Introduction to Risk Management

Objectives

The objective of this guide is to:

- Identify Work, Health and Safety (WHS) legislation
- Explain risk management
- Provide a step-by-step risk management process.

Legislation

This guide draws on key information from:

- *Queensland Work Health and Safety Act 2011*
- *Queensland Work Health and Safety Regulation 2011*
- *Queensland Forest Harvesting Code of Practice 2007*
- *How to Manage Work Health and Safety Risks Code Of Practice 2021.*

Risk Management

Risk management is a key component of WHS and can help you respond to change and drive continuous improvement in businesses.

Under WHS legislation we have a duty to 'manage risks' by eliminating health and safety risks so far as is reasonably practicable. Duty holders include the Person Conducting or Undertaking Business (PCBU) and all workers.

Risk management is a continuous step-by-step process:

1. Identify hazards
2. Assess risks
3. Control risks
4. Review control measures

The nature of the forestry industry means that risk management may be required on a regular basis to deal with changes in daily working conditions. Risk management should be planned, systematic and cover all reasonably foreseeable hazards and associated risks.

Consider risk management when:

- Starting a new task or role
- Using new equipment
- New site/location
- Changed work practices and procedures
- Changed working environment
- Changed weather and site conditions
- New hazards are identified
- Responding to workplace incidents

A risk assessment is the most common way to apply risk management.

Acknowledgments

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In Partnership with: Queensland Government

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Step 1
Identify Hazards

Hazards are things and situations that could harm a person or object.

Identifying hazards is the first action that you should take prior to starting tasks.

Start by looking for hazards that are **already identified** for your role, task or site as outlined in documents like:

- WHS Regulations
- Australian Standards
- Forest Harvesting Code of Practice 2007
- WHS Codes of Practice
- Operational Harvest Plans (OHP)
- Safe Work Method Statements
- Safe Work Instructions

Here are some other **ways to identify hazards:**

- Look at the OHP and OHP map to look for identified hazards
- Conduct an inspection of the workplace
- Review the situation - the type of work being performed, how the work is done and the work practices being used
- Assess the type of plant, machinery and equipment used. Assess plant condition, working environment and skill of operator for the task
- Consult with workers - one of the easiest and most effective ways to identify hazards
- Review the workplace records and look for near misses and incidents
- Read information supplied by manufacturers and suppliers about the proper use of plant and hazardous substances (for example: Material Safety Data Sheets, product labels and safe work instructions)
- Discuss with an outside expert.

HAZARDS AND HAZARDOUS TASKS IN FOREST OPERATIONS

- Hazardous trees
- Falling objects
- Loading logs
- Fatigue
- Mechanical and manual felling
- Rollover of machinery and vehicles
- Hazardous manual tasks
- Slips, trips and falls
- Exposure to extreme weather
- Fire
- Working alone
- Working at night
- Changes in working conditions
- Heat stress
- Extreme noise
- Vibration
- Dust and vapours
- Pressure
- Stored energy
- Hot work
- Rocky and steep terrain
- Moving machinery
- Unauthorised access

Step 1
Identify Hazards: Examples

Hazard:
Hazardous trees - trees that are hang-ups, broken or interlocking limbs.

Risk:
- Contact with or damage to person or machine
- Falling over road or onto powerline
- Falling onto other trees
- Damaging commercial trees

Hazard:
Rocky, steep and/or slippery terrain.

Risk:
- Machine rollover
- Machine slipped
- Loss of tree when felling
- Damage or injury to person

Hazard:
Extreme weather conditions - strong winds, heavy rain, extreme heat, high UV levels and thunderstorms with lightning.

Risk:
- Objects blown from height causing damage or injuries
- Heavy rain causing the surface on and around the site to become slippery and unstable

Hazard:
Uneven surfaces - uneven surface at log landing, uneven road surfaces.

Risk:
- Truck rollover
- Incorrect log weight on the truck
- Loss of traction

Step 2
Assess Risks

A risk assessment involves looking at what could happen if someone/something is exposed to a hazard and the likelihood of it happening.

If after identifying a hazard you already know the risk and how to control it effectively, you may simply implement the controls.

A risk assessment can help you work out:

- Hazard consequence (outcome, harm)
- Hazard likelihood (chance)
- Risk level (using risk matrix)
- What controls to put in place
- Actions to control the risk (known as controls)
- How urgently you need to take action

A risk matrix is often used to calculate the likelihood and consequences of the hazard causing harm.

