Modification history

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| Release | Comments |
| Release 2 | This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0. |
| Release 1 | This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0. |

| AHCLPW306 | Undertake sampling and testing of water |
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| Application | This unit of competency describes the skills and knowledge required to plan and carry out sampling and testing of water quality as part of a monitoring program.  The unit applies to individuals who work in the land management sector. They work under broad direction and use discretion and judgement in the selection, allocation and use of available resources and for problem solving.  No licensing, legislative or certification requirements are known to apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Lands, Parks and Wildlife (LPW) |

| 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. Plan for sampling and testing field work | 1.1 Confirm sampling and testing program  1.2 Identify parameters for water quality tests  1.3 Identify characteristics and number of samples to be collected  1.4 Identify and select equipment required for water sampling and testing  1.5 Identify hazards, assess risks and implement controls for safe operating conditions and environmental impact of sampling and testing |
| 2. Prepare equipment and resources | 2.1 Obtain equipment required for sampling and testing  2.2 Check equipment for availability and serviceability  2.3 Verify accuracy and performance of equipment according to workplace procedures and industry standards  2.4 Check, repair and maintain field-based equipment and instruments according to workplace procedures  2.5 Prepare data or recording documents ready for use  2.6 Deploy and secure testing equipment  2.7 Brief staff on responsibilities when undertaking sampling and testing activities |
| 3. Carry out sampling and testing of water | 3.1 Collect and test water samples according to sampling and testing program, industry standards and workplace procedures  3.2 Prepare, package and store samples for transport  3.3 Conduct and record observations for ambient and antecedent environmental conditions  3.4 Report urgent water quality or environmental issues according to workplace procedures |
| 4. Complete water sampling and testing activities | 4.1 Clean, check, and store equipment  4.2 Repair equipment with manageable faults according to manufacture instructions  4.3 Consign unserviceable equipment to specialist for repair  4.4 Check data for accuracy and integrity  4.4 Record and report test results and observations according to workplace procedures  4.5 Report changes in field conditions and equipment |

| 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 |
| Reading | * Interpret and comprehend standards and operating procedures for conducting water tests and recording and presenting results |
| Numeracy | * Select appropriate calculations and measurements required to prepare water samples and reagents for testing from standards and operating procedures. |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| AHCLPW306 Undertake sampling and testing of water  Release 2 | AHCLPW306 Undertake sampling and testing of water  Release 1 | Minor changes to Application  Changes to Performance Criteria for clarity and brevity  Updated Performance Evidence, Knowledge Evidence and Assessment Conditions | Equivalent unit |

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

| TITLE | Assessment requirements for AHCLPW306 Undertake sampling and testing of water |
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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 collected, tested, prepared and despatched to a laboratory at least 10 water samples. The water samples must be represented from at least 4 of the following bodies of water:   * fresh water - river or stream * fresh water - lakes or impoundments * marine - open ocean * marine - coastal or intertidal * salt lakes * water with high turbidity * farmland dams and impoundments * bore water   There must also be evidence that the individual has:   * planned a water testing and sampling program under direction according to regulatory and organisation requirements * tested, verified accuracy and prepared equipment according to manufacturer instructions, regulatory and workplace requirements * collected and tested water samples according to regulatory requirements, workplace procedures and industry standards including tested for at least 5 of any of the following: * temperature (in situ) * pH * electrical conductivity * dissolved oxygen * turbidity * nitrate * phosphorous * pesticide * metals * hydrocarbons and plastic * prepared data sheets and recorded results * reported water testing results according to workplace procedures * reported urgent water quality and environmental concerns observed during sampling according to workplace procedures * applied work health and safety practices. | |

| 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:   * water monitoring in land management, including: * purpose for testing water * types of water bodies and their related ecological and environmental characteristics * scheduling guidelines for testing water quality * standards for water quality * collecting water samples, including: * water sampling equipment operation and maintenance * sampling techniques and procedures * storing water samples * transporting water samples * packaging and labelling for despatch to laboratories * packaging and labelling procedures for workplace testing * water testing, equipment, methods and procedures, including: * temperature (in situ) * pH * electrical conductivity * dissolved oxygen * turbidity * nitrate * phosphorous * pesticide * metals * hydrocarbons and plastic * operating conditions, hazards and environmental impacts on sampling and testing in the field. |

| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:   * physical conditions: * skills must be demonstrated in the field for collecting and sampling water from a range of environments indicated in the Performance Evidence * access to a water testing laboratory or an environment that accurately represents a water testing laboratory * resources, equipment and materials: * equipment and resources required for collecting and storing water samples * equipment and consumables used for conducting tests on water samples * specifications: * use of workplace procedures and processes for collecting and testing water samples * use of manufacturer’s operating instructions for testing equipment * access to safety data sheets for chemical reagents used in testing procedures * use of workplace instructions and specifications for purpose of water sampling * access to legislation, codes of practice and industry standards for conducting tests   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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