



PREPARE. ACT. SURVIVE.

FIRE READY KIT



FOREWORD

The fire season poses a significant threat to all those living, working or travelling in Victoria. Preparation and planning ahead can save you and your family from being killed by fire.

The *FireReady Kit* has been developed by CFA as a valuable resource. It will help you prepare your Bushfire Survival Plan. Remember, even if you did a plan last year you must review and update it.

CFA urges all residents to have a written survival plan that takes into account family members, visitors and pets. If you work or intend to travel in a high-risk fire area you are also encouraged to prepare a plan.

Understanding the risks that lead to bushfire, how bushfires behave and identifying your 'triggers' are key. Undertaking preparations or works around your property is an important part of becoming ready for the fire season.

You are not alone in your preparations. Advice and support is available with details provided throughout this kit. Draw on these resources to make this bushfire season a safe one.



Euan Ferguson AFSM
Chief Officer

CFA makes this information available on the understanding that you take reasonable care when using it. If you have any uncertainty about the application of the information to your particular circumstance, you should obtain further professional advice:

CFA does not accept responsibility for how you apply, or rely on the information in this publication.

FRK 10/2011



Cover: The residents of this house have left early due to a **Code Red** fire danger day.

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BUSHFIRE SURVIVAL
PLANNING TEMPLATE:
LEAVING EARLY



SECTION 01

AM I AT RISK?



NEED SOME HELP?

- Visit **cfa.vic.gov.au**
- Call the Victorian Bushfire Information Line on **1800 240 667** or via National Relay Service on **1800 555 677**

SECTION 01 AM I AT RISK?

Victoria is one of the most fire-prone areas in the world. Understanding your level of risk is the first step in developing your Bushfire Survival Plan.

It only takes two weeks of hot, dry and windy weather to create dangerous fire conditions. So, if you live, work or travel in Victoria this summer, you may be at risk of bushfire.

If you live near or visit areas that are heavily forested, have thick bush or long, dry grass, or coastal areas with lots of scrub you are at risk of fire.

Fires can occur where suburbs meet the bush or in urban areas where houses have grassland, bush or parkland around them.





➤ WHAT CREATES BUSHFIRE RISK?

VEGETATION

The intensity of a bushfire will be affected by the amount and type of vegetation around your home. Local terrain, such as hills and valleys, also plays a role.

Bushfire will behave differently depending on the environment it is burning in. These environments include:

- grass or paddocks
- forest and woodland
- coastal scrub
- bush and grassland fringes.

Have a look at pages 8-13 for more information about high-risk environments.

WEATHER

Extreme heat, gusting winds and low rainfall dramatically increases the level of bushfire risk. The combination of dry conditions with hot, dry and windy days means bushfires can quickly become uncontrollable. This places lives and property at risk.

A change in wind direction is one of the most dangerous influences on fire behaviour. Many people who die in bushfires get caught during or after a wind change.

Have a look at page 25 for more information.

TOPOGRAPHY

Topography influences the speed and intensity of a fire.

A fire will burn faster up a hill. As a fire moves up a hill it will intensify in speed and heat. Being on top of a hill in a bushfire makes you more vulnerable.

As wind passes over a hill or windbreak the wind can tumble, creating turbulence and erratic fire behaviour. Valleys and gullies can channel and strengthen wind.

Poor road access, such as narrow streets in hilly areas, may make it difficult for firetrucks to get in and for residents to leave.



WHAT IS AN EMBER ATTACK?

- Embers are burning twigs, leaves and pieces of debris.
- Ember attack occurs when twigs and leaves are carried by the wind and land on or around a house.
- Embers can land on top of debris in your gutters and set fire to your house.
- Ember attack is the most common way houses catch fire during bushfires.
- Ember attack can happen before, during and after the bushfire.



WHAT IS RADIANT HEAT?

- Radiant heat is the heat that you feel from a fire.
- Radiant heat is the biggest killer of people and animals in a fire.
- The best protection from radiant heat is distance.
- A solid object, such as a brick wall, and suitable clothing can offer some protection from radiant heat. But they may not save your life.

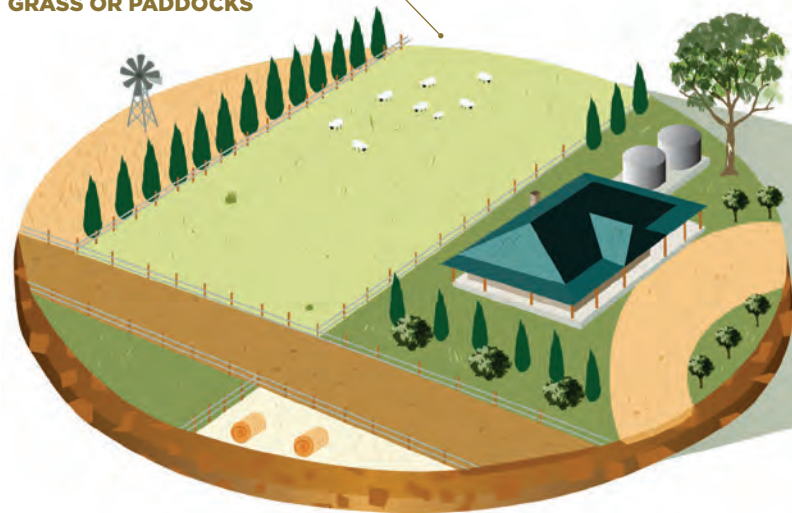
Don't get caught in the open – radiant heat can kill you.



➤ **LIVING IN A HIGH-RISK ENVIRONMENT WHAT YOU CAN EXPECT?**

You are at risk if you live in any of these environments.

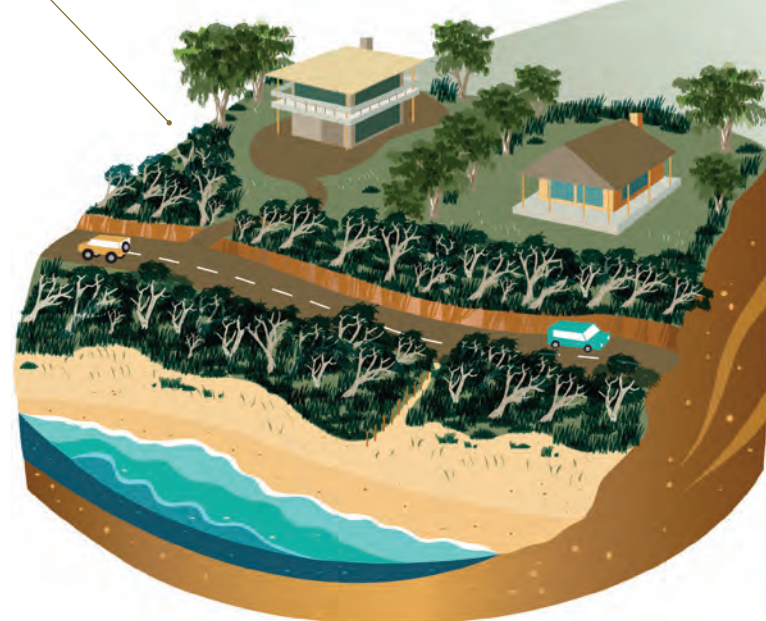
A
CLOSE TO OR AMONG
GRASS OR PADDOCKS



B
CLOSE TO OR AMONG
FOREST AND WOODLAND



C
NEAR COASTAL SCRUB

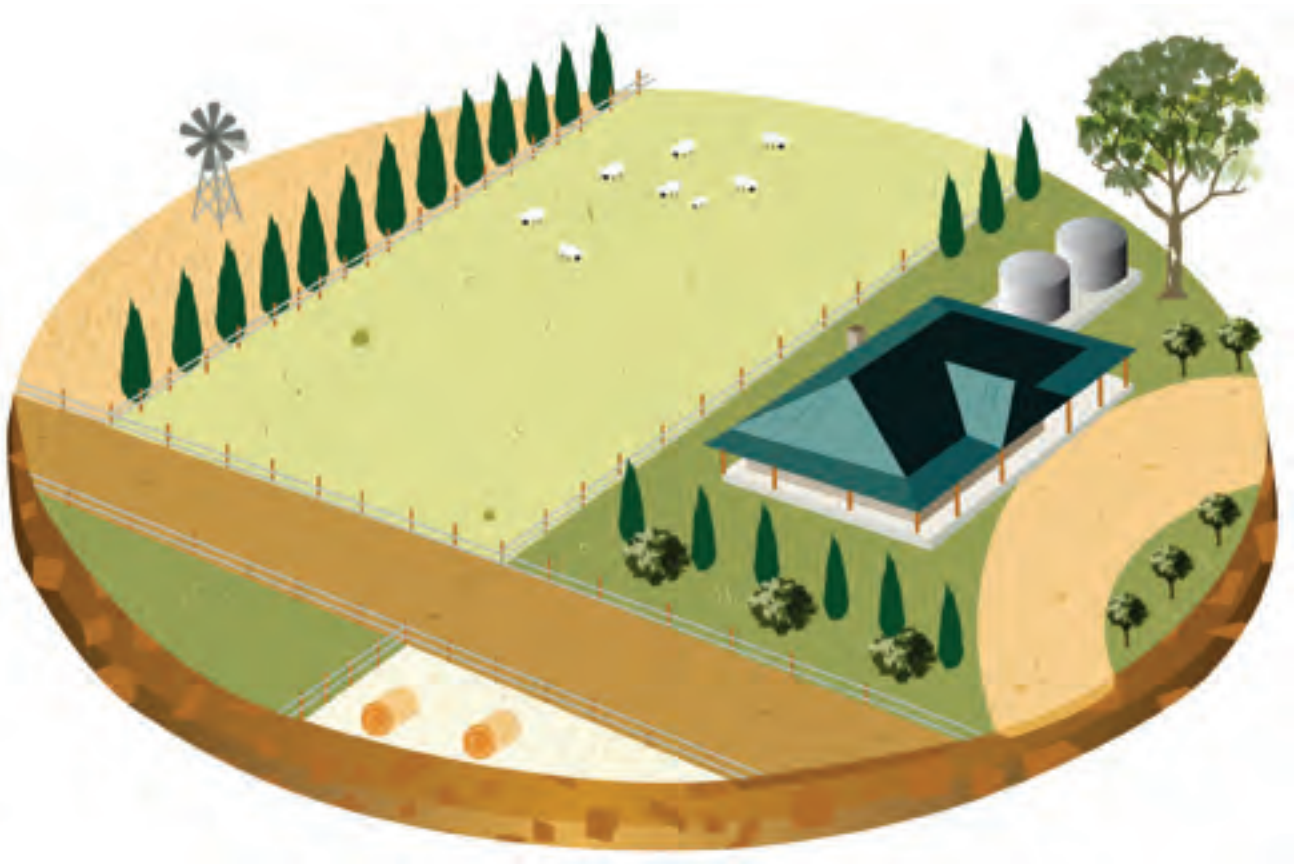


D
WHERE SUBURBS MEET
THE BUSH OR GRASSLANDS



A. Close to or among grass or paddocks

Grassfires can be extremely dangerous – people can die in grassfires.



