COEDWIGOEDD GLAW CELTAIDD CYMRU
CELTIC RAINFORESTS WALES

Conservation Grazing Case Study 3
Coed y Gribin, Abergwynant

NATURA 2000

Life

Conservation Grazing Case Study 3: Coed y Gribin

Location & background

Coed y Gribin, Abergwynant is an RSPB reserve of just over 22 hectares, comprised entirely of broadleaved woodland. The site forms part of the Meirionnydd Oakwoods and Bat Sites Special Area of Conservation (SAC), and Coedydd Abergwynant Site of Special Scientific Interest (SSSI). On the reserve the woodland habitat type is largely 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles ("Celtic Rainforest") and is important for ferns, bryophytes, lichens, and woodland birds such as pied flycatcher and wood warbler. RSPB, Y Gribin as a whole is one of the best sites in Wales for lower plant interest: surveys carried out in 2022 found 167 species of liverworts and mosses and 169 species of lichen, including a number of very rare and threatened species which feature on the Wales or UK red list. The site is also used by hawfinch, part of the community of hawfinch in the Mawddach area which is nationally significant.

Previous management & problems identified

Coed y Gribin has been an RSPB reserve since 1983. Little is known about its management before this time, but the 1887 OS map shows that Coed y Gribin was woodland at that time, and looked very similar to today in terms of area and extent.

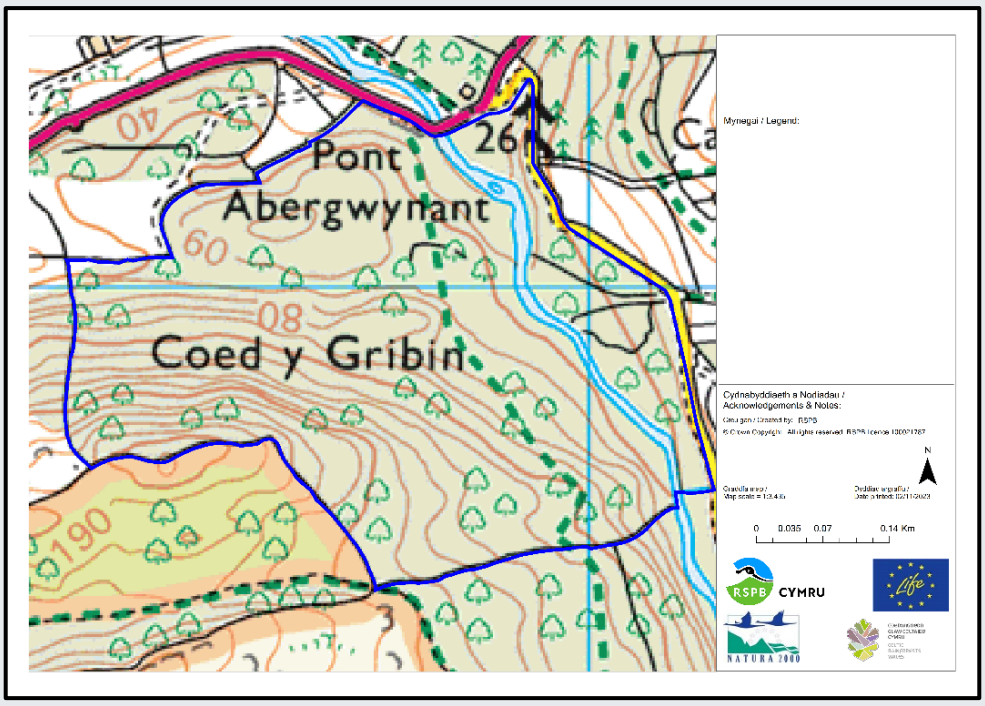

Figure 1. *Map of Coed y Gribin showing grazing area outlined in blue*

In recent years there has been very little grazing on the site, some grazing with sheep has taken place, but this was not ideal for the conservation management of the site. In some areas this has led to significant growth of ivy and bramble, which negatively impacts many lower plant species by preventing light reaching

the forest floor. Many lichens prefer the lower sections of tree trunks, so young ivy is a particular threat to these species. Similarly very abundant tree regeneration causes too much shading, and Orange (2014) recommended introducing grazing to combat this: "It is hoped that some recent increases in shade can be reversed, by removal of saplings and beech …Grazing to prevent regeneration is an essential part of this" (p9).

