

Some thoughts on ancient and veteran trees- another rather long read!

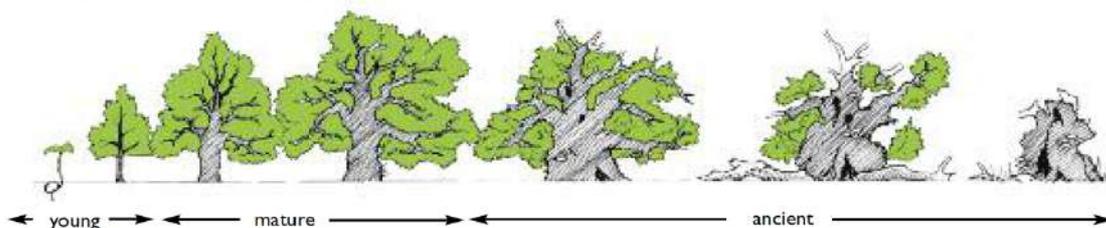
The excellent NRN new year long read on trees provoked sadness at what we are losing but also spurred me to action to share what little I know. Our ancient and veteran trees are valuable in so many ways and there is more that can be done to understand them and look after them.

My work in historic landscapes involves defining what we value, what is rare or special- 'significant'; I have specialised in conserving old avenues, so I have spent a lot of time tussling over what is important and why.

Ancient or veteran?

We talk about ancient and veteran trees but what are they? The Ancient Tree Forum explains the difference. Ancient trees are in their old age, older than others of the same species. That means that their crown and trunks are no longer increasing and in fact they may be growing down or 'retrenching'. You can see this very clearly in long lived trees like ancient oaks or sweet chestnuts. They can be gnarled, knobbly, huge, bent and hollow but are still very much alive and support a complete ecosystem of insects, bird and lichens.

Diagram showing the stages in the life of an ancient tree



The ancient phase may be the longest phase in the tree's life and the most valuable for associated wildlife

Veteran trees can be much younger. The tree may have developed some of the features found on an ancient tree, but not necessarily as a consequence of time. The bear 'scars' of decay in the trunk, branches or roots, fungal fruiting bodies, or dead wood. These veteran features will still provide a vital wildlife habitat. Ancient veterans are ancient trees, not all veterans are old enough to be ancient.

Why are they so important?

Amazingly, the UK has about 80% of Europe's ancient trees and not only that, our closest park, Blenheim, has the biggest and most important collection of ancient oak trees in Europe, with nearly 1000 ancient and veteran trees.¹ Management of our parks has allowed more of these fantastic trees to survive than in the rest of Europe, but you will also find ancient trees in hedgerows--there are several on the Garden Village site and they illustrate land use over centuries. Some of these will have been boundary markers; often boundary trees are pollarded, cut regularly above animal browsing height providing a supply of fuel or small wood for fences etc. This was a practice dating to at least the medieval period.² A pollarded tree can live to a great age. You can see some great pollarded willows in the meadow at Park Cottage Eynsham. Ancient trees support an ecosystem of insects, birds, lichens etc: it may take several hundred years for this special habitat to be created and be suitable for many rare and specialised fungi and animals. The decaying wood of an ancient tree is one of the most important

¹ Ted Green and the Ancient Tree Forum

² Oliver Rackham, *Trees and Woodland in the British Landscape* 1976, 1990.

habitats that exist in Europe and therefore it is vital to conserve all our ancient trees. For instance the invertebrate fauna within High Park , Blenheim, includes three Red Data Book (endangered) beetles. ³

Our ancient trees are complex living records of our history and the UK has a special responsibility to protect them.



Recently pollarded willows in the floods, December 2020

How do you date a tree?



The very basic rule of thumb for estimating the age of trees is to measure round the trunk (girth) at 1.5m above the ground, and then for an average tree in average conditions it should add inch (25.4mm) of girth for every year of growth. In practice it is much more complicated and ancient trees are more complex still. A methodology for estimating the age of veteran trees has been developed by the Forestry Commission.⁴

How old is an ancient tree?

