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GUIDANCE FOR WORK AROUND DEAD HAZARDOUS TREES V1 NOVEMBER 2025

GUIDANCE FOR WORK AROUND DEAD HAZARDOUS TREES

Work around dead hazardous trees needs careful planning and application.

NATIONAL WILDING CONIFER CONTROL PROGRAMME

Contents

About this document

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Acknowledgements:	Safe T Works completed risk assessments in the Otago Region in April 2025 and information from those assessments forms part of this guide. We thank both Safe T Works and Otago Regional Council for the input, review and example documents included in this guidance.
Principal author(s):	Biosecurity New Zealand (Ministry for Primary Industries)
Document Owner:	Wilding Conifer Programme Manager, Biosecurity New Zealand (Ministry for Primary Industries)
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VERSION CONTROL

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July 2025	Draft shared with partners.	0.1	MPI
November 2025	Minor edits & version released.	1	MPI

FRONT COVER: Dead hazardous trees in the Whakatipu Basin (Photo source: Will McBeth, Otago Regional Council)

Document overview

1. Purpose

This guide provides ground control crews, forestry workers, arborists, and landowners with guidance to help identify, assess, and manage the risks associated with working in and amongst dead hazardous trees.

2. Scope

Areas of trees that have previously had control frequently require follow up work to remove survivors and emerging young trees. This guidance seeks to cover the considerations for this follow up work around standing trees that have previously received control. The aim is to guide management of the additional risks introduced by the presence of dead hazardous trees. Other specific risks to your chosen activity should be guided by other safe operating procedures and best practice guidance.

This document does not cover hazardous trees within untreated stands, nor does it seek to guide the safety of the specific activities and methods which may be undertaken amongst other hazardous trees.

Falling of dead hazardous trees is considered a specialist and advanced chainsaw skill and should only be undertaken by suitably experienced and qualified operators.

Guidance to use before planning for wilding conifer control ground operations around dead hazardous standing trees

3. Risk assessment considerations

The Health and Safety at Work (General Risk and Workplace Management) Regulations[1] require that a risk assessment must be conducted before work begins to identify potential hazards and ensure a safe working environment.

This proactive approach helps prevent accidents, injuries, and illnesses by allowing for the implementation of appropriate control measures using the hierarchy of controls. In relation to previously controlled wilding stands the risk assessment should consider factors such as:

- Tree size
- Degree of decomposition/ structural integrity
- Tree density
- Topography
- Tree species
- Site stability/ instability
- Wind-blown trees
- Hung-up trees
- Ground debris
- Tree fall

[1] https://www.legislation.govt.nz/regulation/public/2016/0013/latest/dlm6727530.html

Due to the physical nature and condition of some stands the risk to workers may be too great to undertake ground operations.

An example risk assessment and risk matrix are included in Appendix 2.

4. Hierarchy of controls

What is the hierarchy of controls?

The hierarchy of controls is set out in the Health and Safety at Work (General Risk and Workplace Management) Regulations. Essentially, it means working through the following measures until the risk to workers from hazards can be removed or minimised.

Elimination

Can the hazard be removed from the workplace?

Minimisation

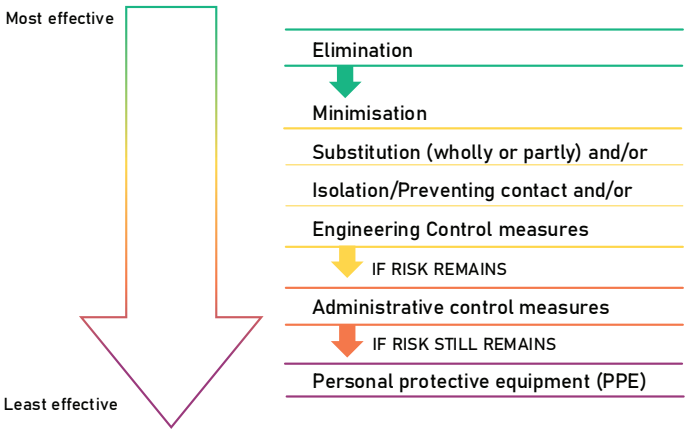
If elimination is not possible consider (in this order):

