

bushfire prepare to survive



a guide to preparing yourself and your property for bushfires

If threatened by a bushfire phone **000**



Photo courtesy of the Advocate

contents

living in or near bushland? – **make sure you survive the next bushfire**

Contents

Who should use this booklet	2
Bushfires in Tasmania	2
What it's like in a bushfire	3
Why houses burn down in bushfires	4
Why people die in bushfires	4
Prepare a bushfire plan	5
Make a decision - Will I stay or will I go?	6
Prepare your home - create a defensible space	6
Provide access for fire-fighters	9
Provide water for fire-fighting	9
If you choose to stay:	10
Personal protection	10
Fire-fighting equipment	10
Protecting your home	10
If it gets hotter than expected	12
If you choose to go:	13
When and where to go	13
How to get there	13
What to take	13
Getting back	14
Bushfire checklist	15
More information	18

*Photos in this publication are courtesy of The Mercury, The Examiner and The Advocate.
Cover photo courtesy of Mark Cullen.*



bushfires



Living in the bush



Bushfire threatens an urban fringe



Bushfire on Hobart's outskirts

who should use this booklet

If you live in or near the bush, your home is at risk from bushfire. You should use this booklet to guide you through the steps necessary to prepare your home so it can be defended against a bushfire. For the purposes of this booklet, bush includes bushland, scrub, grassland, farmland, heath, marram grass and button-grass.

A properly prepared home is more likely to survive a bushfire than one that hasn't been prepared, and the chances increase significantly if able-bodied people are there to protect your home. Because fire-fighters may not be able to help when you need it, you should stay with your home to defend it. If you don't want to stay and defend your home even if you've prepared it, the booklet provides advice on relocating safely.

bushfires in **tasmania**

Most bushfires in Tasmania occur during relatively mild summer weather and are easily controlled by fire-fighters.

However, bushfires that break out on hot, dry and windy days can spread rapidly and may be very difficult for fire-fighters to control. These fires can burn large areas of forest and farmland, destroy homes and livestock, and occasionally kill and injure people.

On these days, fewer homes will be lost if people living in or near the bush have prepared them, and stay to defend them. Properly prepared and defended homes provide a safe haven during bushfires.

If you don't want to stay and defend your property, you should plan to leave early. Many people have died in bushfires because they have tried to relocate too late, and have been trapped and burnt in their cars or on foot. Fewer lives will be lost if people who choose to relocate do so well before a bushfire threatens.

what it's like

what it's like in a bushfire

Understanding what a bushfire is like will help you choose whether to stay or go, and prepare you for the conditions you might experience if you choose to stay.

Most bushfires in Tasmania that threaten homes burn on hot dry days with strong gusty winds. If a bushfire is burning towards you on a day like this, it will become increasingly smoky and difficult to see, and your eyes may temporarily become reddened and sore. Breathing in heavy smoke may be uncomfortable.

As the fire gets closer, it will get darker and burning embers will begin to land around your home. The closer the fire gets, the more embers there will be. When it gets close, you will be able to hear the loud roaring of the fire. Burning embers will rain down on your home and collect in corners and on flat surfaces. Electrical supplies may be cut off.

As the fire passes your home, the heat from the flames (radiant heat) may become unbearable, and you will need to shelter inside.

By the time the bushfire has passed and it's safe to leave the shelter of your home, the noise will have abated. Outside it will be very smoky, and anything burning will be giving off a lot of radiant heat.

This time should be used to extinguish any burning material that might ignite your home, and to continually check inside and outside your home to ensure it isn't burning. You will need to wear appropriate clothing to protect you from radiant heat and embers that will continue to fall for several hours.

Fires look a lot worse at night than during the day, even though they are usually much milder at night.



Tasmanian homes under threat



Bushfire

why



This home will not survive a bushfire



Unprepared home at risk



This home survived a bushfire

why houses burn down in **bushfires**

Homes burn down in bushfires for one of the following reasons:

- Flames and radiant heat from burning vegetation and other bushfire fuels too close to the home cause the home to catch fire. Homes exposed to too much flame and radiant heat begin burning as the front of the bushfire passes by.

