



Malvern Hills Trust

**Special Meeting of the
Land Management Committee**

Thursday 8 June 2023 7.00 pm

Gueston Suite,
Lyttelton Well,
6 Church St,
Malvern WR14 2AY

Meeting of the Land Management Committee

Lyttelton Well, Church Street, Malvern WR14 2AY

Thursday 8 June 2023 at 7:00 pm

Members: Ms M Alexander, Mr C Atkins, Mr D Baldwin, Mr R Bartholomew, Dr S Braim, Mr P Clayburn, Mr J Michael, Mrs C Palmer, Dr T Parsons, Mr C Rouse, Ms H Stace, Mrs M Turner.

Agenda

1. Apologies for Absence
2. Declarations of Interest
3. Chairman's Communications
4. Public Comments
5. Grazier's report
6. Operation Manager's report
7. Matters Arising (if any) from previous meetings
8. Management plan for Swinepit Roughs Paper A
9. Conservation Manager's report Verbal update
10. Outdoor visits 2023 Verbal update
11. Urgent business
12. Date of next meeting TBA otherwise 7 December 2023

If you or anyone in your household has experienced any Covid symptoms in the last 7 days, please do NOT attend this meeting unless you have a negative lateral flow test result on the day of the meeting. Symptoms are commonly runny nose, sore throat, headache, fatigue and sneezing and not necessarily a cough, fever or loss of sense of taste or smell.

Members of the public who wish to attend are asked to notify cindy@malvernhills.org.uk (or write to Mrs L Parish at the Trust's office), in advance of the meeting, giving their name, E-mail address and contact number.

Seats will be placed socially distanced within the venue - please don't move the chairs closer to others unless you have checked that they are happy for you to do so.

LAND MANAGEMENT COMMITTEE

TITLE: Background information and a woodland management plan for Swinepit Roughts, Evendine.

DATE: 8 June 2023

BACKGROUND DOCUMENTS

Land Management Plan (LMP) 2021-2026

Land Management Committee papers and minutes 15.2.2023

BACKGROUND

The LMP work programme for this wood (agreed by Board 9 March 2023) included the items '*Develop a viable plan for removing the exotic trees and establishing new, site-appropriate tree/shrub species*' and to '*enact the plan*'.

This paper provides further description of the wood, relevant contextual background information and the resultant woodland management plan itself (Appendix 7).

1 FURTHER DESCRIPTION OF SWINEPIT ROUGHS

1.1 Historical research

Further research into the history of the wood has been undertaken. The parish map of 1842 (Appendix 1) shows varying degrees of tree cover on this parcel and aerial photographs from the 1940s (Appendix 2) also show around half of the site covered by mature tree cover mainly on the western half. These trees are still present today.

The open area shown on old maps could be due to either alternative land uses or to the trees having been felled / coppiced (with trees regrowing or being planted afterwards).

Unfortunately, records of tree cover from pre-1800 are very hard to find, perhaps because they don't exist.

1.2 Botanical survey – trees

The wood contains a reasonable range of age classes although young seedling trees are largely missing, meaning the woodland is not naturally regenerating. The species mix includes broadleaf and evergreen, however, certain tree species dominate the canopy in their abundance (Appendix 3).

Holly, western red cedar and recently planted beech are all abundant whilst rowan, crab apple, willow and wild service are all rare. The diversity of tree species is positive, giving increased robustness against disease, environmental extremes and other threats to woodland.

Several trees are ancient, with some of the oaks dating back to around 1700. Ancient trees like these are of high conservation interest. Most of these veterans are in declining condition due to crowding / overtopping by newly planted trees, (mainly beech and ash) that are immediately adjacent, see Appendix 5 photo 1.

With the exception of western red cedar and Douglas fir, the non-native trees including Scots pine and various larch species are generally so few in number and of benign character (i.e. not invasive) so as to have a positive effect on the wood.

Western red cedar and Douglas fir however are regarded as invasive species (Richardson & Rejmanek, 2004) and their spread and deleterious effect can be clearly seen in this wood. Both species are from the west coast of America. Both are heavy shade-casters and this, together with the creation of an acidic humus, are successful strategies for the exclusion of other plants, including other trees. This exclusory effect is visible in Swinepit Roughs including on the emerging bluebells, see photos 2 and 3.

