



Conservation Grazing Case Study 5 Coed Lan-fraith, Cwm Elan







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Location & background

This site is an area of 19ha, owned by Dŵr Cymru/Welsh water, which lies along the western side of Caban coch reservoir in the Elan Valley. 2ha of the site is designated as part of the Coetiroedd Cwm Elan/Elan Valley Woodlands Special Area of Conservation (SAC) and also the Caban Lakeside Woodlands Site of Special Scientific Interest (SSSI). The small area of SAC here is nonetheless important for its woodland features, including rich epiphytic lichen communities, with some particularly rare lichens growing on the trunks of several veteran oaks.

Outside the SSSI, there are also a few patches of woodland scattered around the site, including an area of oaks which are c.150 years old and contain good lower plant interest, e.g. a population of horsehair lichen Bryoria fuscescens, which is rare in mid-Wales. The remainder of the site is currently an open mix of grassland and heath flora, dotted with young trees too small to provide any tree canopy; but previously there had been woodland here for over 100 years. Maps dated 1893 show Coed Lan-fraith as a largely deciduous woodland with two small conifer blocks at its northern end. At some point the woods must have been felled to make way for a conifer plantation, which was in turn cleared sometime prior to 2011, when the clearfell was replanted with broadleaves under the Better Woodlands for Wales (BWW) scheme. There is still a long narrow strip of conifer (larch and Douglas fir) along the road edge of the site, and larch, spruce, Douglas fir and Western hemlock have self-seeded across the site, along with a lot of birch, various other broadleaves, and some Scot's pine.

When the project began, although there was an existing fence around the site it was not in a good state of repair, and the site had seen fairly heavy trespass sheep grazing. This meant that many of the (predominantly oak) trees that had been planted under the BWW scheme were stunted and not getting away, having been repeatedly nipped back. Also, over time, the sward in between these trees, especially lower down on the site, had become tall and dense. Sheep dislike long rank grass, so this meant that they increasingly targeted the growing trees, which was worsening the situation. Meanwhile small areas of



bracken and bramble were quickly spreading within the site, especially in the SSSI area, where they had taken over the understorey entirely.



Figure 1. Sheep-nibbled oak tree in Coed Lan-fraith, September 2019.



Figure 2. Coed Lan-fraith showing oaks with classic sheep grazed, topiarised shape, growing through rank grass, with self-seeded larch in background (September 2019).

Grazing Plans

The decision was made to repair the damaged fencing and replace the trespassing sheep with cattle grazing. Some grazing pressure was needed on the site, to keep the unwanted regenerating conifer down and make some impact on the grass sward, bracken and bramble. Observations indicate that sheep make little or no impact on bracken and cannot push into bramble thickets. However, trampling of both bramble and bracken can be achieved by using heavier livestock such as cattle, as they push into those areas to eat bramble leaves. Also cattle are known to be less selective feeders¹ which are more likely to eat the long grass and not select the tree saplings, especially the deciduous trees in the winter months when there are no leaves. Nevertheless, it was decided to keep a close eye on the impact on the trees through regular photo-monitoring and visits by a member of staff.

Originally the project plan, which was aimed at improving conditions within the SAC, specified works only around a small (3ha) area close to the SAC - see Map 1.

For grazing to be sustainable, the blocks of land involved must be sufficient to function as a unit that is worth the costs of animal transport, especially for cattle grazing. It was felt that 3 ha would not be worthwhile for a grazier, as the cattle could only be on site for a short period of time on such a small site.



Also, it would be beneficial to the whole site to introduce low-intensity cattle grazing, and interesting to see whether the woodland could regenerate in the presence of low intensity grazing.



Map 1. Coed Lan-fraith, showing original and new project area.

Preparations and paperwork

Under the BWW scheme grazing must be excluded, so the site could not be grazed until the agreement had expired, which was in 2022. There were the usual difficulties with getting infrastructure in place –access to much of the fence line is poor and one stretch in particular is very steep. However fencing work was completed in October 2022.

Although only a small part of the site is SSSI, it was of course still necessary to obtain consent for introducing grazing. A consent application was submitted for a stocking density of a maximum of 0.1 LSU/ha/year, which is around 3-5 cattle for between 3-5 months. Also an all-year-round grazing period was also requested to allow staff to adapt the grazing regime to stock availability, ground conditions, etc. It was felt that this flexibility was needed, because although winter grazing is preferable to protect the young trees



(which cattle eat more readily when in leaf) if we wish to target bracken within the SSSI area it may be better to keep cattle on site until June or July when the fronds are beginning to open; or if we need to target rank grass early summer grazing might be needed (May/June).



Figure 3. Veteran oak in SSSI surrounded by bracken, June 2022.

Permission was also obtained to use mineral licks to encourage the animals into the areas with dense bracken, and cut paths through the denser parts of the bracken so that the animals can access the SSSI area.