The exact age at which you'd call a tree ancient depends on the species of tree and other factors including the site and soil, and whether it is crowded or not. A birch tree could be considered as ancient if it lived 150 years, but an oak tree needs to be at least 400 years old. Many of the oaks at Blenheim are much older. The largest oak in High Park (east and south of Combe lodge) – The King Oak – was measured in 2009 by veteran tree expert Ted Green with a circumference of 9.2m giving an estimated age of 920 years and there are other trees of a similar size.⁵ The age of the trees was estimated using the Forestry Commission method.⁶ It is quite likely that the largest trees have been in existence since the time High Park became established as a royal deer park in the early twelfth century and over 60 trees date from the middle ages – a remarkable achievement of continuity.⁷

³ The Index of Ecological Continuity, determines the historic value of sites for saproxylic beetles; the presence of saproxylic beetles can provide evidence of abundant decaying wood habitat, even if it doesn't persist today.

⁴ <https://www.forestryresearch.gov.uk/research/archive-estimating-the-age-of-large-and-veteran-trees-in-britain/>

⁵ The Wychwood Project, *A Management Plan for High Park*, The Blenheim Estate, 2014

⁶ <https://www.forestryresearch.gov.uk/research/archive-estimating-the-age-of-large-and-veteran-trees-in-britain/>

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A veteran oak at Blenheim which appears to be pollarded and a hollow veteran at Cornbury Park

There are some fantastic ancient pollarded ash trees lining the path to the Bridewell or Lady Well at Wilcote, near Finstock. The Bridewell has ancient pre-Christian and pre-Roman origins. Many of the trees are hollow.⁸ Hollowing of the trunk as a tree ages is entirely normal and is not a sign of ill health. Yew trees can live for thousands of years, so are not defined as ancient until they are 800 years old. The Fortingall yew, *Taxus baccata*, in Perthshire, Scotland, is perhaps the oldest tree in the UK. Modern experts estimate it to be between 2,000 and 3,000 years old, although some think it could be far older – maybe even 5,000 years old.⁹ In 1769 the girth was recorded as a massive 17 metres. An ancient yew in Iffley has a girth of about 8.2m.¹⁰



The Fortingall yew Scotland



An ash walk at Wilcote

By contrast a False Acacia (Black locust) of 200 years is already an ancient tree. They are brittle and tend to drop limbs in an alarming manner. They were much admired by the writer William Cobbett and the story goes that he collected seed in North America in the early years of nineteenth century and he planted one at the Gables here in Eynsham. He was a friend of the Swann family of the Gables and theirs was just one of the original four. Cobbett went on to raise and sell 'Locusts' in their thousands. The

⁸ Haigh, M. 2020. Holy Wells of Wychwood Forest, England. Chapter 28, in Ray, C. (ed). *Sacred Waters: A Cross-Cultural Compendium of Hallowed Springs and Holy Wells*. Abingdon, Oxon., Routledge,

⁹ <https://www.ancienttreeforum.org.uk/ancient-trees/what-are-ancient-veteran-trees/>

Woodwise Ancient Trees Spring 2014

¹⁰ <https://www.ancient-yew.org/>

tree at the Gables is close to Newland Street; it has been reduced in height but is still festooned with mistletoe and supports ivy, elder and squirrel nests.¹¹

Understanding a place's history from a range of sources can help you date trees and understand why they were planted,. Some time ago I studied avenue trees at Heydon Hall, Norfolk. The oldest trees were some spectacular pollarded sweet chestnuts standing in a row near the house. Some had been recorded in 1841¹² and were remarkably unchanged 150 years later- these trees were in old age and the largest had a girth of 7500mm. They are comparable to the remarkable chestnuts at Croft Castle in Herefordshire which were supposedly from chestnuts taken from captured Spanish vessels during the battle of the Spanish Armada (1588) and planted at Croft to represent the formal battle plan of the ships at the Armada. So the trees at Heydon are probably at least 400 years old and may well be remnants of a walk laid out at the construction of the house in 1581.¹³



Heydon sweet chestnuts over 400 year old – recorded in 1841 and (right) sketched in the 1990s, barely changed

By contrast, some veteran horse chestnuts in extensive avenues at Heydon could not have been planted before the early nineteenth century, as the land was outside the estate before that time. Horse chestnuts rarely live beyond 200 years; some of the oldest recorded are at Bushy Park (part of the Hampton Court landscape) and some survive 300 years from the original planting in the 1690s- yet they are a similar girth to the much younger trees at Heydon. The Bushy Park horse chestnuts are now being ravaged by disease: more on this later.

