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Rapid Inventory in Oak-Beech Woodlands: Implications for Conservation Management in Coed Dolgarrog Nature Reserve in North Wales

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Abstract

Coed Dolgarrog is a rare example of semi-natural oak woodland in the north-eastern side of Snowdonia (North Wales). The site has been subject to various patterns of disturbance over the centuries becoming a National Nature Reserve (NNR) in 1959. The Study's objective was to understand trends in natural regeneration by comparing patterns of succession between two canopy gaps of different ages and a site with undisturbed under-canopy conditions; using rapid inventory approaches. The "younger", "older" and "undisturbed under-canopy" zones where identical in all other aspects (*i.e.* topography, aspect, soil type, hydrology, past land management). Although, oak (*Quercus petraea*, *Q. robur* and hybrids) is the dominant canopy tree, no signs of regeneration was observed in the sampling areas. This clearly concurs with other studies and reports on Coed Dolgarrog which underline the low levels of oak regeneration. It seems plausible that Oak was successful in large part due to planting and management practices which favoured its dominance. It has also been noted that Beech was, in all likelihood, introduced deliberately to the site at a subsequent time and presumably also managed for timber purposes. Unlike the Oak population, beech (*Fagus sylvatica*) appears to be regenerating successfully in the absence of any management. The presence of beech and its perceived threat as a future dominant canopy species in Coed Dalogorrag is linked to its classification as a non-native species in North Wales and to its 'highly shade tolerance', being the aim of the conservation management to limit its dominance and spread. Although we had observed high densities of Beech seedlings and saplings in the surveyed plots, it would be unwise to over-interpret this trend as indicative of regeneration patterns for the site as a whole. Therefore, however, data from this survey shows that beech seems to be more favoured than other species in young gap conditions, in later stages ("older gap") this situation is attenuated and the relative height dominance of Beech decreases in later stages of succession, for both seedlings and for saplings.

Keywords: Coed Dalogorrag, conservation management, North Wales, oak-beech woodlands, rapid inventory

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