

Establish and measure permanent sample plots for forest management and research

Level 4

Credits 5

Purpose People credited with this unit standard are able to: explain the purpose of establishing permanent sample plots in a forest stand; prepare to establish permanent sample plots in a forest stand; establish and measure permanent sample plots in a forest stand; and measure and record tree parameters in a permanent sample plot.

Subfield Forestry

Domain Forest Mensuration

Status Registered

Status date 17 July 2009

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Entry information Recommended: Unit 1221, *Explain and interpret job prescriptions for forest operations*; and Unit 1224, *Use prescription maps for forest operations*; or demonstrate equivalent knowledge and skills.

Accreditation Evaluation of documentation and visit by NZQA and industry.

Standard setting body (SSB) Forest Industries Training and Education Council (FITEC)

Accreditation and Moderation Action Plan (AMAP) reference 0173

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

Special notes

- 1 *Field Guide* refers to the *Field Guide for Sample Plots in New Zealand Forests*, (Ellis and Hayes), Forest Research Institute Bulletin No. 186 (1997). Available from Scion, Private Bag 3020, Rotorua 3046.

2 Definition

Worksite policies and procedures refer to documented policies and to documented or other directions provided to staff. These include, but are not limited to, ways of managing health and safety, environmental considerations, quality, and production, and must conform to legislation. Examples include standard operating procedures, company health and safety plans, on-site briefings, and supervisor's instructions.

Elements and performance criteria

Element 1

Explain the purpose of establishing permanent sample plots in a forest stand.

Performance criteria

- 1.1 Users of permanent sample plot data are identified.
- 1.2 Four uses of permanent sample plots are explained in terms of forest management requirements.

Element 2

Prepare to establish permanent sample plots in a forest stand.

Performance criteria

- 2.1 Type of plots to be established is determined in accordance with the *Field Guide*.
- 2.2 Information required for the planning of permanent sample plots is explained in accordance with worksite policies and procedures.

Range species and seedlot, site conditions, silvicultural treatments, relocatable, remeasurable, unbiased, representative.
- 2.3 Maps are interpreted prior to field work for locations of plots, access, scale distances, and bearings in relation to identifiable points on the ground.
- 2.4 Global Positioning System (GPS) co-ordinates of the plot centres are determined.

Element 3

Establish and measure permanent sample plots in a forest stand.

Performance criteria

- 3.1 Hazards associated with plotting are identified and control methods explained in accordance with worksite policies and procedures.

Range overhead, underfoot, weather, other forest operations.

- 3.2 Measurement equipment is calibrated in accordance with worksite policies and procedures.
- 3.3 Sample plots are located or established, and marked in the field in accordance with worksite policies and procedures.
- Range three existing plots, three new plots.
- 3.4 Terms relevant to the plot type being assessed are explained in accordance with worksite policies and procedures.
- Range green crown, tree status, quality descriptive codes, quadrant, access comments.
- 3.5 Plot measurements are taken and recorded in accordance with the job prescription and worksite policies and procedures.
- Range average slope, plot boundary, aspect, Eastings and Northings, crop type.

Element 4

Measure and record tree parameters in a permanent sample plot.

Performance criteria

- 4.1 Measurements of trees are taken and recorded in accordance with worksite policies and procedures.
- Range diameter at breast height (DBH), tree height, crown height, diameter over stubs (DOS), maximum branch diameter, predominant height (PH).
- 4.2 Changes in tree features, from those recorded in earlier sample plot measurements, are recorded in accordance with worksite policies and procedures.
- Range may include but not limited to – normal living, thinned or felled, windthrow, sample height tree, dominant tree not suitable as sample height tree.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Forest Industries Training and Education Council (FITEC) info@fitec.org.nz if you wish to suggest changes to the content of this unit standard.