



▶ How to...
manage forestry risks

Managing workplace risks in forestry

A safe, productive and profitable forestry operation is one where workplace risks are identified and well managed. Managing risks is also a legal requirement (read more about the Health and Safety at Work Act 2015 (HSWA) on page 17).

Risk management is about knowing what hazards create risks in your workplace and then managing them. That means taking reasonably practicable steps (see box) to eliminate the risks. Or, if you can't **eliminate** a risk, taking reasonably practicable steps to **minimise** it.

Key things to remember about managing hazards and their risks in forestry workplaces:

- ▶ **Businesses carry most of the responsibility** (the legal duty) to keep workers and others healthy and safe.
- ▶ Understand and focus on your **critical risks** – the ones most likely to cause serious injury or death. These will be different for different types of businesses.
- ▶ **The law identifies 'particular risks'** that must be managed in a specific way (see pages 3 and 17).
- ▶ How a business manages a risk should be **in proportion** to how bad any injuries or damage could be and the likelihood of the risk happening.
- ▶ **Prioritise eliminating** a risk – if that's not possible, have strong effective **minimisation controls**.
- ▶ **Common controls** can usually be found and used for **common risks** (consult the forestry ACoP or other guidance, or ask another forestry operator what they do).
- ▶ Different businesses involved in an operation must all **consult, cooperate and coordinate** with each other where they have a shared duty. This includes workplace risks. This is a legal requirement, as well as good practice.
- ▶ Make sure you are familiar with all known **site-specific risks** – what could go wrong on your site.
- ▶ Set up and follow a good process for managing any **variations** or **changes** throughout the day that could make work unsafe. The morning tailgate meeting is a great place to start.
- ▶ **Monitor and review** health and safety systems and processes from time to time to make sure they are fit for purpose and effective, especially after an accident or when planning or doing a new task.

This booklet summarises hazard and risk management for a forestry operation. It's set out in four sections:

1. Types of workplace risks – page 2.
2. Identifying and managing workplace risks – page 6.
3. Practical methods to assess and manage risk (including risk registers) – page 8.
4. Risk management and HSWA – page 17.

You can read the booklet as a whole, or read/print off the chapters you want to learn more about.



What's "reasonably practicable"? By law, a business' risk management assessment must take into account how likely it is the risk will happen, how badly could someone be hurt, what we know or should know about the risks, and what controls are available and suitable for managing that risk.

Finally, a business must consider how much the controls cost and whether those costs far outweigh the benefits.

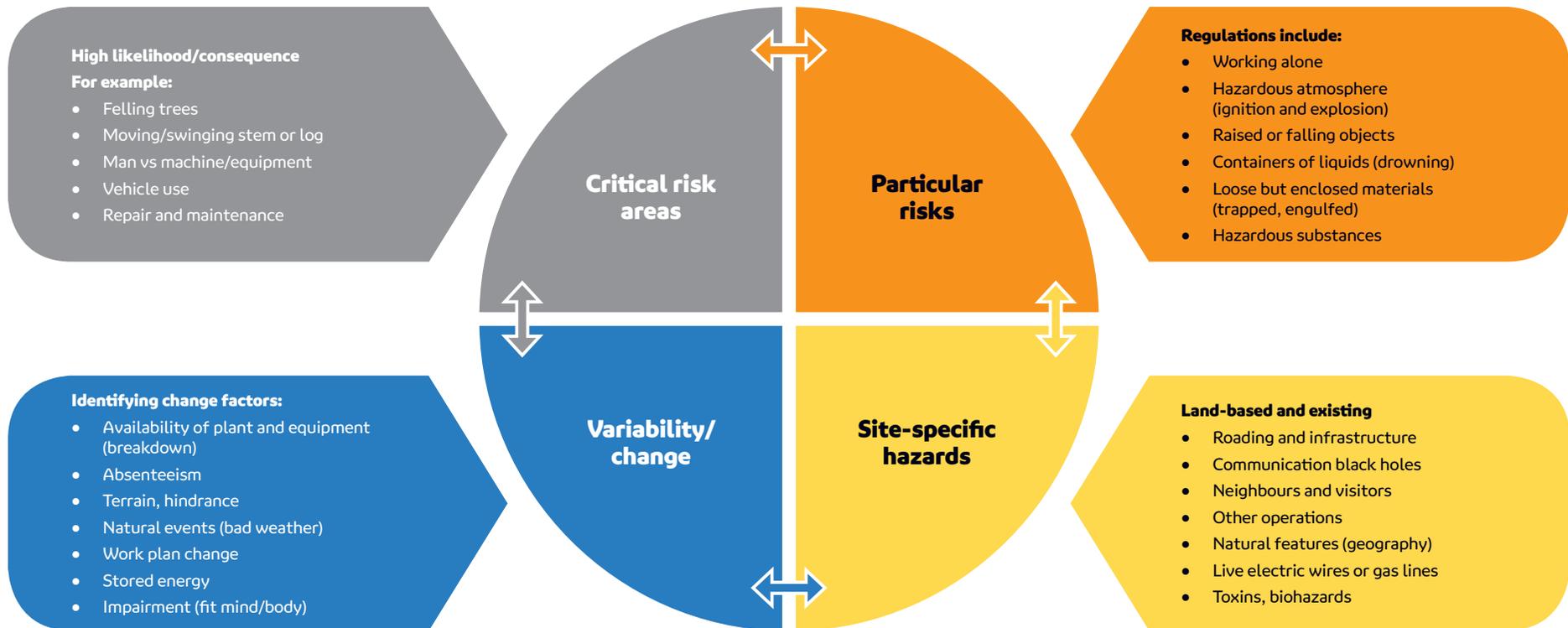
Basically it means businesses must do their best to manage workplace risks, but don't have to do everything humanly possible or constantly carry out detailed unnecessary risk assessments.

