

Ancient and Veteran Tree Assessment

**Land East of Warren Lodge,
Warren Lane, Finchampstead, RG40 4HR**



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Document Control

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Review

Date	Report	Revision	Name	Position

1.0 Introduction

1.3 Ancient and Veteran Tree Definitions

1.3.1 The terms “ancient” and “veteran”, as applied to trees, have been described in various publications (Fay and de Berker 1997, Read 2000, Lonsdale 2013, Woodland Trust, 2008 and 2024) but the terms have not been distinguished in a simple, clear and entirely consistent manner. This is partly explained by the fact that the ageing process in trees is conceptually a very complex one.

1.3.2 A tree can be ancient in the developmental sense; it has passed through a series of life stages and reached a phase beyond maturity during which the crown had reached, and maintained, its maximum extent for an extended period of time. Alternatively, a tree can be chronologically old; it may be considered ancient because it has aged in a physiological sense, growing very slowly due to less than ideal growing conditions (Del Tredici, 1999). Of course, a tree can be, and often is, both developmentally and chronologically old.

1.3.3 To further complicate the picture, trees of different species age, in a developmental sense, at different rates. Trees of the same species also age developmentally at different rates depending on local environmental conditions and, inevitably, according to the tree’s individual genetic attributes.

1.3.4 The term veteran is likely to have become adopted to describe trees that exhibit similar valuable habitat features to those (generally) found in ancient trees, but in trees that are not (or cannot be confirmed to be) either developmentally ancient or chronologically old for the species.

1.3.5 The term veteran, however, has not been defined in a strict (and easily applied) sense and is often used in one or more of the following ways (generally without explanation):

- As an umbrella term to describe all trees that exhibit the habitat features typically found in an ancient tree
- As a term to describe a tree exhibiting the habitat features typically found in an ancient tree that is neither developmentally nor chronologically ancient
- As a term to describe an ancient tree itself (the term “all ancient trees are veteran, but not all veteran trees are ancient” is often quoted)
- As a term to describe the habitat rather than the tree (“veteran tree habitat features” has become commonly referenced)

- As a term to describe a tree in the long period of transition from late maturity to the ancient life phase, during which damage will inevitably occur as part of the natural ageing process (contradicting the concept that “veteran” status is a reflection of condition, and is not a life stage)
- According to general usage; a resilient, yet damaged, survivor

1.3.6 This situation has the potential to cause significant issues in the planning context within which ancient and veteran trees are afforded protection because of the irreplaceable habitat that they host, (NPPF, 2023) and where a binary decision on ancient and veteran “status” is required in a context where such certainty is often not possible, nor is it a reasonable expectation.

1.3.7 To further complicate matters efforts to provide field or survey guidance to assign ancient or veteran status to a tree have often introduced inconsistencies and unforeseen and undesirable consequences by focusing on the size of a tree or by simply and crudely counting habitat features, regardless of significance or extent.

1.3.8 Appendix A contains Treework Environmental Practice’s internal guidance on how to approach this issue. For the majority of trees it is unlikely that it will be possible to make an indisputable statement regarding veteran status. Our preferred approach is therefore to describe the features and factors that should be taken into account with the aim of building up a justification for the status of the tree. More recently our approach has evolved to consider rather whether the habitat should be considered irreplaceable given that this is what the NPPF seeks to protect. The value of both ancient and veteran trees is primarily due to the longevity of the habitat. This is what makes the habitat irreplaceable.

1.3.9 Providing a descriptive justification for ancient or veteran status is appropriate because simply listing or counting attributes or features can easily lead to young, not uncommon, damaged trees being erroneously classified as veteran, with equal provision for protection as that offered to ancient trees. Similarly, relying on girth or size alone has the potential to lead to small diameter old trees, or less chronologically old trees with extensive micro habitat features, being denied protection where this would, in fact, be appropriate.

1.3.10 Considering whether a tree should be classed as ancient or veteran requires all parties to be open, objective, reasonable and proportionate when discussing the value of the tree or trees being assessed.

