GENERAL GUIDE FOR MANAGING RISKS IN FORESTRY OPERATIONS

This General Guide provides information on how to manage risks in forestry operations.

What are forestry operations?

Forestry operations are work done in the forestry industry to:

- form, develop and regenerate forests
- obtain forest products
- load, transport and unload forest products
- assess finished operations, and
- establish, maintain and upgrade roads, tracks and log landings.

Forestry operations also include work associated with the above activities including clearing, fencing, trenching or draining.

Who should use this Guide?

The Guide applies to all businesses or undertakings in the forestry industry. It can be used where any of the activities mentioned above are carried out at a workplace.

Supporting guidance material

This General Guide is supported by a series of specific guides that include information on:

- growing and managing forests
- cable logging
- timber harvesting operations
- coupe and harvesting site access and preparation
- log landings
- log extraction
- loading, transporting and unloading logs
- infield processing of forest products
- plant and equipment for forestry operations, and
- general hazards in forestry operations.

These specific guides provide information on the potential hazards of forestry operations and provide practical examples of ways you can control the risks associated with them.

The specific guides set out a number of high risk forest activities. The hazards for each activity are listed in detail in each guide along with the risk controls that are essential in eliminating or minimising risks, so far as is reasonably practicable. In some cases risk factors are included in the guides where individual work situations vary. Any risk assessment should include these risk factors.

safe work australia

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The specific guides also include tables that are highlighted in black and yellow. These will alert you to high risk forestry activities, for example:

High risk forestry activity	Felling hazardous trees

Traffic light tables are also used in the specific guides to indicate which practices are high risk and alert you to what the preferred risk controls are. Reduced risk solutions are indicated where an interim arrangement is necessary or if the preferred solution is assessed as not being reasonably practicable in an individual situation.

High risk	Reduced risk solution	Preferred solution

It is intended that the General Guide should be read and used together with the specific guide or guides that are most relevant to the activities at your workplace. The specific guides are available on the Safe Work Australia website.

Who has duties under the law?

Everyone in the workplace has a work health and safety duty. The main duties are set out in Table 1.

Table 1 Duty holders and their obligations

Who	Duties
Person conducting a business or undertaking	A person conducting a business or undertaking must ensure, so far as is reasonably practicable, that workers and other people are not exposed to health and safety risks arising from the business or undertaking. For forestry operations this includes: ■ landowners who harvest timber on their own property for their own use ■ landowners or forest managers who engage contractors to harvest and transport forest products, and ■ contractors and timber business owners that harvest, process and transport forest products.
Designers, manufacturers, suppliers and importers	Designers, manufacturers, suppliers and importers of plant or structures must ensure, so far as is reasonably practicable, the plant or structure is without risks to health and safety. For example, forest machinery like harvesters, skidders and forwarders have common design and operational issues and should be designed to include operator protective devices and structures like seat belts, roll over protective structures (ROPS) and falling object protective structures (FOPS) and guarding on all hazardous machinery components.
Officers	Officers, such as company directors, have a duty to exercise due diligence to ensure the business or undertaking complies with the Work Health and Safety (WHS) Act and Regulations. This includes taking reasonable steps to ensure the business or undertaking has and uses appropriate resources and processes to eliminate or minimise risks at the workplace.
Workers and others	Workers and other people at the workplace must take reasonable care for their own health and safety, co-operate with reasonable policies, procedures and instructions and not adversely affect other people's health and safety.

How can risks in forestry operations be managed?

Many hazardous activities carried out in forestry operations can result in death or serious injury if not managed correctly.

Use the following steps to ensure, so far as is reasonably practicable, that workers and other people are not exposed to health and safety risks:

#1 Identify hazards

1. **Find out what could cause harm.** Hazards generally arise from three parts of forestry operations and their interaction. These are:

- the physical work environment
- machinery, materials and substances used, and
- work practices and systems of work.

Typical hazards found in forestry operations can include:

- hazardous trees including 'hang-ups'
- being hit by falling objects or mobile plant
- roll over of mobile plant
- hazardous manual tasks
- slips, trips and falls
- exposure to extremes of temperature, fatigue and noise
- fire
- working alone and working at night, and
- changes in operating conditions e.g. weather, environmental requirements and unexpected ground conditions.