Types of workplace risks on forestry sites

It might help to think about forestry risks by separating them into four broad risk areas: **critical, particular, site-specific** hazards, and hazards to do with **variability** (when things change creating new hazards or increased risk).

A worker's safety and health can be affected by one or more if not well managed. And, remember, one type of workplace risk can overlap with any other.

▶ 2



1. Critical risks

Most businesses have some critical risks. These are work activities, tasks or situations that can cause serious injuries, illness or death.

Identifying, assessing, managing and monitoring these risks should be the top health and safety priority.

In harvesting critical risks might involve:

- ▶ tree felling (manual felling, including machine assist)
- ▶ manual breaking out – cable operations
- ▶ machine operations on processing pads (including log loading) and anywhere people work closely with machines
- ▶ operating machines on steep slopes
- ▶ repair and maintenance of plant and equipment
- ▶ vehicle use (including getting to and from work).

In silviculture critical risks might involve:

- ▶ thin to waste and/or high pruning
- ▶ agrichemical use
- ▶ vehicle use (including getting to and from work).

In road engineering (construction and maintenance) critical risks might involve:

- ▶ operating machines on steep slopes
- ▶ large-scale quarry activity
- ▶ repair and maintenance of plant and equipment
- ▶ vehicle use (including getting to and from work).

In log transportation critical risks might involve:

- ▶ trailer set-up and log loading
- ▶ driving.

Critical risks must be very well managed. While some risks may need specific controls, the good news is there are probably **common controls** (controls that are already developed for known risks) businesses can use. However, because people and businesses do things differently, always make sure any controls are right for your workplace.

Get others involved. Suppliers, designers and/or manufacturers also have a responsibility to make sure their products are safe. Ask for operating instructions or any other information about the machinery, substance or structure that might help manage risk.

2. Particular risks

While the law now mostly lets businesses decide which risks to manage and how, 'particular risks' are different. There are six specific risks, called **particular risks**, that by law must be managed (see page 17), and managed in a certain way.

However, because types of risk can overlap, think about whether a **particular risk** could be involved when developing controls for other types of risk.

3. Site-specific hazards

Sometimes referred to as natural hazards, **site-specific hazards** should be identified, assessed and documented before work starts.

The forest owner, management company or land owner (depending on the circumstances) needs to identify the site-specific hazards, often during planning stages.

They must then make sure the contractor who is doing the work has the information they need about the hazards. Together they decide how to control the risks. Who does what will depend on their ability to influence and control the situation or circumstances.



Types of risk can overlap

For example: A site-specific hazard may create a particular risk, such as a stand of trees that's been damaged by previous snowfall or high winds can increase the risk of falling objects. This creates a particular risk to people working below.

Or, if a machine is being repaired (a critical risk area), are risks associated with working under raised objects (one of the particular risks) being effectively managed? If the mechanic is working alone (a particular risk), is there a call-up or emergency assistance arrangement in place? The right controls must be developed and included in safe work plans.

4. Variability and change

Variations or change in the work or worksite conditions (also known as “upset conditions”) can increase risk levels.

This can come from:

- ▶ new activities or processes – where any potential harm isn’t yet known
- ▶ availability of plant and equipment (if a machine breaks down)
- ▶ absenteeism
- ▶ terrain obstacles getting in the way of work operations
- ▶ natural events (such as bad weather)
- ▶ stored energy (such as a wire rope under tension, or hydraulic pressure)
- ▶ someone becoming physically or mentally impaired (such as tired from long work hours or issues at home).

If anything changes, the potential risks must be reassessed and revised. New controls may be necessary.

▶ 4

For example: As forestry becomes more mechanised, more machines are operating in processing areas. This means more risk involved with using heavy machinery, person vs machine interaction, and the chance of injury from chain shot. So crews starting to work with machines face a whole new set of risks that must be identified and managed. Also, a machine might break down and a crew that’s used to mechanised processing must do manual processing until the machine is fixed, exposing them to risks they haven’t had to manage recently.



Dealing with change

Talking about any new or expected risks at the start of the day – ideally at the tailgate meeting – is a good way to manage them. Make sure the day’s plan considers these risks. **But** things can change throughout the day. A safe business is one whose workers know what to do when a change makes working unsafe. That is to **STOP**:

Stop

Think (or discuss what to do)

Re-Organise, then

Proceed.



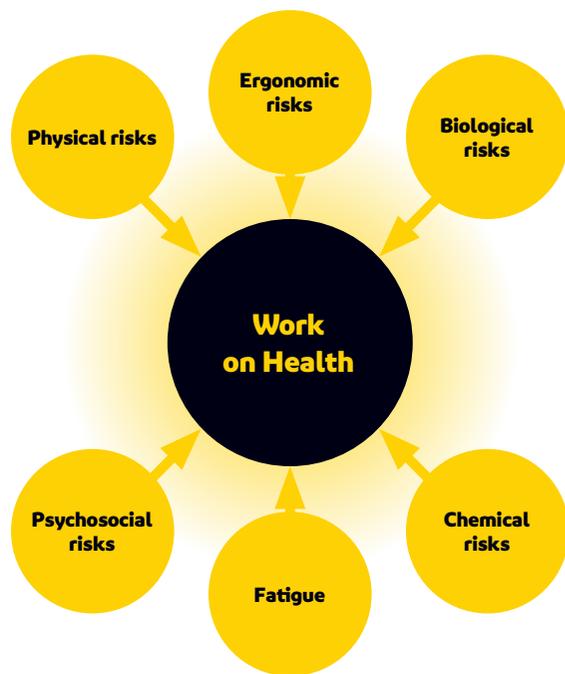
Health risks

The effect of health risks on work – and work risks on health

Sometimes a worker may not be able to do their job safely because of **acute** or **chronic** health conditions (see box).

These may be caused by the work they do (so their work has affected their health) or it might be a condition that's not work related (so their health might affect their work).

There are many work factors that can affect someone's health – and there are many other health factors that can affect someone's work.