- **Substitution:** Whether the substance or activity could be replaced by one posing less risk, such as substituting solvent based inks with inks made from vegetable oil.
- **Isolation:** Isolating the hazard can prevent people encountering it, for example spray painting in a fully automated booth.
- **Engineering control measures:** Apply physical control measures to minimise risk, such as ventilation.
- **Administrative controls:** If engineering controls are not sufficient to remove the risk, you are required to apply processes to make your workplace safer, e.g. job rotation to reduce the time someone is exposed to a hazardous substance or activity.
- **Personal protective equipment (PPE):** If the risk remains after all other measures have been applied, you must supply and ensure the use of personal protective equipment. For example, respirators can protect staff from inhaling hazardous substances.

Hierarchy of controls

A more detailed example of hierarchy of controls is included in Appendix 1.

Image reproduced from Worksafe guidance[2]



[2] https://www.worksafe.govt.nz/assets/dmsassets/839WKS-5-HSWA-identifying-assessing-managing-work-risks.pdf Page 13

5. Key hazards and controls

Based on the risk assessment considerations (see above), ensure that appropriate controls are in place for all the hazards identified. The following table sets out hazards previously identified in this type of operation and the strategies and recommended controls for managing them. The table below is provided to help identify, assess and manage risks when working around hazardous trees.

Prior to starting work consider the hazards and recommended controls listed below. This is not an exhaustive list; you may have further site-specific hazards.

Hazard	Control strategy	Controls
Standing dead or partially dead tree	**Minimise**	Assess surrounding trees for damage and structural weakness.
		Ensure workers have an observer when working around dead hazardous standing trees.
		Ensure workers have adequate communication in place between observer and operator, e.g. handheld radio, built-in earpiece.
		Assess trees for interlocking branches, how trees interact and how other trees can affect trees nearby or overhead. Ensure you have a clear view of the canopy.
		Avoid working under the lean of potentially hazardous trees.
		Never work directly under a hang-up or broken tops.
		Work on the safe side of the tree and have a clear area to work in with an adequate escape route.
Broken tops	**Minimise**	Never work directly under a hang-up or broken tops.
	Eliminate	Work on the safe side of the tree and have a clear area to work in with an adequate escape route.
Weather	**Minimise**	Daily risk assessment meeting between PCBU & Contractors to determine risk variables for the day which could raise exposure (i.e. forecast wind).
		Consider wind and weather forecasts to anticipate wind effects at the worksite prior to entering (see Appendix 3 for an example Modified Beaufort Scale).
		Crew to have an Anemometer (i.e. Kestrel) to monitor wind strength. during the day.
		Ensure all crew members have the correct and adequate PPE on.
		Communicate with the work party if weather conditions deteriorate and move work areas or if unsafe leave the site.
Access in and out of the work area	**Minimise**	Fly into blocks that are unsafe to access with 4WD vehicles.
		Lead worker to let crew know where the dead hazardous trees are.
		Pick routes that avoid areas where workers may need to use a dead tree as an object to pull themselves up a hill or assist in getting down a hill.
		Have planned escape routes and safety zones where crew can shelter if wind picks up.
		Awareness of where crews are walking to get into and out of the block.
		Use routes that are in more open areas.
		Avoid using dead hazardous trees to pull yourself up steep areas.
		Maintain separation distance between workers to avoid congestion.
		When leaving the work area leave from an area without dead hazardous trees.

Hazard	Control strategy	Controls
Working the contour of the hill	**Minimise**	Crew members to have adequate separation between them. If felling the two-tree length rule applies.
		No worker to be working directly under another worker.
		Pick a route to avoid walking on loose debris.
Debris on the ground	**Minimise**	Avoid walking directly on woody debris as rotten/greasy bark can contribute to slips/trips/falls.
Helicopter air turbulence / rotor wash	**Minimise**	Ensure all workers involved are inducted for the risk of dead hazardous trees.
		If using ground control crews alongside helicopter operations, for load site or control spotters, then ensure a safe area is determined and it is free of any overhead hazards.