WHAT CAN YOU EXPECT?

- ✓ Dry and brown grass that easily catches fire.
- ✓ Grass more than 10 centimetres tall will have a higher flame height and intensity.
- ✓ Faster burning than through forests as grass is a finer fuel.
- ✓ Large amounts of radiant heat.
- ✓ Fires that can start early in the day.
- ✓ Faster moving fires that travel up to 25 kilometres per hour. In open grassland speed increases up to 60 kilometres per hour.



B. Close to or among forest and woodlands

Risk is most extreme if you live surrounded by or near forest that is difficult to see through. However, all forest or woodland presents a bushfire risk.

WHAT CAN YOU EXPECT?

- ✓ Very hot fire and many embers.
- ✓ Embers such as twigs, bark and debris arriving from far away.
- ✓ Dangerous levels of radiant heat and fire intensity.
- ✓ Trees falling in high winds.
- ✓ Embers landing for a long time after the fire has passed.
- ✓ Fine fuels (the thickness of a pencil or less) that burn very quickly.
- ✓ Heavy fuels that will burn very hot for long periods of time.
- ✓ A reduction in visibility due to very thick smoke.

C. Near coastal scrub

Burning scrub, heath or other coastal vegetation can create hot, dangerous bushfires. If you live by, work by or travel to the coast you are at risk. Beaches, foreshores and shallow waters may not be safe or protect you from radiant heat (see page 7). Often a fire will be burning between you and the beach.



WHAT CAN YOU EXPECT?

- ✓ Very hot and fast-moving fires.
- ✓ Gusty ocean winds causing fire to behave erratically.
- ✓ A lot of embers.
- ✓ Fire reaching houses quickly.
- ✓ Busy, congested coastal roads.

D. Where suburbs meet the bush or grasslands

You do not have to live in the bush to be at risk of bushfire. Suburban homes can burn down in bushfire, too.



WHAT CAN YOU EXPECT?

- ✓ Scrub, forest and grass catching fire.
- ✓ A fire in a park or reserve quickly spreading to timber fences and gardens.
- ✓ Fire spreading from house to house once houses start to burn.
- ✓ A high risk of ember attack if the house is near dense bushland environments.
- ✓ Embers falling close to or on your house starting a new fire.
- ✓ Strong winds that bring embers from far away.

STAY AWARE OF THE FIRE DANGER RATING AND KNOW WHAT TO DO.

The Fire Danger Rating predicts how a fire would behave if started, including how difficult it would be to put out.

The higher the rating, the more dangerous the conditions. The rating is your trigger to act, so to stay safe you need to stay aware of the Fire Danger Rating in your district.

During the fire season, the Fire Danger Rating will feature in weather forecasts, be broadcast on radio and TV, and appear in some newspapers.

It can also be found on the websites of CFA, Department of Sustainability and Environment and Bureau of Meteorology, by calling the Victorian Bushfire Information Line on 1800 240 667 or via National Relay Service on 1800 555 677.



WHAT DOES IT MEAN?

- These are the worst conditions for a bush or grassfire.
- Homes are not designed or constructed to withstand fires in these conditions.
- The safest place to be is away from high-risk bushfire areas.

WHAT SHOULD I DO?

- Leaving high-risk bushfire areas the night before or early in the day is your safest option – do not wait and see.
- Avoid forested areas, thick bush or long, dry grass.
- Know your trigger – make a decision about:
 - when you will leave
 - where you will go
 - how you will get there
 - when you will return
 - what you will do if you cannot leave.

CODE RED

EXTREME

- Expect extremely hot, dry and windy conditions.
- If a fire starts and takes hold, it will be uncontrollable, unpredictable and fast moving. Spot fires will start, move quickly and come from many directions.
- Homes that are situated and constructed or modified to withstand a bushfire, that are well prepared and actively defended, may provide safety.
- You must be physically and mentally prepared to defend in these conditions.

- Consider staying with your property only if you are prepared to the highest level. This means your home needs to be situated and constructed or modified to withstand a bushfire, you are well prepared and you can actively defend your home if a fire starts.
- If you are not prepared to the highest level, leaving high-risk bushfire areas early in the day is your safest option.
- Be aware of local conditions. Seek information by listening to ABC local radio, commercial and designated community radio stations, or watch Sky News TV, visit cfa.vic.gov.au, call the Victorian Bushfire Information Line on **1800 240 667** or via National Relay Service on **1800 555 677**.

SEVERE

- Expect hot, dry and possibly windy conditions.
- If a fire starts and takes hold, it may be uncontrollable.
- Well prepared homes that are actively defended can provide safety.
- You must be physically and mentally prepared to defend in these conditions.

- Well-prepared homes that are actively defended can provide safety – check your Bushfire Survival Plan.
- If you are not prepared, leaving bushfire-prone areas early in the day is your safest option.
- Be aware of local conditions. Seek information by listening to ABC local radio, commercial and designated community radio stations, or watch Sky News TV, visit cfa.vic.gov.au, call the Victorian Bushfire Information Line on **1800 240 667** or via National Relay Service on **1800 555 677**.

VERY HIGH

HIGH

LOW-MODERATE

- If a fire starts, it can most likely be controlled in these conditions.
- Be aware of how fires can start and minimise the risk.
- Controlled burning off may occur in these conditions if it is safe – check to see if permits apply.

- Check your Bushfire Survival Plan.
- Monitor conditions.
- Action may be needed.
- Leave if necessary.

SECTION 02

PREPARE FOR BUSHFIRE

LEAVING EARLY IS THE SAFEST OPTION

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NEED SOME HELP?

- Visit **cfa.vic.gov.au**
- Call the Victorian
Bushfire Information
Line on **1800 240 667** or
via National Relay Service
on **1800 555 677**

SECTION 02 PREPARE FOR BUSHFIRE

LEAVING EARLY IS THE SAFEST OPTION

Bushfires are extremely unpredictable.

In a bushfire, people may be confused, disoriented and physically or psychologically stressed. In these conditions, making sound decisions becomes very difficult.

Leaving early is the safest way to survive a bushfire. People die trying to leave their homes at the last minute.

BEFORE THE BUSHFIRE SEASON

You need a Bushfire Survival Plan if you plan to leave. Use the *Bushfire Survival Planning Template: Leaving Early* tearout (at the back of this section) to help you prepare your plan.

Decide now what you are going to do on fire risk days – it could save your life.

SHARING YOUR BUSHFIRE SURVIVAL PLAN

Once you have prepared your Bushfire Survival Plan, it is a good idea to share the details of your plan with family, friends and neighbours. Doing so will save everyone a lot of distress when there is a bushfire as they will know that you are prepared and know where to find you.

Remember to update everyone about any changes to your agreed plan of action.

YOUR IMPORTANT INFORMATION

Keep your important items and information in a safe place during the bushfire season. Scan important information and photos and store them on a CD or memory stick.

Make sure your plan is flexible to account for different situations such as:

- weekends
- school holidays
- a work day
- when you are away from home.

How will these situations affect your ability to put your Bushfire Survival Plan into action?

LEAVING EARLY

In high-risk areas, leaving early is your safest option. This is particularly so on **Code Red**, **Extreme** and **Severe** days. Fires on these days can be dangerous.

Even people who are extremely well prepared can die fighting fires at home.

WHY YOU SHOULD LEAVE EARLY

- ✓ If you live in a high-risk bushfire area, your home will not be defensible on a **Code Red** day.
- ✓ **Code Red** is the highest Fire Danger Rating. These are the worst conditions for a bush or grassfire.
- ✓ Houses are not designed or constructed to withstand fires in **Code Red** conditions.
- ✓ On a **Code Red** day, leaving high-risk bushfire areas the night before or early in the morning is the safest option.

- ✓ If you live in a high-risk bushfire area, your home may not be defensible on **Extreme** or **Severe** fire risk days.
- ✓ Most homes in high-risk bushfire areas are not built to withstand bushfire.
- ✓ Defending your home is very risky – you could die or be seriously injured.
- ✓ Defending a property requires at least two able-bodied, fit and determined adults who are physically and mentally prepared to work long and hard in arduous and difficult conditions.
- ✓ Children, the elderly, people with special needs or disability should be well away from the threat.

KNOW YOUR TRIGGER TO LEAVE

The safest option is to leave high-risk bushfire areas the night before or early on **Code Red** days. Do not wait and see.

Code Red days are rare. When they are forecast they are **very** serious.

Know the Fire Danger Rating in your area. The Fire Danger Rating is your 'trigger' to act. The higher the rating, the more dangerous the situation if a fire starts.

For more information on Fire Danger Ratings, see page 14.

WHAT TO TAKE WITH YOU: YOUR RELOCATION KIT

OVERNIGHT BAG WITH CHANGE OF CLOTHES AND TOILETRIES

ADEQUATE AMOUNT OF WATER

IMPORTANT INFORMATION

WOOL BLANKETS

MEDICINES AND FIRST AID KIT

MOBILE PHONE AND CHARGER

CONTACT INFORMATION

> DOCTOR

> COUNCIL

> POWER COMPANY



WHAT TO DO BEFORE YOU LEAVE

There are things you can do around your property before you leave. These actions may minimise damage to your home from bushfire.