Western red cedar is much more numerous than Douglas fir, it is also the only non-native species that is actively reproducing and therefore increasing its effects on the wood. A typical understory species in this wood should be hazel, however hazel is now only occasional and limited to the periphery where it can find enough light to persist. Several hazel 'corpses' can be found showing that the species was formerly more widespread.

1.3 Botanical survey – field layer

The best time to survey the flora of woods is in April and May as much of the ground flora is at its best, before some vernal species wither away. A species list is provided in Appendix 4. The wood contains a good number of native species including herbs, rushes and sedges. It should be noted that the presence of deer makes recording the flora rather difficult as they eat it, especially flowerheads.

It is of note that 18 species of plant found so far are ancient woodland indicator species including wild daffodil, woodruff and deer grass - this is an excellent tally. These species have poor colonisation abilities and are therefore good indicators that part of the site has been continuously wooded for a long time, i.e. ancient woodland. The more indicator species found, the stronger the likelihood (Rackham, 2006). The adjacent woodland, Swinepit Coppice, is definitely ancient.

The distribution of field layer plants was not even. In many places no ground flora existed at all owing to heavy shade. Whilst bluebell are found across approximately a quarter of the site many are non-flowering and emaciated. The remaining ancient woodland indicator plants are all confined to the western half, chiefly in patches of light or on the peripheries.

1.4 Archaeology

The wood contains a large bank and ditch on the western boundary, see photo 4. This bank is approximately 3m wide and the internal ditch is 1m wide. It has multiple ancient trees growing on it including oak, hazel and crab apple.

It is at least 300 years old as it must predate the trees. It is most likely an old woodbank. Woodbanks are mostly mediaeval in age and were dug to demarcate a woodland boundary. Again, this suggests that the woodland is ancient.

The Herefordshire Archaeology service hold no other records for this site.

1.5 Conclusion

Ancient woodland is defined as *'woodland that has existed, although usually felled many times, for several centuries'* (Rackham, 2006). He continues... *'thousands of woods can be traced back to the Middle Ages by (1) maps and documents, (2) archaeology especially woodbanks, (3) woodland structure and (4) vegetation especially ancient woodland indicators'*.

This further research has given a better understanding of this wood. Multiple sources of evidence suggest that it is an ancient woodland site, part of which has been used for another land use for a period. The whole site is now wholly woodland with a range of interesting and important woodland plants persisting.

But several key threats have been identified - crowding/shading by invasive species and browsing by deer & squirrels, both require targeted interventions in order for this wood to return to a healthy and resilient woodland ecosystem.

2 CONTEXT FOR WOODLAND MANAGEMENT

2.1 National policy

This section provides relevant contextual extracts from a variety of sources.

On the value of UK woodlands:

Our ancient and native woodlands are one of our oldest land uses and most diverse ecosystems. They have often taken hundreds if not thousands of years to develop, and in the case of ancient woodland are irreplaceable. For millennia they have been an essential source of timber, fuel, coppice products, venison and other sustainable products. They are a vitally important component of the English landscape and every one has its own long and fascinating history. Many are open for public access and are now used for a remarkably wide range of recreational activities, from dog walking and bird-watching to more contemporary activities such as mountain biking and 'forest schools'.

Without even being visited they can still enhance the quality of people's everyday lives, providing a 'permanent, natural and peaceful' green element in busy local environments. Finally, the importance of the more subtle but vital environmental services they provide, such as flood alleviation, clean water supplies and carbon sequestration, is now increasingly being recognised and valued.
(Forestry Commission, 2010)

England's ancient and native woodlands and ancient and veteran trees support high levels of biodiversity. They are home to a quarter of England's priority species for conservation. They also deliver many ecosystem services including water and soil regulation, carbon storage, support for people's wellbeing and their long-standing cultural values.

These woodlands can also provide timber and non-timber forest products, contributing to the economy and providing revenue for landowners. Protecting and managing ancient trees and woodlands while expanding and connecting them

with new native woodlands is vital. It will maximise the benefits these woodlands give to nature and people and address the biodiversity and climate crises.
(UK Government, 2022)

On threats to native woodland:

Threats to our ancient and native woodlands can be immediate, direct and absolute. For example, loss to infrastructure, development or unauthorised felling of trees. Threats can also be slower and more subtle, for example, climate change, tree diseases, shading from plantations or by invasive species such as rhododendron.

