



Australian Government

AHCNRM504 Interpret and report on catchment hydrology

Release: 2

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Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to interpret catchment hydrology to report on water quantity and quality within a catchment.

The unit applies to individuals employed in a technical capacity to collect, collate, analyse and report on hydrological data for use in floodplain management, asset protection and water allocation. This person will analyse information and exercise judgement to complete a range of skilled activities. 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.

Pre-requisite Unit

Nil

Unit Sector

Natural Resource Management (NRM)

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. Collate and evaluate catchment information	1.1 Determine data collection priorities in consultation with supervisor or team 1.2 Access and collate catchment information

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Determine the requirements for accuracy and currency of information and identify additional data requirements 1.4 Identify land uses within the catchment 1.5 Determine management units within the catchment
2. Analyse hydrological processes of a catchment using available data	2.1 Analyse natural ground and surface water processes 2.2 Identify man-made ground and surface water movement 2.3 Determine and analyse man-made impacts on water quantity 2.4 Determine the need for, and identify appropriate representative sites for, collection of additional data 2.5 Apply work health and safety policies and procedures, environmentally sustainable practices and biosecurity measures when analysing hydrological processes
3. Design and implement field surveys and assess findings	3.1 Determine objectives, locations and resource requirements for site assessments in consultation with supervisor or team 3.2 Assess physical entities, processes and threats within representative management units 3.3 Collect site data according to enterprise policies, procedures and guidelines
4. Report on catchment hydrology	4.1 Prepare a written overview on catchment hydrological behaviour 4.2 Present a visual overview of catchment hydrological behaviour to stakeholders 4.3 Provide advice and guidance on remediation measures consistent with catchment management objectives

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
Numeracy	Analyse and synthesise mathematical information from a range of hydrological datasets, and compile and evaluate the information to

Skill	Description
	draw conclusions and prepare reports

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCNRM504 Interpret and report on catchment hydrology Release 2	AHCNRM504 Interpret and report on catchment hydrology Release 1	Minor changes to Application and Performance Criteria for clarity Updated Performance Evidence, Knowledge Evidence and Assessment Conditions	Equivalent

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for AHCNRM504 Interpret and report on catchment hydrology

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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, on at least one occasion, the individual has accessed and collated a wide range of hydrological information and data, and interpreted and reported outcomes to stakeholders.

There must also be evidence that the individual has:

- determined the movement of water within a catchment
- assessed processes within catchment to evaluate non-sustainable practices
- reported on catchment hydrological behaviour to workplace requirements
- applied work health and safety practices and biosecurity awareness to the collection and testing of water.

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:

- hydrological cycles
- chemical and physical properties of water
- rock and soil types, including weathering processes
- fluvial geomorphology, including:
 - drainage basin function
 - factors influencing stream flow rates
 - interactions between ground and surface water
 - stream hierarchy and ordering
 - human impacts on surface water quality and quantity

- hydrogeology, including:
 - aquifer types and properties
 - aquifer discharge and recharge
 - rates of water movement through aquifers
 - human impacts on groundwater quality and quantity
- sustainable use of ground and surface water, including:
 - uses of water in catchments
 - water allocation
 - policies and strategies determining water use.

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 an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - digital technology and software for report writing and statistical analysis
- specifications:
 - workplace policies, procedures and processes for accessing, collating and manipulating hydrological data
 - site-related hydrological data sets
- relationships:
 - work team and supervisor.

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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