- ✓ Close all doors and windows.
- ✓ Move doormats and outdoor furniture away from the house.
- ✓ Block the downpipes and partially fill the gutters with water.
- ✓ Move stock or large animals to large paddocks with short grass.
- ✓ Turn off the gas supply.
- ✓ Leave the front gate open.

WHERE CAN YOU GO ON HIGH-RISK BUSHFIRE DAYS?

- Family or friends in a low fire risk area.
- A place of relative safety, such as a shopping complex or central business district of a large regional or urban centre.
- Other community buildings, such as libraries in low-risk areas.

Do not forget to call family, friends and neighbours to let them know where you have relocated. Do you have all the phone numbers you are going to need listed in your mobile phone? As an added safeguard, write the numbers down elsewhere in case you lose your phone or do not have it with you on the day.

PLAN HOW YOU WILL REACH YOUR DESTINATION

- Make preparations and it will be easier to leave early.
- You will need to know what route to take and have an alternative if that route is blocked or congested.
- Your normal route may take much longer than expected.
- If you do not have your own car you will need to think about options, such as public transport or a neighbour.
- Practise packing the car so it is quick and everything fits – including your pets! It will take a lot longer than you think.
- Make sure you have enough petrol or fuel so you don't need to stop to fill up.

WHAT YOU WILL DO IF YOU CANNOT LEAVE

In recent fires, people who planned to leave took longer to get ready than they had expected. This resulted in them being delayed and leaving when fire was upon them – often with tragic consequences.

Fires are unpredictable and plans can fail. Having a backup plan can save your life if you are caught in a fire.

If you cannot leave the area consider shelter options close by that may protect you. These may include:

- a well-prepared home (yours or a neighbour) that you can actively defend
- a private bunker (that meets current regulations)
- a designated community shelter or refuge.

Last resort options could include:

- a Neighbourhood Safer Place (**Place of Last Resort**)
- a stationary car in a cleared area
- a ploughed paddock or reserve
- a body of water (such as the beach, pool, dam or river). This does not include a water tank. Dams may not be reliable as their water levels fluctuate and they may be empty in summer.

Note that last resort options carry a high risk of trauma, injury or death.

See page 38 for more information on your survival options.

If, as a last resort, you leave when there are signs of fire in your area, exercise extreme caution.

Driving during a bushfire is a last resort. A drive that will normally take five minutes may take two hours in the event of a fire.

It may become difficult to leave owing to dangerous road conditions. There may be road closures, smoke, fallen trees and embers.

You may become trapped by fire and exposed to dangerous radiant heat.

KNOW WHEN IT IS SAFE TO RETURN HOME

Check with police, fire authorities and your local emergency services before trying to go home. Even if the fire has been controlled, there may be other safety issues that you are unaware of that may affect your ability to return home. These include:

- fallen trees
- disruptions to essential services
- potential crime scenes.

Bushfires do not arrive at convenient times. Many bushfires start late in the afternoon.

What will you do if you have visitors staying with you? Will any family members be away on business or holiday?

Also make sure you revise your Bushfire Survival Plan whenever your circumstances change.

➤ DURING A FIRE

ALERT MESSAGES AND WARNINGS

During a bushfire, alert messages are used to give you an indication of the level of threat from a fire. For alerts and warnings:

- visit **cfa.vic.gov.au**
- tune in to your emergency broadcasters – ABC local radio, commercial radio and designated community radio stations
- Sky News television
- call the Victorian Bushfire Information Line on 1800 240 667 or via National Relay Service on 1800 555 677
- via the CFA_Updates Twitter account.

For some fires, you may hear the Standard Emergency Warning Signal (SEWS) before the alert message over your radio or television.

An emergency alert telephone warning may also be sent to your mobile and landline phone based on your billing address. This means if you live in the city and you are travelling in the country when a bushfire happens you will not receive a telephone warning by mobile phone.

THERE ARE THREE BUSHFIRE ALERT LEVELS

Advice

- General information to keep you up-to-date with developments.

Watch and Act

- A fire is approaching you.
- Conditions are changing and you need to start taking action now to protect your life and your family.

Emergency Warning

- You are in immediate danger and need to take action immediately.
- You will be impacted by fire.



Do not rely on an official warning to leave. Bushfires can start quickly and threaten homes and lives within minutes.

Keep a map of your local area. You can look at the map to see where the fire is.

If you are travelling through Victoria, you need to monitor conditions. Reconsider visiting high-risk bushfire areas on fire risk days.

⚠ CAUTION

If you receive a bushfire alert, you must take it seriously. Failure to take action may result in death or injury to you or your family members.

Bushfire alerts are not always given in the above order. As an example, the first alert you receive may be Watch and Act.

Look and listen for alerts issued for surrounding towns as your suburb or town may not be mentioned.



EVACUATION

Evacuation is not a substitute for planning ahead or choosing to leave a high-risk bushfire area early – before fire threatens.

In high-risk bushfire areas on **Code Red** days, it is always safer to leave the night before or early in the morning.

If you live with children, elderly or vulnerable people, they should be well away from any threat.

Leaving early should be part of your Bushfire Survival Plan.

EVACUATION

Evacuation is the planned relocation of people from a dangerous area to a safer place.

In some fires the Incident Controller may decide to issue a Recommendation to Evacuate for:

- individuals
- a house
- a street
- a large institution (such as a school or hospital)
- a suburb
- a town
- a large area of the state.

A Recommendation to Evacuate depends on a number of factors, such as:

- safety considerations
- the location and type of fire
- access routes and the local environment.

A Recommendation to Evacuate may identify:

- the location you need to travel to
- travel information
- the length of time in which it is safe to travel.

Sometimes it is not possible for an Incident Controller to issue a Recommendation to Evacuate. You should not rely on receiving one.

While CFA will do its best to provide official warnings, bushfires can threaten lives and homes in minutes.

Just because you do not receive a warning does not mean there is not a threat.

The safest option is to leave early.



➤ BUSHFIRE EDUCATION SERVICES AND RESOURCES

Each summer CFA runs programs and services to help residents prepare and plan for their safety.

A calendar of activities is advertised through pamphlets, local newspapers, sign boards and cfa.vic.gov.au

These are delivered free of charge in high-risk bushfire areas and include:

FIREREADY VICTORIA MEETINGS

These are held on street corners, in local halls and at shows and events from October until the end of the fire season.

Meetings take about one hour and provide information on local risk and personal survival. You will have an opportunity to discuss local concerns.

COMMUNITY FIREGUARD PROGRAM

Work together with your neighbours to improve knowledge and bushfire safety skills.

CFA provides local facilitators to assist in:

- understanding your bushfire risk
- enabling you to develop your Bushfire Survival Plan.

Community Fireguard operates in extremely high-risk bushfire areas. Check to see if it is available in your area.

HOME BUSHFIRE ADVICE SERVICE

A member of CFA will assess your property and provide a range of options to assist you to develop your Bushfire Survival Plan.

This service is free and offered all year round. Appointments take approximately one hour. Priority is given to people in high bushfire risk areas.

BUSHFIRE PLANNING WORKSHOPS

These are designed for those who have some understanding of their bushfire risk but need more support to develop their plans.

Structured as one-off, practical sessions, you and your family can work on your Bushfire Survival Plan with the help of a trained CFA facilitator.

HOUSE BUSHFIRE SELF ASSESSMENT TOOL (HBSAT)

This online resource is designed to help you assess the risk of vegetation and topography around your property.

The tool takes into account factors such as:

- vegetation
- topography
- the surrounding landscape for a 100-metre zone around houses.

TOWNSHIP PROTECTION PLANS

Township Protection Plans are a key source of information for you and your community.

They are important tools that highlight the shared responsibility between your community, fire services and local government.

Plans have been developed for a number of high bushfire risk communities across Victoria.

They provide important local information for you and your family to assist with planning before, during and after a fire.

Township Protection Plans are updated regularly.

Please visit cfa.vic.gov.au to ensure that you have the latest Township Protection Plan for your town.

Note: Some townships will not have a Township Protection Plan.

For more information about CFA's community education programs and services, contact your nearest regional office or visit cfa.vic.gov.au.



STILL WITHOUT A PLAN?

Research shows 75 per cent of people living in high-risk areas do not have a detailed Bushfire Survival Plan.

Don't have a plan? You are not alone. Advice and support are available.

You can:

- attend a CFA FireReady Victoria Meeting or Bushfire Planning Workshop
- join a Community Fireguard group
- book a free property assessment to assess your fire risk
- visit **cfa.vic.gov.au**
- call the Victorian Bushfire Information Line on 1800 240 667 or via National Relay Service on 1800 555 677
- talk to your local CFA brigade about how to plan for bushfire.





SECTION 03

YOUR PROPERTY

HOW PREPARED IS IT?



NEED SOME HELP?

- Visit **cfa.vic.gov.au**
- Call the Victorian Bushfire Information Line on **1800 240 667** or via National Relay Service on **1800 555 677**

This section outlines what you must do as a minimum to reduce the effects of bushfire on your property.

This involves:

- understanding how fire behaves in your environment
- knowing the steps to take to prepare your home and property before the fire season.

You need to prepare your property for the best chance of survival during a bushfire.

➤ FIRE BEHAVIOUR

Victoria has a great diversity of vegetation, topography and weather. Environments that are high-risk for fire are:

- where suburbs meet the bush
- close to forest and woodlands
- close to grass or paddocks
- near coastal scrub.

Knowing how a fire behaves in your environment will help you to better prepare your property.

Bushfires are influenced by:

- vegetation (fuel)
- topography
- weather conditions.

VEGETATION (FUEL)

There are two fuel types – fine and heavy. By removing fine fuels from your property you can reduce the amount of heavy fuels that burn.