#2 Assess risks

2. **Assess the risk.** In many cases the risks and related control measures will be well known. In other cases you may need to carry out a risk assessment to identify the likelihood of somebody being harmed by the hazard and how serious the harm could be. A risk assessment can help you determine what action you should take to control the risk and how urgently the action needs to be taken.

A forestry operations risk profile is in Table 2. It shows the more common activities, hazards and risks in forestry operations. The more activities in the higher risk zone the greater the importance of the risk management system. With each of these risks an assessment of the working conditions should be done to identify ways to eliminate or minimise risks in the high risk zone and ensure the activity is in the medium or lower risk zones.

Table 2 Assessing risks in forestry operations

Hazards and activities	Forestry operations risk profile		
	Higher risk →		**Lower risk**
Operating machinery	■ workers operate machinery without training or assessment	■ workers have some training or training which is not current or relevant to the machinery they are operating. ■ has only been assessed informally	■ workers have been trained and assessed in the machinery they are operating
Falling objects	■ workers with no protective canopy	■ workers outside a protective canopy some of the time	■ workers under protective canopy

Hazards and activities	Forestry operations risk profile		
	Higher risk →		Lower risk
Terrain and slope	■ activity on steep slopes	■ some activity on steep slopes	■ activity on flat ground
Hazardous trees	■ most trees have many dead limbs or interlocked crowns	■ some trees have many dead limbs or interlocked crowns	■ most trees are healthy with regular form
Working alone	■ working alone without emergency procedures	■ working alone with agreed emergency contact and procedures	■ working alone but within the same area as others in constant communication
Felling methods	■ felling done by hand using skill to control fall direction	■ mainly mechanical felling with hand felling only used as required	■ mechanical felling with ability to control fall direction
Working at night	■ working at night with poor visibility in the work area	■ working at night where the active work area is clearly visible to all operations	■ working at night where all work is clearly visible to all operations

#3 Control risks

3. Take action to control the risk. The WHS laws require a business or undertaking do all that is reasonably practicable to eliminate or minimise risks.

The ways of controlling risks are ranked from the highest level of protection and reliability to the lowest. This ranking is known as the hierarchy of risk control. You must work through this hierarchy to manage risks.

The first thing to consider is whether hazards can be completely removed from the workplace. For example, eliminate the risk of electrocution when felling trees close to electric lines by having the electricity supply authority turn the power off to the affected lines.

If it is not reasonably practicable to completely eliminate the risk then consider the following options in the order they appear below to minimise risks, so far as is reasonably practicable:

- substitute the hazard for something safer e.g. use mechanical felling processes rather than manual felling
- isolate the hazard from people e.g. reduce emissions and noise from machinery by using venting and containment or by using a machine to shield workers from hazards on a log landing
- use engineering controls e.g. using ROPS and FOPS to protect the operator from the risk of a machine overturning or objects falling on them.

If after implementing the above control measures a risk still remains, consider the following controls in the order below to minimise the remaining risk, so far as is reasonably practicable:

- use administrative controls e.g. rotate jobs and vary tasks to minimise the risks associated with repetitive manual handling tasks, and
- use personal protective equipment (PPE) e.g. safety eyewear, hearing protection, safety helmets, cut-resistant leg protection or reflective, high-visibility clothing.

A combination of the controls set out above may be used if a single control is not enough to minimise the risks.

You need to consider all possible control measures and make a decision about which are reasonably practicable for your workplace. Deciding what is reasonably practicable includes the availability and suitability of control measures, with a preference for using substitution, isolation or engineering controls to minimise risks before using administrative controls or PPE. Cost may also be relevant, but you can only consider this after all other factors have been taken into account.

#4
Review control measures

Examples of how to control the risks of various forestry operations are provided in the series of specific guides for forestry operations.

4. Check your control measures regularly to ensure they are working as planned. The unpredictable nature of forest environments means 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, taking into consideration any changes, the nature and duration of work and that the system is working as planned.

Further information on the risk management process is in the Code of Practice: *How to manage work health and safety risks*.

