

Modification history

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

AHCECR3XX	Implement ecosystem reconstruction works
Application	<p>This unit of competency describes the specialist skills and knowledge required to implement terrestrial or aquatic ecosystem reconstruction works on an ecological restoration site following a plan or brief.</p> <p>The unit applies to individuals engaged in conservation and land and water management programs and who work under general supervision, exercising limited autonomy with some accountability for own work. They undertake defined activities and work in a structured context to enterprise standards.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	Natural Area Restoration (NAR) Or Ecological Restoration (ECR)

AHCECR3XX Implement ecosystem reconstruction works

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine scope of ecosystem reconstruction works	1.1 Determine boundaries between ecosystem reconstruction area and assisted regeneration area according to project brief 1.2 Determine potential for habitat corridors or linkages 1.3 Identify reference model for the reconstruction area according to project brief and anticipated climate change 1.4 Identify timing and method of ecosystem reconstruction work
2. Prepare for ecosystem reconstructions works	2.1 Select check and prepare tools, equipment and materials according to project brief and biosecurity requirements 2.2 Select species for the ecosystem reconstruction works 2.3 Obtain and store biological materials for reconstruction works 2.4 Identify and obtain required permits for specific reconstruction works 2.5 Determine and organise labour requirements 2.6 Prepare a schedule of works 2.7 Identify hazards, assess risks and implement controls according to workplace health, safety procedures
2. Prepare the ecosystem reconstruction site	2.1 Identify hazards, assess risks and document controls according to environmental and biosecurity procedures 2.2 Select and apply treatments according to environmental and biosecurity risk controls 2.3. Identify desirable and undesirable organisms and contamination and select methods for control 2.4 Treat all undesirable organisms and contamination according to selected controls 2.5 Undertake site and substrate pre-treatments 2.6 Install protective measures according to identified environmental risk controls
3. Undertake ecosystem reconstruction works	3.1 Select check and use personal protective equipment according to workplace health and safety procedures 3.2 Inspect biological materials for quality and discard defective materials 3.3 Pre-treat plants, seeds or other propagules according to project brief 3.4 Reintroduce biota according to industry standards and project brief 3.5 Apply techniques for protecting, securing or anchoring reintroduced biota 3.6 Identify and document potential threats to ecosystem reconstruction works
4. Maintain ecosystem reconstruction site	4.1 Monitor growth of plants, seeds or other propagules for health and performance 4.2 Maintain site according to ecosystem reconstruction project brief 4.3 Undertake remedial action and protection according to species requirements 4.4 Clean, maintain and store tools and equipment according to workplace procedures

Commented [RB1]: Are there any records, documents, reports??

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Foundation Skills	
<i>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.</i>	
Skill	Description
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	•
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Commented [RB2]: RB to complete after confirmation of Performance Criteria

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
AHCECR3XX Implement ecosystem reconstruction works	New	New	No equivalent unit

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72
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TITLE	Assessment requirements for AHCECR3XX Implement ecosystem reconstruction works
Performance Evidence	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has performed ecological restoration works for at least two different ecological environments.</p> <p>There must also be evidence that the individual has:</p> <ul style="list-style-type: none"> • recognised boundaries between assisted regeneration areas and reconstruction areas at a restoration site • identified potential linkages for increasing habitat area and connectivity • selected species for an ecosystem reconstruction site relative to one or more reference models applicable at site, taking anticipated climate change into account • conducted a site hazard identification and risk control assessment • recognised and treated undesirable species for ecosystem restoration site • prepared site for ecosystem reconstruction works • carried out reintroduction ecosystem reconstruction works according to industry standards using all the following methods: <ul style="list-style-type: none"> • reintroduced nursery stock • sown propagules • transplanted stock • protected the restored area with guards, barriers or other techniques • used, cleaned, maintained and stored machinery and equipment according to manufacturer instructions • complied with work health and safety, biosecurity and environmental sustainable work practices. 	
Knowledge Evidence	
<p>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:</p> <ul style="list-style-type: none"> • recognition and common names of native flora, fauna and other key biota of specific restoration areas • ecological principles, including: <ul style="list-style-type: none"> • recognition of basic ecosystem elements and functions • recognition of ecological communities • interactions between flora, fauna and other biota and the impact of these on restoration objectives and outcomes • importance of biodiversity in an ecological community • the role of habitats to reinstating functional ecosystems • connectivity principles for expanding area and effective linkages • ecological restoration principles, including: <ul style="list-style-type: none"> • recognising when recovery potential is depleted and reconstruction is needed for desirable species under a range of degrees and types of degradation • role of reference models including different models for difference zones within the one site • any need to adapt the reference ecosystem to anticipated climate change • setting restoration goals and identifying indicators of recovery outcomes • the importance and value of genetic integrity and diversity in selecting the provenance of propagules including under climate change • configuration of species with respect to potential for successful breeding and recruitment • factors affecting the timing and method of reintroduction • a range of biological reintroduction techniques, including: <ul style="list-style-type: none"> • reintroduced nursery stock • hand seeding, broadcast sowing and mechanical seeding • transplanted stock from natural areas • a range of sector-appropriate tools, equipment and machinery • a range of concepts and methods relating to optimising establishment of biota including: <ul style="list-style-type: none"> • hydrological requirements of the site and species 	

Knowledge Evidence

- physiology of growth of desirable organisms
- nutrient needs of species and nutrients and available nutrients and ameliorants
- techniques for protecting, securing or anchoring reintroduced organisms
- techniques for irrigation of reintroduced organisms
- identification of pests and diseases and a range of principles, strategies and integrated methods for their prevention and control including:
 - methods for minimizing the transfer of undesirable organisms
 - application methods for biological, cultural, mechanical and chemical pest management methods
- safety requirements when handling and using hazardous goods.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the field as specified in the performance criteria
- resources, equipment and materials:
 - tools and equipment required for ecological reconstruction works
 - live biota for reconstruction works
 - materials required for treatments
 - ??
- specifications:
 - use of specific workplace procedures and processes for reconstruction works
 - use of manufacturer's operating instructions for specific equipment and machinery
 - use of workplace instructions and project brief

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

Links

Companion Volumes, including Implementation Guides, are available at VETNet:
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>