Homes with too much vegetation close to them are difficult to protect from bushfire.

- Burning embers collect on combustible surfaces or blow through cracks in a home's external cladding. Embers begin falling before the fire reaches the home, and may continue falling for several hours after the fire has passed. Often homes only exposed to this 'ember attack' don't burn down until several hours after the fire has passed. If residents are there, they can be defended successfully.

Homes that are only subjected to ember attack can be defended by able-bodied people.

Unattended homes are three times more likely to burn down than homes that are defended.

why people die in **bushfires**

Most people who die in bushfires are caught by the fire in the open, either in their car or on foot, and are burned to death. Sadly, many are caught because they decide to flee at the last minute. In many cases, the homes they have fled from survive the bushfire.

A properly prepared home can be defended by able-bodied people. But if you plan to leave your home, leave early.

bushfire plan

prepare a **bushfire plan**

If you live in or near the bush, you should make a plan setting out what you are going to do to prepare your home, and what you are going to do if a bushfire approaches. A written plan will help you think through the actions logically, and give you something to refer to when a bushfire breaks out nearby.

The plan should be prepared carefully and thoughtfully. Once you've prepared it, stick to it. If you've prepared your home and decided to defend it, don't panic and flee in your car at the last minute – you'll be much safer at home where you can shelter from radiant heat.

The plan should include:

1. the steps you are going to take to prepare your home against bushfire, and
- 2a. the steps you are going to take to make sure you can defend your home safely, or
- 2b. the steps you are going to take to make sure you relocate safely and
3. the plan should also include what your family members should do if they're not at home, e.g. children at school.

Let your family and close friends or neighbours know what you are planning to do.

Remember that if your home has not been prepared and is closely surrounded by flammable vegetation, there is a high probability that it will burn down if threatened by an intense bushfire, even if fire-fighters are around to protect it. Fire-fighters will concentrate on saving houses that can be protected with minimum resources and without putting fire-fighters' lives at risk.

If your unprepared home is threatened, fire-fighters may choose not to defend it.

Therefore, regardless of whether you plan to stay with your home if it's threatened by a bushfire or relocate elsewhere, the Tasmania Fire Service (TFS) urges you to prepare your home so that it can be defended.



Prepare a bushfire plan



Prepare your property

decision



These Tasmanian homes are well prepared for bushfire

make a decision – **will I stay or will I go?**

Staying to protect a properly prepared home against bushfire is a safe option for physically and mentally fit people. However, if your home has not been properly prepared, and radiant heat from nearby vegetation (refer Table 1, p. 8) makes it difficult to defend and unsafe to shelter inside, it will be safer to relocate.

Regardless of how well prepared your home may be, relocation may also be the better option for young children, elderly or disabled people, and people who do not feel comfortable about staying.

To minimise the number of lives and homes lost in bushfires, the TFS encourages able-bodied people to prepare their homes then stay and defend them. People unable to cope with bushfires are encouraged to leave early.

PEOPLE SHOULD NOT FLEE AT THE LAST MINUTE.

If you're going to defend your home and are likely to be away (eg. at work) when a bushfire breaks out, you need to have a means of learning about the fire (eg. TFS website, ABC radio), and plans for returning home.

prepare your home - **create a defensible space**

Your home is more likely to survive a bushfire if you have prepared it properly. The most important job is to create a defensible space, which is an area around your home where you have modified the vegetation and removed most of the other flammable materials to reduce the fire's intensity. Removing flammable materials will mean sparks and embers will have less fuel to ignite when they land, and any spot-fires will be easier to put out. Also, the impact of the flames and radiant heat from an approaching bushfire will be reduced.

A defensible space makes it much easier to defend your home. And if you choose not to stay, a defensible space will help fire-fighters protect your home, or may even protect your home if fire-fighters can't reach it.

Once a defensible space has been created, it needs to be maintained year-round to be effective.

A defensible space includes two 'zones':

- an inner zone where flammable materials are minimised, and
- an outer zone where a low level of flammable material is permitted.

