Australian Government

Department of Education, Employment and Workplace Relations

# FPICOT3255 Apply silvicultural principles

**Release: 1**

INDUSTRY
SKILLS
COUNCILS
Creating Australia's Future

## FPICOT3255 Apply silviculture principles

## Modification History

| Version | Detail |
|---------|--------|
| 1 | New unit |

## Unit Descriptor

This unit describes the outcomes required to access, interpret and apply sustainable silvicultural principles to native forests.

## Application of the Unit

This unit involves following legislation, an appropriate management regime, and industry-acceptable criteria to identify target species, and the selection and retention of merchantable trees during native forest operations.

## Licensing/Regulatory Information

General workplace legislative and regulatory requirements apply to this unit.

## Pre-Requisites

Not applicable

## Employability Skills Information

This unit contains employability skills.

# Elements and Performance Criteria Pre-Content

| ELEMENT | PERFORMANCE CRITERIA |
|---------|----------------------|
| Elements describe the essential outcomes of a unit of competency. | Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the Required Skills and Knowledge section and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide. |

# Elements and Performance Criteria

| 1 Access and interpret silvicultural principles in legislation and organisational procedures | 1.1 Identify and review information on *occupational health and safety* (OHS), environmental, *regulatory requirements* and *organisational requirements* relevant to sustainable native forest operations for *various forest types* |
|---|---|
| | 1.2 Identify and interpret key principles and requirements that apply to sustainable *silvicultural methods and techniques* |
| | 1.3 Identify target species in line with approved forest operational plan and organisational procedures |
| 2 Assess forest condition | 2.1 Review work order and identify and clarify sustainable native forest requirements with *appropriate personnel* |
| | 2.2 Select and use appropriate techniques and tools to measure tree and stand height |
| | 2.3 Calculate basal area and assess tree dominance and crown vigour using an approved industry process |
| | 2.4 Determine and record standing tree defects |
| | 2.5 Identify and mark merchantable trees in line with organisational procedures |
| 3 Implement silvicultural practices | 3.1 Calculate and apply tree retention and stocking criteria according to legislative requirements and operational plan |
| | 3.2 Select appropriate silvicultural methods and techniques to meet environmental and production requirements |
| | 3.3 Identify situations requiring specialist advice and seek assistance in line with organisational requirements |
| 4 Monitor work practices to ensure compliance with legislation | 4.1 Monitor and adjust work practices to meet *changing conditions* |
| | 4.2 Monitor and maintain sustainable native forest practices in line with relevant legislation, codes of practice and organisational requirements |
| | 4.3 Identify and report non-compliant work practices to appropriate personnel |
| | 4.4 Identify improved work practices and recommend improvements in line with organisational continuous improvement procedures |
| 5 Maintain records | 5.1 Revise and update forest operational plan and organisational procedures as required |
| | 5.2 Complete relevant *documentation and reporting* processes according to relevant legislation, codes and organisational |

requirements

# Required Skills and Knowledge

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit.

**Required skills:**

- Literacy skills to:
  - locate, read, interpret and convey information in written, diagrammatic and/or verbal form
  - complete and maintain workplace documentation and reports
- Technical skills to use and maintain relevant tools, machinery and equipment
- Communication skills and interpersonal techniques to interact appropriately with colleagues and others in the workplace
- Numeracy skills to measure, calculate and estimate material quantities and time required to complete a task
- Problem-solving skills to:
  - identify problems and equipment faults and demonstrate appropriate response procedures
  - review and interpret work requirements

**Required knowledge:**

- Federal, state and territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of practising sustainable silviculture in a native forest
- Environmental protection requirements and minimal impact strategies to support the implementation of silviculture practices
- Organisational and site standards, requirements, policies and procedures relevant to environmental care procedures
- Environmental policies and practices, risks and hazard identification relevant to silviculture
- Growth habits of specific species under a range of soil and environmental conditions
- Regeneration requirements of plant species being managed
- Soil conservation and erosion mitigation techniques and their advantages and disadvantages for specific sites and habitats
- Communication procedures and protocols
- Problem identification and common fault-finding techniques
- Procedures for recording and reporting workplace data and information
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# Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

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| **Overview of assessment** | A person who demonstrates competency in this unit must be able to provide evidence that they can apply and monitor sustainable silvicultural principles in a native forest |
| **Critical aspects for assessment and evidence required to demonstrate competency in this unit** | The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements of this unit and include demonstration of:<br><br>• following applicable federal, state or territory, and local government regulatory, environmental and OHS requirements, codes of practice and industry standards relevant to applying sustainable silvicultural principles<br>• following organisational policies and procedures relevant to implementing and monitoring sustainable silvicultural principles<br>• effective communication and safe work practices<br>• implementing best practice and industry-acceptable silvicultural practices<br>• monitoring and maintaining sustainable silvicultural procedures<br>• identifying and reporting non-compliant work practices<br>• completing relevant workplace documentation and reporting processes |
| **Context of and specific resources for assessment** | • Competency is to be assessed in the workplace or a realistically simulated workplace<br>• Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints<br>• Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context<br>• Assessment is to follow relevant regulatory requirements and Australian standards<br>• The following resources should be made available:<br>  • workplace location or simulated workplace<br>  • materials and equipment relevant to undertaking work |