A. FINE FUELS

- ✓ These are fuels that are the thickness of a pencil or less.
- ✓ They ignite quickly and burn easily, so they drive a fire's speed.
- ✓ Branches, twigs and leaves and other fine fuels found on the ground can also burn easily.
- ✓ Types of scrub and trees drop leaves and twigs on the ground around them. These give off far more heat when they burn.
- ✓ Fibrous and dry tree bark can carry fire to the treetops, break away and spread fire.

B. HEAVY FUELS

- ✓ These are greater than the width of a pencil.
- ✓ They take longer to ignite but will burn for longer.
- ✓ Branches, trees and logs are examples of heavy fuels.
- ✓ They create an extremely hot fire.

VEGETATION MANAGEMENT

Vegetation includes all the plants, foliage and mulch around your home.

By managing the vegetation around your property you can create space around your home. This will reduce bushfire intensity.

This helps protect your house from direct flame contact and reduces the radiant heat to which your house will be exposed.

While ember attack will still occur, vegetation management around your house is important. You can reduce the likelihood of embers starting new fires near your house.



TOPOGRAPHY

Fires burning uphill

A fire will burn faster uphill. This is because the flames can reach more unburnt fuel in front of the fire.

As a general rule, for every 10° slope, the fire will double its speed as it travels uphill.

For example, if a fire is travelling at five kilometres an hour along flat ground and it hits a 10° slope it will double in speed to 10 kilometres an hour up that hill.

By increasing in speed the fire also increases in intensity, becoming even hotter.

Fires burning downhill

As a fire travels downhill it reduces in speed and intensity. The flames reach less fuel and less radiant heat pre-heats the fuel in front of the fire.

For every 10° of downhill slope, the fire will halve its speed. Fires tend to move more slowly as the slope decreases.



WEATHER CONDITIONS

Bushfires can vary greatly according to weather conditions. They often start on hot, dry and windy days.

Temperature

A string of hot days will dry out vegetation, making it easier to burn. This can be made even worse by underlying dry conditions. The drier the vegetation the easier it will burn. A bushfire spreads as a result of burning embers, radiant heat and direct flame contact.

Wind speed

Wind has a significant influence on the:

- ✓ **speed** at which a fire spreads
- ✓ **direction** in which a fire travels and the **size** of the fire front
- ✓ **intensity** of a fire, by providing more oxygen

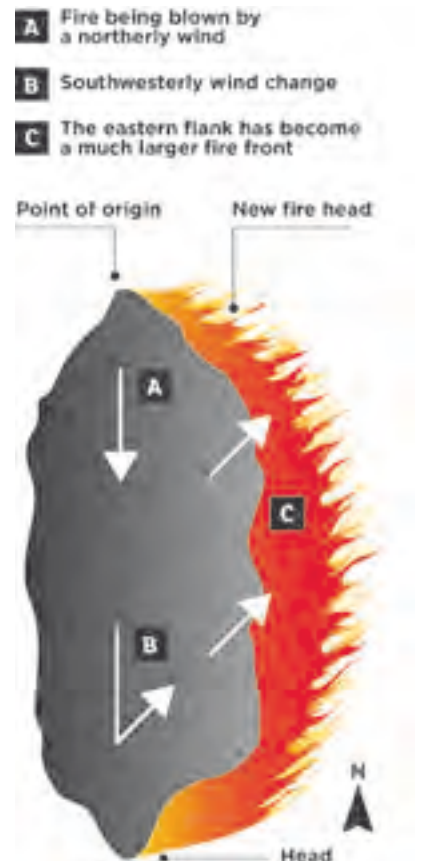
- ✓ likelihood of **spotting**. Burning pieces of leaves, twigs and bark (embers) are carried ahead of the fire by winds, causing new fires to ignite. These are known as spot fires.

Wind change

A change in wind direction is one of the most dangerous influences on fire behaviour. Many people who die in bushfires get caught during or after the wind change.

In Victoria, hot, dry winds typically come from the north and northwest and are often followed by a southwest wind change. In this situation the side of the fire can quickly become a much larger fire front.

A change in wind direction can change the size of the fire front. This makes wind a very dangerous ingredient in a bushfire.



Fire spread

HOW RADIANT HEAT AND DIRECT FLAME CONTACT IGNITE HOUSES

The heat that radiates from a bushfire is very intense. Radiant heat can ignite exposed surfaces without direct flame contact.

Radiant heat can also crack or break windows, allowing embers to enter a building. Plastics such as wall cladding can distort or melt, exposing timber framing. Radiant heat is extremely dangerous to people if they are unprotected by a building, shelter or barrier.

The distance between vegetation and the house will determine how much direct flame contact and/or radiant heat the house is subject to.

If the distance from the fire is doubled, the radiant heat load on the building can be reduced by four times.

The chance of direct flame contacting a house is increased when vegetation close to a house is ignited.

You can greatly reduce radiant heat and direct flame contact by carefully managing the vegetation around your home.



➤ CAN YOUR PROPERTY REALLY WITHSTAND A BUSHFIRE?

Everyone in Victoria who lives near dense forest, bush, grassland or the coast needs to prepare their property for bushfire. Even if your plan is to leave early on fire risk days, you need to prepare your property.

A well-prepared house where the vegetation is well managed has a greater chance of not catching alight in a bushfire. Regardless of property preparation, most homes will not be able to withstand fires in **Code Red** conditions.

You need to consider the materials that your house is made with and its design. By making modifications you can improve the likelihood that your house will survive bushfire.

Information on construction and renovation can be found in *A Guide to Retrofit Your Home for Better Protection from a Bushfire*. This publication is available at cfa.vic.gov.au

*“Even with enough managed vegetation, the safest option is to leave high-risk bushfires areas early on **Severe, Extreme** and **Code Red** days.”*



➤ PREPARING YOUR PROPERTY

You can reduce the impact of bushfire on your home by preparing your property.

These preparations must begin well before the bushfire season.

You should prepare your property even if your plan is to leave early on days of fire risk.

This will give your house a greater chance of getting through undamaged.

You will have to consider:

- ➊ how you will manage vegetation (pages 30-32)
- ➋ if your home is constructed or modified to withstand a bushfire (Houses are not designed to withstand **Code Red** conditions). (page 33)
- ➌ whether it is possible to improve the safety of your house with modifications and maintenance (pages 34-35).

The illustration on pages 28–29 shows an example of a well-prepared property with managed vegetation.

CFA has a free Home Bushfire Advice Service to help you understand:

- the level of risk at your property
- what changes can be made to improve your safety.

For more information visit cfa.vic.gov.au, call 1800 240 667 or 1800 555 677 (NRS).

THE WELL-PREPARED PROPERTY

Mature trees can help shield against radiant heat and embers. They must be strategically located and well managed.

Keep grass cut to less than 10cm.

Keep woodpiles away from house.

Remove flammable items from decks and verandahs, such as boxes, furniture and doormats.

Store flammable liquids away from house.

Get rid of dry grass, leaves, twigs and loose bark.

Prune lower branches of shrubs to separate from surface fuels underneath.

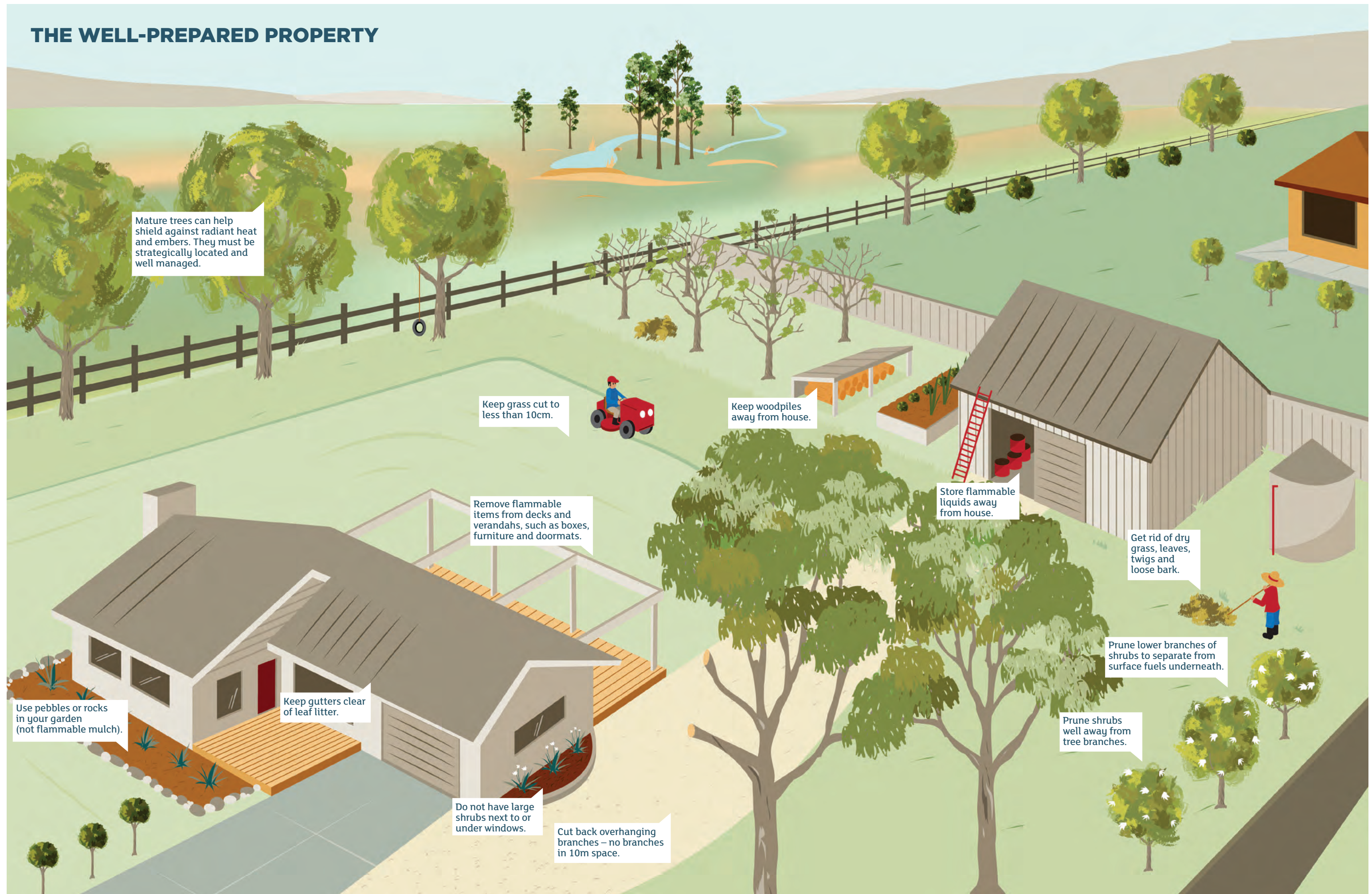
Prune shrubs well away from tree branches.

