VETCERT

Veteran Tree Management Standards

Practicing Level – Public Draft

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission.

Unit number	**Unit title**	**Unit summary**
1	Veteran trees; recognition and values.	Candidates will have to demonstrate knowledge of a variety of veteran trees, their history, and values.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Recognise veteran trees in their various forms and their context.	i) Provide a technical definition for a veteran tree. ii) Show an awareness that the definition of a veteran tree might differ in legislation and in different countries. iii) Identify veteran trees in various forms. (P) iv) Show an awareness of the context, present or historic, these trees sit within. (P)	i) Refer to glossary. iii) Ability to recognise veteran trees *in situ*. Including knowledge that veteran trees don't always have to be old or large. iv) e.g. • Contexts include: wood pasture, woodland, traditional orchards, hedges, urban environment, ... • Open grown trees now in close shade = change of land use around tree. • Presence of low branches = absence of browsing animals when tree was young. • Worked trees = productive trees managed for a product.
2. Explain the wide range of values veteran trees provide.	i) Describe the ecological, cultural heritage, social, amenity and aesthetic values these trees may provide.	i) • Ecological value: value as part of an ecosystem/biodiversity. • Cultural heritage: linked to local traditions and/or management of land, link to historical event or person. • Social: benefits provided to health and wellbeing. • Amenity and aesthetic: their appearance. • ...

	ii) Converse with a wide range of audiences about the values of veteran trees, and their unique management requirements. iii) Be an ambassador for veteran trees.	i) Audiences to include: the general public (layperson), land managers and other tree care professionals.
3. Explain the possible reasons why these trees persist today.	i) Show an awareness of the different historical factors which have resulted in these trees persisting today. (P)	i) e.g. continuity of land ownership, common rights over trees or their products, sacred trees, boundary trees, recognition of values veteran trees provide, too expensive to remove, ...

Unit number	Unit title	Unit summary
2	Growth, development and dysfunction of trees.	Candidates will have a detailed understanding of how trees grow, age and decay and why this is relevant to veteran tree management.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Describe how trees grow.	i) Describe the structural and functional characteristics of trees that allow them to grow indefinitely. ii) Show an awareness of the wide range of factors which affect how trees grow, with specific reference to veteran trees. (P)	i) Trees are compartmented, capable of producing new roots, trunk and shoots throughout their life. ii) • Environmental: soil, climate, exposure, sunlight/shade, pollution, wind and other external stimuli. • Genetic: variations between and within tree species, including the health of the individual tree. • Management history: variations in growth form, lapses in management.
2. Describe the ageing process in trees and why they can live so long.	i) Describe the development of trees as they grow older, including hollowing. (P) ii) Show an awareness of the resilience and survival strategies by which veteran trees can reach great age. (P)	i) Retrenchment due to reduction in size of annual growth ring. Loss of apical dominance. Re-iterative growth – formation of secondary crown. Ageing is not a one-way process. Hollowing of trunk occurs naturally with increasing age due to root die-back. ii) • New layer of compartmentalised wood is created each year the tree is alive. • Changes in crown architecture, with ability for re-iterative growth (epicormic buds, change in composition of wood). • Ability to layer and form phoenix growth. • Recycling of nutrients by hollowing and adventitious roots. • ‘Growing downwards’, which reduces biomechanical forces

		acting on tree.
	iii) Show an awareness of semi-autonomous 'functional units' and how these affect how veteran trees should be managed.(P)	iii) Semi-autonomous units comprising roots, trunk and shoots. Need to be managed as separate units rather than all units being treated as one tree.
3. Describe the impact that damage has on a tree.	i) Show an awareness of a tree's main defence mechanisms following stress or injury. (P)	i) Compartmentalisation - Active process triggered by inlet of air into the vascular system. Reinforcement of existing barriers in wood (three) and the creation of a new wall after damage.
	ii) Describe the impact damage (including cutting) has on a tree.	ii) Creation of wounds, inlet of air (oxygen levels rise), leading to dysfunction, and eventually decay. If the extent of cutting is substantial the tree may not be able to compartmentalise the dysfunction.

Unit number	Unit title	Unit summary
3	Roots of veteran trees and the soil environment.	Candidates will have an understanding of a healthy soil environment, and how a poor soil environment has a negative impact upon the health of veteran trees.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Describe the natural soil environment and how this affects tree health.	i) Explain the importance of a healthy soil environment, and why veteran trees are susceptible to changes in this environment. ii) Describe a variety of soil types and their influence on the rooting environment.	i) Changes in soil environment affect natural cycles, affecting nutrient movement and recycling processes.
2. Describe factors which can have a detrimental impact upon the soil environment around veteran trees and recognise these *in situ*.	i) Demonstrate an awareness of the effects of deficient or excessive nutrients, pollutants and contaminants on veteran trees. (P) ii) Describe different types of soil damage and demonstrate an awareness of how their actions may impact on soils. (P)	ii) e.g. • Compaction: Reduction or removal of air spaces within soil leading to unfavourable, anaerobic conditions. • Erosion: displacement of soil. • Changes in soil level: alters aerobic/anaerobic conditions. • Changes in hydrology: change in water table alters aerobic/anaerobic conditions. • ...
3. Identify how and where roots and mycorrhizal fungi grow.	i) Show an awareness of common root architecture patterns and how root development is influenced by the rooting environment. (P)	i) Like the base of a wine glass, rather than a mirror image of the above ground parts of a tree. Influenced by oxygen, water and nutrient availability, physical barriers within soil, bacteria, mycorrhizae, pH, ...