Who is involved?

You must consult your workers and their health and safety representatives (if any) when deciding how to manage risks in the workplace.

If there is more than one business or undertaking involved at your workplace you must consult them to find out who is doing what and work together so risks are eliminated or minimised so far as is reasonably practicable.

In some situations sawmills may purchase wood directly from the land owner or forest manager on a stumpage basis then engage contractors to carry out the harvesting operations. Despite the saw-miller engaging the contractor, often the mill operator or private land owners may have little knowledge or understanding of the harvesting operations and associated risks and will rely on the harvesting contractor to address these issues. However, the land owner and mill operator should take reasonable steps to check the harvesting contractor is carrying out the forestry operations safely.

As the number of duty holders involved in the harvesting operations increases so does the importance and complexity of consultation, co-operation and co-ordination between them (see Table 3).

Table 3 Possible scenarios for timber harvesting operations and duty holders

Scenario	Duty holder	Multiple duty holders			
Harvesting operation scenario	Landowner harvests timber on own land for own use	Landowner or forest manager engages contractor to harvest, merchandise and deliver timber to mill door	Landowner or forest manager sells standing timber to a timber business owner on a stumpage basis e.g. a sleeper cutter who harvests and processes the timber	Landowner or forest manager sells standing timber to a timber business owner on a stumpage basis e.g. a sawmill who engages a contractor to harvest and haul the timber	Landowner or forest manager sells standing timber to a timber business owner on a stumpage basis e.g. a sawmiller who engages a principle contractor who engages sub-contractors to harvest and haul

Scenario	Duty holder	Multiple duty holders			
Parties on the harvesting site who are conducting a business or undertaking	Landowner	Landowner or forest manager Contractor	Landowner or forest manager Timber business owner	Landowner or forest manager Timber business owner Contractor	Landowner or forest manager Timber business owner Contractor Principal contractor
Complexity	Lower → Higher More businesses or undertakings on the harvest site requiring consultation, co-operation and co-ordination about their duty as a person conducting a business or undertaking				

An example of how duty holders can work together is described below.

XYZ is the principal contractor or forest manager engaged to set up and manage a timber harvesting operation. The land owner provides the forest manager with specific coupe hazard information. Both parties have health and safety responsibilities. Together they decide which trees to harvest, where the cut logs will be placed for loading on the truck, the best way to enter and leave the harvest site and other issues related to the job.

XYZ engages harvesting and haulage contractors to fell, extract and deliver the cut logs to the mill.

XYZ meets the harvesting and haulage contractors to discuss safety issues and to find out how the contractors manage the risks from the work the crews do. XYZ discuss their expectations and safety procedures. XYZ has entered a clause into the contract requiring contractors to comply with health and safety requirements and to ensure the work will be done safely.

The contractors provide written copies of their safe work procedures. They consult and co-operate with XYZ about:

- their supervisory and monitoring arrangements to ensure safe work procedures are followed and workers use PPE
- the competency of crew members to safely operate the machinery
- the induction of workers and visitors to ensure they are informed of the specific coupe hazards and work procedures, communication arrangements and safe work areas
- sequencing of work, control measures to be implemented and safe access to the site, and
- work health and safety training and first aid training for the crews.

XYZ and the harvesting and haulage contractors inspect the work site together to assess the conditions and plan how to do the job. They go over the machinery, methods and signs to be used, identify foreseeable hazards and how to deal with them. They decide on the best ways to bring down certain trees safely and discuss emergency procedures and ways to ensure unauthorised people are kept out of the area or kept from harm if they enter the forest.

XYZ continues to monitor the contractor's systems of work to ensure they are implemented according to the harvesting plan and remain effective.

Further information on consultation requirements is in the Code of Practice: *Work health and safety consultation, co-operation and co-ordination*.

PLANNING, CO-ORDINATION AND PREPARATION

Planning for the way a forest will be harvested can significantly improve the safety of any harvesting operation. Planning can focus on longer-term activities, operational activities as well as specific harvesting and haulage activities.

A sample harvesting plan is at Appendix A.