Likelihood x Consequence = Risk level

The risk level will increase as the likelihood and consequence of harm increases.

Once the risk level is identified, we aim to put controls in place to either eliminate or minimise the risk.

The acceptable level of risk is dependant on each business. We have provided a guide on risk levels for you to review where controls should be implemented.

Likelihood	
Rare	The risk is conceivable but is very difficult to realise and only likely to occur under exceptional circumstances
Unlikely	The risk occurs infrequently and is unlikely to occur within the next 3 years
Possible	There is an above average chance that the risk will occur at least once within the next 2-3 years
Likely	The risk is likely to occur at least once within the next 12 months
Almost Certain	The risk is already occurring or is likely to occur more than once during the next 12 months

Consequence	
Insignificant	Nil first aid or medical treatment
Minor	First aid required
Moderate	Medical attention and time off work
Major	Long term illness or serious injury
Severe	Kill, or cause permanent disability or illness

Risk Level	
Low	Tolerable level of risk -Maintain existing controls. No additional controls required.
Medium	Tolerable level of risk -Ensure risk is as low as possible -Continue to manage through controls
High	Action required- significant controls req -Action to be taken to ensure risk is low as possible -Increased use of controls required
Very High	Intolerable risk -Activity should be discontinued until level of risk can be reduced. Consider options for reducing the impact or probability of the risk

Step 2
Assess Risks: Example

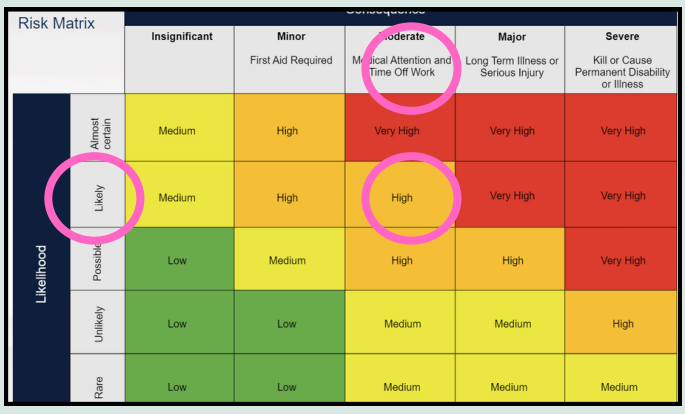
Risk Matrix		Consequence				
		Insignificant	**Minor** First Aid Required	**Moderate** Medical Attention and Time Off Work	**Major** Long Term Illness or Serious Injury	**Severe** Kill or Cause Permanent Disability or Illness
Likelihood	Almost certain	Medium	High	Very High	Very High	Very High
	Likely	Medium	High	High	Very High	Very High
	Possible	Low	Medium	High	High	Very High
	Unlikely	Low	Low	Medium	Medium	High
	Rare	Low	Low	Medium	Medium	Medium

Example

John is working on his harvesting machine in extreme temperatures and has no shade or water.

The risk of John becoming dehydrated was assessed as:

Likelihood = *Likely*
Consequence = *Moderate*
Likely x **Moderate** = ***High***



Based on the risk matrix (a table of risk level) above and the details of John's situation, action is required to implement controls to eliminate or reduce risk:

- Action to be taken to ensure the risk is low as possible
- Increased use of controls required
- Increased review and monitoring

Unless John no longer works during high temperature, then the risk cannot be eliminated. Therefore controls need to be put in place to minimise risk.

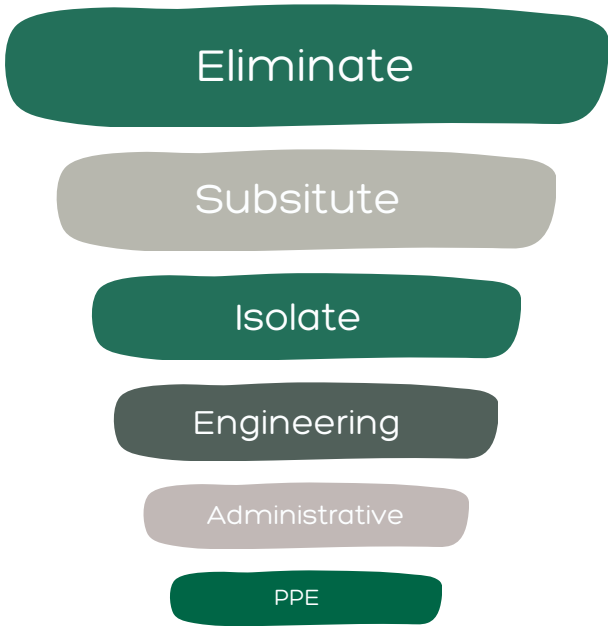
Potential controls:

- Work in the shade
- Take regular breaks
- Provide drinking water
- Provide additional PPE

Aim to minimise the risk to as low as reasonably practicable; and document all controls.