Invasive and non-native species can have detrimental effects on both biodiversity and cultural heritage features in ancient and native woodlands. Non-native species that are widespread and cast a lot of shade can all but eradicate ground flora. For example, rhododendron and some planted conifers. Other invasive shrub species include cherry laurel, snowberry and gaultheria. Himalayan balsam and Japanese knotweed can be problematic along watercourses and in wet woodlands.
(UK Government, 2017)

Box 1 Challenges and threats to ancient and native woodland	
Browsing by deer Inappropriate grazing levels Non-native tree species Decline in woodland management Increasing levels of shade Inappropriate management activity Invasive and problem species	Climate change Fragmentation Impacts from surrounding land use Diffuse pollution Loss to development or grazing land Pests and disease Recreational pressures

(Forestry Commission, 2010)

On native and non-native tree composition:

In most native woodland at least 80% of the canopy should comprise native tree species, and management should be moving the site towards this composition. The majority of this native component should be species that are historically native to that site (i.e. species that would have naturally been found on that site for most of the last 5000 years). However, a small proportion of the 'native component' can be broadleaves that are: either: 'advancing native species' which in the past were not naturally present on this site, but are native elsewhere in Britain, and given climate change can be expected to be suited to this woodland in the near future (e.g. beech in the North West) or: 'honorary natives' which are broadleaves native to North West Europe and expected to be adapted to conditions on this site in the near future (e.g. chestnut).

Non-native component: up to 20% of the canopy can comprise other species, including exotics. This is on condition that they are well suited to the site, are not invasive and are not causing environmental damage. It is usually best if they are in intimate mixture with native species, rather than in pure 'non-native' stands.

Invasive non-native trees: action should be taken to limit or reduce the natural spread of existing invasive non-native trees where they are likely to be seriously damaging. Where possible, invasive tree species which still only occupy a small part of the site should generally be removed before they become widely established ('sanitation felling'). Where such species are already more widely established, eradication may still be desirable but may not be practical or represent value for money. A judgement will need to be made on the impact of the species, the cost of removal and the subsequent development of the stand.
(Forestry Commission, 2010)

On restoration of Planted Ancient Woodland Sites (PAWS):

Sites that were once ancient woodland but have been converted to planted forests are known as plantations on ancient woodland sites (PAWs). Many PAWs retain at least some characteristics or remnants of native woodland, which give them the potential to be restored to native woods. Doing so will contribute to policy objectives for native woodland restoration.
(UK government, 2017)

*For ancient woodland sites in the most critical condition there is an urgent need to stop further decline. **'First aid' management** is essential to maintain and protect what remains. This is reactive and usually highly targeted. It could include felling selected plantation trees around remnant features (e.g. halo thinning), or removing dense invasive non-native plants covering the ground.*

*This is followed by the recovery of the woodland ecosystem through the **wider transformation** of the threatened stands. Often the most appropriate way to achieve this is through long term, gradual change and the management of light levels while controlling other risk factors such as herbivore impacts and managing regeneration. It is this part of the process where owners' objectives influence decisions most, and where appropriate management systems can support recovery of the woodland ecosystem and deliver on other aims. But it is vital to ensure that remnant features never regress into critical condition.*
(Woodland Trust, 2020)

Plantations on ancient woodland sites - Restoring ancient woodlands that are ecologically degraded is a high priority for the Government. This includes restoring plantations on ancient woodland sites by gradually transforming stands from non-native planted species to native species. (UK Government, 2022)

Veteran trees: Existing veteran trees should be retained and protected. Each veteran tree may need to be treated as an individual case. In general, felling of the tree should only be done on safety grounds, and only then as a last resort if other techniques such as crown reduction and pollarding are not feasible or appropriate. When reducing canopy competition around veteran trees in dense stands, the sudden exposure to wind and sun can stress the tree, damage lichens and mosses living on it and increase the risk of windblow. Consequently, thinning around veteran trees should be selective with progressive, gradual reduction of the surrounding canopy; that is, successive halo thinning rather than felling concentric rings (halo felling).