In the **inner zone**, flammable materials on, under and around your home should all be moved away from the house. Use Table 1 on

prepare

Page 8 to work out the distance you need to apply.

In the inner zone:

- include non-flammable areas such as paths, driveways, and short cropped lawns;
- use non-flammable mulch - do not use woodchips or bark;
- locate any dams, orchards, vegetable gardens and any effluent disposal areas on the fire-prone side of the home;
- use radiation shields and windbreaks such as stone fences and hedges using low flammability plants;
- remove fire hazards such as wood piles, rubbish heaps and stored fuels;
- replace all highly flammable plants with low flammability plants;
- prune lower branches on trees and remove flammable shrubs from under and between trees; and
- rake up bark and leaves and keep roofs and gutters clear of flammable debris.

It is not necessary to remove all vegetation from the inner zone. Individual trees rarely cause houses to burn in bushfires, and trees can screen a building from windblown embers while protecting it from radiant heat. Smooth barked trees are less likely to catch fire than those with rough bark. No tree should be able to fall on the home.

In the **outer zone**, small-sized natural fuels

(such as leaf litter, bark, sticks, tussocks and some shrubs) are removed and larger fuels (trees and shrubs) are modified to reduce the intensity of an approaching bushfire.

Fuel amount and continuity, both on the ground and between the ground and any larger trees, is modified by selective removal of vegetation, both horizontally and vertically, followed by ongoing maintenance.

In the outer zone:

- retain established trees to trap embers and reduce wind speeds;
- selectively remove small trees and shrubs to create clumps (rather than a continuous wall of trees), separated by open areas;
- remove the vegetation between the ground and the bottom of the tree canopy, or to a height of at least 2 metres; and
- minimise fine fuels, such as grasses and leaf litter, at ground level.

There is no need to remove most trees as they are beneficial in trapping embers and reducing wind speeds and will not be involved in a bushfire once the fuels on the ground and the understorey have been modified. Effective landscaping design should provide for safety while retaining a pleasant environment. The final impression from a distance is that all the vegetation has been retained, while up close, the impression is of more open vegetation.



Properly prepared homes can survive a bushfire



This home survived

table 1

SLOPE				INNER ZONE	OUTER ZONE	
				(Measured along the ground from the edge of the building)	(Measured along the ground from the outer edge of the building protection zone)	
DESCRIPTION	DEGREES	PER CENT	RATIO		GRASSLAND	FOREST
flat	0	0	0	20 metres	10 metres	15 metres
gentle	5°	9%	1:11	20 metres	15 metres	25 metres
moderate	10°	17%	1:6	25 metres	20 metres	30 metres
mod-steep	15°	27%	1:3.7	30 metres	30 metres	45 metres
steep	20°	36%	1:1.27	40 metres	40 metres	50 metres



If clearing vegetation during the fire permit period, you may need a permit

If you plan to remove bushfire fuels by burning them during a Fire Permit Period, you may need a permit issued by a Fire Permit Officer (call 1800 000 699).

If it is not a Fire Permit Period, contact your local council for information about local restrictions.

provide access for fire-fighters

In some cases, fire-fighters may be able to assist you defend your home. If your home is set back from the road and a fire truck needs to negotiate your driveway, it should have a minimum width of 4 metres, clear to a height of 4 metres. Any bush for 2 metres either side of the driveway should be cleared as for the outer zone (refer above). The inner radius of any turns should be no less than 10 metres, and there should be adequate room provided at the end of the driveway for a fire truck to turn around.

provide water for fire-fighting

Putting water on fires that threaten your home is the best way to extinguish them. However, during a bushfire water supplies may be interrupted. Mains water pressure may drop due to demands on the supply from others, and if you're not connected to town mains and rely on tank water and an electric pump, this will fail if electricity supplies are interrupted.

Whether you're staying to protect your home or leaving it, it is essential to have water available (fire-fighters might need it).

Consider alternative water sources such as a nearby pond or dam, creek, swimming pool or water tank. You should have 20,000 litres (about 5000 gallons) of water, if you are relying on one of these alternative supplies to defend your home, and it must be accessible by fire trucks.

