant schemes associated with it are as important in driving future forestry as stock shelter, though the latter remains a compelling rationale for planting trees in exposed areas.

With plentiful buildings there are no storage issues with woodchip and the development of renewable energy systems fit well with the long term plan for the farm. More forestry planting is likely, but will focus on woodland creation for environmental benefit (driven partly by grant aid) rather than any desire to produce sawlogs, because quality is often compromised by wide spacing or small forestry plots. Renewable heating systems will create an internal market for any fellings.

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