

# Fire as a land management tool

## Introduction

Fire has been used for land management throughout history, and it is still an efficient and economical tool. In New Zealand fire is commonly used for land clearing and for disease control in agricultural or horticultural industries. While it is a valuable tool, fire use comes with risk.

The person who lights or causes a fire to be lit is responsible for ensuring the fire remains safe and is completely extinguished. Knowledge of how to use fire safely will reduce the risk to life, neighbouring property and the environment.

## Land management fire types

A variety of fire types may be used for land management. These include:

Fire type	Description	Used for
Pile burn	Controlled burn of cut and stacked vegetation.	Property maintenance, agricultural and horticultural activities, land clearing, land conversion.
Windrow burn	Controlled burn of vegetation that is placed in long narrow rows, e.g. after forest or scrub clearing.	
Crop residue or stubble burn	Controlled burn of crop residue, which is plant waste material left in the paddock after harvest, including stalks.	Preparing land for replanting crops.
Land clearing	Controlled burn of scrub or other vegetation where it is growing in high or low country land.	Preparing land for conversion, e.g. scrub to grass.

## Key stages

There are five key stages to follow to safely use fire as a land management tool.



# Guide – Fire as a land management tool

## 1. Check

When planning to use fire for land management, the first stage is to check and comply with the legal and administrative requirements in the area you want to have the burn. Check the following:

- Fire season and permitting requirements. See [www.checkitsalright.nz](http://www.checkitsalright.nz) to determine what the fire season is in your area and whether you need a permit.
- Territorial authority restrictions or requirements for burning in the open air, e.g. smoke and emissions.
- Regional council restrictions for ensuring air quality.
- Seek advice from your local Fire and Emergency New Zealand office so that we know what you're intending and can help to ensure you are safe. Contact details are available on [www.checkitsalright.nz](http://www.checkitsalright.nz).
- Your insurance cover, including property loss and replacement from fire, and public liability insurance.

## 2. Plan

Planning is the most important stage in the use of fire for land management. A good plan will help you to achieve your burn objectives, keep everyone and the environment safe, and prevent the escape of your fire.

When planning your burn, it is vital to consider the:

- **time of year** for your burn and how many favourable days are required to complete your burn. Check the [fireweather.niwa.co.nz](http://fireweather.niwa.co.nz) and Metservice websites
- **location** of the fire in relation to neighbouring property
- **fire environment**, including topography, fuel and weather
- **fire behaviour**, including parts of a fire and how it spreads
- **safety** of personnel.

Taking all of these factors into consideration, plan your burn. Determine:

- the objectives of your burn
- the burn method and light-up pattern
- how the fuel will be prepared, e.g. felled or crushed, sprayed with desiccant
- the risk mitigations you will need, e.g. firebreaks, safety zones, escape routes
- the resources required, e.g. personnel, fire safety equipment, water sources
- the safety of the personnel involved, e.g. escape routes, communications plan.

Contact Fire and Emergency for planning advice. You may need to complete a burn plan, which will be reviewed by Fire and Emergency before your permit is granted.

# Guide – Fire as a land management tool

## 3. Prepare

Before you complete the burn, you need to prepare the following:

<b>Fuel</b>	Set the fuel up for the burn. Clear flammable material from areas not to be burnt.
<b>Land</b>	Create firebreaks, safety zones and other exclusion zones.
<b>Resources</b>	Organise crews and equipment, including personal protective clothing.

## 4. Do

On the day of the burn, ensure you:

- obtain the latest weather forecast, including current and long-range forecasts
- notify the relevant people, including neighbours, and Fire and Emergency
- confirm the safety zones and escape routes – establish **LACES**:

<b>Lookouts</b>	People are assigned to look out for signs of danger during the burn.
<b>Awareness or Anchor points</b>	Everyone is aware of the objectives of the burn and expected behaviour. Crews are working from safe and secure anchor points.
<b>Communications</b>	Everyone has well-established communication links, radios, crew leaders, etc, and all situational updates are communicated to everyone.
<b>Escape routes</b>	More than one escape route is available for everyone and these are communicated.
<b>Safety zones</b>	Zones of safety are in place, whether natural or constructed. Vehicles are positioned correctly for escape.

- perform a safety briefing. Ensure everyone is wearing the correct clothing – wool and cotton, not synthetic materials that can melt
- deploy your resources, assigning groups, sectors and tasks according to your burn plan
- follow the burn plan light-up pattern
- supervise the fire at all times that it is burning
- patrol and observe the adjoining land outside of the perimeter for spot fires
- rapidly suppress any spot fires outside of the perimeter if it is safe to do so
- continue to patrol the burn perimeter until all available fuel within the burn area is extinguished.

**Call 111 immediately if at any point you are concerned about a risk to people, property or the environment.**

# Guide – Fire as a land management tool

## 5. Make safe

After the burn has been completed, check the location of the burn in the days and weeks following burning to ensure it's completely cold in the centre.

Strong winds can fan a fire back into life and shift embers, creating unwanted fires. Piles of unburnt vegetation can hold heat for months after a burn. Turn the piles to ensure complete burning of the material.

Do not add new fuel to the burn location for a later burn as there is the risk of the fire reigniting.

## Further information

More detailed advice and information on how to safely use fire as a land management tool for specific burn types is available from a Fire and Emergency office or on the Fire and Emergency website.