

Title	Assess and manage individual hazardous trees		
Level	4	Credits	15

Purpose	People credited with this unit standard are able to: prepare for felling hazardous trees; assess the specific risks associated with individual hazardous trees; demonstrate techniques for managing hazardous trees; demonstrate and apply knowledge of the use of wedges for tree felling; and demonstrate tree driving.
----------------	---

Classification	Forestry > Tree Felling
-----------------------	-------------------------

Available grade	Achieved
------------------------	----------

Prerequisites	Unit 17766, <i>Fell trees safely using a chainsaw</i> , or demonstrate equivalent knowledge and skills.
----------------------	---

Guidance Information

- 1 The term 'hazardous trees' refers to trees which because of physical damage, butt, stem or crown rot, malformation, growth characteristics, or specific characteristics of the tree species, constitute a serious risk to the tree faller. It is the objective of this unit standard that people who demonstrate competence are able to fell such trees safely or make decisions to take alternative measures.
- 2 For the purpose of this unit standard, 'managing' a tree means felling the tree where safety considerations permit.
- 3 Definitions
Accepted industry practice – approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.
PPE – personal protective equipment as required for the task in accordance with accepted industry practice and worksite procedures. This may include but is not limited to high-viz, protective clothing, gloves, face and eye protection, safety helmet, approved footwear, chaps, hearing protection, and safety devices.
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.

Outcomes and performance criteria

Outcome 1

Prepare for felling hazardous trees.

Performance criteria

- 1.1 PPE is selected and used in accordance with accepted industry practice.
- Range safety helmet, hearing protection, safety trousers or chaps, safety boots, high visibility clothing, eye protection.
- 1.2 Equipment for felling trees is selected for the task in accordance with accepted industry practice.
- Range felling aids, driving tool, first aid equipment, field maintenance tools, fuel and oil, fire suppression equipment, means of communication, felling signs.
- 1.3 Chainsaw is selected to meet the task requirements in accordance with accepted industry practice.
- Range adequate power and bar length, safety features, condition of chainsaw.
- 1.4 Additional equipment which may be required for felling very large or hazardous trees is identified in accordance with accepted industry practice.
- Range may include but is not limited to – additional wedges, tree jacks, driving maul, axe, second chainsaw, strops and/or ropes, winch and/or machine for pulling or pushing.
- 1.5 Requirement for additional personnel is determined in accordance with accepted industry practice.

Outcome 2

Assess the specific risks associated with individual hazardous trees.

Performance criteria

- 2.1 Risks which may affect felling or clearing the tree are assessed, and control methods for each are determined in accordance with accepted industry practice.
- Range risks to be assessed are within a minimum of two tree lengths of tree(s) to be felled.

- 2.2 Trees which need to be felled and/or cleared from the vicinity of the hazardous tree are identified and appropriate action taken in accordance with accepted industry practice.
- 2.3 Risks posed by the immediate environment surrounding the tree, which may affect felling, are assessed, and control methods for each are determined in accordance with accepted industry practice.
- 2.4 Specific types of hazardous trees are described in accordance with accepted industry practice.
- Range trees with overhead hazards, malformed trees, trees with specific growth characteristics, tree species prone to splitting, slabbing or barber-chairing trees under heavy tension or compression, weather impact, rot, spars.
- 2.5 The total risks posed by the identified hazardous tree are assessed and a decision is made on action to fell or to make alternative arrangements in accordance with accepted industry practice.
- Range action may include but is not limited to – seek machine assistance, seek additional skilled assistance, leave standing and isolate.

Outcome 3

Demonstrate techniques for managing hazardous trees.

Performance criteria

- 3.1 The limitations of alternative back-cut techniques for felling of hazardous trees are explained in terms of soundness of butt and stem and combinations of different hazards.
- 3.2 Alternative back-cut techniques for felling trees are demonstrated in accordance with accepted industry practice.
- Range quarter cut, split level, bore and release back-cuts, bore cutting through the scarf, fan cutting the back-cut.
- 3.3 Techniques for managing trees with overhead hazards are demonstrated in accordance with accepted industry practice.
- Range demonstrate two of – broken tops, broken branches, spar trees, hang-ups, suspended debris, crown rot, dead top, dead branches.
- 3.4 Techniques for felling malformed trees are demonstrated in accordance with accepted industry practice.
- Range demonstrate one of – double or multiple leaders, heavy flanging or buttressing, butt sweep, stem malformation.

3.5 Techniques for felling trees with specific growth characteristics are described in accordance with accepted industry practice.

Range heavy leaning, intertwined branches or vines, spreading crown, heavy crown.

3.6 Techniques for felling trees with a specific growth characteristic are demonstrated in accordance with accepted industry practice.

Range one of – heavy leaning, intertwined branches or vines, spreading crown, heavy crown.

3.7 Techniques for managing trees with butt decay are described in accordance with accepted industry practice.

Range rotten or hollow butt, rotten or hollow stem.

Outcome 4

Demonstrate and apply knowledge of the use of wedges for tree felling.

Performance criteria

4.1 The uses of tree-felling wedges are explained in accordance with accepted industry practice.

Range back-cut, tree position, point of balance, falling direction.

4.2 The use of a wedge to hold a back-cut open is demonstrated in accordance with accepted industry practice.

Range timing, positioning, setting, driving.

4.3 The use of a wedge to fell trees against their lean is demonstrated in accordance with accepted industry practice.

Range scarf depth, wedge number, bark trimming, timing, positioning, setting, driving.

4.4 Wedges and driving tool selected are suited to the size of the tree to be felled.

4.5 The driving of a wedge, to gain advantage of the swaying forward motion of the top of the tree, is demonstrated in accordance with accepted industry practice.

4.6 Multiple wedge use is demonstrated in accordance with accepted industry practice.

Range two wedges, three wedges, double lifting.

4.7 Technique for felling trees with side lean is demonstrated in accordance with accepted industry practice.

Outcome 5

Demonstrate tree driving.

Performance criteria

- 5.1 Accepted industry practices relating to tree driving are described.
- 5.2 Hazards associated with tree driving are explained in accordance with accepted industry practice.
- 5.3 The distance between the driving tree and the tree to be driven is assessed in relation to tree height, and the point of aim is identified in accordance with accepted industry practice.
- 5.4 A driving tree is selected in accordance with accepted industry practice.
- Range position of driver tree, position of tree to be driven, falling path of driver tree, weight of driver tree, height of driver tree, characteristics of driver tree.
- 5.5 Both trees are prepared for felling in accordance with accepted industry practice.
- 5.6 The driving tree is felled in accordance with accepted industry practice and carries the driven tree to the ground.
- 5.7 Response to an unsuccessful drive is explained in accordance with accepted industry practice, and worksite procedures.

Planned review date	31 December 2028
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	5 December 2000	31 December 2017
Review	2	24 March 2003	31 December 2017
Review	3	22 May 2008	31 December 2017
Revision	4	16 July 2010	31 December 2017
Review	5	10 December 2015	N/A
Review	6	26 March 2020	N/A
Rollover	7	26 April 2024	N/A

Consent and Moderation Requirements (CMR) reference	0173
--	------

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

Comments on this unit standard

Please contact Muka Tangata - People, Food and Fibre Workforce Development Council qualifications@mukatangata.nz if you wish to suggest changes to the content of this unit standard.