6. Risk management steps

A. Planning an operation around hazardous trees

When considering work methodologies, minimising the risk to workers and others is a key priority. If the hazardous trees can be sprayed or drilled rather than felled, then this significantly reduces the risk to workers and meets regulatory requirements to substitute work methodologies for safer options.

- Mark hazardous trees during **pre-control inspections**.
- Establish **exclusion and no-go zones** — generally a radius equal to twice the tree height.
- Ensure a **communications plan** is in place and provided for (radio/cell phone/spotters).
- Use a **buddy system** — never work alone near dangerous trees.

Emergency preparedness

- Ensure first aid kits are available on site.
- Two crew members must be current first aiders (do you need to list the minimum unit standard?).
- Have a documented and rehearsed emergency response plan.
- Be aware of closest safety zones and safe escape route.
- Know the location of nearest emergency access (grid reference or GPS).

Environmental considerations

- Consider cultural or ecological values before felling (e.g. native bat roosts, wāhi tapu sites).
- Dispose of debris in accordance with regional council rules.

B. Training and Competency of working party

This document does not focus on felling or chainsaw use specifically. Operators should note that any felling or dismantling of dead and hazardous trees should only be undertaken by competent, qualified personnel.

Tree fallers must hold the following NZQA-recognised chainsaw and felling unit standards:

- 28562 - Fell and clear hazardous trees
- 6916 - Demonstrate Knowledge of rules relating to chainsaw operation
- 6917 - Demonstrate basic chainsaw operation
- Group 15321, Grouped object17763 - Demonstrate Knowledge of Tree Felling
- 17766 - Fell Trees Safely using a Chainsaw
- New Zealand Certificate in Horticulture Services (Level 4) (Arboriculture) for dismantling.

C. PPE (Personal Protective Equipment)

- **High visibility safety helmet** – workers under dead trees must wear a helmet regardless of the activities they are engaged in.
- Plus **all other relevant PPE** related to tasks being undertaken.

7. Further considerations

Storm-Damaged Trees

- Do not assume a tree or part of a tree is stable — wind stress and twist can make it highly unpredictable.
- Treat all storm-damaged trees as hazardous until proven otherwise.

Hung-Up Trees

- Never leave a worker operating near hung-up trees unattended without a spotter or buddy.
- Use mechanical push/pull techniques if possible.
- Block off area until the hazard has been dealt with.
- Stay Keep all people and equipment out of the fall zone.

Power Lines, Roads and Tracks

- Maintain appropriate distances from power lines as per NZ Electrical Code of Practice (ECP 34).
- No tree felling within two tree lengths of powerlines, poles, or pole guy wires without a felling plan approved by the Power Utility Authority.
- Implement traffic management plans when working near roads.
- Close tracks if necessary to ensure public safety.

8. Documentation and records

Maintain:

- Current hazard identification and controls
- Risk assessments
- Daily safety briefings
- Worker competency logs