	ii) Explain the relationship between roots and shoots.	ii) There is a balance between root area and shoot area, impacting one will result in a change in the other.
	iii) Show awareness of symbiotic relationships between tree roots and other organisms. (P)	iii) Especially mycorrhizae.
4. Investigate root growth.	i) Show an awareness of the problems associated with identifying actual root location.	i) Root growth often opportunistic and influenced by oxygen, water and nutrient availability, physical barriers within soil, bacteria, mycorrhizae, pH, ...

Unit number	**Unit title**	**Unit summary**
4	Veteran trees as ecosystems.	Candidates will have to demonstrate an understanding of the ecological importance of veteran trees, both individually and in the wider landscape.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Describe the wide range of ecological values of veteran trees, and how they fit into the wider ecosystem.	i) Recognise decaying wood of different types and stages of decay and demonstrate an understanding of their value and diversity. (P) ii) Identify the wide range of habitats veteran trees can offer and their importance to a variety of species. (P)	ii) • Candidates able to identify the two main types of decay (white and brown). • How different organisms require wood at different stages of decay and how the tree species affects what organisms will utilise decaying wood. • Difference between aerial deadwood and lying deadwood, large pieces and /small pieces, …

Unit number	**Unit title**	**Unit summary**
5	Veteran trees and people.	Candidates will have to demonstrate an understanding of the cultural, social and historical importance of veteran trees.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Describe how the location of veteran trees in cultural landscapes may introduce management challenges.	i) Show an awareness of the unique management challenges faced in a variety of landscapes with veteran trees and how these can affect veteran tree management. (P)	i) • Formal/designed landscapes – vistas • Agricultural/animal husbandry/grazing • Urban • Wood pasture with pollards • Avenues • Archaeological • Woodland/forestry • …
2. Describe the amenity and social value of veteran trees.	i) Show an understanding of the amenity and social value of veteran trees and the implications for their management. ii) Show an awareness of the importance of public support for protecting and managing veteran trees. (P)	i) e.g. Health and wellbeing, air quality, cooling effect, consultation, funding, … ii) e.g. Communication and consultation, funding opportunities, …

Unit number	**Unit title**	**Unit summary**
6	Veteran tree survey and assessment.	Candidates will be able to undertake surveys and inspections of veteran trees in order to inform management.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Conduct a veteran tree survey.	i) Undertake a pre-work assessment of a veteran tree and its surroundings in the context of the proposed work. (P) ii) Collect sufficient information to allow veteran trees to be located by others.	i) Candidates should consider: • physiological condition/vitality. • factors affecting phenology. • structural condition (biomechanics). • biodiversity. • heritage/historical/landscape data. • … See pro forma survey sheet in annex. ii) e.g. Able to record co-ordinates, draw simple plans, tag trees, and photograph trees effectively.

Unit number	**Unit title**	**Unit summary**
7	Legislation in relation to veteran trees.	Candidates will have an understanding of relevant legislation within the country of examination, what the legislation covers, prohibits, and knowledge of how to achieve consent to undertake works.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Demonstrate an understanding of the legislation affecting veteran tree management within the country of examination.	i) Provide an overview of legislation affecting their work on veteran trees. (P) ii) Demonstrate an awareness that if they work in another region/country, legislation in relation to veteran trees may differ.	

Unit number	**Unit title**	**Unit summary**
8	Veteran tree risk management.	Candidates will have to demonstrate an understanding of the way risk might be assessed, in accordance with legislation and guidance within the country of examination.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Demonstrate an understanding of risk assessment of a veteran tree.	i) Identify the difference between the potential to cause harm (hazard) and the likelihood and severity of harm (risk). ii) Describe how biomechanical defects may also be high value ecological features. iii) Identify options other than felling or cutting the tree in order to manage the risk. (P)	i) The likelihood and severity of harm (risk) is influenced by the target. iii) • Target removal or modification. • Target modification through use of barriers (fencing or dead hedging) or informal methods (letting grass grow longer). • Propping. • Cabling. • Bracing. • ...