Longer-term harvest plans

Longer-term harvest plans look at how activities over a 3 to 5 year period can have an impact on work health and safety during forestry operations. This may include developing wood utilisation or timber release plans. Forest managers can also have longer-term strategic harvesting plans.

When developing a long-term forest harvesting plan, consider including information about:

- recognising high risk forest types e.g. forests affected by fire, snow, wind or insect damage
- entry to coupes or harvesting sites and the suitability of road networks
- choosing equipment and contractors which will be available and capable of harvesting the areas of forests identified in plans
- potential conflicts between environmental requirements and safe work practices, and
- potential impacts of silviculture or management requirements on safe work practices.

Annual plans

Annual harvesting plans provide more detailed information about coupes and harvesting sites including location, road access and when to harvest.

Forest managers should consider whether the harvesting method is suitable for the coupes or harvest site. Ensuring contractors inspect the site before taking the job can help the forest operator choose the right contractor for the site and operation. Contractors should have equipment suitable for the site and the harvest and people with the skills to carry out the harvesting work.

People responsible for allocated cutting areas should consult with harvesting and haulage contractors during the planning process. Consider whether to include information about:

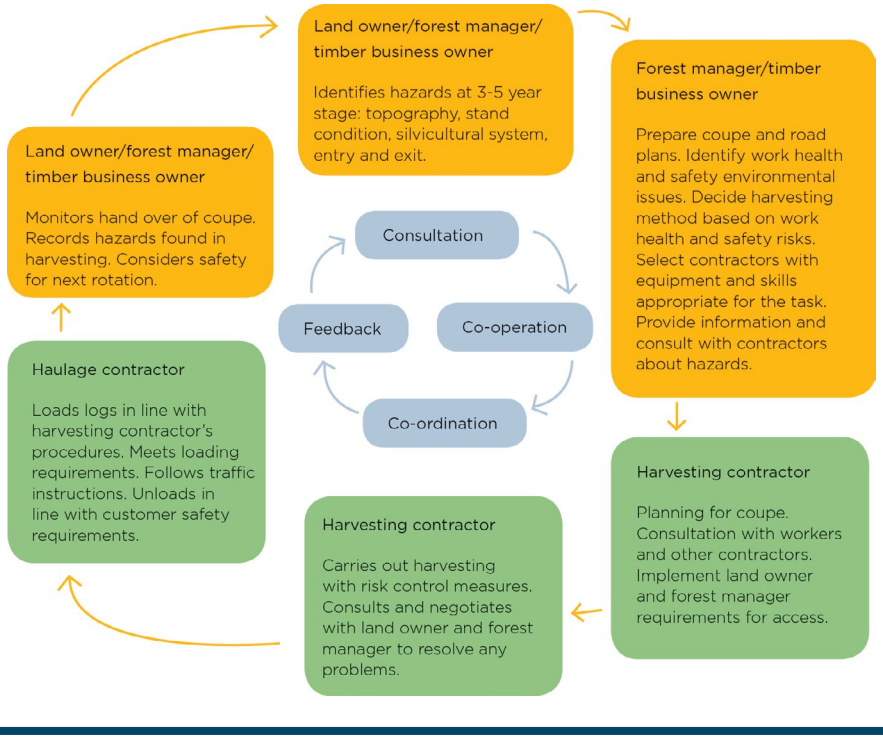
- road closures
- controlling hazards identified on land next to the harvesting coupe or harvesting site
- controlling known hazards in trees or vegetation marked for retention
- slope or yield which will slow down production
- whether machinery available to be used is suitable e.g. for the slope, tree size and soil type
- the most suitable method for harvesting the timber—consider mechanical felling before manual felling
- competency of operators, and
- first aid and other emergency plans including identifying emergency meeting points.

Operational safety plans

Maps and hazard reduction plans which are generated as the site is handed over to the harvesting contractor are important tools to ensure everyone knows and understands which hazards they should address.

Figure 1 shows the relationships between duty holders in conventional forestry operations and the consultation and co-ordination cycle which underpins a successful planning approach.

