Australian Government

AHCARB604 Measure and improve the performance of urban forests

Release: 1

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Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to measure and improve the performance of trees.

This unit applies to individuals with broad theoretical and technical knowledge of a specific area or a broad field of work and learning and cognitive, technical and communication skills to demonstrate autonomy, judgement and defined responsibility in undertaking complex work within broad parameters to provide specialist advice and functions.

The role involves the self-directed application of specialised knowledge in arboriculture with substantial depth in areas of tree performance and carbon sequestration.

No occupational licensing, legislative or certification requirements are known to apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Research urban forest practices and applications	1.1 Research urban forest case studies and management reports 1.2 Review best management practices in urban forest planning and management 1.3 Research applications and functional tools measuring benefits of

Element	Performance criteria
	urban forests
2. Analyse and report on urban forest benefits	2.1 Analyse social benefits of urban forests 2.2 Analyse psychological benefits of urban forests 2.3 Analyse environmental benefits of urban forests 2.4 Document evidence-based research into a preliminary report on benefits of urban forests
3. Determine values of urban forest benefits	3.1 Conduct sampling analysis of an urban forest 3.2 Determine required sample size to assess total tree population 3.3 Determine accuracy of sample size 3.4 Calculate canopy cover, total carbon storage, annual carbon dioxide sequestration, rainfall interception, air pollution removal, energy savings benefit, environmental benefits and amenity benefits 3.5 Identify base financial value for each functional benefit 3.6 Calculate financial values of functional and environmental benefits of current tree population 3.7 Determine benefits of heat island modification of urban areas 3.8 Document a preliminary report on total asset valuation of an urban forest
4. Analyse and compile results	4.1 Analyse urban forest structure and functions 4.2 Describe urban tree population half-life, vacant planting ratio, species distribution and population diversity 4.3 Estimate life expectancy of tree population 4.4 Compile results of urban forest analysis
5. Document a report on improvement of urban forests	5.1 Identify urban forest issues within tree population sample area 5.2 Determine recommendations for tree species and diversity 5.3 Determine extent of current tree planting and replacement programs 5.4 Determine volume and rate of planting programs required for improvements to urban forest performance 5.5 Determine required modifications to planting practices 5.6 Determine targets for urban forest improvement 5.7 Document a report on urban forest performance that provides recommendations for improvement of urban forests

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

New unit - no equivalent.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72