Step 3
Control Risks

We have a duty to eliminate or minimise risks and we do this by controlling them. The ways of controlling risks are ranked from the highest level of protection and reliability (the best option, where viable) to the lowest. This ranking is known as the **hierarchy of controls:**



Elimination - **Where possible, you eliminate or remove the hazard from the workplace.** For example:

- Remove faulty electrical equipment
- Energy provider to isolate powerline

Substitution - **If you are not able to remove the hazard from the workplace, substitute it or replace it with a lesser risk.** For example:

- Use less toxic materials
- Use mechanical harvester instead of manual felling

Isolate - If it is not possible to either eliminate or substitute the hazard, isolate the hazard. For example:

- By using a machine to shield workers from hazards on a log landing
- Isolate switches and energy sources

Engineering - **this involves using special equipment to assist with managing the risk**. For example:

- Using ROPS and FOPS to protect the operator from the risk of a machine overturning or objects falling on them
- Prevent machine modifications

Administrative Controls - **implemented in the workplace.**
This step involves:

- Regular inspection of equipment
- Conducting training
- Ensure rest breaks
- Rotating staff to reduce risk of fatigue

PPE - **Use personal protective equipment**. PPE should be used in conjunction with the previous steps. PPE includes:

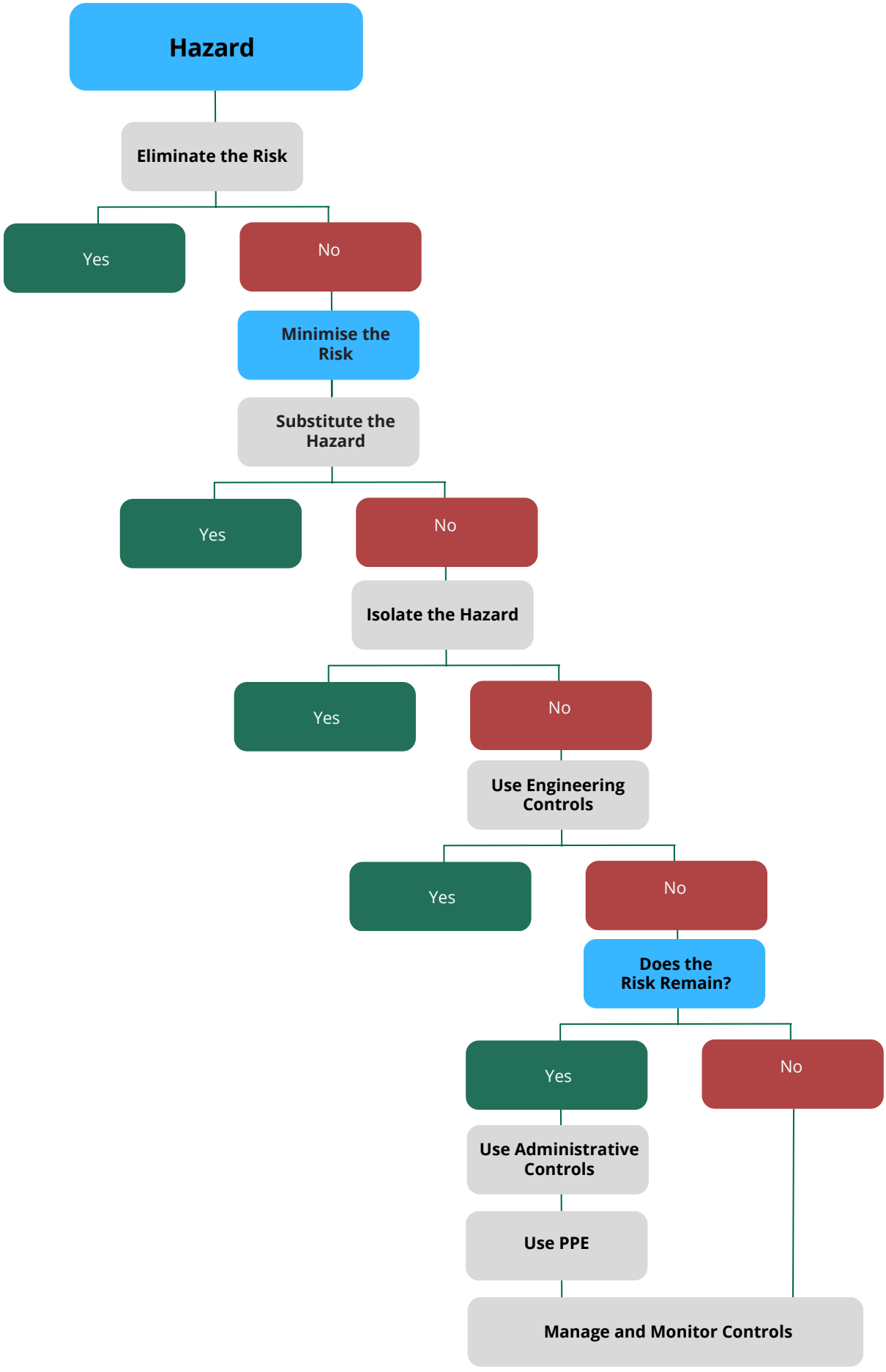
- Protective clothing, gloves, masks, safety glasses, face shields, safety helmets, steel capped boots, non-slip mats etc
- PPE the lowest form of control. Just wearing PPE is not sufficient enough to reduce many workplace hazards.

