

This Guide includes information on the potential hazards of log landings and practical examples of ways you can control the risks associated with them. It is part of a series of forestry industry material and should be read and used together with the *General guide for managing risks in forestry operations* and specific guidance material for:

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

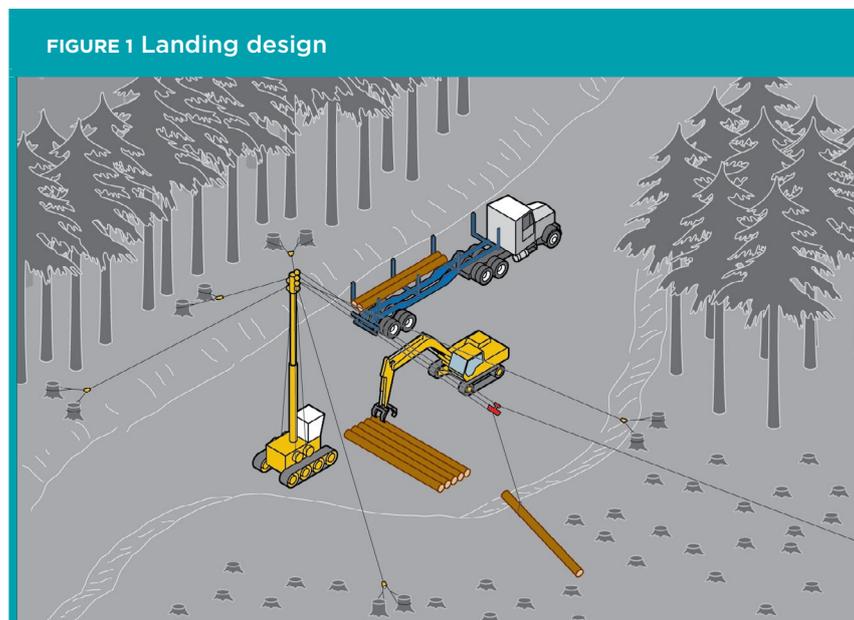
These guides are available on the Safe Work Australia website.



Log landings

The log landing brings together ground workers and machinery operations and creates risks which should be carefully managed. Initial planning for the log landing and workflow will minimise problems—see the *Guide to managing risks of coupe and harvesting site access and preparation*. For example, the landing design should have road widths for the type of trucks and volume of traffic which need access.

Figure 1 illustrates a typical landing design for cable harvesting operations.



Setting up the landing can increase productivity and minimises risks by using practices like stacking the most commonly loaded product closest to the loader. Protecting other workers like log graders can be done by leaving non-hazardous trees on the high side of the measuring area which protects the work area.

Operators entering the area should be aware of and consider others present in the area. For example, safe systems of work should be implemented to ensure:

- snigging machinery does not enter the landing area until it is safe to do so e.g. when they are signalled to enter the area by the authorised person like the landing attendant, processor operator or loader operator
- operators of snigging machinery communicate with landing workers, reduce speed when entering the landing and ensure logs are fully dropped before unhooking
- logs are only approached after they are completely landed and, if necessary, stabilised
- machinery operators do not carry logs over ground crew
- workers are not exposed to hazards from moving logs by working in front of, climbing onto or working on logs placed in log stacks or dumps, and
- chainsaws are not used to cut logs on a log truck.

Logs should be stacked on firm, level ground or a sound base. Log stacks should be kept stable and should not exceed the safe working height for the log handling equipment.

Where needed, use bearer logs under log stacks to avoid rocks or other contamination being loaded onto log trucks and becoming a potential danger to road users.



Log preparation

Bark removal should be carried out away from the swing path of the loader boom following the same work area rules for log landing operations.

Preparing logs may be done in the forest or at a landing by:

- custom built processors in cut-to-length operations
- excavators fitted with an aftermarket cut-off saw, and
- cross-cutting by hand.