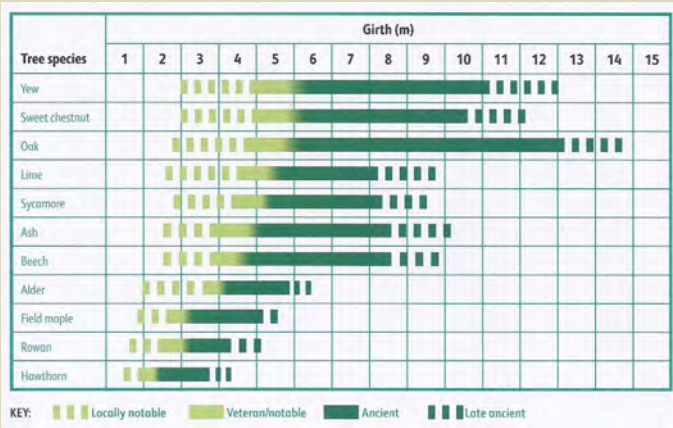
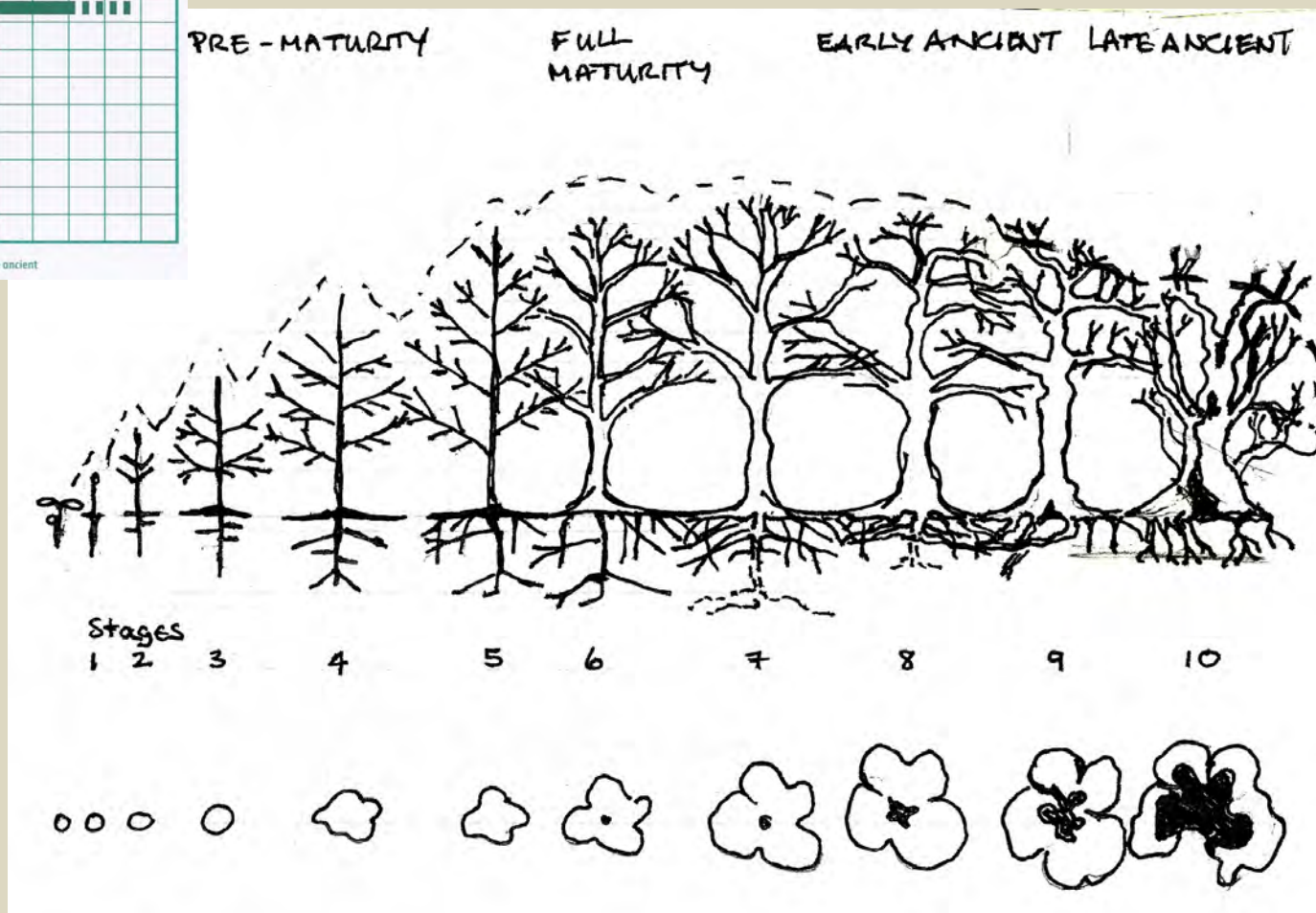


Figure 1.3 (Lonsdale, 2013) (left): Girth can be considered as one of a number of factors providing an indication of the age of a tree.



Morphological Stages (Fay 2002) (above), after Raimbault (1995) and Lonsdale (1999), with stages 8 and 9 showing the long transition between maturity (stage 7) and the ancient phase.

2.0 Individual Tree Assessments

2.1 Tree T1 – *Tilia x europaea* (lime)

2.1.1 Tree T1 is a maiden tree in the mature phase of development (1); stage 7 according to the morphological model proposed by Raimbault (1995). A stem girth of 348 cm (measured at 1.3 m above ground level) (3) gives the tree the potential to be locally notable according to figure 1.3 (Lonsdale, 2013), although a stem diameter of 111 cm is really not at all uncommon for a lime tree in the mature life stage.