21. *Restoration and conservation: Restoration of plantations on ancient woodland sites is encouraged, but managers should not be in a rush to restore native canopy, through clear felling followed by restocking. Such rapid restoration can seriously damage the very features that are irreplaceable and that make ancient woodland so valuable. Many PAWS are in a fragile condition, with characteristic species only just hanging on after several decades of dark shade. Well intentioned, but heavy-handed restoration of PAWS can easily do more damage than good for these species.*

22. *Thinning: Thinning is the safest first step, and usually the first priority in a neglected stand, in order to reduce dense shade and secure surviving components of the ancient woodland. Even in densely shaded conditions, where there is very little ground flora apparently surviving, a light thinning will usually result in some recovery. When thinning, it can be beneficial to vary the density of the canopy, opening it up around areas that already have a good ground flora. However, on some soil types heavy thinning of PAWS often leads to vigorous growth of vegetation (typically bracken or bramble) that can smother either regeneration or the ancient woodland flora. Heavy thinning of neglected stands on unstable soils also brings a high risk of windblow, which will be disastrous from almost all points of view.*

23. *Restoration via gradual felling: There is no universal or definitive prescription for the best way to restore PAWS, but there are several significant problems associated with the use of larger-scale clear felling: Many species characteristic of ancient woodland are best adapted to stable and relatively shaded woodland conditions, albeit in some cases regular cycles of light and shade. Such species are readily out-competed by more vigorous and invasive species that thrive in the open conditions created by clear felling. Clear felling produces large quantities of brash at once, and this can smother the ground flora, lead to nutrient flushes and change soil conditions. The vigorous growth of tall vegetation (most commonly bracken, bramble, nettles and coarse grasses) usually increases the need for mechanical or chemical weed control during restocking. The sudden loss of canopy changes the hydrology, and can result in temporarily waterlogged soils, hampering restocking and exacerbating extraction damage.*

24. *Time scale: Whilst there is an urgency to begin restoration, there is usually no hurry to finish the process. In general, restoration is best done via several cycles of thinning, group fellings and/or selective fellings, rather than a single felling operation, with the whole process taking a decade or even much longer. Although it is desirable for sites to be restored as soon as possible, waiting until economic maturity of the present stand is usually acceptable, provided the stand is regularly thinned to prevent further loss of valuable features due to intense shade.*
(Forestry Commission, 2010)

2.2 Local guidance

Malvern Hills AONB Management Plan and Landscape Strategy & Guidelines states:

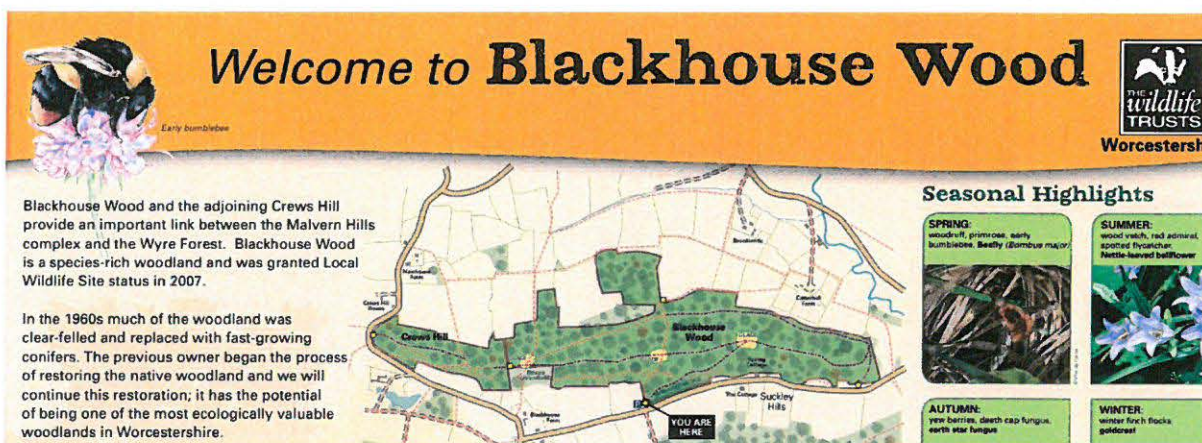
'The ancient woodlands in the Principle Wooded Hills are characterised by native deciduous species. These woodlands are of high nature conservation interest. The introduction of conifer plantations, however, has changed the character and biodiversity value of some of these woodlands. Where possible conifers should largely be replaced with locally occurring native tree species.' (MHAONB, 2011).

2.3 Local examples of management of planted woodland sites

Frith and Coneygree Woods, Ledbury. Forestry England.

<https://www.forestryengland.uk/forest-planning/frith-and-conigree-forest-plan>

Tiddelsey Wood and Blackhouse Wood, both Worcestershire Wildlife Trust



<https://www.worcswildlifetrust.co.uk/nature-reserves/tiddesley-wood-harry-green-reserve>

2.4 MHT Land Management Plan (LMP)

The adopted LMP Guiding Principle 6 includes the action to 'eradicate all invasive, non-native species'.