How can we protect old trees?

The first step is to understand what is special about your tree- its age, species, rarity, context, ecology and history. So it is great that Eynsham's NRN with members of the Eynsham Morris have started a survey to identify all the veteran trees in the parish. Ancient Tree advocates such as Ted Green argue that these giants should be protected in the same way as listed buildings. In principle trees are protected through TPOs, Conservation Area status and often require a felling license, but in practice there can be powerful reasons to fell trees, not least safety concerns. *The National Planning Policy Framework (NPPF)* defines ancient and veteran trees and states: 'When determining planning applications, local planning authorities should apply the following principles: c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists' but exceptional reasons include 'infrastructure projects ... where the public benefit would clearly outweigh the loss or deterioration of habitat.'¹⁴

¹¹ Eynsham Record No 18 – 2001 https://issuu.com/eynshamrecord/docs/eynsham_record_2001 and information form Jonathan Ferrier

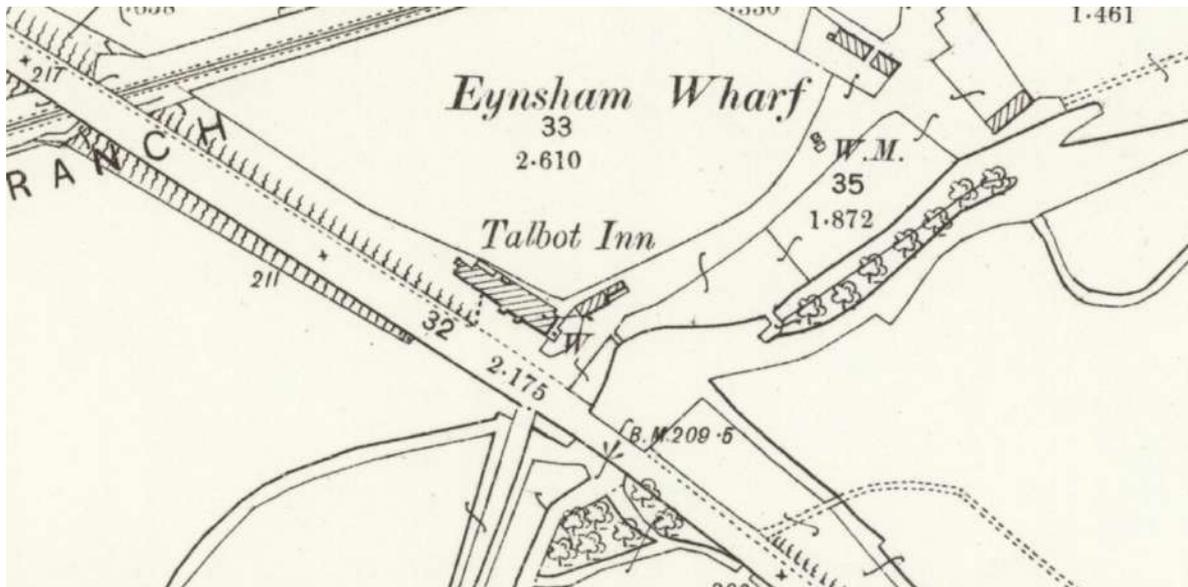
¹² Grigor *The Eastern Arboretum* 1841, page 161.