2.1.2 For a lime to be considered likely to be developmentally ancient a suggested girth of 550 cm (175 cm diameter) is proposed in figure 1.3. For a lime to have the potential to be a late mature veteran a girth of 450 cm (143 cm diameter) is suggested in figure 1.3. Girth is not in itself relevant in terms of irreplaceable habitat and is referred to only as a potential indicator of chronological age. There is nothing unusual about the growing conditions or crown morphology of tree T1 that provides evidence to suggest that the tree has grown particularly slowly, has been suppressed or restricted such that the stem diameter is not a reasonable metric with which to estimate age and life stage.

2.1.3 A chronological age of between 111 years and 123 years old, depending on growing conditions, can be estimated from the girth (White, 1998). The tree is therefore not particularly old for the species.

2.1.4 The tree is nevertheless a mature specimen with a large crown and is significant in the landscape. The tree has an estimated height of 31 m, which is tall, although this is not unusual for a mature lime tree.

2.1.5 Given the likely age and life stage of T1 it is not surprising that there are none of the habitat features that one might expect a tree to exhibit if it were in the ancient life stage. There are also no habitat features that one might expect to find in the ancient phase but that have been caused prematurely (by stress, pruning or storm damage) such that the tree might be considered to be a non-ancient veteran.

2.1.6 The tree has young epicormic shoots around the base which is typical of all common lime (2, 3), and whilst most trees at the latter end of the mature life stage are likely to have early stages of decay at the base, there is no visible evidence of this (further technical investigations might reveal some decay or hollowing in the centre of the stem).

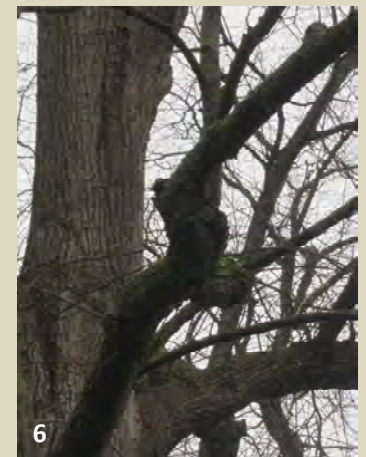


2.1.7 Upper crown morphology shows no signs of dieback, reorganisation or retrenchment in response to either developmental ageing or stress initiated by long term external environmental changes (4).

2.1.8 The lower crown does contain reiterations (new vertical shoots originating from dormant buds, developing on the upper surface of lower order limbs) (4, 5), but this is typical for all lime during the mature phase of development and, in the absence of morphological changes in the upper crown, not an indication of retrenchment or whole crown reorganisation

2.1.9 There is some evidence of lateral limb pruning or storm damage to lower order (smaller diameter) limbs, indicated by abrupt changes in limb orientation, at the crown periphery which would have played a role in initiating the reiterations that can be observed in the crown (5, 6). Small diameter wounds, associated with this pruning or damage, are present within the crown.

2.1.10 There are small dead limbs throughout the crown, typically present on all mature trees.



2.2 Tree T13 – *Castanea sativa* (sweet chestnut)

2.2.1 Tree T13 is a mature, maiden sweet chestnut tree that has developed a particularly unusual low and contorted crown form (10 m high) presumably originating from the competition and suppression of adjacent trees, although other historic events could have influenced the branch structure (such as browsing or other damage during the formative period of crown growth as a young tree).

2.2.2 A stem girth of 343 cm (measured at 0.7 m above ground level) suggests that the tree is only just large enough to have the potential to be considered locally notable (Lonsdale, 2013). A stem diameter of 109 cm is not at all large for a sweet chestnut.

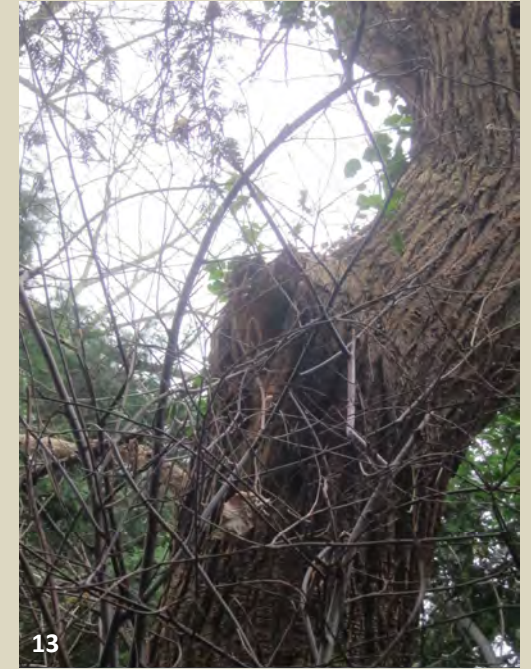
2.2.3 An age of between 120 years and 170 years old, depending on growing conditions, can be estimated from the girth (White, 1998). This is not exceptional for the species. If the tree has always been heavily suppressed, growing in closed woodland, the age estimate may be 216 years. However, it is highly unlikely that a tree with this girth is in the ancient life stage. Figure 1.3 suggests that a sweet chestnut would have a girth of 600 cm (191 cm diameter) at the beginning of the ancient phase and 480 cm (153 cm diameter) for it to be a late mature veteran.

