

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

Case study 10 : Lathkill Dale



Case study key facts

Total area of woodland described: **57 ha**

Proportion of ash in canopy overall: **95%**

Woodland structure: **high forest**

NVC: **W8 and W7**

Vulnerable ash-associated species: **9**

Alternative trees and shrubs: **some present but most have low abundance, diversity could be increased**

Management: **introduce new species by planting in gaps**

Site and Location

Name

Lathkill Dale

Country

England

Local Authority

Derbyshire County Council & Peak District National Park Authority

National Character Area

White Peak

Landscape context

The woodland occurs on steep north and south facing scree slopes of a narrow valley which has a river at its bottom. The site is surrounded by intensively managed pasture. Other ravine woodlands in the surrounding area are generally similar in character, whilst the dale top plateau woodlands consist of small shelterbelts and plantations.



Patch of well established large sapling ash that have developed in a canopy gap (Photo J Alsop).

Site Characteristics

Woodland area

The woodland has a total area of about 78 ha with 57 ha to the south and 21 ha to the north of the river.

Woodland type

The unmanaged woodland to the south of the river on the north facing slopes is mostly NVC W8 but with some patches of W7.

Soil type

Humic rankers.

Lithology

Carboniferous limestone.

Stand structure

This relates only to the unmanaged area of the site on the north facing slopes. The stand is high forest with an understorey; overstorey canopy cover is about 85% and that of the understorey is about 70%. The overstorey cover is almost a monoculture of ash maidens which appear to be more or less even-aged, about 5% of the canopy is wych elm, field maple, beech and sycamore. Although hazel dominates the understorey, wych elm is common and varying amounts of shrubs typical of ash woodland occur including guelder rose, bird cherry, spindle, sloe and elder. Natural regeneration does occur, and both juveniles (< 1.3 m tall) and small saplings (> 1.3 m tall) of several species including ash, hazel and beech were seen, but they were infrequent. Small groups of larger young ash trees are scattered through the woodland. There are no resident deer and no signs of deer damage is apparent.

Biodiversity interest

Designations

The site is within an SSSI (c. 270 ha) and forms part of the Derbyshire Dales NNR (385 ha) and it is within the Peak District Dales SAC (c. 2330 ha) which was identified, in part, for the presence of *Tilio – Acerion forests of slopes and ravines* (i.e. mixed woodland on base rich soils associated with rocky slopes). It is also within the Peak District National Park.

Vulnerable species associated with ash

There were nine species identified within the database all were only partially associated: one bird, a moth and 7 lichens.

Other species of conservation interest

There is a population of white-letter hairstreak butterfly present.

Management

Historical

Secondary woodland which regenerated about 200-years-ago. The woodland on the north-facing slopes has received little management but plantations of several species of both conifers and broadleaves were established on the south-facing slopes, some of these have been felled.

Current

High forest with limited interventions to: encourage natural regeneration through the exclusion of grazing livestock; control of sycamore; manage elm for white-letter hairstreak butterfly; thin remaining plantations; and manage hazardous trees.

Long-term vision for site

Woodland consisting of a diverse mixture of species native to the area, including some such as small-leaved lime which are currently missing, in a stand which is developing a complex multi-layered canopy structure

Factors limiting delivery of management currently planned

Poor access and topography. Shared tenancy of land.

Future methods of management

Potential response of ash associated species to ash dieback

All of the lichens are likely to survive as they can all use hazel which is abundant and 4 – 7 of the other tree and shrub species present. There are fewer suitable alternatives for the moth (*Agrochola circellaris*) and bird (*Phylloscopus collybita*) and they are uncommon.

Continuation of existing management with loss of ash occurring

Loss of ash will have a significant effect on overstorey cover but most, if not all, of the vulnerable associated species are likely to persist as alternative trees and shrubs are present on site. In addition the reduction in canopy cover will probably improve their growing conditions. The active management of elm should benefit *Agrochola circellaris* which can use it as an alternative.

Management allowing for loss of ash but maximising persistence of ash related biodiversity

Beech, wych elm and elder are the three alternative tree or shrub species for the vulnerable moth and bird which are already on site, and future stand management should promote an increase in their abundance. However, tree and shrub species diversity across the site could be increased to improve the range of suitable alternatives for the moth and bird. Suitable species identified for the bird are birch, oak and privet, and aspen, goat / grey willow and black poplar for the moth. Whilst the willow and birch may regenerate naturally despite their absence / rarity at the site, others such as aspen, oak and privet may need to be planted to ensure their presence at the site. As these species are generally light demanding their establishment should take place in gaps of suitable size created by group felling. Subsequently young plants should be managed to ensure that they grow well and establish quickly which may include management of any competitive ground flora which develops, and cutting of any coppice which grows to cover the plants.

Factors likely to constrain delivery of future management to maximise persistence of ash associated species

Poor access and topography. Shared tenancy of land.

Potential for use of generic methods to establish alternative species

As alternative species are present then any of the six options could be used, but felling and replanting, or felling with natural regeneration promoted (options 4 and 6) are the most likely to result in the successful introduction of new species of trees and shrubs.