Implementing controls
The control measures you put in place will usually require changes to the way work is carried out. For example, working with new or modified equipment or processes.

Implementing controls will need to be supported by:

- Training and instruction
- Consultation
- Updated policies and procedures
- Safe Work Procedures
- Risk register/documentation
- Regular review of control measures

Step 3
Control Risks: Using the hierarchy of controls



Step 4
Review Control Measures

Monitoring

Risk control measures may require regular reviewing to deal with changes in working conditions.

Control measures need to be regularly reviewed to make sure they:

- Remain effective
- Reflect any changes
- Consider nature and duration of work
- Check the system is working as planned

A range of stakeholders should be involved in reviewing the control measures.

Conduct a review:

- When the control measure is not effective in controlling the risk
- If a new hazard or risk is identified
- Before a change at the workplace that is likely to increase or result in non-effective control
- If consultation indicates that a review is necessary
- If a health and safety representative requests a review

When reviewing consider:

- Does the control effectively manage or control the hazard?
- Will the control keep me and others safe?
- Is the control temporary or permanent?
- Have other hazards been identified?
- Can I put additional controls in place?
- What is the acceptable level of risk?

Record Keeping

Keeping records of the risk management process demonstrates what you have done to comply with the WHS Act and WHS Regulations.

Keeping records of the risk management process has the following benefits:

- Demonstrate how decisions about controlling risks were made
- Assists in targeting training at key hazards
- Provides a basis for preparing safe work procedures
- Allows you to more easily review risks following any changes
- Demonstrates that work health and safety risks are being managed.

The detail and extent of recording will depend on the size of your workplace and the potential for major WHS issues. It is useful to keep information on:

- Identified hazards, assessed risks and chosen control measures
- Completed documents (hazard checklists, risk assessments etc).
- How and when the control measures were implemented, monitored and reviewed
- Who you consulted with
- Relevant training records

Record keeping documentation may include:

- Emails
- Meeting minutes
- Toolbox talks
- Pre-start checklists
- Written reports
- Risk and hazard registers

Risk and hazard registers are a useful tool to demonstrate risk management. An example has been provided to assist you.

Risk and Hazard Register

Enter Date	Enter location/site	*Enter Hazard*	*Enter Risk*	*Enter Risk Level (Risk Matrix)*	*Enter Control/s*	*Enter name/Risk owner*
Date	**Location**	**Hazard**	**Risk**	**Risk Level**	**Control/s**	**Name**
24/01	*Timber Queensland Office*	*Overhanging limbs*	*Fall onto building* *Injure people*	*Low*	*PPE* Install hazard tape	*A.Riddington*

CONTACT INFORMATION

Name _____ Signature _____

Company _____