2.2.4 Whilst the short bole may be hollow there is no external evidence that this is the case (7). Two first order large diameter limbs originate at between 2.0 m and 3.0 m, one has subsided and is resting on the ground and one extends towards Warren Lodge Care Home (7, 8, 10) and has been pruned back from the boundary. There is one large area of advanced decay on the upper surface of the northern subsiding first order horizontal limb (7, 10, 11).

2.2.5 The upper crown contains one dead limb and one pruned stub, evidence of pruning cuts, regrowth originating from both adventitious and epicormic shoots and seams of dead bark and hollows associated with pruning (7, 8, 13, 14). Four dead limbs (desiccated, not decayed) are present on the principal crown limbs.

2.2.6 One decayed hole is present at the top of the bole (9), two holes are present where the upper principal stem bifurcates (12), originating from limb death or pruning wounds. Decay is likely to be localised, but the woodpecker hole beneath the two holes on the principal stem suggest decay may be coalesced into a reasonably large seam in the upper crown stem (12).





2.3 Tree T14 – *Tilia x europaea* (lime)

2.3.1 Tree T14 is a maiden tree in the mature phase of development (15); stage 7 according to the morphological model proposed by Raimbault (1995). A stem girth of 373 cm (measured at 1.0 m above ground level) gives the tree the potential to be locally notable according to figure 1.3 (Lonsdale, 2013), although a stem diameter of 119 cm is really not at all uncommon for a lime tree in the mature life stage. The girth measurement is also distorted by the presence of ivy (16, 17). A girth of 350cm to 360 cm (a stem diameter of 111 cm to 115 cm) is likely to be more accurate.

2.3.2 A chronological age of between 110 years and 130 years old, depending on growing conditions, can be estimated from the adjusted girth measurements (White, 1998). The tree is therefore not particularly old for the species.

2.3.3 The tree is significant in the landscape with a crown height estimated as approximately 27 m.

2.3.4 Young epicormic growth around the base is typical for the species (17).

2.3.5 Whilst the bole and base of principal stems are obscured by ivy no evidence of decay or hollowing was visible. Given the life stage of the tree early stage decay and hollowing is likely at the base.

2.3.6 Upper crown morphology shows no signs of dieback, reorganisation or retrenchment in response to either developmental ageing or stress initiated by long term external environmental changes (15, 18, 19).

2.3.7 Pruning and possibly storm damage to the peripheral growth of lower crown limbs has resulted in the development of reiterations on these lower limbs (18, 20).

2.3.8 There is a notable absence of habitat features associated with the ancient phase of development. One broken branch stub (21) and one decayed pruning wound (22) were observed within the crown.





3.0 Conclusions

3.1 Conclusions

3.1.1 With the exception of late stage ancient trees, with either documented great age, exceptionally large girths indicating great age, and all of the attributes typical of very old trees, assigning the status of “veteran” to many trees will often be a relatively subjective assessment. The assessment provided in this document is a subjective opinion based on the features observed during the site visit without any information available relating to the history of the trees or the site.

3.1.2 Despite the potential complexities of assigning ancient or veteran status to a tree, the two lime trees T1 and T14 do not possess any attributes that would suggest they are anything other than typical mature trees.

3.1.3 Neither tree has a girth that indicates great age for the species, and there is nothing to suggest that the growing conditions have slowed growth rates such that girth is not an appropriate metric with which to assess age; both trees have attained a full crown and a crown height that indicate normal growing conditions.

3.1.4 The crown morphology of both trees is consistent with what would be expected for a lime tree in the latter half of the mature life stage. There is no evidence of crown dieback or upper crown decline either due to ageing related retrenchment or crown reorganisation due to stress initiated by long term external environmental influences.

3.1.5 Neither tree has any decay or hollowing in the bole, and there is a distinct lack of micro habitat features throughout the crowns of both trees. These trees are remarkable only in that they have avoided accruing any significant habitat features given their age and life stage.

3.1.6 It is not difficult to conclude that trees T1 and T14 are neither ancient nor veteran. They do not appear to support irreplaceable habitat.

