
FOREST MENSURATION
Establish and measure sample plots for
forest operations

level:	4
credit:	6
final date for comment:	December 2004
expiry date:	December 2005
sub-field:	Forestry
purpose:	People credited with this unit standard are able to: explain the purposes of establishing sample plots for forest operations; describe the sample plot type to be used for silviculture pre-assessment or quality assurance; and establish and measure sample plots for the control of forest operations.
entry information:	Recommended: prior credit for Unit 1221, <i>Demonstrate knowledge of job prescriptions for forest operations</i> ; and Unit 1224, <i>Use prescription maps for forest operations</i> ; or demonstrate equivalent knowledge and skills.
accreditation option:	Evaluation of documentation and visit by NZQA and industry.
moderation option:	A centrally established and directed national moderation system has been set up by Forest Industries Training.

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special notes:

- 1 Reference in this unit standard to the *Code of Practice* refers to the *Approved Code of Practice for Safety and Health in Forest Operations* published by the Occupational Safety and Health Service, Department of Labour, Wellington (1999) and any subsequent amendments.

- 2 Reference to *industry best practice* in this unit standard refers to minimum standards for forest operations as described in: *Forest Industry Best Practice Guidelines*, published by Forest Industries Training (2000) and available from Forest Industries Training, PO Box 6216, Rotorua; and the environmental standards contained in the *Forest Industry Code of Practice* published by the Logging Industry Research Organisation (LIRO) (1993) and available from LIRO, Private Bag 3020, Rotorua. The purpose of these documents is to plan, manage and carry out forestry operations in a manner which is sustainable, environmentally and socially acceptable, physically achievable, and economically viable.

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Elements and Performance Criteria

element 1

Explain the purposes of establishing sample plots for forest operations.

performance criteria

- 1.1 The reasons for sampling as opposed to 100% measurement are explained.
Range: cost, time, practicality.
- 1.2 Types of sample plots used in forest management are described.
Range: pre-assessment, post assessment, quality assurance, stocking.
- 1.3 The purposes of sample plots are explained.
Range: determination of silvicultural treatment, prescription preparation, target calculation, price setting, production measurement, compartment record information, growth prediction, quality assurance.
- 1.4 Users and processors of sample plot information are stated.
Range: forest managers, contractors.

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element 2

Describe the sample plot type to be used for silvicultural pre-assessment or quality assurance.

performance criteria

- 2.1 Plot configurations suitable for each operation are described.
- Range: circular, square, transect, diamond, bounded, unbounded, double sampling.
- 2.2 Effect of sampling intensity on validity of data is explained.
- Range: stocking, variability and/or quality of the stand, plot size, frequency.
- 2.3 Planning considerations before establishing plots in the field are explained.
- 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 How and why plot locations are selected and marked on maps prior to visiting the stand is explained according to industry best practice.
- Range: random, unbiased, grid, computer generated.

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element 3

Establish and measure sample plots for the control of forest operations.

performance criteria

- 3.1 Hazards associated with plotting are identified in terms of underfoot and overhead hazards, hindrance, weather, and other forest operations.
- 3.2 Calibration of mensuration equipment for the operation is demonstrated in accordance with industry best practice.
- 3.3 Selected plots are located in the field using maps and mensuration equipment.
- Range: six plots in three compartments.
- 3.4 Sample plots are established and measured in the field using mensuration equipment in accordance with plotting prescription.
- Range: measured distances, plot areas, slope corrections, peripheral trees, prescribed parameters.
- 3.5 Terms relevant to the plot type being assessed are explained.
- Range: tree selection criteria, quality features, quantitative features.

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Comments to:

Forest Industries Training
Unit Standard Revision
PO Box 160
WELLINGTON

by December 2004.

Please Note: Providers must be accredited by the Qualifications Authority before they can offer programmes of education and training assessed against unit standards.

Accredited providers assessing against unit standards must engage with the moderation system that applies to those unit standards. [Please refer to relevant Plan ref: 0173]