



Australian Government

AHCARB325 Manage trees to create and maintain habitat refuges

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to create and maintain habitat refuges in trees involving the installation of nesting boxes and the use of pruning techniques for habitat hollow and cavity creation in trees. It also involves the retention and positioning of materials from tree works for ground level habitat and refuges.

The unit applies to individuals who work in arboriculture under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

The arboriculture industry requires that all arboriculture work to create and maintain habitat refuges is undertaken according to preferred industry practices (as outlined in the Companion Volume).

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

Pre-requisite Unit

Nil

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

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1. Prepare site and inspect equipment	1.1 Interpret and confirm target area work instruction with supervisor 1.2 Select, check and use personal protective equipment 1.3 Conduct pre-operational preparations and safety checks, on ropes, harnesses, tools and equipment 1.4 Undertake a site-specific job safety analysis (JSA), record and implement control measures according to workplace safety procedures
2. Retain and stabilise trees and standing vegetation for wood habitat	2.1 Identify vegetation with existing viable hollows 2.2 Plan retention of standing vegetation with viable hollows and defects 2.3 Identify environmental pruning points to accommodate retention or formation of hollows 2.4 Determine length of limb to be retained according to weight, size and natural fracture points 2.5 Identify and retain branch stubs and residual epicormic growth on lower limb sections 2.6 Implement pruning cuts to tension side of wood to weaken branch at desired point for fracture pruning 2.7 Apply physical force to create natural fracture and breakage of branch at desired point 2.8 Undertake coronet cutting using equipment that minimises contaminants on cut surface 2.9 Use materials and equipment to protect the environment from residues according to workplace and environmental procedures
3. Implement vegetation management techniques to create habitat	3.1 Identify and select vegetation suitable for habitat creation work 3.2 Apply natural fracture pruning techniques consistent with natural branch failure 3.3 Implement coronet cuts on branches or stub according to specifications 3.4 Fracture prune from ground or aerially and remove excess branches safely at a natural breakage point, leaving stub to specified length according to job requirements 3.5 Prepare habitat hollows with an angled faceplate to prevent ingress of water 3.6 Remove internal wood from hollows and install faceplate and

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	entrance holes according to job requirements 3.7 Install ground refuges using dimensions and materials specific to fauna habitat requirements 3.8 Install nesting boxes to height and dimensions for target fauna species 3.9 Remove unsafe habitat features for reinstallation into tree canopy 3.10 Select, retain and position tree materials, from tree works, suitable for ground habitat, burrows and refuges
4. Clean worksite and store equipment	4.1 Inspect, clean, maintain and store equipment according to manufacturer instructions and workplace procedures 4.2 Collect and dispose of waste materials according to industry, workplace and environmental procedures and practices 4.3 Clean and restore site to condition according to workplace procedures and instructions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Interpret legislation, industry standards and manufacturer instructions
Numeracy	Measure and calculate dimensions of materials for installation of habitat, hollows and nesting boxes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB325 Manage trees to	Not applicable	The unit has been created to address an industry	Newly created

create and maintain habitat refuges		requirement	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCARB325 Manage trees to create and maintain habitat refuges

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has managed vegetation to create and maintain habitat refuges in at least one tree not less than six metres tall with a stem diameter of at least 20cm at four metres above the ground, including:

- complied with all safety requirements including:
 - completed job safety analysis
 - used personal protective equipment
 - conducted pre-operational preparation and checks on ropes, harnesses, tools and equipment
- identified and implemented measures to prevent tree and environmental health issues including:
 - cleaned and sanitised chainsaws and equipment
 - cleaned up waste and used materials and equipment to protect the environment from residues
- accessed tree for habitat and hollow activities and fracture pruning either:
 - a mobile elevated work platform (MEWP)
 - or arborist climbing techniques
- selected vegetation and created habitats and hollows in trees including:
 - retained viable hollows and defects
 - used fracture pruning applying force using within the tree or hook poles or ropes from the ground
 - identified suitable points to retain or create new hollows
 - retained branch stubs and epicormic growth on tree limbs
- used pruning techniques for habitat creation on branches with a diameter of no less than 20cm, including:
 - natural fractures
 - coronet cuts

- pruned and removed excess branches
- ensured overhang is retained to prevent water ingress
- prepared at least three habitat hollows or cavities in trees at least four metres above the ground with a tree diameter of no less than 20cm, including:
 - angled faceplate to prevent water ingress
 - removed internal wood
 - installed or repaired faceplate and entrance hole no closer than 30cm to branch bark ridge
 - installed faceplate through side or rear wall of cavity or through faceplate of sufficient thickness
 - prepared artificial habitat hollow to meet specified dimensions of target fauna for size of hollow, height, and entrance
 - removed an unsafe hollow branch and reinstalled back into a tree with same orientation and attitude
 - removed a branch containing a cavity and reinstalled and fixed cavity branch back into tree or another tree with same orientation and attitude
- installed the following types of nesting boxes:
 - two boxes using natural materials
 - two boxes using artificially constructed structures
- retained materials from tree works for ground habitat, refuges or burrows and restored the site.

