

Demonstrate knowledge of the fire environment on vegetation fire behaviour

Level 4

Credits 3

Purpose People credited with this unit standard are able to demonstrate knowledge of: vegetation fires; the effects of topography on vegetation fire behaviour; the effects of fuels on vegetation fire behaviour; effects of weather on vegetation fire behaviour; and the combined effects of fire environment factors on vegetation fire behaviour.

Subfield Fire and Rescue Services

Domain Fire and Rescue Services - Vegetation

Status Registered

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Entry information Open.

Accreditation Evaluation of documentation and visit by NZQA and industry.

Standard setting body (SSB) Fire and Rescue Services Industry Training Organisation

Accreditation and Moderation Action Plan (AMAP) reference 0039

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

Special notes

- 1 Compliance with the fire and rescue service provider's Health and Safety policy and procedures is mandatory.
- 2 The primary reference for this unit standard is: *The effects of the fire environment on vegetation fire behaviour*, Fire and Rescue Services Industry Training Organisation (FRSITO) (Wellington: FRSITO, 1999). This reference is available from FRSITO, PO Box 11988, Wellington 6142.

Elements and performance criteria

Element 1

Demonstrate knowledge of vegetation fires.

Performance criteria

1.1 Types of vegetation fire are explained in accordance with the primary reference.

Range underground fire, surface fire, crown fires.

1.2 The anatomy of a vegetation fire is explained in accordance with the primary reference.

Range bay, finger, flanks, head, backing, area of origin, burnt-out area, spot fire.

Element 2

Demonstrate knowledge of the effects of topography on vegetation fire behaviour.

Performance criteria

2.1 The effects of slope steepness on fire behaviour are explained in accordance with the primary reference.

Range rate of spread, fire intensity.

2.2 The effects of elevation on fire behaviour are explained in accordance with the primary reference.

Range climatic conditions, fuel type, fuel condition.

2.3 The effects of aspect on fire behaviour are explained in accordance with the primary reference.

2.4 The effects of land formation on fire behaviour are explained in accordance with the primary reference.

Range rate of spread, direction, fire intensity, shape.

Element 3

Demonstrate knowledge of the effects of fuels on vegetation fire behaviour.

Performance criteria

3.1 Fuel factors are defined in accordance with the primary reference.

Range type, total fuel load, available fuel load, moisture content, arrangement, continuity, size and shape, condition.

3.2 The factors influencing fuels are explained in accordance with the primary reference.

Range seasonal, climatic, diurnal variations.

3.3 The effects of variation in fuel factors are explained in accordance with the primary reference.

Range rate of spread, direction, intensity, shape.

Element 4

Demonstrate knowledge of the effects of weather on vegetation fire behaviour.

Performance criteria

4.1 Weather features are identified on weather maps, and explained in terms of their effects on weather patterns in accordance with the primary reference.

Range isobars, anticyclone, depression, fronts.

4.2 Influences on wind types and wind speeds are explained in accordance with the primary reference.

Range land forms, weather patterns, diurnal variations, sea breeze effects.

4.3 The effects of weather and changes in weather on fire behaviour are explained in terms of fire direction, fire intensity, fire size, and fire rate of spread in accordance with the primary reference.

Range temperature, relative humidity, diurnal variation, precipitation, atmospheric stability, wind speed and direction.

Element 5

Demonstrate knowledge of the combined effects of fire environment factors on vegetation fire behaviour.

Performance criteria

5.1 The combined effects of fire environment factors on vegetation fire behaviour are explained in accordance with the primary reference.

Range fire development, potential changes.

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 Fire and Rescue Services Industry Training Organisation info@frsito.org.nz if you wish to suggest changes to the content of this unit standard.