



Australian Government

Department of Education, Employment and Workplace Relations

RTD4507A Produce maps for land management purposes

Release: 1

RTD4507A Produce maps for land management purposes

Modification History

Not applicable.

Unit Descriptor

This competency standard covers the process of preparing maps by hand or using geographical information systems (GIS) for land management purposes. It requires the ability to obtain information for a specific land management purpose, assess data availability and quality, format and present data and incorporate data onto maps. Producing maps for land management purposes requires knowledge of land management processes, relevant legislative and regulatory requirements, mapping principles, and the use of mapping software and hardware.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Obtain information for a specific land management purpose	1.1 Information required to achieve result is defined and required data sets are correctly determined. 1.2 Information from stakeholders on land management and production systems is collected and presented consistent with the local area management strategy. 1.3 Information collected includes temporal and spatial data. 1.4 Information is reviewed for relevance and accuracy.
2 Assess data availability	2.1 Availability of required data sets is ascertained through research of internal and external sources. 2.2 Ownership of data is confirmed, and access and pricing determined. 2.3 Data is obtained in line with industry standards, statutory requirements and enterprise policy. 2.4 Where appropriate, procedures are developed to capture data.
3 Assess data quality	3.1 Data is assessed for integrity to determine suitability for task. 3.2 Disparities between data sets are investigated and resolved to ensure integrity of data used.
4 Format and present data	4.1 Compatible format for data is identified. 4.2 Relevant data elements are assembled. 4.3 Data format(s) are selected to meet user's requirements. 4.4 Information is presented to meet user requirements using suitable media in a tidy, informative and useable manner. 4.5 Information is presented in line with appropriate

enterprise and Australian standards.

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| 5 | Incorporate data onto map(s) | 5.1 | Information is transferred from various data sources onto map(s). |
| | | 5.2 | Maps are produced showing spatial and temporal data consistent with development and implementation of the land management strategy. |
| | | 5.3 | Maps are analysed for data to assist in development or implementation of land management plan. |
| 6 | Review customer satisfaction | 6.1 | Work is completed in line with enterprise quality requirements. |
| | | 6.2 | Feedback is sought from users regarding satisfaction with information and presentation. |
| | | 6.3 | Any areas of dissatisfaction are resolved in line with enterprise policy and procedures. |
| | | 6.4 | Customer feedback is analysed and used as a quality improvement tool. |

Required Skills and Knowledge

Not applicable.

Evidence Guide

What evidence is required to demonstrate competence for this standard as a whole?

Competence in producing maps for land management purposes requires evidence that maps are produced that meet the needs of users, that timelines are achieved and that the integrity of data is maintained. The skills and knowledge required to produce maps for land management purposes must be **transferable** to a range of work environments and contexts. For example, this could include a range of purposes for preparing a map, different locations, client/user groups and formats for presentation.

What specific knowledge is needed to achieve the performance criteria?

Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts and to deal with unplanned events. The knowledge requirements for this unit are listed below:

Land management processes relevant to map being prepared.

Relevant Commonwealth, State and Local legislative and regulatory requirements.

Mapping principles including layout, legends, scale, media, printing and presentation styles.

Use of software and hardware such as GIS, CAD, desktop publishing, desktop mapping, multimedia, graphic animation, plotters and printers.

What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

Obtain information for a specific land management purpose.

Assess data availability.

Assess data quality.

Format and present data.

Incorporate data onto maps.

Review customer satisfaction.

What processes should be applied to this competency standard?

There are a number of processes that are learnt throughout work and life, which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the **key competencies**, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

1. How can **communication of ideas and information** (2) be applied?

Establishing and maintaining consultation and liaison processes with local landholders and stakeholders.

2. How can **information be collected, analysed and organised** (2)?

Collecting and analysing local data relating to pest distribution.

3. How are **activities planned and organised** (3)?

Planning monitoring activities.

4. How can **team work** (2) be applied?

Working with local landholders.

5. How can the use of **mathematical ideas and techniques** (3) be applied?

Collating and determining significance of data.

6. How can **problem-solving skills** (2) be applied?

Analysing pest data and defining the scope of the problem.

7. How can the **use of technology** (2) be applied?

Collating data, documenting findings and developing the report.

Are there other competency standards that could be assessed with this one?

This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.

For information about **assessing this competency standard for consistent performance** and **where and how it may be assessed**, refer to the Assessment Guidelines for this Training Package.

Range Statement

Range of Variables

The Range of Variables defines the different contexts, work environments and parameters governing the performance of this unit of competency. The variables chosen in training and assessment will need to reflect local industry and regional contexts

Which relevant data may be included in this standard?	Reports of land management problems, salinity readings, pest infestation from stakeholders, land use maps, land title maps, maps showing topography, soil type or other factors relating to likelihood of pest infestation and output from systematic monitoring program.
Who might other stakeholders be?	Land managers, recreational land users, land management bodies, regulatory authorities and landcare committees.
What temporal and spatial data may be included?	Pest distribution and intensity of infestation
Which management units may be included?	Measures of potential or actual impact on biological values, agricultural values, environmental values, recreational and social values and public health values.
From where may data be obtained?	Direct observation, historical records, GIS, satellite information and air-flown MSS.
Which types of maps may be included?	Transparency overlays for air photographs or printed maps and thematic maps produced on Geographic Information Systems.
What data is relevant to this competency standard?	Graphical, spatial, textual, hard copy and paper documents (historical records, work, registers, plans, maps), computer records using applications programs (data bases, spreadsheets, accounting packages), relating to physical or virtual features, including demographic data, census data, property ownership, property boundaries, zonings, organisations, property classifications, utilities and services.
What features may be included in the end result specification ?	Graph, map, table, equations and parameters.
What external sources of data sets may be	Water authority, telecommunications

relevant to this competency standard?	industry, gas authority, electricity authority, land titles office, Valuer General, private industry, land information, council records, surveys and ortho photography.
What internal sources of data sets may be relevant to this competency standard?	Old plans, books, surveys, aerial photographs and records owned by the enterprise.
What may be included as industry standards ?	Competency standards, protocols, de facto standards, confidentiality and privacy.
How can the integrity of data be measured?	Accuracy, quality (may be affected by age/condition of hard copy documents), currency, completeness, resolution, confidence limits and scale.
What procedures for manipulation of data sets may be included?	Command lines, SQL or other generic query language, scripts and programming language.
What data management tool, technique and procedures may be relevant to this competency standard?	RDBMS, GDMS, statistical packages, digital image processing packages, map algebra, geographical analysis techniques, ecological/economic models and survey computations.
For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.	

Unit Sector(s)

Not applicable.