Modification history

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

| AHCPER4X5 | Investigate and recommend biological elements for a permaculture system |
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| Application | This unit of competency describes the skills and knowledge required to assess the plants, animals, insects and microbiological elements required in a permaculture system, including their characteristics and cultural requirements, evaluate suitability of specific species and present recommendations and cultural requirements for biological elements to a client for a permaculture system.  The unit applies to individuals who analyse information and exercise judgement to complete a range of advanced skilled activities and demonstrate deep knowledge in a specific technical area. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems.  No licensing, legislative or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Permaculture (PER) |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Assess the needs of the permaculture system for biological elements | 1.1 Access plans and design criteria for permaculture system  1.2 Identify environmental and climatic conditions for permaculture site  1.3 Determine primary characteristics and uses for biological elements in permaculture system with client  1.4 Investigate interrelationships of biological elements for a sustained permaculture system  1.5 Determine diversity of biological elements in permaculture system  1.6 Identify protagonist and antagonistic characteristics of biological elements in permaculture system  1.7 Summarise characteristics for each biological element required for permaculture system |
| 2. Investigate biological species to achieve permaculture system outcomes | 2.1 Investigate and identify plant species reflecting characteristics required in permaculture system  2.2 Investigate and identify animal species reflecting characteristics required in permaculture system  2.3 Investigate and identify invertebrate and microbial species reflecting characteristics required in permaculture system  2.4 Assess and confirm value of each identified species for roles or functions required in permaculture system  2.5 Select and document biological elements identified according to biological naming conventions |
| 3. Recommend species and cultural requirements for a permaculture system design | 3.1 Investigate and document cultural requirements and conditions for each biological species selected  3.2 Investigate and document expected interactions and inter-relationships for species in permaculture system  3.3 Compile documentation into formal recommendation according to workplace format  3.4 Present recommendation to client for feedback and approval  3.5 Review and rectify recommendations according to client feedback |
| 4. Evaluate suitability of species in a permaculture system | 4.1 Monitor implementation and development of permaculture system  4.2 Evaluate suitability of biological species in design  4.3 Re-assess underperforming species and investigate alternative options  4.4 Maintain records of species performance for future reference |

| 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. | |
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| Skill | Description |
| Writing | * Prepare and produce client recommendations and specifications including diagrammatic models to illustrate complex permaculture system species interactions |
| Oral communication | * Use collaborative and inclusive techniques including active listening and questioning, and reading of verbal and non-verbal signals to convey, clarify feedback and confirm client requirements for recommendations |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| AHCPER4X5 Investigate and recommend biological elements for a permaculture system | AHCPER413 Evaluate suitability of species as solutions for permaculture applications | Redesigned unit to reflect a job outcome and better reflect industry outcomes | Not equivalent |

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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 |

| TITLE | Assessment requirements for AHCPER4X5 Investigate and recommend biological elements for a permaculture system |
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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 on at least one occasion investigated and recommended biological elements for s permaculture system design and has:   * assessed needs and outcomes of a permaculture system with a client * identified characteristics of biological elements for a system which must include each of the following: * 10 plants * 4 animals * 3 invertebrates * 2 micro-biologicals * investigated and assessed species for each group of biological elements for use in a permaculture system and their interrelationships * compiled and documented recommendations and cultural requirements for species meeting identified characteristics for permaculture system * presented recommendations to client and acted on feedback * monitored and recorded biological elements and their success in a permaculture system. | |

| Knowledge Evidence |
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| 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:   * principles and practices of permaculture related to needs of species and systems * fundamentals of biological organisms, interactions, classification and nomenclature, including: * plants as produce, fodder, soil improvers, pest control * animals as produce, pest control, waste processing, soil improvers * invertebrates as food, soil improvers, pests and biocontrol * common microorganisms used in permaculture, including produce, yeasts and useful bacteria for plant and animal culture * research methodologies and documenting outcomes of research * system design process * permaculture design strategies for species selection and inter-relationships * comparative analysis techniques * critical evaluation techniques for both written and graphic representations of permaculture design * dealing with clients * documenting and presenting recommendations. |

| Assessment Conditions |
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| Assessment of the skills in this unit of competency must take place under the following conditions:   * physical conditions: * skills must be demonstrated for a permaculture system design or an environment that accurately represents workplace conditions * resources, equipment and materials: * use of research tools and references * specifications: * use of permaculture design specifications and client brief * access to biological naming convention * relationships: * client.   Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. |

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