It is advisable to have a 64mm 5v thread male outlet fitted to water tanks to allow for direct connection to fire fighting equipment by firefighters.



Clear access



Water supply and pump



Alternate water supply

stay



Dress properly



Prepare equipment



Reduce fuel loads

if you choose **to stay...**

Personal protection

It's important to protect yourself from a bushfire's radiant heat and from the numerous embers it will generate.

Wearing the clothing you would normally wear on a hot summer day will not protect you enough from a bushfire.

Wear clothing made from natural fibres (cotton or wool), such as overalls or a long-sleeved cotton shirt and cotton trousers or jeans. Wear leather boots and a wide-brimmed hat or safety helmet. Cotton gardening gloves will protect your hands, goggles or safety glasses will help keep sparks and embers out of your eyes and an appropriate face mask may protect your airways.

As the fire-front passes your home, it may be necessary to shelter inside from the radiant heat and ember attack. Continually check for any outbreak of fires inside, including in the roof space. If fire breaks out, extinguish it using water you have collected in the bath and in buckets, or with a hose attached to your laundry taps.

If possible, keep clear of large windows on the side of the house nearest the fire, or you may be injured by breaking glass.

The coolest place to be is likely to be on the side of the house furthest from the fire.

Only leave your home if it catches fire and you are forced out, or when it is safe to leave

to put out any fires burning on or near the exterior of your home. A wool blanket will give you added protection from radiant heat.

Fire-fighting equipment

If you create a defensible space around your home and choose to stay and defend it, your chances of success will improve if you have some basic tools available.

As a minimum, you should have a ladder for access to the roof and into the roof-space, a torch for moving safely inside the roof-space, a hose and fittings, a rake and a strong bucket. A wet mop can be handy for putting out embers and small fires.

If you can't rely on mains water and have an alternative supply, you should purchase a small fire-fighting pump and hose. Look under 'Fire-Protection Equipment' in the Yellow Pages. A pump kit should include the pump and its petrol-driven motor, a suction hose, strainer and float (to get water to the pump), two 30-metre lengths of 19mm or 25mm diameter fire-fighting hose or 19mm garden hose, a fire-fighting nozzle for each, and spare fuel. Practice using the equipment regularly.

During the fire, make sure that the pump and hose are protected from radiant heat and sheltered from embers and sparks, and that any polythene water lines are buried below ground or covered so they won't melt.

Protecting your home

The biggest threats to your home in a bushfire are burning embers and radiant heat. The defensible space you create will reduce the radiant heat to acceptable levels. However, you need to make sure your home is protected against 'ember attack', particularly if you've chosen to relocate when bushfire threatens.

Embers will build up on horizontal surfaces, particularly in corners. They can enter your home through small gaps in doors and window frames, eaves, cladding and roofing. Timber decks can be ignited, particularly if embers can build up underneath them.

Small gaps should be sealed with protection strips or non-combustible filler, and larger under-deck areas should be protected with non-flammable screens.

Measures to ember-proof your home should be taken well before the beginning of summer.

If a bushfire is burning nearby and you've chosen to stay:

1. Listen to ABC radio for news of the bushfire (use a battery operated or car radio if the power is off), or visit the Tasmania Fire Service website (see back page for details).
2. Dress in a long-sleeved cotton shirt, cotton trousers (jeans), boots and a hat or helmet.
3. Have a drink of water every 10 minutes to avoid dehydration.
4. Clear roof gutters of leaves, and sweep or rake leaves from decks and lawns near the house.
5. Block your downpipes, (a sock full of sand/soil will help) and fill your gutters with water.
6. Move flammable outdoor furniture, doormats and hanging baskets away from your home.
7. Close all doors and windows, remove curtains, and close shutters if you have them.
8. Put tape across the inside of windows so they remain in place if broken.
9. Fill the bath and any buckets and other containers with water.
10. Put a ladder inside.
11. Connect garden hose or prepare your fire-fighting pump.
12. Extinguish any sparks, embers and spot-fires burning on or close to your home. A hose or a wet mop is handy for this.
13. Don't stand on the roof with your hose. In bushfires, often more people are injured falling off roofs than suffer burn injuries.
14. Don't waste water wetting down roofs and walls. Use the water only for extinguishing burning material.
15. Ensure all family members and pets are safe.