All arboriculture work to create and maintain habitat refuges is required to be performed according to preferred industry practices (as outlined in the Companion Volume).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- preferred industry practices (as outlined in the Companion Volume) for arboriculture work to create and maintain habitat refuges
- importance and impact of living and dead vegetation in the environment, including:
 - habitat and refuges
 - public safety and environmental hazard and removal
 - risk management
- common vegetation features providing an ecological habitat, including:
 - stubs, snags, tears and scars
 - fungi
 - dead wood volumes
 - hollows, cavities and small holes
 - animal/insect damage and food
 - defective branch union
 - bird damage

- extent and quality of fungus rot and colonising organisms
- tree response to infection and compartmentalisation of decay in trees (CODIT), including biosecurity and infection controls
- conservation values of a dead wood habitat and a live wood habitat
- removal or reduction of dead wood or living wood to prevent breakage, including:
 - natural fracture pruning from the ground using hook poles or ropes
 - natural fracture pruning aerially by applying direct force with hand or foot
 - coronet cutting
 - retention of materials suitable for positioning in the landscape for ground burrows, habitat and refuges
 - leaving and rendering safe root plate of fallen trees for animal burrows, habitat and refuges
- different types of ground level refuges, including:
 - vegetation
 - soil
 - artificial
- the nature and role of habitat trees, including:
 - characteristics and essential components of plant and animal life cycles
 - features associated with ageing
 - value or potential value
 - hollows, cavities and roosting branches
 - removal and replacement of hollows or cavities
- nesting box designs and installation, including:
 - animal and bird species and nesting box design
 - natural materials repurposed for nesting structures
 - artificially constructed structures, materials, design and installation
- heritage or protected vegetation, environmental overlays and regulated vegetation, including:
 - historical and cultural aspects of vegetation
 - Aboriginal and Torres Strait Island mortuary and sacred/cultural trees
- pruning techniques for habitat development and possible consequence, including:
 - weakening branches to ensure pruning cut protrudes into the wood of not more than 30% of the diameter at the cut point
 - wood not weakened to break at the desired fracture point
 - cutting with a 15 degree opening on the compression side of the wood to allow the vegetation to fracture
 - use of ropes and pulleys to apply the sufficient force to assist the breakage
 - removal of excess branches and importance of leaving stub lengths of at least 20 cm
 - pruning techniques to allow colonisation points for beneficial fungi, invertebrates and small animals

- pruning techniques for habitat hollow and cavity creation in vegetation for larger animals
- importance of retaining and creating variations in dead wood habitat niches
- natural fracture pruning techniques, including:
 - when to apply to branches <20 cm in diameter
 - fibre separation, along the grain and splintering
 - fibre separation in various planes, linear, radial and circumferential
 - natural fracture points
 - appropriate use of hand saws and equipment
 - approved chainsaw use and bar oil to avoid contamination of pruning cuts
- relevant statutory and local authority requirements
- personal protective equipment, including:
 - chaps or chainsaw pants
 - hand tools such as shovels, saws, drills, screwdrivers, hammers
 - ear protection
 - full face helmet/visor or safety glasses
 - harness and full body for MEWP or work position harness for tree climber
 - gloves
 - safety helmet
 - steel-cap boots
- potential hazards when managing vegetation, including:
 - animal responses to interference
 - vegetation density
 - incorrect and unsafe pruning methods used by self and others
 - incorrect and unsafe approaches to staking severed trunks or limbs
 - power lines and utilities
 - unsafe tree climbing methods
 - unsafe use of MEWP
 - unstable ground for equipment
- structural integrity and defects within vegetation that pose a threat to infrastructure, persons in and using the immediate area, and tree health, including:
 - broken branches
 - cankers
 - cracks
 - dead wood
 - decay/fungi
 - poor branch unions
 - poor vegetation architecture
 - root problems
 - torsional fractures

- environmental and biodiversity values
- when to use natural fracture pruning, coronet cutting and habitat hollow and cavity creation, including alternatives to felling trees to render them safe and retain dead wood habitat.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a site with a range of vegetation requiring natural fracture pruning, coronet cutting, and habitat and cavity creation stipulated in the performance evidence
 - an appropriate site where branch habitat hollows and cavities in branches can be created, nesting boxes can be constructed and installed, and burrows and ground level refuges can be created
- resources, equipment and materials:
 - arborist climbing kit or MEWP for accessing trees
 - personal protection equipment
 - tools, equipment and materials for pruning, constructing and installing habitat, burrows and nesting boxes
- specifications:
 - workplace policies, procedures, operations manuals and instructions related to pruning vegetation to manage habitat
 - biosecurity procedures for managing environmental contamination
 - regulations and codes of practice that relate to pruning vegetation to manage habitat
 - preferred industry practices (as outlined in the Companion Volume) for arboriculture work to create and maintain habitat refuges
 - plans, diagrams and specifications for installing nesting boxes
 - specification for fauna habitat
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. In particular, assessors must have:

- arboriculture vocational competencies at least to the level being assessed
- current arboriculture industry skills directly relevant to the unit of competency being assessed.
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