Use pebbles or rocks in your garden (not flammable mulch).

Keep gutters clear of leaf litter.

Do not have large shrubs next to or under windows.

Cut back overhanging branches – no branches in 10m space.



A. MANAGING VEGETATION

Managing the vegetation on your property will reduce a bushfire's intensity.

By having managed vegetation, you will reduce the amount of direct flame contact and radiant heat on your house.

As a general rule you may need to undertake more vegetation management if there is dense forest all around you.

For example:

- Keep grass short – no more than 10 centimetres high.
- Make space between plants and trees.
- Keep fallen leaves no more than two centimetres deep.



Keep in mind that mature trees can sometimes help shield against radiant heat and embers and can play a useful role in the protection of your home against bushfires.

Managing the vegetation around your home has four main purposes:

1. To give your house the best possible chance of surviving the passage of the fire front.
2. To reduce the chance of direct flame contact and radiant heat igniting your home.
3. To help you protect your home from ember attack.
4. To provide some level of shelter as a last resort if you and your family get caught.

Whatever the type of vegetation that surrounds your home, you need to consider how it will burn during a bushfire. In general:

- homes located in a dense forest are more likely to experience high-intensity fires
- homes located in more open country may experience lower intensity, but fast moving, grassfires.

If you live in a rural environment, also consider other property assets such as sheds or fences that you want to protect.

Use the layout of your property

Fire always follows a path where fuel is located. It does not spread easily over low-fuel areas.

Manage vegetation around your home and on your property and use the following to help reduce fire intensity:

- driveways
- pools
- tennis courts
- cultivated soil or gravelled areas
- mown lawns
- grazed paddocks
- dams and natural water features.



Trees and bushfire

A fire will only burn trees where there is sufficient surface and elevated fuel to carry the fire into the tree canopy.

The fire front is often carried by undergrowth, such as shrubs and tall grasses, but loose, flaky or ribbon bark can contribute to ember attack.

What is growing under your trees? Consider how easily fire might be able to spread from the ground into the tree tops.

Fine fuels that are continuous from ground to treetop (known as ladder fuels) can assist the spread of fire from the ground up into the treetops.

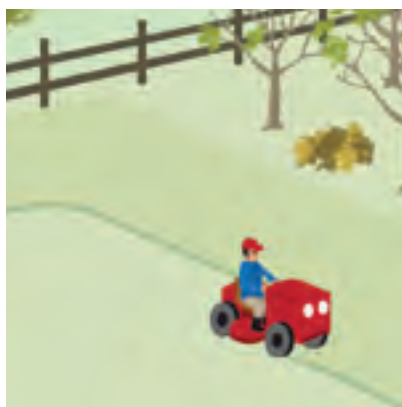
You can reduce fuel ladders by:

- ✓ removing lower branches of trees
- ✓ pruning shrubs so that their tops are well away from the lower branches of trees
- ✓ pruning the lower branches of shrubs to separate the foliage from the surface fuels underneath
- ✓ reducing accumulated debris such as loose flaky bark, dead twigs, leaves or needles from within the branches of plants.



Lawns and grass

- Grass needs to be kept less than 10 centimetres high. Higher than that and fire can use the grass as a ladder to other vegetation.
- You do not need to cut green lawns any shorter than five centimetres otherwise you risk causing the grass to dry out.
- Lawns between 5–10 centimetres shade the root zone and retain moisture.



Remove weeds

Weeds are commonly found in residential bushland areas and contribute significantly to bushfire risk.

Give priority to removing and controlling them. This will help reduce potential fire fuel on your property.

Your council can help you identify weeds in your local area and provide ideas on how to remove them.

Mulching

Mulch, such as wood chips or pea straw, is a fine fuel and can ignite during ember attack. It is extremely dangerous if used within a **10-metre** radius of your home especially under windows.

Instead:

- Use non-flammable mulch alternatives, such as pebbles, sand or rocks.
- Use weed matting cut to fit around plants and secured with rocks, pebbles or soil. It can be used to help retain soil moisture in garden beds.
- If you must use flammable (plant-based) mulch, apply it immediately after the fire season. This will allow it to break down over winter. Decomposed mulch still provides good moisture retention during summer. It is less likely to ignite than more recently laid mulch.
- If plant-based mulch is still dry at the beginning of the fire season, keep it wetted down or cover it with soil or sand during the fire season.



Burning off and fire restrictions

Burning off dried fine fuels and cutting back vegetation is one way to prepare your property.

If you are planning to do a small burn-off on your property, you must do this well before the fire restrictions come into force.

For more information visit cfa.vic.gov.au or your local council.

Plant selection

When planning your garden and property, consider the types of plants you use.

No plant is completely fire-resistant as given the right conditions all plants will burn. However, some are more flammable than others.

To help you select plants that are suitable for your local environment:

- check with your local council
- visit the Department of Sustainability and Environment at dse.vic.gov.au
- consult CFA's forthcoming fire-smart landscaping publication at cfa.vic.gov.au



The '10/30 right'

Under the '10/30 right', no planning permit is required to reduce fuel, including native vegetation, around your home.

However, as the right does not exist in all municipalities, you should check with your council – before removing any vegetation.

The '10/30 right' planning exemptions give residents who own their property in certain areas the right to:

- ✓ remove, destroy or lop any vegetation within 10 metres of a building used for accommodation
- ✓ remove, destroy or lop any vegetation, except for trees (i.e. ground fuel), within 30 metres of a building used for accommodation
- ✓ remove, destroy or lop any vegetation for a combined maximum width of four metres either side of boundary fences.

You need to have prior written permission from the landowner for clearance on their side of the fence.

The '10/50 right'

For land subject to a Bushfire Management Overlay, the 30-metre provisions are extended to 50 metres. Clearance over and above these two planning exemptions requires a planning permit.

For further information on the 10/30 and 10/50 rights, please visit dse.vic.gov.au

“As part of your preparation, check that you have adequate home and contents insurance.”



B. YOUR HOME'S STRUCTURE AND BUILDING DESIGN

To reduce the impact of embers on your home there are some important building improvements that are recommended. These measures will assist in ember-proofing your house, making it more difficult for embers to enter the house or burn against the house.

The number of improvements will depend on the type of house you have. Research shows there are areas around your house that can contribute more to the overall bushfire risk than others. These include decks, windows, doors and roof areas.

CFA and the Building Commission's *A Guide to Retrofit Your Home for Better Protection from a Bushfire* includes building and renovation ideas to better prepare your home.

Anywhere embers can lodge or enter your house can start a fire.

➤ Is your house above-ground on stumps or on a concrete slab? Do you have a timber deck or veranda?

Protect underfloor spaces with non-combustible sheeting or metal mesh. This will prevent embers from landing under the house and starting small spot fires. Remove any combustible materials stored beneath the floor.

➤ Is your house constructed from bricks, timber, cladding or a mixture?

Roughly sawn timber or badly maintained brick work can catch embers. Ensure any external timber cladding is regularly maintained and all gaps are sealed. Seal or repair any holes, cracks or damage to flooring and walls. Cover all external vents with metal mesh (not aluminium) and keep clear of debris to prevent embers from entering your home.

➤ Are your window and door frames well sealed?

Place weather stripping around the inside of doors and windows to eliminate any gaps.

➤ Do you have any skylights or evaporative coolers?

Make non-combustible fire screens to cover external skylights. Protect evaporative coolers with metal mesh screens. You will need to check with your evaporative cooler supplier to ensure the performance of the system is not compromised by installing the mesh.

CURRENT STANDARD FOR THE CONSTRUCTION OF HOUSES IN RESPONSE TO BUSHFIRE RISK

Following the 2009 bushfires the Victorian Government brought forward the introduction of the new Australian Standard AS3959-2009 – Design and Construction of Buildings in Bushfire Prone Areas.

The standard requires houses in higher bushfire areas to be built to modified specifications.

The standard applies to all new homes to be built in Victoria.

For more information about the construction of new homes or the modification of existing homes please:

- visit cfa.vic.gov.au or buildingcommission.com.au
- contact your local council planning or building department for further information.

C. HOUSE MAINTENANCE AND IMPROVEMENT

ROOF

Gaps in the roof pose a high risk for ember penetration.

Sarking (reflective non-combustible sheeting)

Sarking is an effective treatment to prevent embers from entering through your roof. Unless installed at construction stage this can become very expensive.

Seal gaps by using compressed mineral wool insulation

This can be a cheap and effective solution for existing homes. Careful installation is required to ensure all gaps are sealed. Sealing gaps is an effective defence against burning embers.

