

<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 2024
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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

<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 Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.