It is important to understand this statement – many species all across the MHT estate are non-native, including the American red oaks of Guarlford Road or the Chilean monkey puzzle trees at Wynds Point. But our land management is not an exercise in customs and immigration but one of practical, empirical conservation. Many of these species are benign and have little impact upon the heritage, wildlife or character of the area and they are retained and cared for.

The adverb invasive is there to denote that the species in question is having a negative effect, the Natural History Museum defines it as '*an animal or plant that harms an environment after being introduced to it by humans*' (NHM, 2023). In the Malverns such a negative effect can be; posing a health hazard to the public (giant hogweed), covering geological exposures, extinguishing important native flora or leading to the demise of an animal species. It is labelling as invasive highlights that conservation action is likely required at certain places.

This is part of normal conservation operations. *Crassula helmsii*, cherry laurel, water fern *Azolla filiculoides* and Japanese knotweed are plants being tackled by MHT currently, informed by observation and research.

3 SUMMARY AND RECOMMENDATION

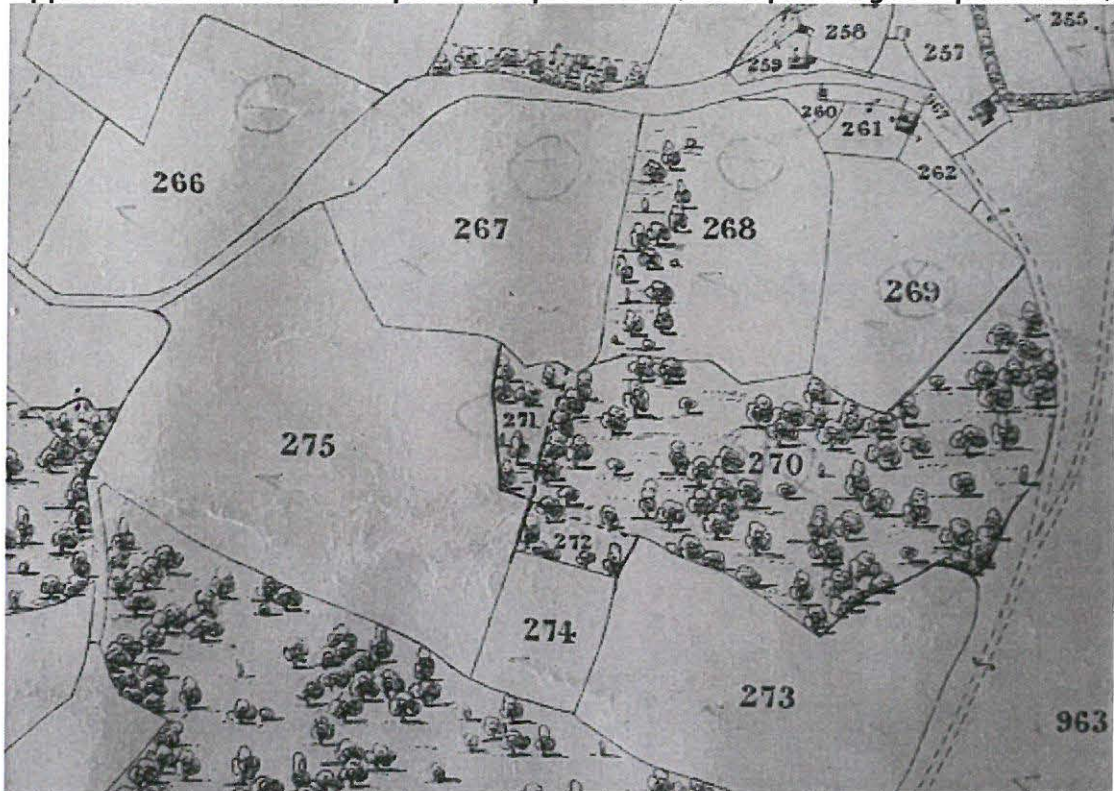
The woodland management plan is provided in Appendix 7. It takes all of the above into account, adopting the best-practice staged process to restoring woodland and accords with MHT's LMP.