3.1.7 The sweet chestnut T13, in contrast, has not experienced a typical pathway through developmental phases, and interpreting its history is more difficult.

3.1.8 Whilst girth is not large enough to place the tree in the ancient phase of development, and growing conditions are not likely to have been so poor that age can be assumed to be significantly underestimated by girth, an age of up to 200

years is possible if the tree has been growing in suppressed conditions similar to those that would be experienced in a closed woodland. This is old for a tree with this crown scale, but not particularly old for a sweet chestnut.

3.1.9 The tree has a low crown and whilst there is some evidence of relatively recent crown dieback, crown form has primarily been determined at an early age rather than through crown reorganisation, following crown expansion. The current crown extent has also been influenced by relatively recent pruning and the regrowth that has arisen following this.

3.1.10 The tree has various micro habitat features (holes, an open limb cavity, dead limbs, dead bark, a crown formed from epicormic and adventitious growth) but it lacks the primary feature of extensive and significant hollowing within the bole.

3.1.11 Taking a precautionary approach T13 could be considered to be a non-ancient veteran, having developed some micro habitat features due to the less than favourable growing conditions within which it has developed, due to limb death and loss and because of the apparent pruning operations that have taken place. The tree has had longevity in the face of unfavourable conditions, and, given the small crown extent can be expected to continue to have longevity, provided it is not suppressed further by adjacent trees.

3.1.12 The decay habitat is likely to have been present for decades rather than for a significant proportion of the life of the tree. There is a question, therefore whether these habitat features should be considered to be irreplaceable.

3.1.13 It is also not certain that this tree can be described as exceptional in terms of the micro habitat features that are supported as required by the NPPF (2023).

3.1.14 I would consider T13 to have some valuable habitat features and a crown form that provides some level of confidence that these features will have longevity and develop further over time. The tree might be described as a non-ancient veteran. However, I would not be confident that the habitat supported requires a buffer zone. The tree itself would be adequately protected if the root protection area is respected within the proposed development. The additional buffer zone would only be required if it were considered to be a risk that the associate fauna and flora, hosted by the tree, would be detrimentally impacted by the proposals.

Qualifications and Experience

I have worked at Treework Environmental Practice, an industry leading arboricultural consultancy for 25 years and have been working within the arboricultural industry for 30 years (Appendix B).

I have been involved with the management of ancient and veteran tree populations for over 20 years.

I am currently a member of the Technical Advisory Panel for the Ancient Tree Forum.

I am a VETcert certified specialist at the consulting level (2019).

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Appendix A

Treework Environmental Practice Internal Guidance - Ancient and Veteran Trees

Ancient and veteran trees

Developmental phases or life stages

As trees age they pass through a series of developmental phases reaching the ancient life stage as a result of a combination of physiological and resource limitations. An ancient tree is generally characterised by a reorganisation of the crown through a process of retrenchment, a tendency towards the development of individual and independent functional units, changes in crown architecture, and by decay processes that lead to hollowing in the bole and in principal stems. In terms of time, progression to the ancient life stage is highly variable between species, is dependent on the genetic disposition of the individual tree and the local tree population and is influenced by local growing conditions and available resources. Because an ancient tree is at a developmental phase, this status cannot be simply or neatly defined either chronologically, or in terms of the tree's size.

A veteran¹ tree is simply one that has developed characteristics that are typically found at the ancient life stage, but that has not progressed through developmental phases sequentially or over a period of time that might be expected for the local population of a certain species in particular growing conditions. An event, or series of events, causing physiological stress or physical damage, either natural or through human intervention, has interrupted the usual developmental processes.

The key attribute common to both an ancient and a veteran tree is longevity. Longevity confers on both ancient and veteran trees their primary value; an ecosystem that supports rare habitat. Longevity also distinguishes a veteran tree from a tree that is simply damaged or in terminal decline. For a tree to be classified as veteran it will have demonstrated a resilience in response to stress or damage. Both ancient and veteran trees can be expected to have, or have had, significant life expectancies within the current developmental phase. What counts as significant will vary between species and according to circumstance.

Ancient tree features

Records spanning hundreds of years, charting the progress of a tree through the typical developmental phases are unlikely to be available to assist with defining the ancient or veteran status of a tree. Classification according to life stage will need to be reached based on the morphological features and characteristics that can be observed during an inspection. These features can then be considered together with a quantifiable dimension, such as stem diameter or girth.

The key characteristics that are likely to be present in many ancient and veteran trees are:

- Crown reorganisation or retrenchment involving the initiation and development of low and mid crown epicormic shoots together with dieback at the crown periphery
- The development of extensive hollowing in the bole and principal stems
- The tendency towards the development of potentially independent functional units (Lonsdale, 2013)

¹ The term veteran has also been used as an umbrella term to describe ancient and non-ancient trees with comparable habitat features. In this document "veteran" means "non-ancient veteran".