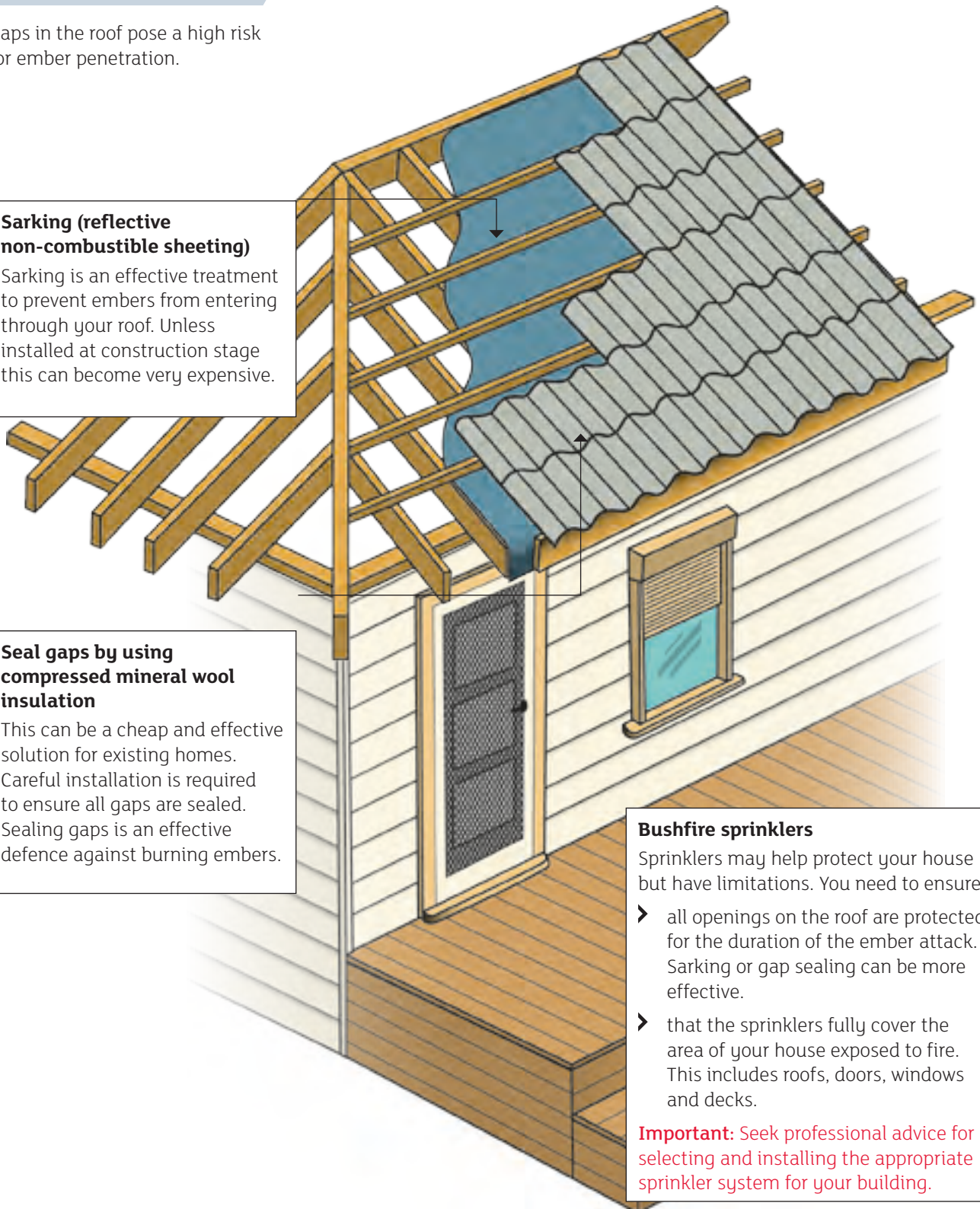
Bushfire sprinklers

Sprinklers may help protect your house but have limitations. You need to ensure:

- all openings on the roof are protected for the duration of the ember attack. Sarking or gap sealing can be more effective.
- that the sprinklers fully cover the area of your house exposed to fire. This includes roofs, doors, windows and decks.

Important: Seek professional advice for selecting and installing the appropriate sprinkler system for your building.

“Greatly reduce the risk of embers entering your house. Seal all gaps around your house and roof, or install fine fly wire mesh around larger areas that cannot be sealed.”

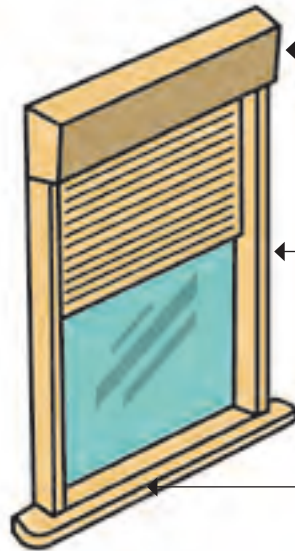


WINDOWS

Open and unscreened windows pose an extreme risk.

Screened windows and sills

Installing wire mesh screens (not aluminium) with 1.5-millimetre holes over both the window and frame can prevent embers touching the glass or timber. This can also be an effective method for reflecting radiant heat.



Shutters

Installing shutters over both the window and frame will protect windows from cracking from flying embers.

Seal gaps around window frames

This is an effective treatment for existing metal window frames. The sealant should be a fire-retardant product.

Maintenance of window sills

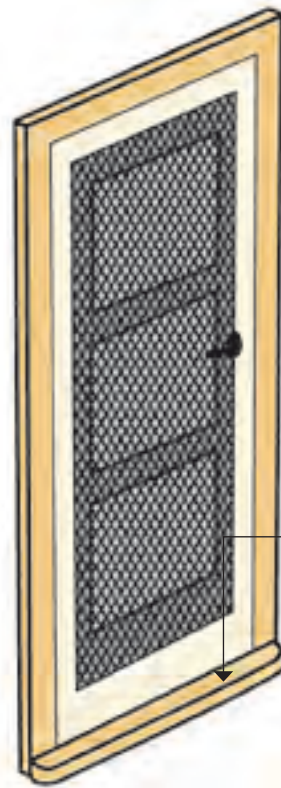
Embers lodging on combustible window sills pose a high risk. Maintain window sills so there is no flaking paint.

DOORS

Open and unscreened doors pose an extreme risk. Embers lodging on combustible door sills and gaps around door frames pose a high risk.

Screened doors

Installing metal screen doors over timber doors will reduce the chance of an ember igniting the door.



Seal gaps around door frames

If the door is non-combustible then sealing the gaps around the door will prevent embers from entering into your home.

Non-combustible door sill

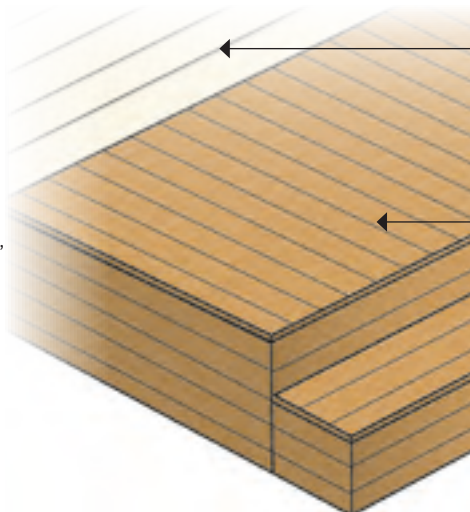
Replacing combustible door sills with a non-combustible product will reduce the chance of an ember igniting.

DECKS

Embers lodging on decks pose a very high risk of ignition

Non-combustible decking materials

Non-combustible decking material will not burn. Use concrete stumps, metal framing and fire-retardant-treated timber.



Separation from the dwelling to prevent fire spread

If the deck is built with combustible material, non-combustible material should be placed between the deck and the house. This will reduce the possibility of the fire spreading between the deck and the house.

Construct with gaps between decking materials

Leaving gaps between the decking timbers will allow most embers to fall through. However, there is still a possibility of embers igniting at timber junction points. Ensure there is no fuel under the decking and that you have access to put out any spot fires underneath.



FIRE AND THE ENVIRONMENT

Vegetation management outside your property

Private landholders must always obtain permission from their local council (or VicRoads for most main roads) for any works on roadsides, including fire management and planting.

Local residents do not need a permit to remove fallen wood from roadside areas scheduled for burns within two weeks of a planned burn.

Department of Sustainability and Environment (DSE) and Parks Victoria may undertake planned burns and build fuel breaks to manage vegetation on public land.

A fuel break is a strip of land where vegetation has been reduced or removed.

Environmentally friendly ways of managing your fire safety

Identify the environmental assets that you would like to protect from fire or fuel reduction.

These may include:

- waterways
- erosion-prone areas
- shrubs that provide screening or bird habitat
- hollow trees that provide nesting sites
- rare species
- bushland that you have regenerated.

Design your fire management using the following environmental management principles:

- Where practical, avoid damaging the environment. Consider things you can do to help keep embers from entering your buildings before you consider vegetation removal.

- Reduce the fuels by methods that avoid exposing the soil and encouraging weed growth. Consider raking and slashing fuels.
- Offset or compensate changes to the natural environment. Replace removed vegetation with vegetation of the same type and quality elsewhere on your land.

Seek appropriate advice on managing your soil, vegetation and waterways from your local council or (DSE).

Using fire

Using fire for ecological or fuel reduction purposes is a complex and specialist tool.

You should seek advice from your local council, CFA Regional Office or local DSE office.

SECTION 04

PLAN FOR SURVIVAL



NEED SOME HELP?

- Visit **cfa.vic.gov.au**
- Call the Victorian Bushfire Information Line on **1800 240 667** or via National Relay Service on **1800 555 677**

SECTION 04

PLAN FOR SURVIVAL

In high-risk areas, leaving early is your only safe option on Code Red fire danger days.

Leaving early is also your best option on **Extreme** and **Severe** fire danger days. Fires are unpredictable and plans can fail. Having a backup plan can save your life if you are caught in a fire.

Know the Fire Danger Ratings at your location. The Fire Danger Rating is your trigger to act. The higher the rating, the more dangerous the situation if a fire starts. For more about Fire Danger Ratings, see page 14.

KNOW YOUR SURVIVAL OPTIONS

SHELTER CLOSE BY

If you cannot leave the area it is critical to consider what shelter options are close by.

Shelter options may include a:

- well-prepared home (yours or a neighbour) that you can actively defend
- private bunker (that meets current regulations)
- designated community shelter or refuge.

If sheltering in a building during a bushfire, make sure you have a point of exit in every room used as a shelter.

Do not shelter in the bathroom as it typically has:

- only one door out
- a small window that is often frosted.

In a bushfire, it is critical to maintain visibility to know what is happening outside with the fire.