RECOMMENDATION:

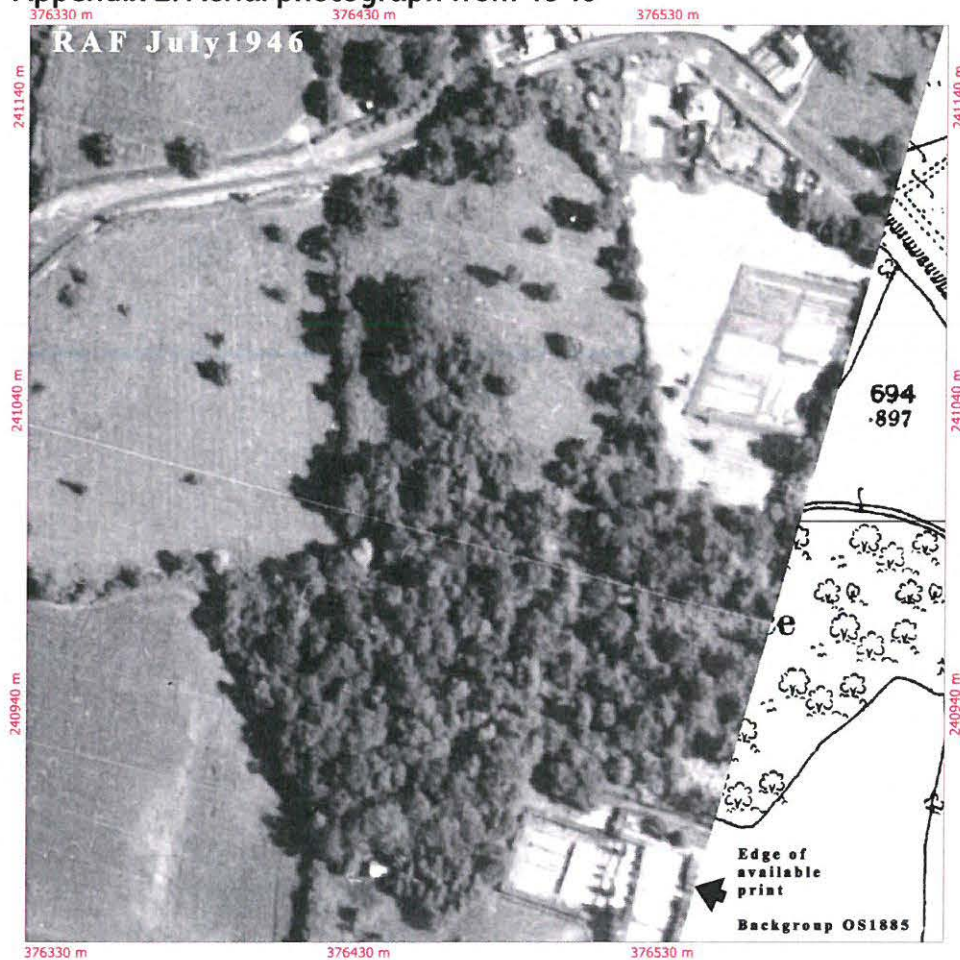
That the Committee recommend the Board's adoption of the woodland management plan.

Jonathan Bills
Conservation Manager
25 April 2023

Appendix 1: Extract from a parish map of 1842 (Swinepit Roughs is parcel 268)



Appendix 2: Aerial photograph from 1946



Appendix 3: Tree survey (2023)

This survey uses the semi-quantitative DAFOR scale for sampling (Dominant, Abundant, Frequent, Occasional, Rare), plus notes.

Wild service tree	R	one, newly planted
Western red cedar	A	numerous, reproducing, invasive
Alder	F	in the wetter dells, coppiced
Crab Apple	R	singleton on perimeter
Beech	A	many new planted, some smothering ancient oaks
Holly	A	only shrub to bear deer browsing
Scots Pine	O	concentrated in NE corner, little impact
Oak	O	some ancient, no regeneration
Willow	R	one very old tree
Douglas Fir	O	several individuals in a cluster. invasive
Silver Birch	O	
Sweet Chestnut	R	
Rowan	R	
Sycamore	O	keep an eye on it
Hazel	O	expiring
Hawthorn	R	expiring
Cherry	R	
Ash	F	
Cherry Laurel	R	invasive
Portuguese Laurel	R	

Appendix 4: Ground flora species list (2023)

Ancient woodland indicator species are marked with a ★.