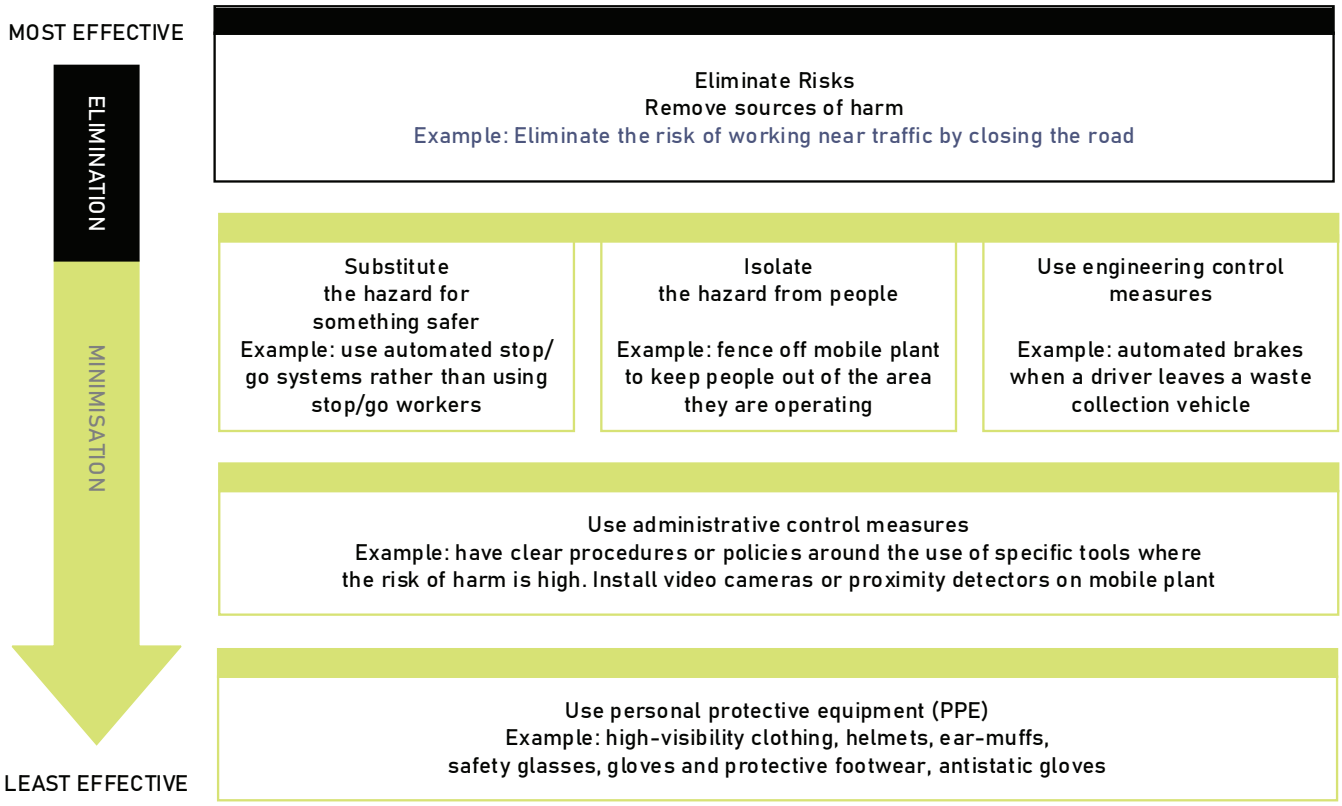
9. Signage and public safety

- Use clear signage to warn the public of tree work in progress
- Set up barriers or tape to restrict public access to hazard zones where required.
- In addition to operational signage consideration should be given to warning the public land users that dead hazardous trees are present.

10. Review and continuous improvement

- Conduct a debrief after each job involving dead hazardous trees.
- Update procedures based on lessons learned and near-miss reports. Note these for reference in your risk matrix for future risk assessments.

Appendix 1:
Example hierarchy of control measures



Source: Worksafe[3]

[3] https://www.worksafe.govt.nz/topic-and-industry/road-and-roadside/keeping-healthy-safe-working-road-or-roadside/part-a/2-0-risk-management/#Manage

Appendix 2:
Example risk assessment and rating matrix

Reproduced with agreement from Safe T Works[4]

This is for example only and not designed as a template.

For each risk you have identified in your initial risk assessment (see page 7 above):

- Consider the likelihood and consequence of each one and assign it a score.
- Consider what level of risk you rate low / moderate / high.
- Consider what controls you can put in place to reduce the risks to an acceptable level.