▶ 5

For example: Noise induced hearing loss may mean a person can't communicate well. They might not hear something hazardous coming (such as a machine) or any warning shouts, or they might misunderstand safety instructions.

To manage these risks, think about what health risks workers may face when assessing a work activity or task, and whether any specific controls are necessary.

Also, working with certain hazardous substances (which count as a particular risk) means you must find out information about the product's risks (from Safety Data Sheets). When you know the risks, you can develop the appropriate controls.

Monitoring: You may also be required to monitor workers' health to see if they are suffering from anything that could expose them to harm. WorkSafe is developing [Workplace Exposure Standards \(WES\)](#) for a range of hazardous or toxic substances.

For more: See Safetree's [HSWA and work-related health booklet](#).



Acute health effects: From high levels of exposure, sometimes over very short periods of time and usually happening quite quickly after exposure begins (within minutes), e.g. noise induced hearing loss from blasting or gun shots.

Chronic health effects: From lower levels of exposure, with effects seen over long periods of time (months or years) after the exposure began, e.g. years of exposure to chainsaws or hauler tooters.

Identifying and managing workplace risks

A business has a legal duty to manage health and safety risks that are reasonably practicable to control.

The business must then make sure everyone who could be affected by those risks knows about them and how they will be controlled.

Whatever the risk, assessing and managing workplace risk is a four-step process. Don't hesitate to reassess if the hazard changes or the controls are not working and always communicate the risks and controls to anyone who could be affected by them.

Whatever risk you have to manage, good risk management means you follow the same risk management procedure for all risks.



The four-step risk assessment and management process

1. Plan work and identify hazards

Take a close look at the type of work done, where it's being done, and the equipment and machinery being used.

Think about:

- ▶ each task and the hazards and risks associated with it
- ▶ the task as part of a process or chain – are the contacts between workers being managed effectively and is there good communication in place?
- ▶ anyone else coming into the work area, and the risks they might create or be exposed to.

Also, think about risks that might come up in the future, or what might combine to create or increase risk, e.g. bad weather or poor visibility. Then think about your workers. Could the work they do harm their health? Do any of them have health conditions that mean they are more likely to be hurt? Get the people doing the work involved in finding solutions to eliminate or reduce the level of risk.

2. Assess risks and agree on controls

Think about what could happen if workers are exposed to the hazard. **How likely** is it they might be harmed and **how badly**?

It's important to pay the most attention to your workplace's critical risks – the ones that cause the most harm. It's a good idea to have a way to assess risks written down so everyone does it in a consistent way. You may not always have to do a full risk assessment (see page 18).

Agreeing control measures: With the hazards and risks identified and assessed, talk to your people about what they know about the risks and how they think they are best controlled. Keep in mind the following:

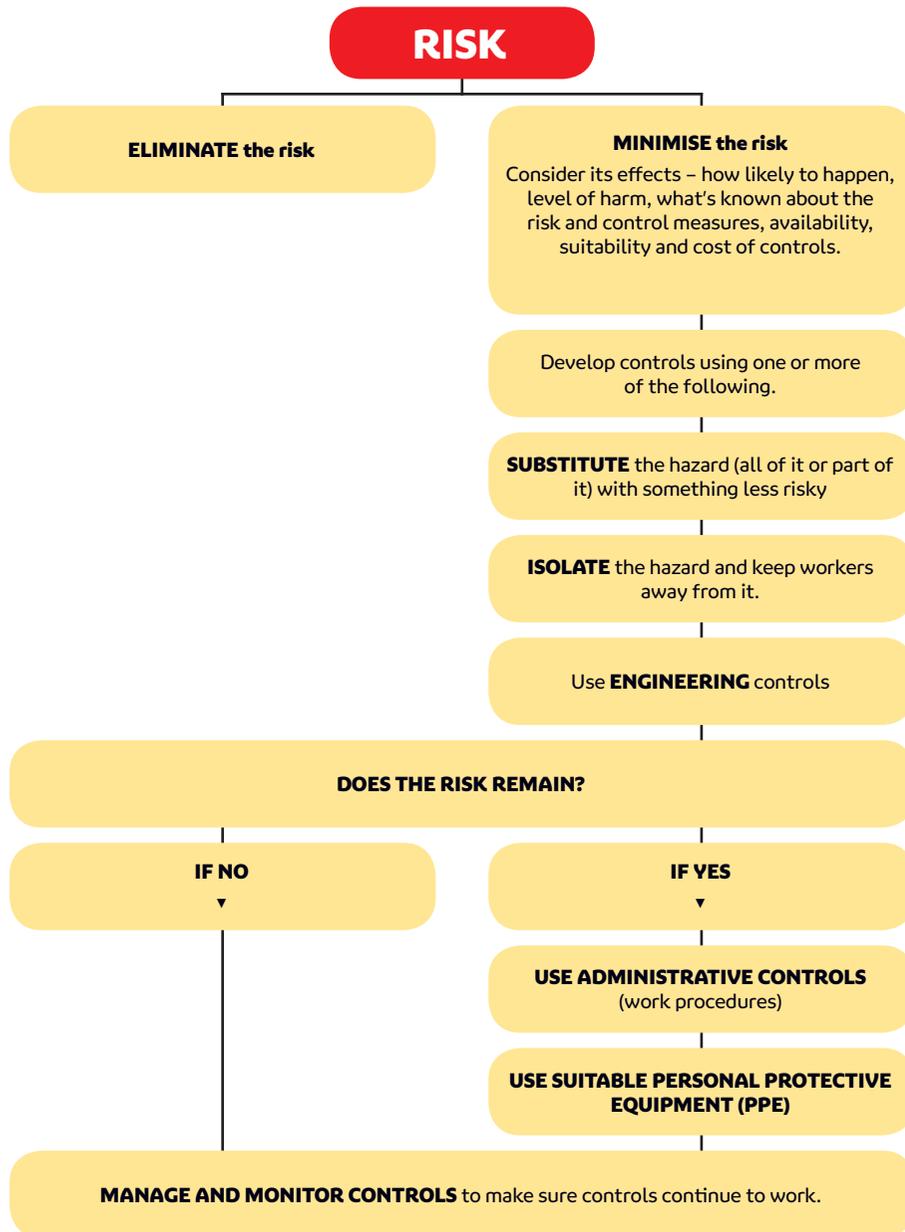
- ▶ **Are there more legal requirements** to consider, such as whether it's a **particular risk** (so extra measures must be put in place)?
- ▶ **Are common controls already available?** Ask other operators how they handle a risk, or look at the forestry ACoP, or other good practice guidance and training materials.
- ▶ **Get expert advice** if you can't find a suitable control for your risk.