- The tendency towards a shift in crown architecture from the hypertone to epitone mode (the preferential development of shoots on the upper surface of the limb) (Raimbault, 2006)

Further features that are frequently likely to be observed include:

- The development of reiterations and epicormic growth throughout the crown
- Evidence of a history of storm damage resulting in spilt and broken limbs, wounds, tears and scars
- Naturally formed stubs supporting live growth
- The presence of bark fluxes and exudations
- Retained deadwood in the crown and at the crown periphery
- Numerous holes and water pockets
- The presence of fungi and associated decay processes
- Significant bark wounds, loose bark and seams of dysfunctional cambium

Any basis for defining whether a tree is ancient or veteran relying on the presence of these features should take into account not only the number of features present, but the volume, quality and nature of those features with particular consideration being given to longevity. For example, recently initiated reiterations resulting from drought stress likely to precede the death of a tree should be distinguished from old, established reiterations that are evidence of a more progressive crown reorganisation.

The problem with the concept of age and size

At any point during the life of a tree the individual parts will be at a range of ages, both chronologically and developmentally. That all parts of a tree are never at one developmental phase is the central issue in reaching a satisfactory definition of an ancient or veteran tree; the concept of ageing in animals does not transfer well to an understanding of ageing in trees.

In addition to the presence of certain morphological features ancient trees are likely to have large stem dimensions arising from annual increments being laid down over long periods of time. Guidance has been provided to attempt to aid classification of ancient and veteran trees according to stem girth such as Figure 1.3 below. However, growth rates vary between species, individuals and according to growing conditions, such that it is possible for a veteran tree to have a larger stem than a tree that has reached the ancient life stage, perhaps through the latter growing in unfavourable conditions.

A range of stem dimensions should be used in combination with the presence of morphological features with the aim of building an argument that a tree justifies the classification of ancient or veteran.

Growing conditions and life history create exceptions

Basing a classification on the presence of morphological features or stem dimensions or even a combination of both does not guarantee that trees will be easily identified as ancient or veteran. It is

important that exceptions be allowed to properly capture the true population of ancient and veteran trees within a population.

The following are examples of trees that might warrant a deviation from following a rigid set of criteria for ancient or veteran status, based on numbers of morphological features or a minimum stem girth:

- A tree may be very old for the species but may not have attained an expected girth, simply due to extremely poor growing conditions; physiological stress may have delayed the progression of developmental phases. Classification as an ancient tree may or may not be appropriate depending on the presence or absence of morphological features and the corresponding habitat that confers the ecological value on an ancient tree.
- A fast growing individual in favourable conditions may be in the mature or late mature developmental phase whilst having reached a girth typical for an ancient tree of that species; it will not exhibit the morphological features that would be expected for a tree in the ancient phase.
- A regularly cut pollard may have a crown of regrowth in the juvenile developmental phase, and a girth that is diminished as a result of the continual, cyclical removal of the crown, but it may be chronologically old and the bole may be extensively decayed. A regular cycle of pollarding generally favours longevity.
- A lapsed pollard may have a crown in the mature phase, and a girth that is larger than the regularly cut pollard by virtue of the extended period that the crown has remained uncut. It may have ancient features related to the increased likelihood of failure of the mature lapsed pollard stems.
- A young shoot arising from the remnant roots or base of a collapsed decayed bole (phoenix growth) has no ancient features and is both developmentally and chronologically young, but is still the regenerative remnant of a tree that is in the ancient life stage. The decaying remains of the tree, the roots and the unique habitat inherent in the soil ecosystem remaining after hundreds of years of development, may retain value worthy of protection.
- Similarly a historic coppice stool can be thousands of years old, yet the above ground parts may comprise of re-growth in the juvenile or mature phase. The soil and debris within the decayed stool is likely to offer a rare and valuable ecosystem.
- The bole of a tree in the ancient phase may have decayed and broken up, or developed into individual functional units such that the measurable girth no longer reflects the number of years and the progression through developmental phases that have occurred. Morphological characteristics clearly indicate that the tree is ancient.
- A tree may have numerous morphological features consistent with a veteran tree arising from a series of events causing stress or damage, and have a large stem diameter, but it may simply be in a state of terminal decline, and without longevity the classification of veteran tree is arguably not appropriate.

Ancient or veteran?

Ancient trees have the potential to be more valuable than veteran trees due to the length of time that they have supported the rare habitat associated with the typical morphological features present, and this is generally the case. However, given individual and local genetic variability and

wide ranging growing conditions it is possible for veteran trees to be older than ancient trees even where the trees are of the same species.