		Scores of 15+ STOP the job and reassess				
Consequence (impact)	Catastrophic	5 Medium	10 Medium	15 High	20 High	25 High
	Significant	4 Medium	8 Medium	12 Medium	16 High	20 High
	Serious	3 Low	6 Medium	9 Medium	12 Medium	15 High
	Low	2 Low	4 Medium	6 Medium	8 Medium	10 Medium
	Minor	1 Low	2 Low	3 Low	4 Medium	5 Medium
		Unlikely	Occasional	Probable	Almost Certain	Frequent
		Likelihood (Probability)				

Risk	Likelihood (Probability)	Consequence (Impact)	Controls
LOW (1-3)	Unlikely/Rare	Minor Injury/ First Aid/ Property Damage	• Manage with routine procedures • Existing risk controls are effective
MEDIUM (4-14)	Probable/ Possible	Serious Injury/ Medical Treatment	• Regular monitoring • Review current controls • Adhere to set work plan
HIGH (15-25)	Almost Certain	Fatal	• STOP or DO NOT START THE JOB/TASK • Reassess/review hazard controls - Can you reduce the risk? • Consider specialist advice • Develop specific work plan to reduce the risk • If the risk cannot be reduced to Medium or below, DO NOT DO THE JOB/TASK

[4] https://safetworks.co.nz/

Methods to Minimise		
Control Key	**S= Substitute**	Can we reduce the risk by using something that has less risk?
	I = Isolate	Can we remove it or separate it from our workers?
	E = Engineering	Can we make the machine or work practise safer?
	A = Administration	Put in place rules, procedure, signage, training, communication.
	P = PPE	The last measure is protective clothing and equipment.

Likelihood

1. Unlikely – Unlikely to happen and/or have minor consequences
2. Occasional – Possible to happen and/or to have moderate consequences
3. Probable – Likely to happen and/or to have serious consequences
4. Almost Certain – Almost sure to happen and/or to have major consequences
5. Frequent – Sure to happen and/or have major consequences

Consequence

1. Minor – Won't cause serious injuries or illness
2. Low – Can cause injuries or illnesses, only to a mild extent
3. Serious – Can cause injuries or illnesses that may require medical attention but limited treatment
4. Significant – Can cause irreversible injuries or illnesses that require constant medical attention
5. Catastrophic – Can result in fatality

Appendix 3:
Example modified Beaufort wind hazard scale - dead conifer areas

Provided by Will McBeth, Otago Regional Council

Modified Beaufort Wind Hazard Scale – Dead Conifer Areas

Scale	Wind speed (km/h)	Typical description & observed tree movement	Dead tree hazard guidance
0 – Calm	< 1 km/h	Smoke rises vertically, trees completely still	Safe for work; dead limbs unlikely to drop spontaneously
1 – Light air	1–5 km/h	Leaves rustle very slightly; small twigs move	Very low risk; safe for normal work
2 – Light breeze	6–11 km/h	Leaves and small twigs constantly moving	Slight increase in chance of small dead twigs falling; remain alert
3 – Gentle breeze	12–19 km/h	Small branches move; wind felt clearly on face	Some small dead limbs may loosen or drop; crews should increase vigilance; avoid standing/working directly under dead tops
4 – Moderate breeze	20–28 km/h	Large branches sway; trees visibly moving at crown	High chance of dead limbs and cones falling; consider stopping work directly under dead crowns; avoid drilling or felling partially dead trees
5 – Fresh breeze	29–38 km/h	Whole trees sway; audible creaking; crowns in motion	Very high hazard; stop work in blocks with significant dead standing trees; only work in sheltered or safe zones
6 – Strong breeze	39–49 km/h	Large trees sway violently; debris blows about	Extreme risk: falling dead tops and limbs likely; all work in hazardous blocks should cease
7+ – Near gale and above	≥ 50 km/h	Trees bending; difficult to walk; branches breaking	Do not enter blocks with dead standing conifers

How to use this guide:

- Check the forecast: If forecast winds exceed the safe thresholds (typically ≥ 29 km/h / Beaufort 5), plan alternative work outside hazardous blocks.
- Monitor on site: Use handheld anemometers or observe tree movement to update risk decisions during the day.
- Adjust for terrain: Remember ridge tops, saddles and gullies can have higher actual wind than forecast.