

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

## Case study 3 : Cleghorn Glen



### Case study key facts

Total area of woodland: **71 ha**

Proportion of ash in canopy overall: **30%**

Woodland structure: **high forest**

NVC: **W9 and W7**

Vulnerable ash-associated species: **55**

Alternative trees and shrubs: **a variety are present but privet should be introduced**

Management: **establish transplants in gaps after group felling; protect from browsing damage**

### Site and Location

<b>Name</b>	Cleghorn Glen
<b>Country</b>	Scotland
<b>Local Authority</b>	South Lanarkshire
<b>Landscape context</b>	On the steep slopes of a gorge with a river flowing along valley bottom. The surrounding land is predominantly pasture.



*Patch of understorey developing beneath a canopy gap (photo Wikipedia Commons User:Tb240904).*

## Site Characteristics

### Woodland area

71 ha

### Woodland type

NVC Predominately W9 upland ash wood on the mid-slopes with W7 alder/ash on the wetter lower slopes and along the river. Oak / birch woodlands occur on the drier more acidic upper slopes.

### Soil type

Mainly base rich brown earths with more acidic soils on the upper slopes.

### Lithology

Old Red Sandstone and calciferous sandstone over layed by boulder clay.

### Stand structure

The stand is high forest having a fairly unbroken canopy of mature trees with occasional small gaps created by the felling of sycamore and storm damaged trees. The overstorey canopy of the stand is dominated by ash and oak (c. 30% each), with sycamore, beech and birch accounting of a further 35%, the remainder consists mostly of Scots pine, common alder and wych elm with some goat willow, hybrid larch and Norway spruce. The understorey has an overall cover of about 25-30% comprising about 80% hazel and 20% holly with occasional hawthorn and other minor species including bird / wild cherry, rowan, blackthorn and aspen. Regeneration in canopy gaps is abundant particularly of ash but juveniles of other species occur including beech, sycamore, birch, hazel, holly, hawthorn and occasional oak. Although deer browsing is evident, and has increased in recent years, the level of damage still appears to be at an acceptable level with many saplings taller than browsing height.

## Biodiversity interest

### Designations

Included in the Clyde Valley Woodlands Special Area of Conservation the main feature of which is the extensive complex of woodland gorges with *Tilio – Acerion forests of slopes and ravines* (i.e. mixed woodland on base rich soils associated with rocky slopes). This is the largest such area in Scotland (c. 440 ha) and it forms part of the Europe wide Natura 2000 network. Also part of the Clyde Valley Woodlands National Nature Reserve and is designated as a SSSI for the quality of its upland ash woodland and the assemblage of invertebrates present.

### Vulnerable species likely to be affected

Within the database there were no obligate species and only two (1 fungus and 1 invertebrate) that were highly associated with ash. Most of the remaining 53 species were lichens, and a few bryophytes and animals, having only a partial association with ash.

### Other species of conservation interest

There are a number of nationally rare and scarce invertebrates including the caddis fly (*Adicella filicornis*), the small amber snail (*Succinea oblonga*), and several beetles and flies such as *Bolitochara mulsanti*, *Dactylolabis transversa* and *Oxycera pardalina*.

## Management

### Historical

During 19<sup>th</sup> and first half of 20<sup>th</sup> centuries managed as coppice with standards on a 25 – 30 year rotation. Scots pine, beech, some European larch and Norway spruce were planted at least 100-years-ago and are still present throughout the NNR.

### Current

The main foci are to encourage the development of native tree species (especially aspen in the wetter areas), and to control or remove non-native trees and shrubs, especially beech and sycamore. Rate of sycamore removal has been reduced recently in response to the potential effects of Chalara. Hazel coppice is to be reintroduced.

### Long-term vision for site

The woodland to comprise native tree and shrub species and include the flora and fauna currently present.

### Factors limiting delivery of management currently planned

Although deer damage currently appears to be at an acceptable level, if deer numbers increase they are likely to cause greater damage.

## Future methods of management

### Potential response of ash associated species to ash dieback

The only alternative tree or shrub species for the moth *Pseudargyrotoza conwagana* is privet which is not found on the site and loss of ash will have an adverse effect on this species. In contrast the fungus *Daldinia concentrica* is probably less vulnerable as sycamore and seven of the minor species occurring at the site can be used as alternative species.

### Continuation of existing management with loss of ash occurring

Continued removal of sycamore will have adverse effects on *Daldinia concentrica* but this may be balanced to some extent by an increase in the abundance of other alternative trees and shrubs present at the site. The vulnerable moth may disappear unless privet establishes at the site which is unlikely by natural processes.

### Management allowing for loss of ash but maximising persistence of ash associated species

Appropriate management to maintain sycamore and the variety of other alternative species should be sufficient to support *Daldinia concentrica*. However the persistence of *Pseudargyrotoza conwagana* will require successful establishment and growth of privet at this site (whilst this is likely to be possible the site is in the northern part of privet's range). Establishment of privet is likely to be unreliable by natural regeneration from seed and planting will be the best method of introduction. The establishment of groups of privet scattered across the site should be relatively simple operation, but management after planting should ensure rapid growth and establishment (e.g. vegetation management may be necessary if competition from ground flora species is likely to be significant). Although deer do not currently appear to present a significant constraint, privet is a susceptible species which is likely to suffer badly from browsing and protection may be required if deer damage takes place. Although privet can survive in shade it would be best established in gaps created by group felling in better drained areas of the stand.

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

Increase in number of deer. Access to some parts of the site for planting. Introduction of a species which is not locally native to a woodland which has recently been undergoing management to remove other such species.

### Potential for use of generic methods to establish alternative species

Felling and replanting (option 4) may be the only suitable method to support both vulnerable species.