Where a chainsaw is fitted to a machine and used for preparing logs the risk of injury from chain shot should be minimised—see the *Guide to managing risks of timber harvesting operations*, 'preferred solutions' in Table 9.

Whenever chainsaws are used the techniques described in AS 2727-1997: *Chainsaws - Guide to safe working practices* should be used and logs should be secured before cutting.

Log marking is usually done to identify to an end market where logs came from and who harvested them. Log markers are at risk from being hit or crushed and it is important to ensure that when logs are being marked precautions are put into place to minimise the risk to health and safety of the log marker. For example, where logs are sold by weight the time spent by a log marker at the site of activity can be reduced by not marking each log.



Log measurement

Where logs are sold by volume a safe system of work should be used to measure the log which includes:

- assessing risks to workers and equipment before starting measuring
- considering using electronic measuring devices
- putting the log in a
 - designated area away from other working operations
 - safe position for measuring e.g. on a notched log
- inspecting the log to ensure it is adequately choked to prevent it rolling or sliding
- placing tape around the centre of the log and not having the worker below the log at any time
- measuring the length of the log by hooking the tape on the lower end of the log and reading from the raised end, and
- branding the raised end of the log ensuring there is space to swing the hammer.

High risk forestry activity	Cross-cutting, measuring, marking or checking logs outside a machine canopy at a log landing or roadside log dump
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Table 1 Common hazards and risks for ground workers outside a machine canopy

Hazards and risks
<ul style="list-style-type: none"> ■ falling limbs or trees ■ moving machinery ■ rolling or sliding logs ■ chain-shot or other material thrown by machinery working on landing ■ uneven ground ■ slips and trips, and ■ skin exposure to hazardous chemicals.

Table 2 Control measures - recommended process for ground worker tasks outside a machine canopy

Control measures
<p>1. Establish a pattern of work separating activities as far as possible.</p> <ul style="list-style-type: none"> ■ Display warning signs at entry to the site. ■ Where practicable ensure there is a physical barrier e.g. a log stack or another machine between machines and ground workers. ■ When using a chainsaw ensure the line of the cut is never directed at ground workers. ■ While a machine is handling logs ensure no one enters the area within the full swing radius plus half the log length in the beak (or the manufacturer's specified safe working distance, whichever is greater). ■ The intended path of travel for skidders and forwarders should be clear of ground workers. ■ Logs should not be swung above or within the reach of ground workers. ■ Ground machine implements when the machine is parked.

Control measures
<ul style="list-style-type: none">■ Workers should not walk under an implement supported only by the machine's hydraulics.■ Log marking paint should be used according to the instructions on the label and the safety data sheet.
<p>2. Minimise the risk of logs rolling or falling.</p> <ul style="list-style-type: none">■ Ensure there is enough separation between stacks and machines to minimise the risk of disturbing any stacked logs.■ Log stacks should be kept to a safe height on level ground and angled to maximise stability.■ Logs stacks should not be higher than the capacity of the log handling equipment.■ Avoid working at the base or downhill from a log stack.■ Logs should be chocked to stop rolling when cross cutting.■ Work on the topside of a log when manually cross-cutting, grading or measuring.
<p>3. Minimise the risk of slips, trips and falls.</p> <ul style="list-style-type: none">■ Assess the work area for uneven surfaces and high edges.■ Ensure bark and other debris is regularly removed from the work area of ground workers.■ On corded landings, do not walk on the corded area while machines are operating.■ Arrange the work area so the ends of logs can be marked or painted while standing on the ground.■ Ensure safety footwear is in good condition and do not have worn soles.■ Use handrails and steps when stepping down from a machine.
<p>4. Maintain communication with other operators.</p> <ul style="list-style-type: none">■ Use radio communications to monitor movement on the landing. Entry into a designated work area should only be with the permission of the area controller.



Further information

Codes of practice, guidance material and other resources are on the [Safe Work Australia](http://www.swa.gov.au) website (www.swa.gov.au).