Given that pollarding interrupts the natural progression of a tree through developmental phases, it can be argued that a pollard can never be considered truly ancient (in a developmental sense) even where it reaches an age equivalent to an ancient tree, and supports the same ecologically rare habitat. However, pollarding tends to promote longevity and a pollard is likely to remain viable for longer than an ancient tree of maiden form. In this sense the distinction between ancient and veteran can be unhelpful if the aim is to conserve the most ecologically valuable trees.

Equally, whilst the soil and decaying remnants of a collapsed ancient tree may have value and this needs to be recognised, the phoenix shoot offers no more habitat value than a young tree.

It is often not possible to distinguish with any degree of confidence between an ancient and veteran tree in the field. Consequently the distinction should be subordinate to an assessment of the relative quality, variety and volume of the unique habitat supported, to the potential for longevity of the individual and to the context within which it is growing; a population of veteran trees within a diverse habitat is likely to offer greater ecological value than an isolated individual ancient tree.

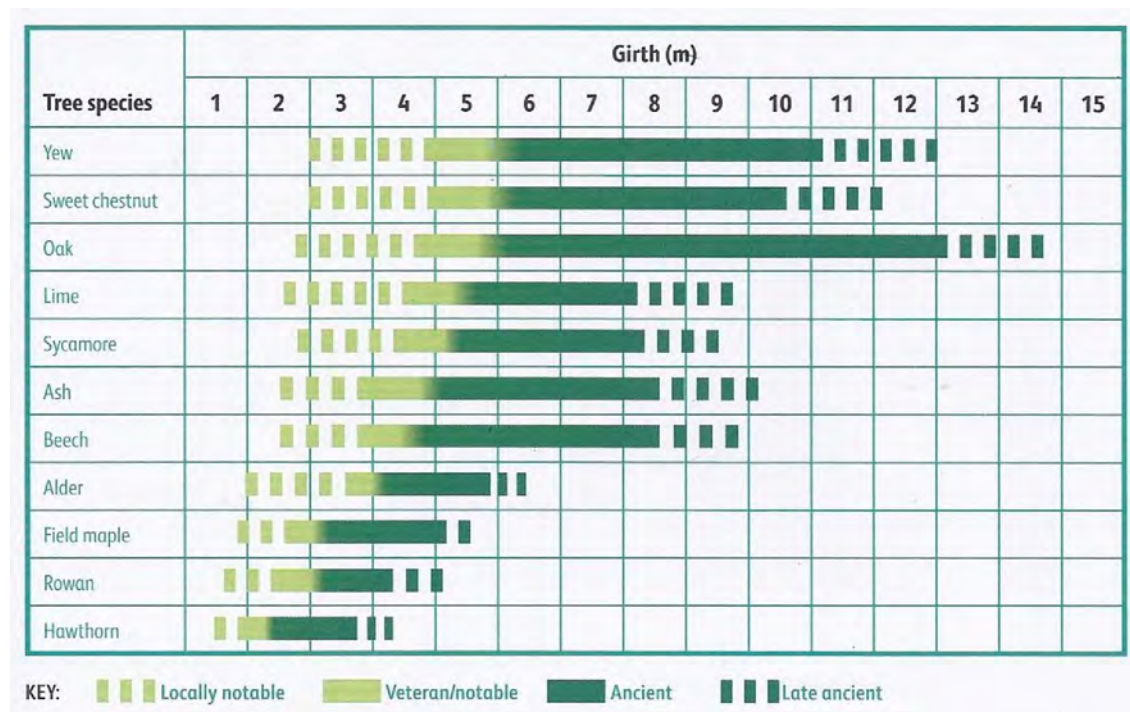


Figure 1.3 Chart of girth in relation to age and developmental classification of trees (Lonsdale, 2013)

The value of trees

Trees can be chronologically old, of historical or cultural significance or may simply be locally important and loved and can, and should, be valued as such. Lonsdale (2013) proposes that such trees should be identified as “notable” specimens. Similarly, trees that support habitat features can



be noted as having such without being ancient or veteran. Such habitat value can be extremely important depending on the context within which the tree is growing.

Failing to distinguish between chronologically “ancient” trees, or trees that provide unique or rare habitat and those trees that have reached the ancient developmental phase is likely to result in confusion regarding the meaning of the term ancient and veteran. This has the undesirable potential to undermine the unique and rare status that a true ancient tree should possess.