Clear gutters



The fire approaches



When the fire arrives, shelter inside

stay



Shelter inside until the fire has passed

When the fire arrives:

1. If you need to shelter, store your pump and fire-fighting hose where it won't get burnt.
2. Take a garden hose and fittings inside and fit them to a tap in the laundry.
3. Check around the inside of your house constantly, including in the roof space.

Once the fire has passed:

1. Extinguish any part of your house that is alight. Your neighbours may be able to help.
2. Check under the house and any decks, on the roof and inside the roof space. Check around window frames and door jambs, and under the eaves.
3. Sparks and embers will continue to fall, so keep checking for several hours.
4. Have a drink of water every 10 minutes to avoid dehydration.

if it gets hotter **than expected...**

Your home will protect you from a bushfire's radiant heat.

However, if despite your best efforts your home catches fire and you can't put it out, close all interior doors and leave it if safe to do so. If it's unsafe to leave immediately, shelter inside at an exit as far from the fire as possible. Be aware that as the interior of your home burns, toxic gases will be given off.

Exit your home as soon as possible and relocate to a safe place nearby. This might be in your vegetable garden, the park across the street or your next-door neighbour's house. You should identify this 'safe haven' in your bushfire protection plan. Choose a place that is very close, will be safe to get to, and will be safe when you get there.

Do not attempt to flee elsewhere in your car at the last minute.

if you choose **to go...**

Even if you have chosen to relocate well before a bushfire threatens your home, you should take steps to prepare it for bushfire.

If you do:

- fire-fighters are more likely to defend it; but
- even if fire-fighters are unavailable, your home will be more likely to survive on its own.

When and where to go

If you've chosen to leave your home if it's threatened by bushfire, you should leave early, hours before the fire reaches your home.

Most people who die in bushfires do so because they left just before the fire arrived, and were quickly over-run by the fire in the open, or crashed due to poor visibility.

Lock up your home and tell neighbours where you can be contacted.

Go somewhere safe, such as to relatives or friends who live in areas that aren't close to the bush. Or you might decide to spend the day shopping, at the library or at the beach.

If you have a shack that is well protected or not in the path of a bushfire, you may plan to re-locate there for a few days.

How to get there

Plan the route you will take, and avoid driving in areas where fires are burning. If driving your car, make sure it has enough fuel for the journey and is mechanically sound. If nervous about driving, consider using a taxi or asking a friend to collect you.

What to take

You should plan to be away from home for at least 24 hours, and if the worst happens and your home is destroyed, you should ensure that you have re-located important documents and other valuable items and memorabilia.

Take cash and credit cards, insurance policies, family albums, and other easily-carried items of value. Take spare clothes and other items you would normally take on a short trip. Ensure you take sufficient water and food for the trip.

Pets can be frightened by bushfires. If possible, take them with you, or make sure they have plenty of water and food.



If you choose to go...



Go early...



Make sure your route is clear



These homes were successfully defended by their owners. Some were better prepared than others

Getting back

Plan to return home as soon as it's safe. Often homes don't burn down until several hours after the fire has passed, so if you can return safely, you still may be able to save your home.

However, fire trucks, fallen trees, power poles and wires and burnt bridges may close some roads for several hours or days. And electricity workers will be working to restore power supplies to affected areas as quickly as possible. During this period, access by members of the public will be restricted, and residents may be unable to return home for several hours or until the following day.

For details of road closures, listen to local radio stations or visit the Tasmania Fire Service website.