FIGURE 1 Example of managing risks through consultation, co-operation and co-ordination between duty holders



During planning the land or forest manager, timber business owner and principal contractor who have engaged contractors for forestry operations should provide information about health and safety specific to the coupe or harvesting site. This includes information about:

- the physical terrain including slope and soil type
- the environmental and silvicultural objectives
- the location of known dangerous trees and other hazards e.g. mine shafts, wells and erosion
- preferred location of log extraction tracks and log landings
- the location and design of log extraction roads, and
- the location of modified harvesting zones for environmental protection e.g. habitat protection, riparian buffers and filters.

Consultation between the land owner, forest manager, timber business owner and principal contractor at this stage is important because potential problems can be resolved before work starts. This is best achieved by parties 'walking the ground' together, allowing contractors to select retained trees and landing locations to eliminate or minimise health and safety risks associated with silvicultural and environmental requirements.

During the coupe or harvesting site inspection the contractor should consider the following to help manage risks:

- Are the landings, log dumps and roads suitable given the type of mobile and fixed machinery, the type and size of trucks and the size and number of log grades to be processed and stored?
- How will weather or seasonal conditions like fire or snow, artificial lighting for night work and delays impact health and safety?
- Developing an initial plan to minimise risks from entering and leaving the coupe or harvesting site e.g. the likelihood of timber falling across or near to roads, the location of log landings and visitor induction area.

- Assessing how the coupe or harvesting site will affect work flows e.g. felling → extraction → log preparation → loading → transport.
- Developing a risk management or safety plan in consultation with workers—see example at Appendix B.

The land owner, forest manager, timber business owner, principal contractor and harvesting contractor should identify and resolve potential conflict between work health and safety and environmental management requirements during planning. The land owner, forest manager, principal contractor and harvesting contractor should consult with workers including log truck drivers on the system of work so everyone involved in the forestry operation understands the nature of the work to be done.

Building work health and safety into the next harvesting cycle

Considering work health and safety in the planting and replanting stages of the forest cycle can help minimise potential hazards associated with operations carried out later in the rotation. It is often easier to do this when there are no trees on the site.

For example:

- ensure the planting method does not increase difficulties with future harvesting
- consider whether existing landings and roads should be kept for future harvests, and
- identify and permanently record on maps particular hazards for an area of land e.g. mine shafts or previous land slips.

Information, training, instruction and supervision

Information, training and instruction or supervision must take into account the nature of the work carried out by the worker, the associated risks and measures implemented to control the risks.

The national units of competency which are included in the Forest and Forest Products Training Package (FPI 11) are suitable for people involved in forestry operations. These can be viewed on the database on vocational education and training in Australia at training.gov.au.

Induction training

In addition to task-specific training, workers undertaking forestry operations work must be provided with induction training to inform them of site-specific hazards and to familiarise them with the forestry operations and safe work procedures. Induction training should include:

- site-specific forestry hazards
- emergency procedures
- safe operating and work procedures
- communication systems and radio frequency
- first aid and amenities
- fatigue management
- hazard and incident reporting
- record keeping
- consultation arrangements and issue resolution processes
- sites being used for the first time, and
- operations being done for the first time.

Refresher training and supervision

Even when there have been no changes to forestry operations, refresher training may be necessary to ensure key work health and safety information and competencies are addressed and maintained. Monitoring working techniques and practices is important for maintaining health and safety standards. For example, inspecting the stumps of a manual feller may show poor techniques which can create risks for the feller and others at the coupe or harvesting site.

Forestry operations can present particular challenges for maintaining effective supervision of work. Hazards can arise unexpectedly and activities are often carried out away from the direct sight of the crew supervisor. However, effective supervision is essential for maintaining a safe and healthy working environment.

Safe work areas

In forestry operations the risk of death or serious injury increases dramatically when operators are not effectively separated into safe work areas.

A work area is the active area of a coupe or harvesting site or the site at which individual operators work. This work area is generally dominated by one activity, for example manual felling or skidding.

However, the nature of forestry operations means there can often be several operators working in adjacent work areas. In the case of the log landing there may be several operators in the one work area.

One of the greatest dangers a person working in forestry operations faces is being hit by logs, trees or pieces of machinery from work being carried out in another work area.