Note: If more than one business has the reasonable ability to influence and control the same hazards, they must work cooperatively to do so.

Eliminate – or, if not possible, minimise risk

When considering controls, follow the process in the diagram opposite. Remember, eliminating the risk, if possible, is your top priority.

HIERARCHY OF CONTROL MEASURES



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3. Do the work using the agreed controls

With risk management controls agreed, they must be put in place.

Also consider:

- ▶ **Communication:** Let your workers and anyone else involved in the work know about the risks and the agreed controls in a way that's easily understandable.
- ▶ **Change:** History tells us that change (planned changes or unplanned changes, such as upset conditions) can create risk. Make sure workers are clear on what to do if there are unplanned changes, such as deteriorating weather, and that they watch out for anything that's changing.
- ▶ **Beware of unintended consequences:** Make sure any controls you use don't create new risks.

4. Monitor controls and review effectiveness

Whatever risk assessment method you use, always assess the entire process regularly to make sure the controls are being used properly and are still appropriate.

Monitoring can include:

- ▶ inspections
- ▶ observations
- ▶ audits
- ▶ independent reviews
- ▶ health checks.

A business' safety management system must develop guidance on how it expects the risk management controls will be reviewed, and when.

That might be after an accident or serious near hit, or when there are any changes, e.g. new equipment. Or it might be following a sub-standard audit result or after a set period of time (for a high-risk hazard that might be annually, or every three years for a low-risk one).

Practical methods to assess and manage risk

This section includes three practical examples of methods you can use to assess and manage risk.

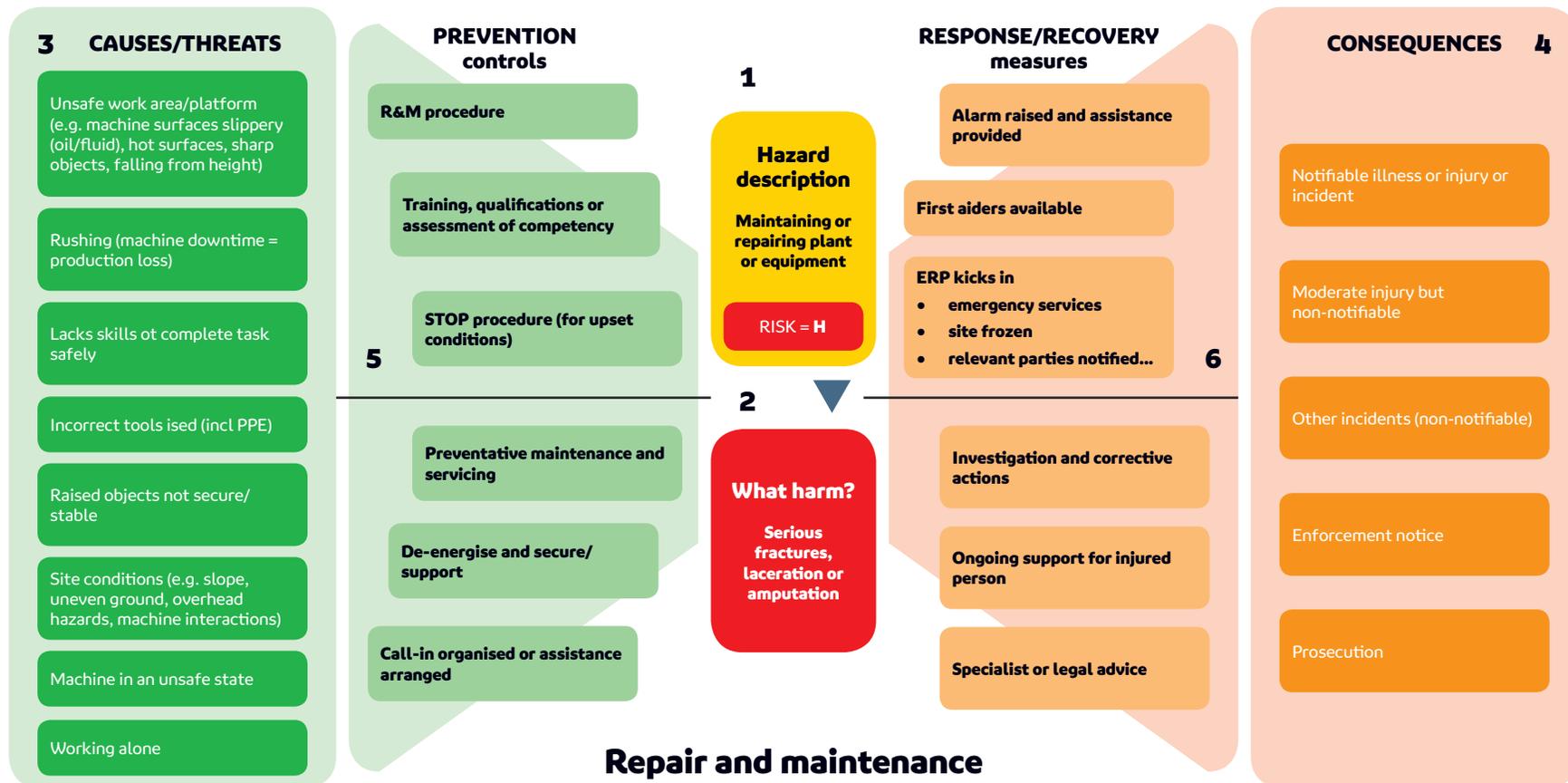
1. A "bow tie" risk assessment method

This six-step assessment method is called a "bow tie" method because of the diagram's shape. The example below uses a common health and safety risk – the **repair and maintenance of plant and equipment**.