Bluebell	★
Dogs Mercury	★
Wild Daffodil	★
Wild Garlic	★
Wood Spurge	★
Lamb's Tongue Fern	
Wood Sedge	★
Toothwort	★
Primrose	★
Wood Mellick / Deer Grass	★
Wood anemone	★
Wood sorrel	★
Barren strawberry	★
Herb Robert	
Ground ivy	
Ivy	
Wood avens	
Yellow pimpernel	★
Pignut	★
Yellow archangel	★
Common dog violet	

Meadowsweet
Opposite-leaved golden saxifrage ★
Honeysuckle
Enchanterer's nightshade
Woodruff ★
Golden scale male fern
Hard fern?
Bramble
Bracken
Common nettle
Crab apple ★

Appendix 5: Photographs

Photo 1 – veteran ash being crowded (need for halo thinning)



Photo 2 - Exclusion of other flora by western red cedar.



Photo 3 – the effect of heavy shading on bluebells that are emerging on the left under broadleaf (left) and not under western red cedar (right).



Photo 4 – woodbank



Appendix 6: References

Forestry Commission. 2010. Managing ancient and native woodland in England. Online. <https://www.forestresearch.gov.uk/publications/managing-ancient-and-native-woodland-in-england/>

Malvern Hills AONB. 2011. Landscape strategy and guidelines. <https://www.malvernhillsaonb.org.uk/our-work/management-plan/>

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Rackham, O. 2006. Woodlands. William Collins.

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Welch et al. 2001. Audit of alien species of Scotland. Scottish Natural Heritage review 139. 1-225.

Streets, R.J. (1962) Exotic trees of the British Commonwealth. Clarendon Press, Oxford.

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UK Governemnt. 2017. The UK Forestry Standard. Online. <https://www.gov.uk/government/publications/the-uk-forestry-standard>

Woodland Trust. 2020. Ancient Woodland Restoration – practical guidance. Online. <https://www.woodlandtrust.org.uk/publications/2020/01/ancient-woodland-restoration-management-principles/>

Appendix 7: Woodland management plan (LMP format)

UNIT: 6.27

STATUS

Public access	Y	Scheduled Monument	N
Common land	N	Rights of way	N
SSSI	N	Scheme (e.g. stewardship)	N
AONB	Y	Water Source Protection Zone	N
Listed building / Cons area	N	Local geological site	N

Landscape character area:	Principle wooded hills LCT
Nationally important habitats:	Broad-leaved woodland / Ancient woodland
Nationally important species:	Awi assemblage
Cultural heritage:	Woodbank
Earth heritage:	n/a

DISCUSSION

This parcel is wholly covered by mixed woodland. It is set on the western foothills amongst a tapestry of woodland (often ancient) and pasture land parcels.

Desk and site research suggest that this site is probably ancient woodland, although the eastern half has temporarily been used for other land use in the 20th century.

The woodland features a mix of trees - native broadleaves include oak, ash, aspen, hazel and non-native evergreens including laurel and Western red cedar. Around a third of the trees have been planted in the last fifty years. Ancient woodland features are present including veteran trees, a woodbank and a ground flora with many scarce, ancient woodland indicator plants including yellow archangel and toothwort.

Threats to the woodland include crowding of veteran trees by newly planted trees, heavy shading by planted invasive evergreens and browsing by deer and grey squirrel.

There has been no public access here previously, and access is only served by a small field gate in the southwest corner and small, informal paths.

This wood in the future shall be a mixed woodland with varied tree and shrub species, including non-invasive exotic trees, making it good for local wildlife and robust against national threats to woodland. Woodland structure and composition have been gently modified through selective felling that have greatly reduced shadowing/over-crowding leaving the important features (veteran trees and ground flora) improving in condition.

UNIT PRIORITY: Low

WORK SCHEDULE:

	Years 2021-2026					Who	Fund
	1	2	3	4	5		
			✓			FS	GF
Add boundary posts and MHC markers.			✓			CT	GF
Continue site research and monitoring.			✓	✓			GF
Remove redundant wire / waste.			✓			CT/FS	GF
Halo thin the crowded veteran trees in two / three gradual steps.			✓		✓	Vols FS	GF
Eradicate the laurel.			✓			CT	GF
Gradually reduce the invasive species via selective felling and / or coup felling. Working outwards from important features over 10 years.				✓	✓	FS	GF
Regenerate the wood through natural succession and / or planting of appropriate species.				✓	✓	CT	GF
Monitor grey squirrel and deer damage.			✓	✓	✓	CT	GF