One challenge is that Abergwynant is also used by hawfinch, whose needs conflict with those of lower plants. There is a fair amount of beech on this site, which is not native here, and Orange (2014) recommended the removal of beech as it can have a negative impact on the rare lichen communities. This is because beech trees seed prolifically and can out-compete the oceanic lichens' host trees and create dense shade; also its leaves do not decompose as readily as other native broadleaves, so that its leaf litter can smother lichens and bryophytes growing on the forest floor. However, Abergwynant is also a known breeding site for hawfinches which feast on the beech mast produced by mature trees in the late summer/autumn. A compromise is therefore needed where some areas of beech are allowed to persist, but are managed to prevent further spread. The hope is that grazing can create these conditions. The cattle should eat many of the young beech saplings, and low density grazing should create a largely open structure with appropriate light levels for assemblages of priority woodland bird species and lower plants, while leaving some areas neglected so that they remain thick and scrubby.

Preliminary requirements

Coed y Gribin is a Site of Special Scientific Interest (SSSI) and therefore needed consent for any works from Natural Resources Wales (NRW). A consented RSPB Management Plan existed, with consent obtained in 2016 to graze with a maximum of 20 sheep or 6 ponies, or a combination of the two, between April and October only. This works out as 0.18 LSU per hectare per year. However, it was felt that cattle would be better as they would be more likely to have an impact on thicker bramble or larger saplings, and trample bracken. We therefore applied for an update to the SSSI consent, asking for up to 0.4 LSU between April to Oct (which works out as 9 cattle), but as we hadn't yet identified a grazier we kept the type of animal open (cattle, ponies, sheep, or goats). We planned to start with a smaller stocking density and increase numbers if they weren't having the desired impact. NRW consented the application with the condition that the maximum grazing for Coed y Gribin would be 0.16 LSU/ha/yr (5 cattle for the 7 months) with regular monitoring to ensure that the grazing was not having a negative impact on the vegetation. They were concerned that "grazing should be at a level where there is sufficient natural regeneration of locally native trees and shrubs to maintain the woodland canopy and provide a varied age structure." They also applied conditions around treatment of stock with wormers such as Ivermectins (stock need to be treated at least 2-3 weeks prior to arrival on site) and supplementary feeding (except for the provision of mineral licks), to reduce the risk of enrichment and the spread of agricultural plant species at the expense of native flora.

Celtic Rainforest LIFE Project staff managed to identify a grazier who would be willing to graze the site with cattle from April to October. He had small and hardy Dexter cattle, which were thought to be ideal for the site. We also needed to secure agreement from the neighbouring farmer that any livestock could be brought in across his field.

Fencing infrastructure was installed in 2019/20. This included 2 new gates and some jump fencing along the top of a wall. There was also an old weir structure on the river which needed to be fenced out as it might have presented a hazard to the cattle. A new self-closing pedestrian gate was installed on the public footpath, provided by the council, with permission of the Public Rights of Way (PRoW) Officer.

Monitoring

All project sites were subject to Common Standards Monitoring (CSM), common bird census (CBC) and lower plant surveys at the start of the project, and this will be repeated at the end of the project. In addition, we are undertaking fixed-point photography on sites at least twice a year which allows us to build up a more detailed picture of changes over time.

Introducing grazing

Prior to introducing grazing some holly thinning took place on site to remove up to 70% of holly cover, but no other thinning works took place. In 2021 six Dexter cattle with calves at foot were introduced. However for various reasons the cattle have yet to have a full term's grazing at Coed Y Gribin. In the first year the agreement with the grazier wasn't reached until summer and the cattle weren't introduced until July. The following year (2022) the cattle had to be removed in mid-June, as some necessary tree work was taking place on site which required the removal of fencing; and in 2023, one of the cows had had a still birth prior to being put into the woods and failed to settle, so the grazier removed all the animals to his farm where he could keep an eye on them. This means that they have only ever been on site for between 3-4 months in any one year.

Summary of findings so far

Despite the above, the cattle have had a big impact during this time, reducing the extent and density of bracken in several areas and significantly reducing levels of bramble. They have also kept the holly in check (see appx 2). Staff have noticed that the cattle seem to prefer some areas to others, and each year they have the same favourite places (possibly because these areas are sunnier) where they spend a lot of time. In these areas they trample vegetation, browse and push over saplings, and create an open area. In contrast, there are other sections of the wood where they seem to spend very little time, so they create a patchwork of different conditions within the wood. Other noticeable impacts include the fact that they tend to smash up dead wood causing it to rot faster; and, interestingly, the cattle have found water on site. In a wet area, their trampling has created a pool for them to drink at a previously unknown spring (right).