These tasks regularly result in serious accidents, such as severe crush injuries, bone fractures, lacerations and amputations. Injuries from this task make up 10-15% of serious accidents in the forest industry. Work your way through the six steps of the bow tie assessment, following the numbers in order (rather than working from left to right).

Note: Steps 5 and 6 are the most important. If you have effective controls or measures in these areas (5), you should prevent harm from happening. But if harm does happen (2), your response and recovery measures (6) will minimise the consequences (4).

▶ 8



Step 1 – Describe the hazard.

Step 2 – What harm could happen? What's the worst that can happen?

Step 3 – What could cause harm? Use the crew's combined knowledge and experience. Ask this question: "If someone was **maintaining or repairing plant or equipment (1)** and that resulted in "**severe injury**" (2) what would be the possible cause? Repeat 1 and 2 until all **causes (3)** have been identified.

Step 4 – What are the possible consequences if the causes aren't managed well?

Step 5 – Develop prevention controls to eliminate the causes, or if impossible, minimise them. The diagram summarises these details.

Step 6 – Develop response and recovery controls based on the availability and suitability of ways to minimise the **consequences**. These are what must be done if the prevention controls (5) fail and an accident happens.

Use what you've learned from the bow tie assessment as a base for your safe work practice instructions.

9 Write the controls into safe operating procedures or safe work practice instructions and keep the bow tie diagram with them. Make sure workers who deal with hazards understand the controls, have the skills to put them in place and know to speak up if the controls aren't working as expected.

Remember to use established forest industry common controls where you can, as well as other controls you and the crew have come up with.

Advantages of using the bow tie method:

- ▶ **Fewer hazards to manage:** Things that have been traditionally considered hazards (such as slipping on a machine, or falling from it) are now treated as "causes of harm". This means **one hazardous activity could have many potential causes of harm**, which is the reality. Knowing there are multiple causes means you can take a broader look at your control framework, reduce any duplication and link controls to monitoring tools.
- ▶ **No hazard register:** Controls are written into safe work practice documents and monitored every so often using safe behavioural observations (SBO), safe work practice observations or audits.
- ▶ **Incidents or SBO results** can be used to review causes and threats to improve controls.

Disadvantages:

- ▶ The concept isn't well known and training will be needed to understand the method and use it effectively.

2. Conventional risk management process (with a dual risk assessment)

This method uses a traditional hazard or risk register for identifying, assessing and managing the hazards to do with the repair and maintenance of plant and equipment.

Starting where the hazard is completely uncontrolled, it uses the risk rating criteria below to help determine the **inherent risk** of something happening. "Inherent risk" means the probability of harm happening if nothing is done to remove the hazard or reduce the risk.

Risk rating criteria		
Likelihood		
Highly likely	5	Can expect to occur more than once a month. Occurs as a matter of course in this type of activity, task or situation. (Less than 90% chance)
Likely	4	Can expect event to occur once a month. Happens commonly in this type of activity, task or situation. (50-90% chance)
Quite possible	3	May occur at some time over six months. Has happened in the type of activity, task or situation. (10-50% chance)
Unlikely	2	Expect event to occur only in extraordinary circumstances. May have occurred somewhere at some time in this type of activity, task or situation. (1-10% chance)
Highly unlikely	1	Expect event to occur only in exceptional circumstances. Not known to happen in this type of activity, task or situation. (<1% chance)
Severity		
Catastrophic	5	Death, huge financial loss (greater than \$1m), national press coverage, work stops for more than one week.
Major	4	Extensive injuries (notifiable to WorkSafe). Loss of production capability. Major financial loss (\$50,000 – \$1m). Work stops 2-7 days.
Moderate	3	Accident (medical/lost time – non notifiable to WorkSafe) or non-harm event (notifiable), high financial loss (\$5,000 – \$50,000). Work stops for a day.
Minor	2	First aid treatment, no chance of being more serious, medium financial loss (less than \$1,000-\$5,000).
Insignificant	1	No injuries. Small business disruption. Low financial loss (less than \$1,000).
Control effectiveness		
Deficiencies	1.00	No controls in place/or controls in place may not be relied upon to function as intended.
Adequate	0.75	One or more control deficiencies identified. Increases the likelihood of risk occurrence.
Strong	0.50	Controls are operating as intended, no indication of deficiencies.

Step 1 – Identify the hazard: Add it to your risk register (see page 11).

Step 2 – Assess risks: For each hazard, use the crew's knowledge and experience to identify possible causes of harm (risks). Next consider the **likelihood** of the risk happening (here, given 3) and the **degree of harm** (rated 4) that might result.

Multiply together (3 "quite possible" x 4 "major" =12) giving you an **inherent risk** score of 12.

Scoring scheme					
Inherent risk =	Likelihood		x	Severity	
	5	Highly likely		5	Catastrophic
	4	Likely		4	Major
	3	Quite possible		3	Moderate
	2	Unlikely		2	Minor
	1	Highly unlikely		1	Insignificant

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Step 3 – Manage risks: Our priority is to develop controls to **eliminate** the identified risks. If that's not possible, then controls to **minimise** the risks must be developed.

Always check common controls (e.g. the forestry AcoP) to see if they minimise the risk. If they aren't strong enough or won't control the hazard then develop stronger controls.