¹³ <https://www.nationaltrust.org.uk/croft-castle-and-parkland/features/ancient-trees-at-croft-castle-and-parkland>

¹⁴ [Planning for Ancient Woodland](#)

www.woodlandtrust.org.uk/media/3731/planners-manual-for-ancient-woodland.pdf

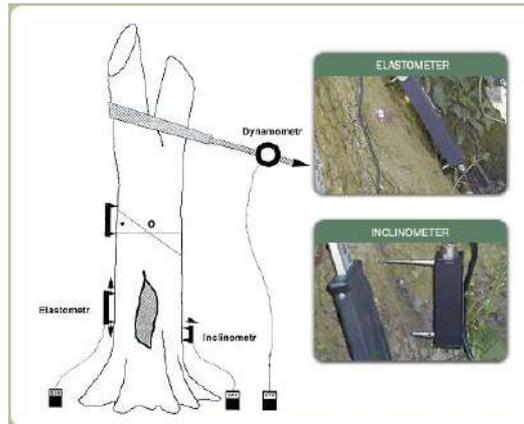
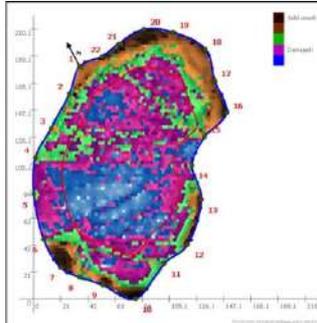
It is also relevant that the standard for a tree survey is driven by construction: (BS 5837:2012 Trees in relation to design, demolition and construction) so it is important that the surveyor is fully briefed, so that the recommendations can take the heritage and ecological value of the tree into account. Because of their liability, councils and other owners concentrate on safety concerns, often resulting in major surgery or removal- which can be the cheapest way out of potential problems. Once safety issues are raised it is difficult to change track- but not impossible. Tree surveyors love trees and will do their best for them given a chance; some arborists specialise in caring for old trees.



Did you know that from the later nineteenth century 25 inch Ordnance Survey maps have a special double tree symbol showing the trees that are accurately located- really helpful in tracing a tree's history. This is from the 25 inch Ordnance Survey revised 1898 showing surveyed mature trees near the Wharf Stream.

Management of ancient trees

Ancient trees are special and need special care. Sometimes simple measures can prolong their life; this could involve clearing competitive growth around the tree, such as the halo clearance practiced at Blenheim to provide more light to the veteran. What happens underground is just as important- protecting the roots from compaction by people or traffic; aerating roots or adding beneficial mycorrhizae- fungi which work with the tree to help it take up moisture and nutrients, effectively extending the root system. At one project Walpole Park in Ealing, there were four really important eighteenth century trees: two cedars and two common limes, which framed the main view between the house and park, but they had been condemned as unsafe. Luckily there was lottery funding for extensive inspection and testing including a 'picus' ultrasound scan and stress tests (literally loading the tree to see how much stress is needed to push it over) and a management plan was devised. This included improving rooting conditions, keeping people away from the trees by low planting and some pruning: the trees were saved! It also gave time to propagate from the trees, thus preserving the original genetic material for future replanting. This is good practice with all old trees as it is very likely that the older clones are different from those raised now and may be more resilient or develop a different form. Save and plant an acorn or a chestnut from an old tree!



Walpole Park: *Picus* Sonic Tomograph and Static load test by Treework Environmental Practice¹⁵



Walpole Park after work was completed with the cedars saved, framing the view to Pitzhanger Manor

A note on resilience

Trees are under increasing threat from human activity, climate change and ever more diseases: ash dieback, acute oak decline, bleeding canker of horse chestnuts, phytophthora, to name a few. Sometimes it is hard to know what to plant safely. So it is all the more important to conserve and propagate what we have, maintain the genetic diversity, to encourage regeneration and plant in variety.

For instance the loss of elms to Dutch Elm Disease in the 1970s has transformed our landscape. But there is hope: resistant elm varieties have been identified- some discovered by Butterfly Conservation as a host for the rare White-letter Hairstreak butterfly!¹⁶ You can see a trial planting of resistant elms at Christ Church meadow in Oxford.

Everything is connected- but you knew that anyway.



White-letter Hairstreak butterfly

¹⁵ <https://www.treeworks.co.uk/about-treework/the-team/>

¹⁶ <https://butterfly-conservation.org/butterflies/white-letter-hairstreak>

Disease-resistant Elm cultivars - Butterfly Conservation

<https://www.chch.ox.ac.uk/broad-walk>

<https://resistantelms.co.uk/>