Bodnant Estate
CCFG Wales Meeting
6th November, 2013
by Martin Price

The 2013 CCFG Wales meeting was kindly hosted by Phil Argyle of Pryor and Rickett Silviculture the forest manager for Bodnant Estate.

The woodland at Bodnant consists of blocks scattered through the matrix of farm pasture along the Conwy valley. The day was spent touring areas of recent harvesting and management with a theme of re-instatement of management in mature crops, often on steep slopes, without resorting to clear-fell. Forest management on the estate has only resumed relatively recently after a hiatus due to attention previously concentrating on sporting issues. Phil leads the forest management team on the estate with the objective of reinstating productive and profitable forestry.

Stop 1: Coed Carreg y Ddimai

The first stop was a stand of p.1899 beech and oak that had undergone harvesting in 2010 to remove a stagnating mix of conifer. A 60-65% reduction in stocking predominantly removed European larch which had been very slow grown and at that point had stalled. The harvesting yielded some quality timber some of which was used locally for timber frame construction. Older broadleaves of poor form had also been removed. The need to install and upgrade harvesting access for harvesting on steep sites was stressed for the first of many times in the day as the group inspected track construction and the access road.
The stand objective was to manage towards a predominantly native broadleaved mix. The site was a quite fertile lower-slope and so underplanting in addition to natural regeneration was used to restock the now quite open stand before weed competition became a problem. Oak, ash, wild cherry, hazel and birch had been established across the site with annual maintenance of strimming and cleaning carried out by the Estate’s squad, with pruning planned for the better cherries.

Whilst still soon after its intervention, it was agreed that the stand now looked to have more of a future.

**Stop 2: Coed Ty Gwyn**

The group’s second stop was to view the recent work carried out in this oak woodland. Situated on challenging slopes, the oak overstorey was even-aged, planted in the early 1900s, and had not been managed for a considerable time. No understorey was present due to rhododendron covering the site. The purpose of the intervention was to reinstate management; installing access, breaking up the overstorey, and removing the rhododendron to allow establishment of an understorey.

Rhododendron was hand cut and stumps treated to initially clear the site. Thinning was carried out using chainsaw and cable skidders which gained access through a network of installed tracks. Overstorey trees were individually marked, based on quality and local stocking criteria, thinning around 45m³/ha from the site, and yielding around 25% sawlog with the remainder going to firewood.

The group again admired the impressive amount of work accomplished in challenging conditions. The intervention has created a stand which will encourage and support a new understorey whilst focussing increment on quality trees to increase future log production.

**Stop 3: Nant Gaeddor**

The group next walked across into the neighbouring Nant Gaeddor block. Showing a variety of site types, ranging from thinner acid soils and exposed conditions at the crest of the ridge to deeper and more base-rich mid and lower slope soils, the stand was also quite varied. A mixed broadleaf and conifer crop, the highlight was some mature Douglas fir with Scots pine and European larch with an understorey of sycamore and ash. The site was classified as PAWS and the Douglas was to be gradually felled to order for large dimension timber and replaced with the understorey of broadleaf.

The greatest problem was again access on the steep and convoluted slopes, probably limiting extracted log length to 40 foot. Sycamore in the crop was also proving to be worthwhile to feed into the container market for export log.
Further around the slope the stand changed into oak woodland which had been marked and was due for felling in the winter. Again, marking had been carried out on a quality criteria to improve the current crop and encourage stand diversity. Holly was proving to be invasive within this area, taking over the understorey and suppressing other species, and was being targeted to reduce its effect.

The group was again impressed at the silvicultural range shown and the positive management applied to squeeze value from the stand.

**Stop 4: Coed Lyn Syberi**

The first of the afternoon stops saw the group in a block undergoing continued development. Established in the 1920s the mixed native broadleaf and conifer (Douglas fir, Scots and Corsican pine, larch) stand had required removal of rhododendron to promote re-establishment of understorey. A BWW grant had supported upgrading of tracks and successive thinning has removed some mature conifer and favoured quality broadleaves and the scattered understorey. To push both species mix and stand development, planting of oak, mixed broadleaf and larch was used, although local rabbit numbers have necessitated the use of tree tubes.

Access was again discussed as, although stand access was good and topography kind, the county road from the block necessitated double handling and the use of 6 wheeler timber lorries, increasing haulage cost – an altogether too common problem for many areas of Wales.

**Stop 5: Coed Llwydfaen**

The last stop of the day was to a stand of p.80 Douglas fir undergoing transformation; a very different crop to the mature broadleaf-dominated stands seen through the day. The crop had received an early first thin around 20 years ago but had not had any further attention.
The stand was thinned in 2012 using estate labour of motor-manual felling with the estate tractor used for a 6t winch and forwarder trailer. A light thinning of around 35m³/ha was applied as windthrow was judged a distinct possibility – the lack of thinning had not developed individual tree stability and the height of the crop in relation to its diameter was quite large. The availability of estate labour aided this lower-intensity working. The intervention yielded bar, firewood and fencing material, removing suppressed trees and those of poor form.

Some beech regeneration was already evident within the stand and this was viewed as a positive addition, providing both species and structural diversity. The primary aim was to carry on thinning the Douglas to develop crowns and promote seed in order to perpetuate the species on the species on the site.

The group again congratulated Phil on skilfully providing a positive future to a stand that would otherwise have stagnated.

Summary

The day at Bodnant showcased how sensitive and skilful silviculture can reinstate management in crops that have been long neglected. CCF has proved to be an excellent method to go about this without having to resort to clearfelling. Complete removal of overstorey on such steep ground would run erosion risks, create large visual disruption in the high amenity of the valley, and with site fertility being reasonably high, regenerating under canopy where possible reduces problems associated with competing vegetation.

Our thanks go to Phil and to the Bodnant Estate for hosting such an enjoyable day.

Martin Price studied forest management at Aberdeen between 1995 and 1999, spending a year with Dornoch Forest District as his mid-year placement. He followed his degree by working in Washington State for the US Forest Service for two years, first in timber pre-sale and then recreation and wildlife departments, also fighting wildfires in Washington and Oregon. Martin returned to the UK in 2001 to gain his MSc at Bangor and then worked in private-sector forest management and harvesting. Returning to Bangor to study mechanised harvesting in transformation of regular stands to continuous cover forestry (CCF) management, Martin gained his Ph.D. in 2007. Martin now works as part of FC GB, providing operational support to the 3 countries. martin.price@forestry.gsi.gov.uk