If minimising, apply the general hierarchy of controls. That is, reduce risk by **substitution** (replace a makeshift tool with a purpose-built tool), or **isolation** (prevent people coming into contact with the hazard). Also, use **engineering** controls (the machine's safety features). It might be possible to use one or more of the above control methods.

Finally, consider **administrative** controls (lock-out procedures, rules, guidance) and/or PPE.

So, with your chosen controls now in place, **reassess the risk.**

Residual risk =	Control effectiveness		x	Inherent risk
	1.00	Deficiencies		
	0.75	Adequate		
	0.50	Strong		
Residual Score Categories	0-5 Low		5-8 Medium	8+ High

To summarise:

1. The **inherent risk** score was 12.
2. The controls now in place are **strong** – so we multiply that score by 0.50.
3. The **residual risk score** is now **6**, so the hazard is now a **medium risk**.

Now make sure workers exposed to the hazard understand the controls, have the skills to apply them, and know how to speak up if they aren't working as expected.

Step 4 – Monitor control measures: Controls must be monitored to ensure they are being properly used and are still working. Ways to do this include SBO, safe work practice observations or audits.

Advantages of using the traditional risk management process:

- ▶ Businesses are familiar with hazard or risk registers.

Disadvantages:

- ▶ Risk registers can become out of date. If a new hazard is identified and there aren't any common controls, or they aren't enough to control the risk, the risk register **must** be updated with the new hazard and its controls.
- ▶ As the risk register grows controls can get duplicated. This happens when similar controls are used for different hazards and risks.
- ▶ It's difficult to monitor controls kept in a risk register because the register can become quite large. This is possibly why the monitoring part of risk management isn't always effective.
- ▶ If the risk assessment has been brought over from another business, it may not be relevant to the crew currently using it.

Risk register for repair and maintenance of plant and equipment (dual risk assessment)

Hazard (condition, object, activity)	Cause of harm (risk)	Inherent risk score	Controls	Residual risk score	Date assessed/ reviewed	Responsible person
Repair or maintenance of plant and equipment	Machine is unsafe to work on	12	<p>Ensure the machine is free of trip, slip, fall hazards (hydraulic fluid, diesel and oil leakage increase the chances of slipping on or falling from mobile plant, or into moving parts).</p> <p>If the machine has broken down in an area difficult to access and repair, can it be recovered to a safer location before the repair is undertaken? The foreman is involved in any decision involving the recovery of a machine.</p>	6	Aug 16	<p>Worker</p> <p>Foreman</p>
	Poor task preparation	12	<p>If more than one person is involved in the task, ONE PERSON will take charge. That person will make sure each person understands what they are expected to do.</p> <p>The person doing the work knows how to engage the machine's lock-out/disable features, and can explain/demonstrate if asked.</p> <p>Stored energy is released before starting the job (tension or fluid pressure). A sudden or unexpected release of hydraulic fluid release onto the skin can cause blood poisoning.</p> <p>Clothing or hair is not at risk of getting caught up.</p>	6	Aug 16	<p>Lead worker</p> <p>Worker</p> <p>Worker</p> <p>Worker</p>
	Rushing (machine downtime = production loss, financial constraints, time pressure)	12	<p>If there's likely to be an impact on production, tell the foreman.</p> <p>If the machine is going to be out of commission for a long time the foreman will make sure any temporary manual process is planned, organised and undertaken by competent people. Risks will be assessed and supervision given (if necessary).</p> <p>When testing a repair, keep body parts clear of nip/crush points. If many workers are helping, every worker must be absolutely clear about their role in the diagnostics/live check.</p>	6	Aug 16	<p>Operator</p> <p>Foreman</p> <p>Operator</p>

Risk register for repair and maintenance of plant and equipment (dual risk assessment) continued...

Hazard (condition, object, activity)	Cause of harm (risk)	Inherent risk score	Controls	Residual risk score	Date assessed/ reviewed	Responsible person	
Repair or maintenance of plant and equipment	Lacks skills to complete task safely	12	The worker must have the skills and experience to do this job correctly and safely. A suitably experienced person must be available to assist (if required).	6	Aug 16	Worker Supervisor	
	Incorrect tools (including PPE) used	12	The worker has the correct tools, operator manuals and PPE (e.g. gloves, eyewear) to do the job.	9	Aug 16	Worker	
	Raised objects not secure/stable	12	Raised objects MUST be appropriately supported. Make sure no raised objects can fall on anyone close to the R&M task (raised objects are a particular risk).	6	Aug 16	Worker	
	Unsuitable environmental/site conditions		12	Check the work area for surface and overhead (falling object) hazards (again, a particular risk).	6	Aug 16	Worker
				Isolate (such as by taping off) the work area if there's a chance another machine or vehicle could come into the work zone.			Worker
				If poor light or visibility, fog, rain, dust or heat will affect your ability to finish the task safely, delay the work until conditions get better.			Worker
Infected wounds	12	Minor injuries (e.g. cuts/puncture wounds) must be treated with appropriate first aid so they don't get infected.	6	Aug 16	Worker first aider		
Working alone	12	There is an effective call-in arrangement in place (such as for weekend or after hours work).	6	Aug 16	Foreman worker		

3. A conventional risk management process using an assessment matrix (with a single assessment)

This method is very similar to the previous example. The main difference is the risk is assessed only once, not again after the controls are in place.

Step 1 – Identify the hazard: Add it to your risk register (see page 15). For each hazard use the crew’s combined knowledge and experience to identify possible causes of harm (threats to personal safety).

Step 2 – Assess risks: For each cause of harm consider the **likelihood** of the harm happening (look down the matrix) and the **degree of harm** (look across the matrix) that might result. Look at the box where the two intersect and write the **risk value** in that box in column 3 of the register.