Unit number	Unit title	Unit summary
9	Veteran trees, urban planning and infrastructure.	Candidates will have to demonstrate an understanding of how veteran trees should be treated during the urban development process and the threats or benefits this may bring.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Demonstrate an understanding of how veteran trees should be considered during the planning and construction process in the country of examination.	i) Show an understanding of the principles of tree protection on a construction site and how it applies to tree work operations. (P)	

Unit number	**Unit title**	**Unit summary**
10	Personal skills.	Candidates will have a strong set of transferable skills, which complement their veteran tree knowledge, to promote veteran tree management and conservation.
Knowledge outcomes *The candidate will be able to*	**Skill and knowledge standard** *The candidate can*	**Notes**
1. Demonstrate effective communication skills to promote the protection of veteran trees.	i) Communicate effectively about technical information with the general public and other relevant stakeholders. (P)	
2. Demonstrate effective motivation skills.	i) Influence others to promote veteran tree conservation.	
3. Demonstrate effective organisation skills.	i) Keep clear and accurate records regarding veteran tree management.	i) To ensure management is properly documented to enable effective future management.
4. Recognise the limits of their professional abilities.	i) Understand and acknowledge the limit of their professional knowledge and skills, and seek additional assistance where necessary.	i) e.g. Contact a colleague or a professional in another discipline to provide advice on specific matters.

Unit number	**Unit title**	**Unit summary**
11	Veteran tree management.	Candidates will have to demonstrate a detailed knowledge of the veteran tree management process and apply their knowledge and skills to achieve high quality results.
Knowledge outcomes *The candidate will be able to*	Skill and knowledge standard *The candidate can*	Notes
1. Detail the basic principles behind veteran tree management.	i) Detail the overall aim of all veteran tree management and explain why it might be necessary to manage veteran trees.	i) No avoidable loss of veteran trees. Examples include, remove threats such as shading, soil compaction, nutrient enrichment of soil, to prevent structural collapse and fire or vandalism.
	ii) Describe the decision making process before carrying out any veteran tree management.	ii) 1. Does anything need to be done? (if not, do nothing) 2. Does the land around the veteran tree need managing? 3. Does the veteran tree need managing?
2. Management considerations.	i) Identify threats to specific veteran trees.	i) e.g. Shade, soil compaction, nutrient enrichment of soil, root damage, pest and diseases, structural collapse, fire and vandalism. To be assessed *in situ*.
	ii) Describe a specific veteran tree's reactions to past management, and/or natural events, and how this should affect future management.(P)	
	iii) Show an awareness of why techniques for veteran tree management might differ from standard arboricultural management guidance. (P)	iii) e.g. size of root protection areas, retention of stubs instead of target pruning, natural fracture cuts, …

3. Undertake veteran tree management, in accordance with management plan.	i) Understand the requirements of the management plan and implement them to achieve the desired objectives. (P)	i) Discuss management objectives with the consultant where there is uncertainty over proposed management requirements or have confidence and ability to make minor adjustments in light of new evidence.
	ii) Use their knowledge, experience and existing guidelines to identify the extent of a suitable root protection area for a veteran tree and choose an appropriate method for setting one up. (P)	ii) Candidates should acknowledge that the guidance for root protection areas for a veteran tree may vary from standard arboricultural recommendations. Refer to guidance in relevant country, or if absent, Ancient Tree Forum guidance (15 times stem diameter or 5m from crown).
	iii) Undertake a pre-climb risk assessment of a veteran tree to identify if the tree is safe to climb. (P)	
	iv) Identification of suitable tools and equipment for the operation.	iv) e.g. <u>Access to tree</u> • Avoid using any vehicles within the root protection area. • Where vehicles are needed (e.g. a Mobile Elevated Work Platform), tracked machines or ground protection should be used to limit soil compaction. • Assessment of whether to use a Mobile Elevated Work Platforms or climb the tree. • Single Rope Technique or cambium savers employed to minimise rubbing on trunk and branches (If candidate recommends SRT, they should show consideration of additional loading). <u>Choice of cutting tool</u> • Hand tools vs chainsaws. • Electric chainsaws vs chainsaws. • Vegetable oils vs mineral oil, to lubricate chain. • Alkylate fuel vs standard petrol. • Store fuels and oils outside of root protection area. • Use of suitable fuel and oil cans to prevent spillages.

		• Use of fuel mat to catch and spill kit. • Consideration of alternative use of cut material, rather than chipping (to reduce emissions and a potential source of compaction); take into account biosecurity.
	v) Prepare pre-work documentation and discuss with client and/or consultant (where applicable). (P)	v) e.g. Method statement, risk assessment, legal consents, site access information, emergency planning, staff welfare, wildlife risk assessment, biosecurity, site meeting, ...
	vi) Undertake an aerial inspection and record findings to inform management of tree. (P)	vi) Feedback may be to consultant or client.
	vii) Conduct management work whilst minimising inadvertent damage to the tree, associated species and its surroundings. (P)	vii) e.g. • Consideration of sensitive flora and fauna present on or within tree (e.g. lichens, invertebrates,...), epicormic growth, flaking bark and deadwood. • Avoid damaging trees with falling branches. • Avoid unnecessary removal of deadwood or other habitat features. • Consideration of phenology of the tree based on local conditions.
	viii) Demonstrate excellent climbing and tool use. (P)	
	ix) Implement good practice biosecurity measures in accordance with guidance in the country of examination.	ix) To minimise chances of spread of pests and diseases.
5. Identify the need for, and undertake monitoring.	i) Show an awareness of the importance of monitoring in veteran tree management. (P)	i) Is the management having the desired effect? If no, does management need to be changed or ceased?
	ii) Collect information to guide ongoing veteran tree management, as instructed. (P)	