DON'T GET TRAPPED

- For your safety, you need to be active while sheltering. Know if you need to move to a safer position.
- If you are not able to see what is going on, you are placing yourself in a potentially life-threatening situation.

NEIGHBOURHOOD SAFER PLACE (PLACE OF LAST RESORT)

Neighbourhood Safer Places (NSPs) are places of last resort when all other plans have failed.

They can provide some protection from direct flame and radiant heat during a fire.

Neighbourhood Safer Places:

- may still be subject to ember attack
- are not relief centres
- do not guarantee safety
- have limited facilities
- do not provide support or services
- are not places to relocate to when leaving early
- are listed at cfa.vic.gov.au
- are not in every town. You will need to identify other shelter options in your area.

SAFETY IN THE CAR

Cars are a very dangerous place to be during a bushfire. They offer very little protection from radiant heat. If you get caught on the road, this is a very dangerous situation.

To increase your protection from radiant heat:

- ✓ park behind a solid structure to block as much heat as you can. If this is not possible, then pull over to the side of the road into a clear area, well away from debris that may ignite
- ✓ wind up your car windows, close the vents, put on your hazard lights and headlights, leave the engine running and air-conditioning on recirculate
- ✓ get down as low as possible below window level
- ✓ cover up with a wool blanket until the fire front passes. If you have water, drink it
- ✓ get out of the car once the fire has gone.

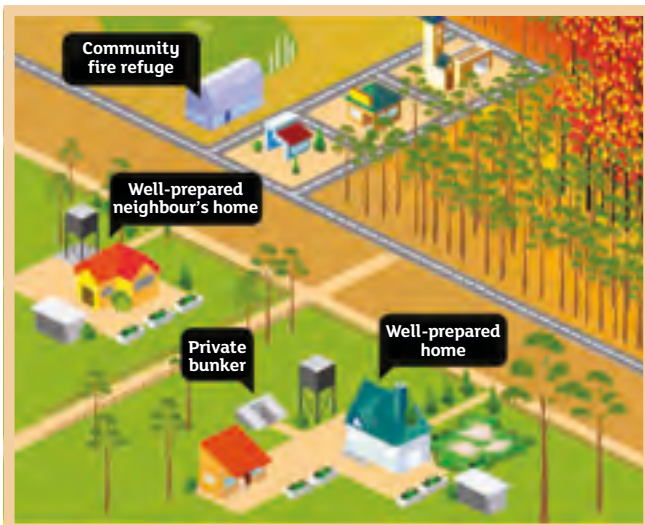
YOUR BUSHFIRE SURVIVAL: WHAT TO CONSIDER



Leave Early

- When the Fire Danger Rating is **Code Red**, leaving early is always the safest option.
- Leave early destinations could include homes of families and friends who live outside the risk area, a nearby town or other built-up area.

Always the safest option

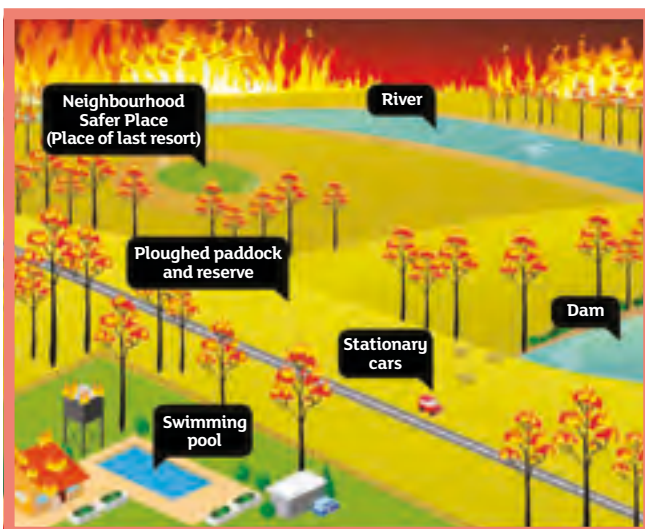


Well Prepared

If leaving the high-risk area is no longer an option, there may be options close to where you are that could protect you. These include:

- a well-prepared home (yours or a neighbour) that you can actively defend
- private bushfire shelter (bunker) that meets current regulations
- designated community fire refuge.

Your safety is not guaranteed



Last Resort

In situations where no other options are available to you, taking shelter in one of the below may protect from radiant heat:

- Neighbourhood Safer Place (place of last resort)
- stationary car in a clear area
- ploughed paddock or reserve
- body of water* (such as the beach, swimming pool, dam or river).

High risk of trauma, injury or death. These are last resort options and do not guarantee your survival.

* This does not include a water tank. Dams may not be reliable as their water levels fluctuate and they may be empty in summer.



PROTECT YOURSELF FROM RADIANT HEAT

Radiant heat is the biggest killer in a fire.

The following clothing can offer some protection from radiant heat but it may not save your life.

Keep a set ready for each member of the family:

- ✓ a long-sleeved, collared shirt and pants made from cotton or some other natural fibre.
- ✓ sturdy boots and woollen socks.
- ✓ tough leather garden gloves – not rubber or synthetic.

✓ a wide-brimmed hat to protect your head.

✓ a 'P2' type mask or cotton scarf/hankerchief for face protection and to filter smoke.

✓ eye protection such as smoke goggles to shield your eyes.

You need to make sure all your skin is covered. Cover up as soon as you are alerted to fire in your area. Read more about the destructive force of radiant heat on pages 7 and 26.

STAY AND DEFEND

- If you live in a high-risk bushfire area, your home will not be defensible on a **Code Red** day.
- Even people who are extremely well prepared can die fighting fires at home. The best way to survive a bushfire is to be away from the threat.
- Most homes in high-risk bushfire areas are not built to withstand bushfire.
- Many homes close to or surrounded by heavily forested land are extremely difficult to defend.
- Defending your home is very risky – you could be seriously injured or die.
- Survival must be your main priority.
- Defending a house requires at least two able-bodied, fit and determined adults who are physically and mentally prepared to work long and hard in arduous and difficult conditions.
- Only consider staying with your property on **Extreme** or **Severe** days if you are fully prepared and can actively defend your home. Visit cfa.vic.gov.au for more information and advice on Fire Danger Ratings (also page 14).
- Discuss your plan with all family members. Everyone should be aware that staying to defend may involve trauma, injury or possibly death.
- Children, the elderly, people with special needs or a disability should be well away from the threat.

If you are confident you are capable and prepared to actively defend your property, use the *Stay and Defend* kit and planning template. They are at the back of this section.



PREPARE. ACT. SURVIVE.

FireReady 

LEAVING EARLY

BUSHFIRE SURVIVAL PLANNING TEMPLATE



LEAVING EARLY

BUSHFIRE SURVIVAL PLANNING TEMPLATE

➤ Your Bushfire Survival Plan

Use this guide to help you write your Bushfire Survival Plan. It is important to have read the *Prepare for Bushfire* section of the FireReady Kit first. You will need to consider your personal circumstances and how they will affect your plan.

Not everyone thinks clearly in an emergency. A written and well-practised plan will help you remember what needs to be done during a crisis. It also lists the preparations you will need to do to help you become fire ready.

Your plan needs to outline:

✓ Actions before the bushfire season

✓ Actions during the bushfire season (the Fire Danger Period)

✓ Actions leading up to Fire Risk Days

✓ Your back-up plan.

- What year is this plan for? Every year you will need to update your plan. _____
 - Who is this plan for?
-
-

In high-risk areas, leaving early is your only safe option on **Code Red** days. Do not wait and see. Know your trigger to leave – make a decision about when you will leave, where you will go, how you will get there, when you will return and what you will do if you cannot leave.

Only consider staying with your property on **Extreme** or **Severe** days if you are fully prepared and can actively defend your home. Defending a house requires at least two able-bodied, fit and determined adults who are physically and mentally prepared to work long and hard in arduous and difficult conditions. If you are not prepared to the highest level, leaving high-risk bushfire areas early is your safest option.

Children, the elderly, or people with special needs should be well away from the threat. The safest option is to leave early.

Attend a FireReady Victoria community meeting in your local area. Check cfa.vic.gov.au or call the Victorian Bushfire Information Line (VBIL) on 1800 240 667 for meeting dates and locations.

- If you – or someone you care for – will need help to prepare and leave early when there is high fire risk, get a Red Cross *Bushfire: Preparing to leave early* guide at www.cfa.vic.gov.au or request a copy by phoning the Victorian Bushfire Information Line on 1800 240 667.



**Fill out this Template
and keep it handy**

ACTIONS BEFORE THE BUSHFIRE SEASON

Preparing your property – house maintenance

This includes things such as:

Tick

- ☐ Clearing gutters of leaves and rubbish
- ☐ Ensuring underfloor areas are enclosed or screened
- ☐ Sealing gaps, vents and roof spaces to prevent embers entering your house
- ☐ Storing fuels and chemicals away from your house
- ☐ Storing LPG gas tanks appropriately. They should be vented away from your house
- ☐ Moving woodpiles away from the house
- ☐ Ensuring roofing is firmly fixed.

➤ Who will do this? _____

➤ What else will you do?

Preparing your property – vegetation management

This includes things such as:

Tick

- ☐ Clearing fine fuels from around your home (fine fuels are those that are the same thickness or less than a pencil, such as grass, bark and leaves)
- ☐ Keeping grass areas well trimmed and watered. Grass should be no more than 10 centimetres high
- ☐ Raking up and reducing leaf litter (dead leaves). Leaf litter must be no more than one centimetre high
- ☐ Removing or trimming shrubs. There should be no shrubs over one metre next to or below windows
- ☐ Trimming tree branches overhanging your house.

➤ Who will do this? _____

➤ What else will you do?

➤ List your irreplaceable family keepsakes and valuables. Identify a safe location to store these valuables. Where will you locate them? Consider moving these out of the area during summer.

LEAVING EARLY

BUSHFIRE SURVIVAL PLANNING TEMPLATE

ACTIONS DURING THE BUSHFIRE SEASON (THE FIRE DANGER PERIOD)

- List contact details of those who need to know about your plan.