		Degree of harm			
Assessment	INSIGNIFICANT No injuries. Small business disruption. Low financial loss (less than \$1,000).	MINOR First aid treatment. No chance of being more serious. Medium financial loss (\$1,000-\$5,000).	MODERATE Accident (medical/lost time – non notifiable to WorkSafe) or non-harm event (notifiable to WorkSafe), high financial loss (\$5,000-\$50,000). Work stops for a day.	MAJOR Extensive injuries (notifiable). Loss of production capability. Major financial loss (\$50,000-\$1m). Work stops 2-7 days.	CATASTROPHIC Death, huge financial loss (more than \$1m), national press coverage. Work stops for more than a week.
Highly likely (greater than 90% chance)	Medium	Medium	High	High	High
Likely (50-90% chance)	Low	Medium	High	High	High
Quite possible (10-50% chance)	Low	Medium	Medium	High	High
Unlikely (1-10% chance)	Low	Low	Medium	Medium	High
Highly unlikely (less than 1% chance)	Low	Low	Low	Medium	Medium
RISK rating	Risk management and monitoring examples				
Low	Apply common controls (ACoP, good practice, operator manuals) – residual risk tolerable.				
Medium	Full assessment of causes of failure, development or prevention and recovery controls, full training, regular monitoring.				
High	Critical risk area – full assessment of causes and development of prevention and recovery controls, daily tailgate meeting, safe operating procedures or work practices, regular monitoring.				

▶ 13

Step 3 – Manage risks: The priority is to develop controls to **eliminate** the identified risks. If that’s not possible, then controls to **minimise** the risks are needed.

Always check common controls (e.g. the forestry ACoP) to see if they minimise the risk. If they aren’t strong enough or won’t control the hazard you have identified then develop stronger controls.

If minimising, apply the general hierarchy of controls. That is, reduce risk by **substitution** (replace a makeshift tool with a purpose-built tool), or **isolation** (prevent people coming into contact with the hazard). Also, use **engineering** controls (the machine's safety features). It might be possible to use one or more of the above control methods.

Finally, consider **administrative** controls (lock-out procedures, rules, guidance) and/or **PPE**.

Now make sure workers exposed to the hazard understand the controls, have the skills to apply them, and know how to speak up if they aren't working as expected.

Step 4 – Monitor control measures: Controls must be monitored to ensure they are being properly used and are still working. Ways to do this include SBO, safe work practice observations or audits.

Advantages of using this traditional risk management process:

- ▶ Businesses are familiar with hazard or risk registers.
- ▶ You don't have to consider a risk in an uncontrolled state (because forestry has so many common controls a forestry hazard is rarely uncontrolled).

Disadvantages:

- ▶ Risk registers can become out of date. If a new hazard is identified and there aren't any common controls, or they aren't enough to control the risk, the risk register **must** be updated with the new hazard and its controls.
- ▶ As the risk register grows controls can get duplicated. This happens when similar controls are used for different hazards and risks.
- ▶ It's difficult to monitor controls kept in a risk register because the register can become quite large. This is possibly why the monitoring part of risk management isn't always effective.
- ▶ If the risk assessment has been brought over from another business, it may not be relevant to the crew currently using it.

Risk register for repair and maintenance of plant and equipment (single risk assessment)

This risk register differs from the one before as it has a single "risk" column and a column to mark whether you're eliminating or minimising the risk.

Hazard (condition, object, activity)	Cause of harm (risk)	RISK	Controls	E/M	Date assessed/ reviewed	Responsible person
Repair or maintenance of plant and equipment	Machine is unsafe to work on	HIGH	<p>Ensure the machine is free of trip, slip, fall hazards (hydraulic fluid, diesel and oil leakage increase the chances of slipping on or falling from mobile plant, or into moving parts).</p> <p>If the machine has broken down in an area difficult to access and repair, can it be recovered to a safer location before the repair is undertaken? The foreman is involved in any decision involving the recovery of a machine.</p>	M	Aug 16	<p>Worker</p> <p>Foreman</p>
	Poor task preparation	HIGH	<p>If more than one person is involved in the task, ONE PERSON will take charge. That person will make sure each person understands what they are expected to do.</p> <p>The person doing the work knows how to engage the machine's lock-out/disable features, and can explain/demonstrate if asked.</p> <p>Stored energy is released before starting the job (tension or fluid pressure). A sudden or unexpected release of hydraulic fluid release onto the skin can cause blood poisoning.</p> <p>Clothing or hair is not at risk of getting caught up.</p>	M	Aug 16	<p>Lead worker</p> <p>Worker</p> <p>Worker</p> <p>Worker</p>
	Rushing (machine downtime = production loss, financial constraints, time pressure)	HIGH	<p>If there's likely to be an impact on production, tell the foreman.</p> <p>If the machine is going to be out of commission for a long time the foreman will make sure any temporary manual process is planned, organised and undertaken by competent people. Risks will be assessed and supervision given (if necessary).</p> <p>When testing a repair, keep body parts clear of nip/crush points. If many workers are helping, every worker must be absolutely clear about their role in the diagnostics/live check.</p>	M	Aug 16	<p>Operator</p> <p>Foreman</p> <p>Operator</p>

Risk register for repair and maintenance of plant and equipment (single risk assessment) continued...

Hazard (condition, object, activity)	Cause of harm (risk)	RISK	Controls	E/M	Date assessed/ reviewed	Responsible person
Repair or maintenance of plant and equipment	Lacks skills to complete task safely	HIGH	The worker must have the skills and experience to do this job correctly and safely. A suitably experienced person must be available to assist (if required).	M	Aug 16	Worker Supervisor
	Incorrect tools (including PPE) used	HIGH	The worker has the correct tools, operator manuals and PPE (e.g. gloves, eyewear) to do the job.	M	Aug 16	Worker
	Raised objects not secure/stable	HIGH	Raised objects MUST be appropriately supported. Make sure no raised objects can fall on anyone close to the R&M task (raised objects are a particular risk).	M	Aug 16	Worker
	Unsuitable environmental/site conditions	HIGH	Check the work area for surface and overhead (falling object) hazards (again, a particular risk). Isolate (such as by taping off) the work area if there's a chance another machine or vehicle could come into the work zone. If poor light or visibility, fog, rain, dust or heat will affect your ability to finish the task safely, delay the work until conditions get better.	M	Aug 16	Worker Worker Worker
	Infected wounds	12	Minor injuries (e.g. cuts/puncture wounds) must be treated with appropriate first aid so they don't get infected.	M	Aug 16	Worker first aider
	Working alone	12	There is an effective call-in arrangement in place (such as for weekend or after hours work).	M	Aug 16	Foreman worker

Hazard management and HSWA

The HSWA is focused on making workplaces safe and healthy places to earn a living and establishes a way of managing risk in all workplaces.