A work area can be made safe by separating the work activities by the use of:

- physical barriers—e.g. a machine canopy or a parked machine i.e. a machine which is not operating and is placed between workers on the ground and other working machinery
- distance—the common separation distance is two tree lengths of a tree being felled or snigged, and
- time—risks can be minimised by scheduling different parts of the process to be carried out at different times—e.g. log landing construction can be completed before other forestry activities start.

Table 4 Examples of a safe work area

Activity	Operators	Typical safe work area
Manual felling	■ feller ■ skidder ■ forwarder	■ separate by two tree lengths (distance) ■ operators only enter safe work area by agreed protocol e.g. radio communication
Mechanical felling	■ harvester ■ forwarder ■ skidder	■ separate by two tree lengths (distance) ■ separation by scheduling work (time) ■ operators only enter safe work area by agreed protocol e.g. radio communication

Activity	Operators	Typical safe work area
Log processing	■ loader ■ skidder ■ forwarder ■ excavator ■ log grader	■ separate by boom length plus half log length (distance) or as specified by the manufacturer—whichever is longer ■ separate by barrier e.g. parked equipment (physical) ■ operators only enter safe work area by agreed protocol e.g. radio communication
Loading of log trucks	■ loader ■ truck driver	■ truck driver stays in a designated safe area as determined by a risk assessment, which is at least separated by boom length plus half log length (distance) and in line of sight of the loader operator ■ truck driver at least 4 metres to the front or 10 metres to the back of the truck (distance) ■ operators only enter safe work area by agreed protocol e.g. radio communication

Risk assessment of ground conditions

The changing nature of forestry operations and operating conditions means there are always hazards to be continuously managed. A common hazard is machine stability under different ground conditions.

Risk assessments for the coupe or harvesting site should focus on the machine's stability and ensuring its use is within the designer's and manufacturer's specifications. Factors that should be considered in a risk assessment include:

- operating the machine uphill or downhill
- length of the slope
- size or degree of the slope
- size and arrangement of trees or logs compared to the weight of the machine
- ground conditions including broken ground, soil types, stumps, holes and rock, and
- weather conditions.

Communication

Forestry operations are carried out in an environment where communication is not always easy or reliable. Noise, terrain, lack of line of sight, poor visibility and remote locations can affect communication systems.

Effective communication practices include:

- two-way radio communication between workers in the coupe or harvesting site as well as visitors to the site
- effective emergency communication systems
- agreed whistle or hand signals in operations e.g. cable logging
- safety signs and barricades, and
- tree markings.

Emergency procedures

An emergency plan must be prepared and maintained for the workplace.

Planning forestry operations should include the possibility of emergencies and the potential need to evacuate the work crew quickly. Planning for emergencies should include:

- testing the communication systems within the site and to external contacts
- establishing an emergency meeting point, making sure it is known to workers and is communicated to the emergency services e.g. a signposted location or road intersection
- listing phone contacts in case of emergency with details stored at multiple known locations
- ensuring transport is available for an evacuation
- confirming emergency procedures for working alone and 'report in' protocols, and
- briefing workers including contractors and visitors who will be on site about the emergency procedures.

Emergency procedures should be tested in accordance with the emergency plan in which they are contained. Testing the procedures can be carried out by running practice emergencies with the principal contractor.

Further information is in the Fact Sheet: *Emergency plans* and the Code of Practice: *Managing the work environment and facilities*.

Personal protective equipment

If you provide PPE to your workers, you must ensure that the equipment you provide is:

- selected to minimise risk to health and safety
- suitable for the work and the hazards associated with the work, and
- a suitable size and fit and reasonably comfortable for the worker that is going to use it.

In some circumstances the design of plant and equipment will minimise the risk so workers do not need to wear PPE. However, given the hazardous nature of forestry work it is recommended PPE be used at all times.

Where PPE is required careful selection, proper fitting and maintenance of PPE is important to ensure it is suitable for the task being carried out and it continues to provide the level of protection which it is designed to achieve. This will often involve consulting and training workers.

PPE must be properly maintained and replaced if damaged or ineffective, for example damaged or worn soles on safety footwear may cause slips and should be replaced. Workers should not use PPE if it is damaged, defective or has not been maintained correctly.

