



Australian Government

FWPFGM4209 Interpret and use aerial photographs for forest management

Release: 1

FWPFGM4209 Interpret and use aerial photographs for forest management

Modification History

Release	Comment
1	Replaces equivalent unit FPIFGM4209B Interpret and use aerial photographs for forest management, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.

Application

This unit of competency describes the outcomes required to use aerial photographs as a tool to assist with management of a forest area.

The unit applies to job roles including Arboriculture Supervisor, Farm Forestry Supervisor, Forestry Supervisor, Forestry Operations Supervisor, Harvesting Supervisor, Harvesting Team Leader, Propagation and Stand Health Supervisor and Tree Farm Supervisor.

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Growing and Management

Elements and Performance Criteria

<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Plan to review aerial photographs	1.1 Review forest management objectives and requirements for aerial photographs. 1.2 Obtain available types of aerial photographs for required locations and application.

	1.3 Assess aerial photographs for suitability to meet forest management objectives and applications.
2. Interpret forest management information from aerial photographs	2.1 Position aerial photographs for viewing and calculate scale. 2.2 Identify key aspects from aerial photographs and document these. 2.3 Interpret and apply photomapping standards for consistent data-collection. 2.4 Identify and interpret forest attributes and required forest management information from aerial photographs. 2.5 Map aerial photographs according to organisational procedures. Record and report on analysis of aerial photographs.
3. Update maps and plans from aerial photographs	3.1 Assess maps and plans and update as required, using established symbols, colours and conventions. 3.2 Use tools to transfer data in line with manufacturer recommendations. 3.3 Complete documentation and store according to organisational procedures.

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:

- Calculate scale in photographs

Range of Conditions

Not Applicable

Unit Mapping Information

FPIFGM4209B Interpret and use aerial photographs for forest management

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFGM4209 Interpret and use aerial photographs for forest management

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1	Replaces equivalent unit FPIFGM4209B Interpret and use aerial photographs for forest management, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format. Assessment requirements now specify the performance and knowledge evidence, as well as assessment conditions for this unit of competency. These sections simplify and replace components used in the previous unit format, including 'Required Skills and Knowledge, Evidence Guide and Range Statement.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- maintain relevant equipment and materials
- interpret forest area detail from a map
- identify disease symptoms in trees and forest areas using aerial photographs
- identify vegetation characteristics on an aerial photograph
- locate required photographs from appropriate records (flight plan map)
- report and maintain information on details of forest attributes and topographic information
- interpret charts, tables, maps and flight plans
- identify and interpret title panel information on an aerial photograph
- calculate scale of an aerial photograph, scale distances for a map, and calculate and manipulate height and area information
- identify map type and map features, including topographic map features.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- typical scales used on maps and plans, and procedures for their use and manipulation
- key aspects of aerial photography including
 - determining north and flight line path
 - mapsheet

- flight orientation
- photography type
- focal length
- film number
- run number
- frame number
- height above sea level
- photography date
- forest types and structures and type of information including
 - area
 - height
 - species
 - crown cover
 - crown form
 - disturbance
 - aspects to be considered as part of the environmental management process.
- applications relevant to using aerial photography including
 - road or plantation design
 - field navigation and interpretation of forest types
 - forest structure
 - environmental processes, including salinity discharge
 - ecological vegetation communities, including coastal heathlands
 - land capability classes
 - remnant vegetation (roadside vegetation)
 - diseased vegetation classes, including *Eucalyptus* dieback from *Phytophthora*.
- range of photographic film, and photo types including
 - project, mapsheet, spot and stratigraphic:
 - of photographic classes, including terrestrial, vertical and oblique
 - of aerial photographic film, including black and white, black and white infra-red, colour, colour infra-red.
- requirements for aerial photography including
 - scale
 - flying height and focal length
 - required percent endlap and sidelap
 - orientation
 - location and number of flight lines required
 - total number of photographs required
 - allowable drift, crab, tilt and image motion
 - camera characteristics, including format, lens quality, shutter speed and aperture, film and filter characteristics

- acceptable seasons of the year, time of day, allowable present cloud cover and hot spots
- field observations including
 - accuracy of all mapped topographic information
 - measure of accuracy of associated base topographic or digital base map
 - spatial accuracy of strata
 - measure of accuracy of content of strata
- transferring data including
 - rescaling from one source to another
 - transferring from map to map
 - transferring from photograph to map or diapositive to map
- care and storage of aerial photographs
- procedures for recording and reporting workplace information
- maps and plans: cadastral plans; topographic maps; locality plans; site plans and maps and plans generated through the use of geographic information systems (GIS)
- representation of topographic features on maps and plans including
 - roads and tracks
 - watercourses
 - ridges and spurs
 - saddles
 - peaks and knobs
- technology and equipment used to interpret aerial photographs, and procedures for its maintenance including
 - electronic data transfer technology
 - manual light tables
 - mechanical light tables, including Omnigraph, Kartoflex, Zoom Transfer Scope, Artiscopes and Sketchmaster.

Assessment Conditions

The following resources must be made available:

- organisational policies and procedures relevant to interpreting and using aerial photographs for forest management
- a selection of aerial photographs for forest management

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and

- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

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