

**Modification history**

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

FWPCOT3XXX	Apply sustainable silviculture methods and techniques
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to assess forest condition and select and apply sustainable silviculture methods and techniques to meet environmental and production requirements in plantation and forest settings.</p> <p>The unit applies to individuals who are involved in applying sustainable silviculture methods and techniques as part of forestry operations.</p> <p>All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Forest Growing and Management (FGM) Harvesting and Haulage (HAR)

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. Prepare for silvicultural work	1.1 Determine job requirements from work order or instruction, and where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements for the task according to workplace procedures 1.3 Identify, assess and take actions to mitigate risks and hazards associated with silviculture operations 1.4 Identify emergency and evacuation procedures to follow in the event of an emergency 1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace 1.6 Select tools, equipment and materials and check for serviceability according to workplace procedures 1.7 Review regulatory requirements and sustainable forestry principles that inform the selection of silviculture methods and techniques 1.8 Identify target species according to approved forest operational plan and workplace procedures
2. Assess trees condition	2.1 Select and use appropriate techniques and tools to measure tree and stand height 2.2 Calculate basal area and assess tree dominance and crown vigour using an approved industry process 2.3 Determine and record standing tree defects 2.4 Identify and mark merchantable trees according to workplace procedures

<b>Elements</b>	<b>Performance Criteria</b>
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Apply silviculture methods and techniques	3.1 Calculate and apply tree retention and stocking criteria according to operational plan 3.2 Select sustainable silviculture methods and techniques to meet environmental and production requirements 3.3 Identify situations requiring specialist advice and seek assistance as required 3.4 Apply selected sustainable silviculture methods and techniques according to workplace procedures
4. Monitor silviculture work practices	4.1 Monitor and maintain sustainable silviculture related work practices 4.2 Identify and respond to changed conditions in the operational area by adjusting silviculture related work practices 4.3 Identify and report non-compliant work practices to appropriate personnel 4.4 Identify improved work practices and recommend improvements to silviculture operations
5. Maintain records	5.1 Revise and update forest operational plan and workplace procedures as required 5.2 Record and report silviculture activities to appropriate personnel.

<b>Foundation Skills</b>	
<i>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.</i>	
<b>Skill</b>	<b>Description</b>
Reading	<ul style="list-style-type: none"> <li>Extract information from complex texts on sustainable silviculture principles, methods and techniques</li> </ul>
Writing	<ul style="list-style-type: none"> <li>Complete workplace forms using required format, industry terminology and structure</li> </ul>
Oral Communication	<ul style="list-style-type: none"> <li>Employ active listening, questioning and effective verbal and non-verbal communication to communicate with crew members about compliant and non-compliant work practices</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Apply numerical skills to take measurements and calculate and interpret statistical data on tree condition</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
FWPCOT3XXX Apply silvicultural principles	FWPCOT3255 Apply silvicultural principles	Reworded title  Updated Application Statement  Reworded Elements and Performance Criteria  Minor changes to Performance Evidence  Updated Knowledge Evidence  Updated Foundation Skills and Assessment Conditions	Equivalent

<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47">https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47</a>
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TITLE	Assessment requirements for FWPCOT3XXX Apply sustainable silviculture methods and techniques
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that, on two different occasions, the individual has:</p> <ul style="list-style-type: none"> <li>assessed trees condition</li> <li>selected and applied sustainable silviculture methods or techniques to meet production and environmental requirements drawn from the following list: <ul style="list-style-type: none"> <li>slash or harvesting residue burning</li> <li>scarification</li> <li>enhancement planting or supplementary planting</li> <li>fertilisation</li> <li>thinning</li> <li>pruning</li> <li>waste thinning and non-commercial thinning</li> <li>commercial thinning</li> <li>harvesting</li> <li>gapping</li> </ul> </li> <li>monitored the implementation of the selected sustainable silviculture methods or techniques</li> <li>identified and reported non-compliant work practices</li> <li>completed relevant workplace reports.</li> </ul>	
<b>Knowledge Evidence</b>	
<p>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:</p> <ul style="list-style-type: none"> <li>principles of sustainable forestry <ul style="list-style-type: none"> <li>conservation of biological diversity</li> <li>maintenance of productive capacity of forest ecosystems</li> <li>maintenance of ecosystem health and vitality</li> <li>conservation and maintenance of soil and water resources</li> <li>maintenance of forest contribution to global carbon cycles</li> <li>maintenance and enhancement of long-term multiple socioeconomic benefits to meet the needs</li> <li>legal, institutional and economic framework for forest conservation and sustainable management</li> </ul> </li> <li>legislative and regulatory requirements relevant to silviculture operations in plantation and native forest settings</li> <li>environmental protection requirements relevant to silviculture operations</li> <li>sustainable silviculture methods and techniques: <ul style="list-style-type: none"> <li>slash or harvesting residue burning</li> <li>scarification</li> <li>enhancement planting or supplementary planting</li> <li>fertilisation</li> <li>thinning</li> <li>pruning</li> <li>waste thinning and non-commercial thinning</li> <li>commercial thinning</li> <li>harvesting</li> <li>gapping</li> </ul> </li> <li>growth habits of specific species under varying soil and environmental conditions</li> <li>tree retention</li> <li>stocking criteria</li> <li>regeneration requirements of different plantation and native tree species</li> <li>soil conservation and erosion mitigation techniques and their advantages and disadvantages for specific sites and habitats</li> </ul>	

<b>Knowledge Evidence</b>	
<ul style="list-style-type: none"> <li>• changes in forest or plantation conditions that may require adjustments to silviculture work practices to protect environment:             <ul style="list-style-type: none"> <li>• recently declared or potentially rare and endangered species identified</li> <li>• unexpected flora or fauna encountered</li> <li>• new or potential habitat</li> <li>• ecology or ecosystem changes</li> <li>• undergrowth and ground cover</li> <li>• canopy</li> <li>• environmental features</li> <li>• operational conditions</li> <li>• ground conditions</li> <li>• weather conditions</li> <li>• wind</li> <li>• dust</li> <li>• smoke</li> <li>• fire</li> <li>• cultural sensitivity</li> <li>• forest type</li> <li>• land tenure</li> <li>• quality of roads and tracks</li> </ul> </li> <li>• effective communication procedures and protocols</li> <li>• procedures for recording and reporting workplace activity.</li> </ul>	
<b>Assessment Conditions</b>	
<p>Assessment of the skills in this unit of competency must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>• physical conditions:             <ul style="list-style-type: none"> <li>• skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions</li> </ul> </li> <li>• resources, equipment and materials:             <ul style="list-style-type: none"> <li>• native forest or plantation</li> <li>• materials and equipment required for applying different silviculture methods and techniques</li> <li>• personal protective equipment</li> </ul> </li> <li>• specifications:             <ul style="list-style-type: none"> <li>• access to workplace health, safety and environmental policies and procedures applicable to the use of sustainable silviculture methods and techniques</li> <li>• workplace procedures for sustainable silviculture methods and techniques.</li> </ul> </li> </ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
<b>Links</b>	<p>Companion Volumes, including Implementation Guides, are available at VETNet:  <a href="https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47">https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47</a></p>