

<b>Title</b>	<b>Demonstrate knowledge of and calculate the daily costs and production targets in forestry operations</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	<p>This unit standard is for crew managers who use costs and production information to make day to day decisions in a forestry operation.</p> <p>People credited with this unit standard are able to: define forestry daily costs and production targets; calculate the daily cost of a forestry operation; explain and calculate the daily production target of a forestry operation and causes of low productivity; and calculate a unit rate from the daily costing and daily production targets.</p>
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<b>Classification</b>	Forestry > Forest Operations Management
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation relevant to this unit standard includes the Health and Safety at Work (HSW) Act 2015; the Resource Management (National Environmental Standards for Plantation Forestry) Amendment Regulations 2018; and any subsequent amendments.
- 2 References  
*Approved Code of Practice (ACOP) for Safety and Health in Forestry Operations*, December 2012, available from <https://worksafe.govt.nz/>.  
 New Zealand Forest Owners Association, *Forest Practice Guides* (2019), and any subsequent amendments, available from <https://www.nzfoa.org.nz>.
- 3 The reference texts for this unit standard are:  
 Colley, M. *Forestry handbook / New Zealand Institute of Forestry Inc.* (4th ed) (2005), Christchurch.  
 Blackburne, M, Future Forest Research in association with Forest Industry Contractors Association, *Business Management for Logging* (2nd ed) (2009), Rotorua 3040.
- 4 Definitions  
*Accepted industry practice* refers to approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.

*Worksite procedures* refer to documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, quality assurance procedures, housekeeping standards, procedures to comply with legislative and local body requirements.

#### 5 Assessment information

All activities and evidence must meet worksite procedures, accepted industry practice and be carried out in accordance with the reference texts.

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## Outcomes and performance criteria

### Outcome 1

Define forestry daily costs and production targets.

#### Performance criteria

1.1 Terminology used in forestry daily costing is defined.

Range terminology includes – fixed cost, variable cost, capital cost, depreciation, return on investment, work day rate, profit, job cost, unit rate.

1.2 Terminology used in forestry production targets is defined.

Range terminology includes – production targets, tendering, target setting, incentive payment schemes, production target adjustments.

### Outcome 2

Calculate the daily cost of a forestry operation.

#### Performance criteria

2.1 Daily costing components of a forestry operation are identified.

Range silviculture operation, harvesting operation.

2.2 Daily cost of a forestry operation is calculated.

Range may include but is not limited to – machinery costs, labour, chainsaws, vehicles, consumables, operating costs, overheads.

2.3 An allowance for profit is applied to calculate the daily cost.

**Outcome 3**

Explain and calculate the daily production target of a forestry operation and causes of low productivity.

**Performance criteria**

- 3.1 Method of calculating daily production targets is defined.
- 3.2 Daily production targets are calculated for forestry operations from information gathered from field assessment.  
  
Range calculations may include but are not limited to – piece size, average haul distance, machinery payloads, personnel.
- 3.3 Causes of low productivity of daily production targets in forestry operations are explained.  
  
Range causes include – access to block, topography, poor planning, supervision, weather, equipment, operator experience, hindrances, branch sizes, scrub.
- 3.4 The effect of operational variables on daily production targets is calculated.  
  
Range operational variable includes but are not limited to – machinery breakdown, manning levels, haul distance increases, weather, access to block, machinery removed, poor planning; evidence of six is required.

**Outcome 4**

Calculate a unit rate from the daily costing and daily production targets.

**Performance criteria**

- 4.1 A unit rate from the daily cost and projected daily production target are calculated.
- 4.2 The effect of changes to inputs to the daily costings is described and their impact on the daily cost is calculated.  
  
Range changes includes – hours worked per day, wages cost, absenteeism, machinery breakdowns, vehicle breakdowns.
- 4.3 New daily production target is applied to the recalculated daily costing.

<b>Planned review date</b>	31 December 2028
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	15 September 2011	31 December 2017
Review	2	10 December 2015	N/A
Review	3	25 June 2020	N/A
Rollover	4	26 April 2024	N/A

**Consent and Moderation Requirements (CMR) reference**

0173

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact Muka Tangata - People, Food and Fibre Workforce Development Council [qualifications@mukatangata.nz](mailto:qualifications@mukatangata.nz) if you wish to suggest changes to the content of this unit standard.