

<b>Title</b>	<b>Establish and measure sample plots for forest operations</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	People credited with this unit standard are able to: explain plot sampling for forest operations; prepare to establish and measure sample plots for forest operations; and establish and measure sample plots for forest operations.
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<b>Classification</b>	Forestry > Forest Mensuration
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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 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.
- 4 Assessment information  
 This unit standard must be assessed on-job.  
 All activities and evidence must meet worksite procedures and accepted industry practice.

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## Outcomes and performance criteria

### Outcome 1

Explain plot sampling for forest operations.

#### Performance criteria

- 1.1 The reasons for sampling as opposed to 100% measurement are explained in terms of cost, time and practicality.
- 1.2 The effects of sampling intensity in terms of accuracy of data is explained.
- Range stocking, variability and/or quality of the stand, plot size, frequency.
- 1.3 Types of sample plots used in forest management are described.
- Range pre-assessment, post assessment, quality assurance, stocking, permanent.
- 1.4 Sample plot information is explained in terms of uses for different users.
- Range users – forest manager, contractor, harvest planner, researcher.
- 1.5 Terms relevant to the plot sampling are explained.
- Range tree selection criteria, quality features, quantitative features.

### Outcome 2

Prepare to establish and measure sample plots for forest operations.

#### Performance criteria

- 2.1 The hazards and associated risks specific to plotting are identified and control measures are established.
- Range underfoot, overhead, hindrance, weather, other operations.
- 2.2 Plot configuration is determined from plans in accordance with worksite procedures.
- Range circular, square, transect, diamond, bounded, unbounded, double sampling.
- 2.3 Planning considerations are factored in before establishing plots in the field.
- Range random and unbiased selection of plot locations, management requirements for information to be collected, access to areas, resources required, plot type, plot size, relocatable.

- 2.4 Maps are interpreted prior to field work for locations, scale distances and bearings in relation to identifiable points on the ground.
- 2.5 Selection and marking of plot locations on maps prior to visiting the stand is explained.

Range random, unbiased, grid, computer generated.

### Outcome 3

Establish and measure sample plots for forest operations.

### Performance criteria

- 3.1 Mensuration equipment is calibrated.
- 3.2 Sample plots are located.
- Range evidence of three plots is required.
- 3.3 The selected sample plots are established and measured in accordance with the plotting prescription.
- Range measured distances, plot areas, slope corrections, peripheral trees, prescribed parameters; evidence of two is required.

<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	28 January 1995	31 December 2012
Review	2	8 November 1996	31 December 2012
Revision	3	19 June 1998	31 December 2012
Review	4	5 December 2000	31 December 2012
Review	5	17 July 2009	31 December 2014
Revision	6	15 September 2011	31 December 2017
Review	7	10 December 2015	N/A
Review	8	25 June 2020	N/A
Rollover	9	26 April 2024	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0173
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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**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.