Further information on PPE standards and the types of PPE which should be used in forestry operations is in Appendix C.

Workplace facilities

Workers must have access to toilets, washing and eating facilities and drinking water.

Further information on the provision of workplace facilities is in the Code of Practice: *Managing the work environment and facilities*.

First aid

Workers must have access to first aid equipment and facilities to administer first aid. Workers must also be trained to administer first aid or have access to people who are trained in first aid.

First aid requirements will vary between workplaces depending on:

- the nature or type of work carried out e.g. tree felling or skidder operation
- the types of injury or illness likely to be sustained e.g. cuts, fractures, amputations, stings or bites
- size and layout of the work area e.g. the size of the coupe or harvesting site
- number and distribution of workers, and
- location of work areas e.g. distance and time to the nearest medical centre.

First aid kits must be accessible on the worksite and kept in vehicles or in an agreed place.

A trained first aider should be available within the working area which means the feller should not be the only person in the crew trained in first aid. As a minimum, off-site first aid training is recommended for at least two workers. Where possible all other workers should have basic first aid knowledge in case trained first aiders are not immediately available.

Workers should be told where the first aid supplies are kept and the procedure for replacing first aid equipment and supplies.

Further information on first aid is in the Code of Practice: *First aid in the workplace*.

APPENDIX A
SAMPLE HARVESTING PLAN

1. Description	
This plan includes cutting, skidding, cross-cutting, loading and hauling	
Species	
Type of operations	

2. Location	
Lot number	
Logging area	
Compartment(s)	
Property description	
Owner's name and address	
Purchaser's name and address	
Relevant dates	

3. Resource details	
Area to be harvested	
Species or types to be harvested	
Estimated volume	
Minimum Diameter Breast Height	
Small end diameter cutting limit	
Maximum stump height	

4. Area description	
Terrain type	
Slope	
Soil type	
Erosion class	
Unusual safety hazards	
Wet weather area available?	
Chemicals used previously on site	

5. Harvesting requirements	
Operation type	
Logging machinery restrictions	
Machinery to be used for cutting	
Machinery to be used for snigging	
Machinery to be used for loading	
Machinery to be used for hauling	
Roads	
Log landings	
Snig tracks	
Buffer strips and stream crossings	
Special values	
Utilities like power lines	

6. Safety risk assessment	
Machinery	
Fire protection equipment	
Operator's details	
Terrain	
Merchandising area	
Truck route	
Emergency pick-up points	
Other hazards	

7. Work order

8. Operation plan

9. Map attached
A map of the area identifying significant hazards, areas to be harvested, track and road routes, extraction paths, log landings is to be attached. Mark emergency pick-up points on the map and ensure workers are familiar with them. The map should reference the GPS latitude and longitudinal coordinates of the meeting point. Also provide this information to emergency services if required.

10. Agreement	
Logging plan prepared by (name)	
(Signature)	
Owner's signature	
Buyer's signature	
Date	

EXAMPLE ONLY

FORESTRY OPERATIONS RISK MANAGEMENT PLAN

CONTRACTOR:.....

COUPE NUMBER:.....

ASSESSMENT CONDUCTED BY:.....

DATE:.....

Specific Task/ Activity	Potential Hazard and Risk	Risk Rating High Med Low	Control Measures	Risk Rating High Med Low
Transporting logs	Lake Highway and Poatina Roads are narrow, windy and subject to frost, ice and snow. Consequence—vehicle accident	High	■ Do not use B Double trucks ■ Use conventional trucks only ■ Display warning signs warning of trucks entering onto Great Lakes Highway ■ UHF channel 40 for trucks to maintain contact with other trucks ■ Only cart when conditions are suitable—not when icy	Low
Transporting logs when in isolation	Worker may suffer injury when working in alone. Consequence—injury or death by exposure to elements	High	■ Trucks work in tandem ■ When not possible, develop a procedure to check driver's welfare every 30 minutes while on landing only	Low
Landing access road	Very rough road surface. Consequence—injury to driver Dead trees along access road. Consequence—injury to driver and damage to truck from falling limbs or trees	High	■ Top dress road surface with fine gravel to provide smoother surface ■ Fell dead or defective trees which may fall onto road	Low
Visitor control	Visitor does not know site. Consequence—injury to visitors	Med	■ Use signs as per the contractor visitor management policy ■ Induct visitor—provide hazard information and instruction on system of work and supervision.	Low