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Appendix B

Paul Muir, Principal Arboricultural Consultant – Curriculum Vitae

Curriculum Vitae



Paul Muir

Principal Arboricultural Consultant

Qualifications

MSc Environmental Forestry – Specialising in Arboriculture and Urban Forestry, University College of North Wales, Bangor (1993-95)

BSocSc Economics Class 2.1, The University of Birmingham, Edgbaston (1988-91)

Risk Assessment for Commercial Arboriculture, FASTCO (2001)

Quantified Tree Risk Assessment (QTRA) (2006)

CSCS – Managers and Professionals (2017)

Areas of Expertise

Tree structural stability and biomechanics/tree statics and the static load test

Tree risk management

Tree population management/inventory

Veteran and ancient tree management

Professional Membership

Sachverständigen-Arbeitsgemeinschaft Baumstatik Group (SAG Baumstatik e.V) Member (2010)

Professional Experience

2018-Present Treework Environmental Practice

Principal Arboricultural Consultant

2005-2017 Treework Environmental Practice

Arboricultural Consultant/Senior Arboricultural Consultant

Procurement, administration and management of large scale tree inventories for significant populations of trees managed by Treework Environmental Practice on behalf of a number of large estates and housing associations.

Carrying out individual tree risk/condition assessments and large scale surveys for amenity tree populations and veteran tree populations.

Responsibility for the supervision of contracting teams employed by Treework Environmental Practice's clients to undertake arboricultural work in relation to tree risk, veteran tree (specialist techniques) and on development sites.

Offering advice to developers on issues relating to trees, development and planning according to the principles set out BS5837: 2012.

Providing training for contractors on veteran tree management techniques in the UK and abroad.

The UK's leading authority on tree statics and static load test.

Delivering presentations at national and international conferences and events. Offering training courses in the UK and worldwide.

2000–2005 Treework Services Ltd

Arboricultural Department Contracts Manager

Management of a medium sized contracting tree surgery team involved in both domestic and large scale tree surgery contracts and specialising in veteran tree management and retrenchment pruning techniques. Achieved Arboricultural Association Approved Contractor status.

Presentations

2018 Tree Root Stability – Static Load Test Theory and Case Studies

Centre for Urban Greenery and Ecology (CUGE), 8th Regional Arboriculture Seminar “Tree Feet Under”, NParks, Singapore.

2018 Safety Factors Versus Strength Loss: Appropriate Tree Failure Criteria and The Static Load Test – Increased Confidence Through Data Collection

One day workshop commissioned by the Centre for Urban Greenery and Ecology (CUGE), NParks Singapore.

2018 Long-term management of ancient and veteran trees. Case studies from the UK

Deutsch Baumpflegetage, Kletterforum (German Tree Care Conference, Climbers Forum), Augsburg.

2016 Safety Factors Versus Strength Loss. Choosing Appropriate Tree Failure Criteria and The Static Load Test. An Application of the Principles of Tree Statics

Is it VALID? Defects, Decay and Decisions Seminar Series. Tree risk assessment, tree statics and the static load test. Auckland, New Zealand and Brisbane, Sydney, Melbourne, Adelaide and Perth, Australia.

2015 Safety Factors Versus Strength Loss. Choosing Appropriate Tree Failure Criteria

Key note speech and biomechanics workshop. Arboricultural Association, Amenity Arboriculture Conference ‘Sustainability and the Urban Forest’, University of Warwick, UK.

2013 Tree Statics and the t/R ratio

Arboricultural Association, Regional Training Event. ‘Trees in the Natural and Built Environment’, Cornwall, UK.

2013 Strength loss or safety factors? Some basic principles that ought to define tree hazard assessment

London Tree Officers Association Seminar, Camden, UK.

2012 An Introduction to the Static Load Test and Static Load Test Demonstration and Case Studies

Municipal Tree Officers Association, West Bromich, UK.

2011 The Static Load Test: Tree Structural Integrity, Safety Factors and a Storm Resilience Protocol

Arboricultural Association, Utility Arb Conference. Looking Beyond the Problem. Market Bosworth, UK.

2011 Gorsedd Circle, Belle View Park, Newport – Longitudinal Cracks, Case Study

SAG Baumstatik AGM, Cologne, Germany.

- 2011 Static Load Test Demonstration**
London Tree Officers Association, Mill Hill, UK.
- 2009 Tree Statics. Basic Engineering Principles and The Static Load Test and The role of detailed tree hazard assessments within the context of managing large populations of trees**
CUGE Regional Arboricultural Conference, Singapore.
- 2008 Veteran Trees and The Principles of Good Management**
English Heritage Training Course, 'Ecological Management of Historic Buildings and Sites, West Dean, UK.
- 2007 Statics Integrated Method. A practitioners field approach in the UK and The role of detailed tree hazard assessments within the context of managing large populations of trees**
Treework Environmental Practice Seminar IX, Tree Statics: An Innovative European Perspective for Tree Diagnostics and Management, Blagdon, UK.
- 2005 Tree Statics. What can we learn from this new technology?**
Arboricultural Association Amenity Conference, Exeter, UK.



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