The cattle have also had a very positive effect on the ivy on the site. In 2022, a survey by D. Lamacraft found that, all over the wood, young invading ivy was creeping up the lower parts of the tree trunks which "is a problem when it comes to epiphytic lichens, unlike mature crown ivy, and is often a response to reduced or removed grazing pressure" (p35).

Picture 1. *Pool created by cattle trampling*

The cattle enjoy ivy and have tackled it enthusiastically, with most trees now showing a clear browse line.

Picture 2. *Douglas fir eaten by cattle.*

Lamacraft's survey found that the top part of the site was thick with regen, and he commented that "the abundant tree regeneration around the top of Y Gribin needs addressing to avoid continuing negative impacts on mature trees, standing deadwood habitats and their lichen interest" (ibid p43). It seems unlikely that the current grazing regime could improve this problem, partly because Coed Y Gribin also has some extremely steep sections which the cattle avoid, so that around 2 ha of the area cannot be grazed; but also because the regen in this area is large enough that the cattle are unable to push it over.

Another issue is that there are several mature Douglas fir on site which have been seeding prolifically around the wood. These large fir host some good lichen interest, making it undesirable to fell them to remove the seed source. We were hoping the cattle would eat the seedlings and help us contain this problem. However so far, although the cattle clearly do eat the Douglas (see photo right, showing half eaten tree partially protected by a fence), their effect across the site has been limited.

From the grazier's perspective, he has been very pleased with how his cattle have fared whilst in the woodland, saying that they have put on weight and condition and seem to be thriving. He noticed that in warm, wet weather, flies can be a bit of a problem because it is so sheltered underneath the trees, but

apart from this he says he has had such a positive experience that he has expressed the desire to graze other woodland sites for us should they become available.

Picture 3*. Coed y Gribin, showing cattle impacts: ivy removed to browse line, and smaller saplings that have been pushed over and browsed.*

Future plans

In general Lamacraft (2022) found that the cattle have not had the desired effect on the abundant tree regeneration in Y Gribin. He comments that "Coed y Gribin is …passing a tipping point, certainly in some areas" in terms of suffering through under-grazing, and that "there was little evidence of any impacts (from the grazing) except perhaps in the lower, northern part of the compartment". The main issue he found was encroaching tree regeneration, particularly of beech, which was "having a definite (adverse) impact on the lichen interest and if allowed to continue uncontrolled is likely to see the loss of some key species". At the time of his survey the cattle had only had one season in there which perhaps accounts for some of the lack of impact he noticed. On a recent assessment however, although the ivy and bramble were seen to be greatly reduced, it was noted there is still an issue with encroaching tree regeneration. Although the cattle are clearly pushing over some saplings and browsing them, others are probably now too large for the cattle to push and further thinning work may be necessary.

It may also be wise to alter the grazing regime if we want to target saplings. Winter grazing could be more effective, since there is less alternative forage at that time of year, making the cattle more likely to browse smaller trees, especially the evergreen Douglas fir. Also, as with other sites, cattle seem to particularly like ferns, and a change to winter grazing, even a temporary one, might benefit ferns and other flora. The plan for next year's grazing (2024) if we gain SSSI consent for this, is therefore to keep cattle out of the wood until October, and then keep them on the site until the following March. We plan to monitor their impact closely to ascertain if the situation is improved.

Picture 4. *Dexter cattle grazing in Coed y Gribin*

References

D.M. Lamacraft (2022) Condition Assessment of SSSI Lichen Feature and Lichen Survey, Coedydd Abergwyant RSPB, Meirionnydd. Unpublished report to RSPB Cymru.

Orange, A. (2014) Lichen Survey, Management and Monitoring in Three Mawddach Oakwoods (Meirionnydd Oakwoods IPA). Unpublished report to Plantlife.

Appendix

The left column below was taken in August 2019, right column in August 2023. Photos clearly show that cattle have made much larger impacts in some areas than in others. The final picture shows that the cattle have had very little impact so far on encroaching conifer.

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