Specific Task/ Activity	Potential Hazard and Risk	Risk Rating High Med Low	Control Measures	Risk Rating High Med Low
Vehicle parking areas	Standing Trees. Consequence—Limbs and trees may fall in windy conditions and due to machinery disturbance e.g. vibration, bumping	High	■ Fell trees with a distinct lean towards parking area up to two tree lengths around parking area ■ Fell trees with the potential to adversely impact on the safety of workers or other people on site	Low
Landing area	Standing trees. Consequence—Limbs and trees may fall in windy conditions and due to machinery disturbance Landing sloping to road. Consequence—Logs sliding towards trucks. Machines tipping towards trucks	High Med	■ Fell trees with a distinct lean towards the landing or processing area up to two tree lengths around the landing or processing area ■ Bed logs on end of stacks to slope stacks back into landing area and away from road	Low Low
Tree felling	Dead or defective trees. Consequence—Dead or defective trees may fall without warning resulting in serious injury to feller Selective falling. Consequence—Retained stems will make felling more hazardous	High High	■ Felling to be done as per contractor safety management system. Fell dead or defective trees progressively with falling operation ■ Feller to fell trees into space to minimise damage to retained stems e.g. widow makers ■ Feller should carry at least two wedges including an aluminium one to assist with fall direction ■ Feller should use extra caution when moving around felling area (very rocky) ■ Rubber soled boots to be worn for grip on stone ■ Stop felling in icy or snowy conditions ■ Fellers use UHF communication with other workers on site	Low

Specific Task/ Activity	Potential Hazard and Risk	Risk Rating High Med Low	Control Measures	Risk Rating High Med Low
Snigging of logs	Very rocky terrain and steep drop offs. Consequence—Machine rollovers Use of tracked machines. Consequence—Will expose operators to a high risk of injury from travelling over stone.	High High	■ Operators to use extreme caution and only operate in areas they have assessed as safe to do so ■ Do not allow tracked machinery to be used outside landing area	Low Low
Manual work	Working during extreme weather conditions. Consequence—Exposure, hypothermia	High	■ Provide suitable shelter to enable clothes drying and provide shelter from the elements in parking area ■ When conditions become too severe work is to stop e.g. heavy snow or ice ■ Provide suitable protective clothing	Low

Contractor Signature: .....

Other Representative Signature: .....

APPENDIX C
PERSONAL PROTECTIVE EQUIPMENT

PPE which should be provided to workers in forestry operations and must be worn when provided, so far as the worker is reasonably able				
PPE	**Person**			
	Everyone e.g. visitors, managers	**Chainsaw operator**	**Machine operator e.g. harvester, forwarder, truck driver**	**Ground worker e.g. offsider, choker setter, log grader**
High visibility clothing AS/NZS 4602.1-2011: *High visibility safety garments - Garments for high risk applications*	✓	✓	✓	✓
Safety helmet AS/NZS 1800-1998: *Occupational protective helmets - Selection, care and use* See AS/NZS 1801 (Series): *Occupational protective helmets* (DIN 7948/EN 12492 is a suitable alternative to helmets complying with AS 1801 (Series)[2] for pruning operations.)	✓	✓	✓	✓
Safety footwear AS/NZS 2210-2009-2010 (Series): *Occupational protective footwear and should be of a standard that will provide ankle support*	✓	✓	✓	✓
Hearing protection AS/NZS 1269-2005 (Series): *Occupational noise management* AS/NZS 1270-2002: *Acoustics - Hearing protectors*	✓	✓	✓	✓
Eye protection AS/NZS 1336-1997: *Recommended practices for occupational eye protection* See AS/NZS 1337 (Series): *Personal eye protection*		✓	✓	✓
Safety gloves See AS/NZS 2161 (Series): *Occupational protective gloves*		✓	✓	✓
Leg protection See AS/NZS 4453 (Series): *Protective clothing for users of hand-held chainsaws*		✓		