Project staff identified a potential grazier with shorthorn-cross cattle, which anecdotal evidence suggested were less prone to browsing (eating trees) than other breeds. The Elan Valley Trust, which manages many of the farm tenancies around the Elan Valley, has one of its in-hand farms at Penglaneinon, which is towards the top end of the site. They were happy to put some of their cattle into Lan-fraith over winter, as the trees provide shelter from the wind and rain.

Many of the non-native conifers that have self-seeded across the site were much too large for the cattle to push over or browse sufficiently to hold them back. The decision was made to employ contractors to fell these, but as the site is fairly large and the conifers mainly scattered, this work could take place whilst cattle were on site. They eventually took place in the winter of 2024.

Finally, a substantial number of sheep that were trespassing in Lan-fraith when the fencing was finalised had become trapped on the site, and were extremely difficult to flush out. This took a coordinated effort from the Elan Valley Trust, for which we are very grateful!





Figure 4. Staff celebrating after evicting the large number of trespassing sheep!

Monitoring

As with other project sites, baseline monitoring was carried out in the SSSI area of Lan-fraith for lower plants (lichen and bryophyte surveys), birds (common bird census) and general habitat surveys (common standards monitoring). There is also ongoing quarterly photomonitoring across the whole site. It was especially important in Coed Lan-fraith to monitor the impact of the newly introduced cattle on the young trees as it was predicted that stock exclosures might need to be provided if the trees continued to be damaged.

Introducing Grazing

Winter 2022/2023

Five heifers were put into Coed Lan-fraith for 4 months, between February and May, which is a stocking density of 0.08 LSU/ha/year.Their impact over this time was limited, but they had to be removed in May due to lack of water. The bracken was only just getting going as they were taken out, so they had no impact on that. Also the grazier was a little anxious about their well-being, so they were given supplementary feed in the form of hay. The feeding area was well away from the SSSI, which was necessary to prevent enrichment, but probably meant that they spent a lot of time in the area where they were fed. However, as can be seen from the photos below, they had a good effect on the sward, and crucially did not damage the young trees.





Figure 5.1. End of January 2023 before cattle went in.





Figure 5.2. End of May 2023 after cattle have been removed.



Figures 6.1 and 6.2. Rank grass is reduced but even very small trees growing in this area have not been damaged.



Figures 7.1 and 7.2. Bracken in the SSSI area remains unchanged. Bracken here is very thick and cattle will need encouragement to enter this area.



Winter 23-24

This year, mainly to accommodate the needs of the grazier, the site was grazed with a combination of young stock and adult cows: there were 10 young stock in from the beginning of January until halfway through February, when they were removed. Following this, 5 adults were placed on site for the rest of February and March, until they were taken out in April for TB testing. Unfortunately, after this it was inconvenient for the grazier to put them back in again for the rest of the grazing period. This is a lower stocking density than the previous year at 0.06/ha/year, but the effect of 10 animals, even for a short time, was much better in terms of bracken trampling. The cattle also explored the site more and ate more bramble in the SSSI.



Figure 8.1 and 8.2. Brambles have been grazed, and bracken and brambles trampled around bases of old trees in SSSI, March 2023

The grazier still wished to provide supplementary feeding for the cattle with hay, but this year he had more confidence in the forage available on the site and fed a little less. He also placed the hay and mineral licks in areas of bracken (though not within the SSSI), so they therefore trampled the bracken heavily in those areas. As they were removed from site in April, sadly they did not continue their good work into the bracken's growing season! However this shows their potential for knocking bracken back.





Figures 9.1 and 9.2. Trampled bracken in feeding area (March 2023) and cattle trampled path through the bracken (March 2023).

One important result so far is that, in general, it is clear that the cattle are not damaging the regenerating deciduous trees. Oak and birch are largely ignored, and although the occasional rowan gets nibbled, most rowan saplings escape. Oddly they really like Scots pine and tend to target it, so these have suffered. This reinforces the view that different breeds have different preferences in terms of what forage they find palatable so that, if possible, breeds should be matched to conservation aims.







Figures 10.1, 10.2, 10.3 and 10.4. Trees are regenerating in the presence of grazing, with most showing long vigorous growth from the past 2 years unchecked by browsing.







Figure 11. Scots pine has been eaten, while other conifer (larch and spruce), hawthorn, birch and salix sp. have been ignored (May 2023)

Future plans

For the next grazing season, if possible the plan is to repeat what happened in 2024 with the larger numbers of youngstock, and try to attract them into the SSSI with mineral licks. A pasture pump will be purchased to ensure that the water supply does not run dry again, so that we can count on keeping the cattle on the site until at least the end of May, or even into July in order to trample bracken. The cattle enjoy the bramble in the SSSI, so that if they can be enticed into that area they will find something to eat and might stay in the area long enough to damage the bracken.

As the cattle do not seem to enjoy eating any conifers apart from Scots pine, conifer regen will have to continue to be monitored, and it may be that further clearing works will be needed in the future. While other breeds might eat the self-seeded conifer, it is felt that on this site it is more important to continue with a breed that prefers not to browse, so that the young oaks and other deciduous trees continue to grow well.

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