If your home is destroyed, contact your local council for assistance in the first instance.

checklist

bushfire **checklist** (also see www.fire.tas.gov.au)

HOUSE AND PROPERTY PREPARATIONS

	Non-flammable areas (paths, driveways, lawns) installed adjacent to home
	Vegetable garden, orchard and dam located on fire-prone side of home
	Wood piles, rubbish heaps and other fuels removed to a safe distance
	High flammability plants replaced by low flammability plants
	Lower branches of trees in inner zone pruned
	Flammable shrubs under and between trees in inner zone removed
	Shrubs and small trees in outer zone selectively removed
	All vegetation under trees in the outer zone removed to a height of at least 2 metres
	Roof and gutters cleared of leaf debris
	Dry leaves and bark raked or swept from lawns and gardens in the inner and outer zone
	Screens or shutters on doors and windows installed
	Areas under decks and floors enclosed
	Vents into roof space screened with fine wire mesh
	Gaps in external roof and wall cladding sealed

WATER SUPPLIES AND FIRE-FIGHTING EQUIPMENT PREPARATIONS

	Fire-fighting water supply
	Fire-fighting pump, hoses and nozzles available
	Ladder, torch, garden hoses, buckets and rake available
	First aid kit available
	Battery-operated radio available



Low flammability plants



Clear up dry leaves and bark



Have equipment ready

checklist



Put wet towels against gaps



Remove curtains



It's going to be hot and smoky

PERSONAL PROTECTION

- Bushfire plan prepared and well understood by all
- Long trousers & long sleeve shirt (cotton or wool) for all who are staying
- Sturdy leather boots & leather or cotton gloves for all who are staying
- A helmet or broad brimmed hat with neck strap for all who are staying
- Close-fitting goggles or other protective eye wear for all who are staying
- A face mask or handkerchief to tie over the nose or mouth for all who are staying

PREPARATIONS WHEN FIRE BREAKS OUT, IF STAYING

- Prepare fire pump and attach garden hoses to taps
- Remove garden furniture, door mats and other flammable items from adjacent to home
- Clear roof and gutters of leaf debris
- Plug all downpipes (using sock filled with sand/soil), and fill gutters with water
- Drink water frequently to avoid dehydration
- Fill baths, sinks and buckets with water
- Rake or sweep dry leaves and bark from lawns and gardens
- Close all doors and windows, remove curtains and close window shutters
- Tape inside of windows
- Ensure all family members and pets are safe
- Place wet towels and blankets against gaps under doors and windows
- Dress in appropriate clothing and drink water frequently
- For news of the fire's progress, listen to ABC radio or access www.fire.tas.gov.au

IF LEAVING BEFORE THE FIRE ARRIVES

- Pack planned belongings into car and leave in accordance with bushfire plan, if safe to do so

checklist

WHEN THE FIRE ARRIVES

	Extinguish sparks, embers and spot-fires close to home
	When too hot to stay outside, go into the house to protect yourself from radiant heat
	Take fire-fighting equipment, ladder, hose and fittings inside
	Connect hose to laundry tap
	Check inside the house and in the roof cavity for any fires
	Extinguish any fires that break out inside

AFTER THE FIRE HAS PASSED

	Go outside as soon as possible and extinguish any fires posing an immediate threat to your home
	Patrol your property for several hours and douse any embers that land on or near your home
	Check the roof cavity frequently from inside your home for any fires
	Drink water frequently to avoid dehydration
	Help your neighbours if possible

This is a guide only.



Put out spot-fires



Shelter inside from radiant heat

more information

freecall **1800 000 699**

- For more detailed information on **preparing you and your home for bushfire**, visit our website.
- For information on **buildings, access and water supplies** for living safely in bushfire-prone areas, download *Guidelines for Development in Bushfire Prone Areas in Tasmania* from our website, or call 1800 000 699 for a free booklet.
- For information on **fire permits** or to register a fire permit, call 1800 000 699 or visit our website.
- For information on **bushfires burning in Tasmania**, call 1800 000 699, visit our website or listen to local ABC radio.
- For information on **Total Fire Bans**, call 1800 000 699 or visit our website.
- For information on **low flammability plants** download *Fire Retardant Plants for the Urban Fringe and Rural Areas* from our website, or call 1800 000 699 for a free booklet.

www.fire.tas.gov.au

In an emergency **dial 000**

