



Australian Government

MSS024027 Participate in environmental field work

Release: 1

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Modification History

Release 1. Unit code changed. Unit title changed. Application changed. Performance Criteria changed. Foundation Skills populated. Assessment Requirements changed. Workplace outcome changed. Supersedes and is not equivalent to MSS024015 Apply an understanding of environmental principles to a site.

Application

This unit describes the skills and knowledge required to prepare for and participate in field work.

This unit applies to environmental assistants, environmental officers, environmental technicians and similar roles who will interpret maps and other site information, make an initial assessment of site condition, undertake a basic ecological field study and process and present data and simple conclusions. This unit applies basic principles of geomorphology, hydrology and ecology and underlying chemistry, physics, geology and biology.

This unit applies in a range of industry sectors, including but not limited to environmental monitoring and sampling; environmental compliance, auditing and inspection; groundwater and clean water management; water treatment, storm and wastewater management; solid and hazardous waste management; site remediation; management of contaminated sites; geotechnical services and civil engineering; and natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Environmental monitoring and technology

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare for site inspection	1.1 Read and use maps, photos and related documentation to gain a preliminary understanding of site features 1.2 Review site-specific or regional data to determine flora, fauna, soils and climate expected at site 1.3 Access and read site history and previous environmental or ecological studies to identify actual and potential site issues 1.4 Access and read all emergency plans, risk assessments, and safety

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	and environmental management requirements associated with the field activities 1.5 Access and read legislative and planning instruments applicable to current and future site usage 1.6 Confirm site access requirements and identify potential site hazards 1.7 Seek input from colleagues and/or manager/s to confirm understanding of work requirements
2. Conduct initial site survey	2.1 Sketch, map or photograph the site to document key features 2.2 Observe and record the surface geology and geomorphology of the site 2.3 Observe and record hydrology of the site 2.4 Observe and record the major flora of the site 2.5 Observe and record evidence of site fauna 2.6 Observe and record infrastructure and other modifications to the site 2.7 Observe and record indicators of potential presence of cultural and indigenous heritage items 2.8 Check for evidence of illegal or inappropriate activities and record findings
3. Make an initial assessment of site condition	3.1 Use geomorphological and hydrological observations to describe surface condition and infer potential future impacts 3.2 Make inferences on apparent ecological health of the site to plan for an initial ecological study of the site 3.3 Determine the physical, chemical and biological parameters that would need to be measured and sampled during subsequent ecological appraisal of the site
4. Prepare for field study	4.1 Identify and describe the biological and chemical components of interest, sampling areas and field techniques to be used 4.2 Identify, obtain and check required equipment and materials required for field study 4.3 Securely stow all field equipment in vehicle to prevent damage in transit 4.4 Safely transport all field equipment to site and prepare it for use
5. Perform a basic	5.1 Perform ecological sampling for abundance and diversity parameters

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ecological field study of the site	using the general techniques of transects and quadrats 5.2 Record descriptions of the habitat structure 5.3 Perform sampling for simple population, demographic and age structure parameters 5.4 Perform simple sampling and measurements on abiotic components 5.5 Perform simple targeted species sampling 5.6 Comply with legislation, environmental management requirements and workplace procedures
6. Finalise field study	6.1 Store all samples and data safely according to procedures 6.2 Rehabilitate sampling sites to render them safe and minimise environmental impacts 6.3 Clean all equipment, containers, work area and vehicles according to workplace procedures 6.4 Pack and safely transport all samples, equipment and supplies back to home base 6.5 Organise dispatch of collected samples for subsequent analysis 6.6 Check serviceability of all equipment before storage
7. Process and present field data	7.1 Summarise field data using simple calculations, graphs, tables and maps 7.2 Write report that includes simple conclusions and interpretations based on raw or summarised data
8. Maintain a safe work environment	8.1 Maintain safety and use personal protective equipment (PPE) according to work, health and safety (WHS) procedures 8.2 Minimise the generation of waste 8.3 Collect and dispose of all hazardous wastes safely according to procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret complex workplace documents and legislative requirements

- Writing skills to record observations and write reports with simple conclusions
- Oral communication skills to confirm work requirements with colleagues and/or managers
- Numeracy skills to record, summarise and interpret field data and present data using graphs, tables and maps.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS024027 Participate in environmental field work

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- prepare for and conduct at least one site appraisal that involves:
 - initial survey
 - assessment of site condition
 - basic ecological field study
 - report with simple conclusions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- scientific terminology for environmental and ecological systems relevant to job role
- fundamental concepts and principles in chemistry, physics, geology and biology to support a scientific approach to basic field ecology, including:
 - structure of earth systems, including lithosphere, hydrosphere, atmosphere and biosphere (ecosphere)
 - geomorphology, climate and hydrology
 - energy and material flows and cycles, including biogeochemical cycles
- fundamentals of ecology, including:
 - ecosphere, biome and major ecosystem types
 - trophic structure of ecosystems, and hierarchies
 - organism, population, community, ecosystem hierarchy; habitat and biodiversity
 - abiotic and biotic components and their interrelationships and dependencies
 - ecological systems and dynamics; stability, succession and disruption
- specific legislation, policies and codes of practice related to ecological field activities
- ecological, chemical and physical field monitoring procedures relevant to job role
- procedures for maintaining, storing and transporting samples and specimens to ensure their wellbeing, viability and integrity
- common site hazards and control measures

- health, safety and environment requirements, including correct use of personal protective equipment (PPE) and field safety and survival principles.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - maps and photos of site/s
 - flora and fauna keys
 - site reports/history
 - environmental management plan and related procedures
- survey, monitoring and sampling equipment relevant to environmental management plan
- modelling of industry operating conditions, including:
 - access to site/s.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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