It's built on **duty holders** taking **reasonably practicable steps** to **eliminate** risk, or **minimise** risk if elimination is too difficult or expensive. Duty holders are generally a **PCBU** (a person conducting a business or undertaking), which are referred to as "businesses" in this booklet. They have a **duty of care** to ensure the work they do doesn't hurt anyone.

HSWA shifts the health and safety focus from workplaces complying with set ways of doing things, to thinking more broadly about risk, including:

- ▶ what hazards a workplace has
 - ▶ what risks those hazards create
 - ▶ how likely they are to happen
 - ▶ how badly people can be hurt by them
 - ▶ using what we already know or have experienced to come up with suitable ways to eliminate or minimise risks
 - ▶ the cost of managing risks.
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Each forestry business must manage their workplace risks, especially the critical risks, which are the ones most likely to happen and cause serious injuries, illness or death.

General Risk and Workplace Management Regulations

While HSWA doesn't say which workplace risks must be managed, or how, its [General Risk and Workplace Management Regulations 2016 \(GRWM\)](#) give more definite instructions for the **management of six particular risks**.

Particular risks and their management are described in [Part 2 of the Regulations](#) and include the following:

- ▶ Remote or isolated work (working alone)
- ▶ Atmospheres with potential for fire or explosion
- ▶ Raised and falling objects
- ▶ Containers of liquids (drowning)
- ▶ Loose but enclosed materials (where someone could become trapped, engulfed)
- ▶ Substances hazardous to health.

If workers or people coming onto your worksite are exposed to one or more of these particular risks you must assess and manage these in the way set out in the Regulations.

[Part 3 of GRWM Regulations](#) also set out **General Duties** for the following, all of which are relevant to forestry:

- ▶ Supervision, training and instruction of workers
- ▶ General workplace facilities
- ▶ First aid
- ▶ Emergency plans
- ▶ PPE
- ▶ Health and exposure monitoring
- ▶ Young people at the workplace.

Be familiar with your duties around these situations.

Notifiable events and due diligence

Under the old Health and Safety in Employment Act 1992, employers had a responsibility to identify hazards and decide if they were “significant”.

Significant hazards were those that could cause serious harm (such as death or permanent injury), or temporary severe loss of bodily function (such as becoming unconsciousness or not breathing).

HSWA has removed the “significant hazard” and “serious harm” terms. Instead it says accidents where someone dies or is seriously hurt, or certain near hits, are classed as **notifiable events** and [WorkSafe must be told about them](#).

The requirement under the old Act to investigate to see whether a serious forestry accident was due to a significant hazard has also gone. However, so we continue to learn from accidents and incidents, HSWA has placed a number of **due diligence duties** on officers (people such as company directors and CEOs).

One of their duties is to make sure their business has processes for collecting and considering information about incidents, hazards and risks, and then taking appropriate action.

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When to do a full risk assessment – and when not to

A full risk assessment is about looking at the process, task or work to be done, figuring out what things could cause harm (what the hazards are), then assessing or determining the risk.

You may not always have to do a full risk assessment as part of your risk management process.

WorkSafe says a risk assessment must be done when:

- ▶ how a hazard may cause injury or illness isn't certain
- ▶ the work activity involves different hazards, and the workers involved don't know how those hazards act together to produce new or greater risks
- ▶ workplace changes may impact on the effectiveness of control measures
- ▶ new or different risks are associated with a change in work systems or work location.

You don't have to do a full risk assessment when:

- ▶ laws already set out how to control the relevant hazards or risks, and require the organisation or person to follow those control methods
- ▶ a code of practice or other guidance sets out a relevant way of controlling a hazard or risk that applies to the relevant situation, and that guidance must be followed
- ▶ well-known and effective controls used in a particular industry are suited to the relevant circumstances of a particular workplace, and these controls may be put in place.

However, you must always consider the particular circumstances of your work in relation to the risks it creates. It helps to read [WorkSafe's Position Statement on Risk Management at Work](#).

The key is that people and businesses do things differently. That's why it's always important to make sure any **common controls** are right for your workplace.

If you feel there's still too much risk (residual risk) after putting in place those common controls, you should look for ways to further minimise the risk.

About this book

This resource is intended as a guide to help forestry businesses identify and manage workplace risks under the Health and Safety in the Workplace Act 2015.

About Safetree

Safetree is a source of information for New Zealand's forestry industry to find guidance to do their jobs without injury.

Safetree provides videos, printable downloads and other resources to help people at all levels of the industry to do their work safely. Safetree is managed by the Forestry Industry Safety Council (FISC) and has been developed with the support of:

Forest Owners Association – www.nzfoa.org.nz

Forestry Industry Contractors Association – www.fica.org.nz

New Zealand Farm Forestry Association – www.nzffa.org.nz

ACC – www.acc.co.nz

Council of Trade Unions – www.union.org.nz

WorkSafe NZ – www.worksafe.govt.nz

For more:

Safetree: Go to www.safetree.nz to register for updates and to find other resources to stay safe on the job.

WorkSafe: For more on HSWA, go to the Worksafe site:
www.business.govt.nz/worksafe/hswa.

Business Leaders Health and Safety Forum: For information to achieve zero harm workplaces, including case studies, go to
www.zeroharm.org.nz/leadership/case-studies.