



Australian Government

AHCLPW313 Undertake sampling and testing of water

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 6.0.

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 apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Lands, Parks and Wildlife (LPW)

Elements and Performance Criteria

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. Plan for sampling and testing fieldwork	1.1 Confirm sampling and testing program from supervisor instruction and sampling plan 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

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	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 Check and calibrate equipment according to workplace procedures and industry standards 2.4 Prepare data or recording documents ready for use 2.5 Secure testing equipment 2.6 Commence use of testing equipment
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 Consign unserviceable equipment to specialist for repair 4.3 Check data for accuracy and integrity 4.4 Record and report test results and observations according to workplace procedures and traceability requirements 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.

Skill	Description
Reading	Interpret and comprehend standards and operating procedures for conducting water tests and recording and presenting results

Skill	Description
Numeracy	Calculate quantities and measurements required to prepare water samples and reagents for testing from standards and operating procedures

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCLPW313 Undertake sampling and testing of water	AHCLPW306 Undertake sampling and testing of water	Minor changes to Application Changes to Performance Criteria for clarity and brevity Updated Performance Evidence, Knowledge Evidence and Assessment Conditions	Not equivalent

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 AHCLPW313 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 dispatched at least five water samples to a laboratory. The water samples must be from at least three of the following bodies of water:

- fresh water – river or stream
- fresh water – lakes or impoundments
- storm water and drains
- 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 and regulatory and workplace requirements
- collected and tested water samples according to regulatory requirements, workplace procedures and industry standards, including tested for at least five of any of the following:
 - pH
 - electrical conductivity
 - dissolved oxygen
 - turbidity
 - nitrate
 - phosphorous

- 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
- ensured traceability forms have been completed for environmental protection agencies
- applied workplace health and safety practices.

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:

- 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
- methods and steps involved in 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
- purpose of water test, equipment used, methods and procedures, including for:
 - temperature (in situ)
 - pH
 - electrical conductivity
 - dissolved oxygen
 - turbidity
 - nitrate
 - phosphorous
- varied operating conditions, hazards and environmental conditions that may impact sampling and testing in the field.

Assessment Conditions

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

- physical conditions:
 - skills must be demonstrated in the field, on sites covering 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:
 - workplace procedures and processes for collecting and testing water samples
 - manufacturer operating instructions for testing equipment
 - safety data sheets for chemical reagents used in testing procedures
 - workplace instructions and specifications for purpose of water sampling
 - 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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