Assessing and addressing the impacts of ash dieback on UK woodlands and species of conservation importance

Case study 5 : Craig y Cilau

Case study key facts

Total area of woodland: *c.***12 ha**

Proportion of ash in canopy overall: **>50% but little overstorey present overall**

Woodland structure: **scattered patches of trees amongst large areas of scrub**

NVC: **W9**

Vulnerable ash-associated species: **2**

Alternative trees and shrubs: **present, but at low abundance which will be difficult to increase**

Management: **establish transplants in areas fenced to exclude herbivores**

Site and Location

Name	Craig y Cilau
Country	Wales
Local Authority	Powys
Landscape context	The woodland is on north facing cliffs and steeply sloping screes / hillsides at an altitude of *c.* 300m. To the south and west is a plateau with blanket bog and heath, to the north is pasture and a small area of raised bog.

Hawthorn scrub covers much of this mountainous site (photo J Wohlgemuth).

Site Characteristics

Woodland area
Total area of site is 63 ha of which *c.* 12 ha is woodland.

Woodland type
NVC W9 - upland ash wood.

Soil type
Base rich humic rankers

Lithology
Carboniferous limestone

Stand structure
Although about half of the site is covered by woody species much of this appears to be a single cohort of very old hawthorn scrub with few other species. Patches of ash woodland occur across the site. Those on the cliff ledges are distinct, but as hawthorn is the dominant understorey species throughout, the boundary between scrub and woodland is difficult to determine on the lower hillside slopes and stabilised scree. The amount of overstorey tree cover is very variable and over the entire site is probably <10% overall. On the lower slopes and scree overstorey cover is predominantly provided by old ash trees with occasional holly, rowan and willow. Understorey cover in these areas is also variable and is dominated by hawthorn; other shrub species present include elder, hazel and sloe. The woodland on the cliffs includes a greater range of tree species: ash remains the most common component of the overstorey, but beech, yew, and small-leaved and large-leaved limes provide about half of the cover. Rare whitebeams provide much of the cover from small woody species. Juvenile and sapling regeneration of trees and shrubs is absent. Bracken is common species across parts of the site.

Biodiversity interest

Designations
The site is an NNR within the large Mynydd Llangatwg SSSI (1727 ha) that includes a variety of habitats including blanket bog, grassland and woodland. It is within the Usk Bat Sites SAC that was designated for the lesser horseshoe bat (a European Protected Species) and a variety of habitats including *Tilio – Acerion forests of slopes and ravines* (*i.e.* mixed woodland on base rich soils associated with rocky slopes) which is the woodland type found at this site. The site is within the Brecon Beacons National Park.

Vulnerable species associated with ash
Only 2 ash associated species were identified in the database, one lichen and one bird had a partial association with ash.

Other species of conservation interest
Several hundred lesser horseshoe bats roost over winter in caves at the site. There are several rare whitebeams growing on the cliffs including the endemics *Sorbus minima* and *S. cambrica.* There are also some endemic hawkweeds.

Management

Historical
Common land with grazing by sheep and also some ponies. Specific management of woodland unknown.

Current
Common land with sheep grazing across site but no management of trees.

Long-term vision for site
An increased area of woodland with a greater range of species on the slopes and screes.

Factors limiting delivery of management currently planned
Designation as common land.

Future methods of management

Potential response of ash associated species to ash dieback
As the 2 species have only a partial association with ash and alternative species for both species are already present on site, adverse effects may be limited. The lichen (*Collema fasciculare*) can live on hazel, beech and rowan. The bird (*Muscicapa striata*) will also use beech.

Continuation of existing management with loss of ash occurring
Overstorey cover will decline as site conditions do not favour recruitment of new trees by natural regeneration, due either to the severity of the environment or grazing by sheep. Natural regeneration can occur on rock faces and ledges but it is unclear whether it will persist. The mixture of species remaining may change in the long-term and if beech, which is at the limit of its range cannot regenerate, then the availability of alternative trees for the two ash associated species may decline. Loss of hazel from the understorey over time may compound the effect.

Management allowing for loss of ash but maximising persistence of ash related biodiversity
As the species are only partially associated with ash and alternative species occur on site, the costs and benefits of operations to establish alternative species must be carefully considered. Any management to establish new trees at this site will be difficult. Natural regeneration is unpredictable and establishment of desirable species may best take place by planting. However environmental conditions at this site are unfavourable for rapid establishment of trees and it will be essential to provide protection from browsing by sheep until they are taller than browsing height. Establishment of new trees on the cliffs by planting may be unrealistic although they are less likely to be browsed by sheep. Similarly browsing pressure may be reduced on the upper scree slopes, but planting and establishment is likely to be difficult in the rocky substrate. Success is most likely on the deeper soils of the lower slopes and if establishment of new trees is attempted then protection from browsing will be a necessity and best practice should be used to ensure that plants establish well and grow quickly.

Factors likely to constrain delivery of future management to maximise persistence of ash
Common land used for grazing sheep. In addition the physical characteristics of the site such as terrain, aspect, altitude, soils and climate will make any woodland management difficult to carry out and are likely to limit success.

Potential for use of generic methods to establish alternative species
Procedures 3-6 are unlikely to be useful as felling and thinning are unrealistic at this site. Non-intervention (option 1) mirrors current management and whilst promotion of natural regeneration in unfelled stands (option 2) could be tried, the species desired may not establish and long-term management to protect areas from sheep browsing will probably be required.