applicable to this unit

- specifications and work instructions

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| **Method of assessment** | • Assessment methods must satisfy the endorsed Assessment Guidelines of the FPI11 Training Package |
| | • Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge |
| | • Assessment must be by direct observation of tasks, with questioning on required knowledge and it must also reinforce the integration of employability skills |
| | • Assessment methods must confirm the ability to access, interpret and apply the required knowledge |
| | • Assessment may be applied under project-related conditions (real or simulated) and require evidence of process |
| | • Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances |
| | • Assessment may be in conjunction with assessment of other units of competency |
| | • The assessment environment should not disadvantage the candidate |
| | • Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English |
| | • Where the participant has a disability, reasonable adjustment may be applied during assessment |
| | • Language and literacy demands of the assessment task should not be higher than those of the work role |

# Range Statement

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| **OHS requirements:** | • are to be in line with applicable federal, state or territory legislation and regulations, and organisational safety policies and procedures, and may include:<br>  • safety management systems<br>  • safe work procedures<br>  • site safety plans and emergency evacuations<br>  • the use of personal protective equipment (PPE) and clothing<br>  • safety equipment<br>  • first aid equipment<br>  • firefighting equipment<br>  • hazard and risk control<br>  • fatigue management<br>  • elimination of hazardous materials and substances<br>  • safe forest practices, including required actions relating to forest fire<br>  • techniques for manual handling, including shifting, lifting and carrying<br>  • machine guarding |
| **Regulatory requirements**: | • are to be in line with applicable legislation from all levels of government that affect sustainable silvicultural operations and may include:<br>  • environment protection and biodiversity conservation<br>  • silviculture codes and guidelines<br>  • ecological sustainability<br>  • environmental planning and assessment<br>  • threatened species conservation<br>  • critical habitat register<br>  • native vegetation<br>  • federal, state or territory forestry legislation and local government regulations<br>  • native forest legislation |

- forest operational plans
- specific site environmental management plans
- relevant codes of practice, including Safe Work Australia code of practice 'Managing Risks in Forest Operations'
- water catchment management
- surface and ground water conservation requirements
- relevant Australian and industry standards
- hazard reduction policy and procedures
- reforestation codes
- fisheries and fish passage
- National Parks and Wildlife legislation
- good neighbour policies
- duty of care
- heritage and traditional landowner requirements

| | |
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| **Organisational requirements** may include: | <ul><li>legal compliance documentation</li><li>recording and reporting</li><li>environmental management requirements, including waste minimisation and disposal, recycling and re-use guidelines</li><li>operational plan, including organisation and site guidelines</li></ul> |
| **Various forest types** may include: | <ul><li>coast and tableland native forests</li><li>inland native forests and woodlands</li><li>River Red Gum and river flood plain native forests</li><li>tropical forests</li><li>exotic plantations</li><li>native plantations</li></ul> |
| **Silvicultural methods and techniques** may include: | <ul><li>slash or harvesting residue burning</li><li>scarification</li></ul> |

- enhancement planting or supplementary planting
- fertilisation
- thinning
- pruning
- waste thinning and non-commercial thinning
- commercial thinning
- harvesting
- gapping

**Appropriate personnel** may include:

- colleague
- leading hand
- bush boss
- foreman
- supervisor
- manager
- safety officer
- environmental officer

**Changing conditions**:

- are those conditions that can alter or change and therefore require different work strategies or practices to protect the native forest environment from an increased risk of harm and may include:
  - recently declared or potentially rare and endangered species identified
  - unexpected flora or fauna encountered
  - new or potential habitat
  - ecology or ecosystem changes
  - tree size, condition and species
  - undergrowth and ground cover
  - canopy
  - environmental features
  - operational conditions
  - ground conditions
  - weather conditions
  - wind
  - dust
  - smoke
  - fire

- cultural sensitivity
- forest type
- land tenure
- code of practice
- quality of roads and tracks

| **Documentation and reporting** may include: | <ul><li>specific organisational records, reports and forms</li><li>update of forest operational plan</li><li>legislative compliance</li><li>non-compliance reports</li><li>operational inspection reports</li><li>environmental audits</li><li>environmental incident or accident reports</li><li>reports on any threatened or endangered species of plant, animal or other organisms</li><li>presence of unexpected flora and fauna</li><li>information on habitats or landscape features</li><li>exclusion zone amendments</li><li>notifiable species list</li><li>risk and hazard or potential hazard control measure reports</li><li>timber felling and extraction records</li><li>certification requirements</li><li>incident or accident reports</li><li>landing and snig track design</li><li>road and crossing design</li><li>on-site mill waste disposal</li><li>drainage line and buffer zone specifications</li><li>development operations</li><li>heritage and traditional landowner reports</li><li>work practice improvement recommendations, which may be manual or computer-based</li></ul> |

# Unit Sector(s)

Common Technical

# Custom Content Section

Not applicable.

Forestworks Learning and Skill Development