Name	Relationship	Contact numbers

- How will you monitor weather conditions and know the daily Fire Danger Rating (FDR) in your area? _____

Be vigilant in monitoring the weather forecasts to identify predicted days of high fire risk. Take note of the Fire Danger Rating forecasts for coming days, and whether a Total Fire Ban (TFB) has been declared. A TFB is a day where certain activities that may cause fire are banned, as fires are more likely to start. This needs to be taken into account with your planning.

Put together your Relocation Kit

This includes:

Tick

- ☐ Protective clothing
- ☐ Food and water
- ☐ Wool blankets
- ☐ Medications and toiletries
- ☐ A change of clothes
- ☐ A list of the contact numbers for your doctor, dentist, local hospital, chemist, vet, municipal councils, gas, electricity and water providers
- ☐ Important papers (e.g. passport, insurance policies, will)
- ☐ A first-aid kit
- ☐ Pet food, water and bedding if needed.

- Where will you store your Relocation Kit? It must be stored in an easy-to-access location.

- What is your plan for the safety of pets during relocation? Pets need to be kept cool and hydrated.

- Do you have adequate home or contents insurance? ☐ ^Y ☐ ^N

ACTIONS LEADING UP TO FIRE RISK DAYS

- **Who** will be at home – family or any visitors at the house?

Weekdays	Weekends/school holidays
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

- **Where** will you go? What is your planned destination? Can you stay there for a number of days?

- **How** will you get there?

- Know your local area – have a map. List the names of your surrounding towns and suburbs.

- Identify alternative routes out of the area.

Always consider the circumstances of the day.

- Do you have transport organised? ☐ ^Y ☐ ^N

- Will you have enough petrol or fuel so you don't need to stop to fill up? ☐ ^Y ☐ ^N

LEAVING EARLY

BUSHFIRE SURVIVAL PLANNING TEMPLATE

Trigger to leave

Your trigger to leave is what prompts you to act. It could be the Fire Danger Rating of **Severe**, **Extreme** or **Code Red**.

- What is your trigger to leave?

- When will you leave? _____

- Have you discussed the trigger with all household members?

- Is this the same trigger for every household member?

- If not, what does this mean for your planning?

Before you leave

Tick

- ☐ Close doors and windows, move doormats and outdoor furniture away from the house, fill gutters with water and other actions identified
- ☐ Add final items to your Relocation Kit, such as medications, prescriptions and mobile phone and charger
- ☐ Pack the car including your Relocation Kit
- ☐ Turn off mains gas supply
- ☐ Move pets or livestock
- ☐ Leave front gate open for emergency services access
- ☐ Remember your most important items such as wallet, cards, keys, banking, medical and insurance documents.

- Who will do this? _____

- What else will you do?

- List the people you will tell that you have gone and where they can find you.



CAUTION

Waiting until alerted to fire in the area is dangerous. You should not wait to receive a warning to leave. Bushfires can threaten lives and homes within minutes.

Once fire is in your area it may become difficult to leave because road conditions will be dangerous. There may be road closures, smoke, fallen trees and embers.

Do not expect a firetruck.

Just because you don't receive a warning, does not mean there isn't a threat.

The safest option is to leave early.

- Which radio station/s will you be tuned into? How will you monitor conditions?

- How will you know it is safe to return?

- Other things to consider:

How will your plan be affected by several fire danger days in a row? Remember, it is important to minimise the disruption caused to your household by relocating. It is best to go to places where you can continue with normal activities as much as possible.

YOUR BACK-UP PLAN

- Where do you plan to shelter if it is unsafe to leave your property or your area? This is an extremely dangerous situation. Shelter options may include a well-prepared property or home (yours or a neighbour), a private bunker (that meets current regulations) or a designated community shelter or refuge.

- Do you have a designated Neighbourhood Safer Place (**Place of Last Resort**) in your area that could be used as a last resort?

- Other last resort options when fighting for your life may be a stationary car in a cleared area, a ploughed paddock or reserve, or a body of water, such as a dam or swimming pool.

Note: Last resort options do not guarantee survival. There is a high risk of trauma, injury or death.

**For more information about bushfires visit cfa.vic.gov.au or
call the Victorian Bushfire Information Line (VBIL) on 1800 240 667
or via National Relay Service on 1800 555 677**

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STAY AND DEFEND

FIRE READY KIT – SUPPLEMENT



SECTION 05

DEFENDING YOUR PROPERTY

STAY AND ACTIVELY DEFEND

////////////////////////////////////

NEED SOME HELP?

- Visit **cfa.vic.gov.au**
- Call the Victorian Bushfire Information Line on **1800 240 667** or via National Relay Service on **1800 555 677**



Cover: The residents of this house have decided to stay and defend their property. The bushfire threat is over the horizon.

**SECTION 05
DEFENDING
YOUR PROPERTY:
STAY AND
ACTIVELY DEFEND**

03

**TEAR OUT
BUSHFIRE SURVIVAL
PLANNING TEMPLATE:
STAY AND DEFEND**

SECTION 05 DEFENDING YOUR PROPERTY

STAY AND ACTIVELY DEFEND

Defending a house requires at least two able-bodied, fit and determined adults who are physically and mentally prepared to work in arduous and difficult conditions.

Defending your home is risky – you could be seriously injured, suffer psychological trauma or die. The safest option is to be well away from the threat.

Do not expect a firetruck to help you defend your home.

➤ **CAN I STAY AND DEFEND?**

In high-risk areas, leaving early is your only safe option on **Code Red** days. Do not wait and see. Know your trigger to leave – make a decision about when you will leave, where you will go, how you will get there, when you will return and what you will do if you cannot leave.

Houses are not designed or constructed to withstand fires in **Code Red** conditions. Most house losses occur on days of **Code Red** conditions. Defending your home is very risky. You could be seriously injured or die.

Only consider staying with your property on **Extreme** or **Severe** days if you are fully prepared and can actively defend your home.

Defending a house requires at least two able-bodied, fit and determined adults who are physically and mentally prepared to work long and hard in arduous and difficult conditions.

If you are not prepared to the highest level, leaving high-risk bushfire areas early is your safest option.

FOUR FACTORS

There are four important factors to consider when planning to defend your property:

1. **Personal capacity**
2. **Property preparation**
3. **House design and construction**
4. **Recommended equipment and resources**

REMEMBER

Even people who are extremely well prepared can die fighting fires at their home. The best way to survive a bushfire is to be away from the threat.

- A bushfire can destroy your house even if your house is bushfire ready.
- People get hurt and die in bushfires.
- Survival must be your main priority.
- Many houses in high-risk bushfire areas are not built to withstand bushfire.
- Defending your home is risky and complex.

1. PERSONAL CAPACITY

Defending your home will be extremely hard work and requires significant resources. It may take hours and sometimes days of extreme effort. Children, the elderly, and people with special needs or a disability should be well away from the threat.

If you stay and defend your house it will be:

- scary
- physically and mentally tiring
- hard to see
- hard to breathe
- very noisy
- very hot.

Do not stay and defend if you have:

- ☒ asthma
- ☒ a heart problem
- ☒ other illness/disability.

Do not stay and defend if you are with a person who:

- ☒ has a physical disability
- ☒ has an intellectual disability
- ☒ has emotional or mental health problems
- ☒ is sick
- ☒ is elderly
- ☒ is a child less than 16 years old.



2. PROPERTY PREPARATION

Section 3 (Your Property: How prepared is it?) of this kit outlines what is required to prepare your property before the fire season.

No matter how well you prepare, if you live in a high-risk area your home may not be defensible on **Extreme** or **Severe** fire risk days.

In these areas your home will not be defensible on a **Code Red** day.

CFA recommends that residents planning to stay and defend book a free Home Bushfire Assessment. Call the Victorian Bushfire Information Line on 1800 240 667 or via National Relay Service on 1800 555 677.

3. HOUSE DESIGN AND CONSTRUCTION

How well your house is constructed and designed plays a big part in how it will withstand a fire.

CFA and the Building Commission have produced a guide to better prepare your home. Download *A Guide to Retrofit your Home for Better Protection from a Bushfire* from cfa.vic.gov.au

4. RECOMMENDED EQUIPMENT AND RESOURCES

If you are confident you are capable and prepared to actively defend your property, CFA recommends you have these resources and equipment as a minimum:

- ✓ 10,000 litres of water for firefighting purposes. Many houses in the Black Saturday fires used more than 40,000 litres.
- ✓ A firefighting pump that is protected from radiant heat and not reliant on mains power supply.
- ✓ Firefighting hoses that reach around your home.
- ✓ Protective clothing.

MINIMUM 10,000 LITRES OF WATER

You should have access to a dedicated, independent water supply of at least 10,000-litres to stay to actively defend. You cannot rely on mains water during a bushfire.

If you can, install a 10,000 litre tank specifically for firefighting purposes. Alternatively, the 10,000 litres could be made up from a variety of sources such as several tanks or a dam and a tank or a swimming pool.

Remember, dams can dry up over summer so it is important to identify other alternate water sources on or near your property.

Tanks should be made from galvanised iron or concrete. Plastic tanks can melt or fail in extreme bushfires. If you have a tank it is extremely important that you protect it from the effects of fire by removing vegetation around it. Make sure you can access this water easily and that it is located close to the buildings you need to protect.

You can also store smaller amounts of water using:

- ✓ 44-gallon drums placed strategically around the house
- ✓ rubbish bins (wheelie bins work well but could melt in intense heat)
- ✓ wheelbarrows
- ✓ troughs or garden ponds.



UNPREPARED PROPERTIES

Staying with an unprepared property is very dangerous and could cost you your life.

If you have not prepared your property before the fire season you should leave before bushfire threatens.

PIPING TO DELIVER WATER

You must also consider the type of piping used if you have a tank. It is recommended that all below-ground water pipelines must be installed to the following depths:

- Subject to vehicle traffic, 300 millimetres.
- Under houses or concrete slabs, 75 millimetres.
- All other locations, 225 millimetres.

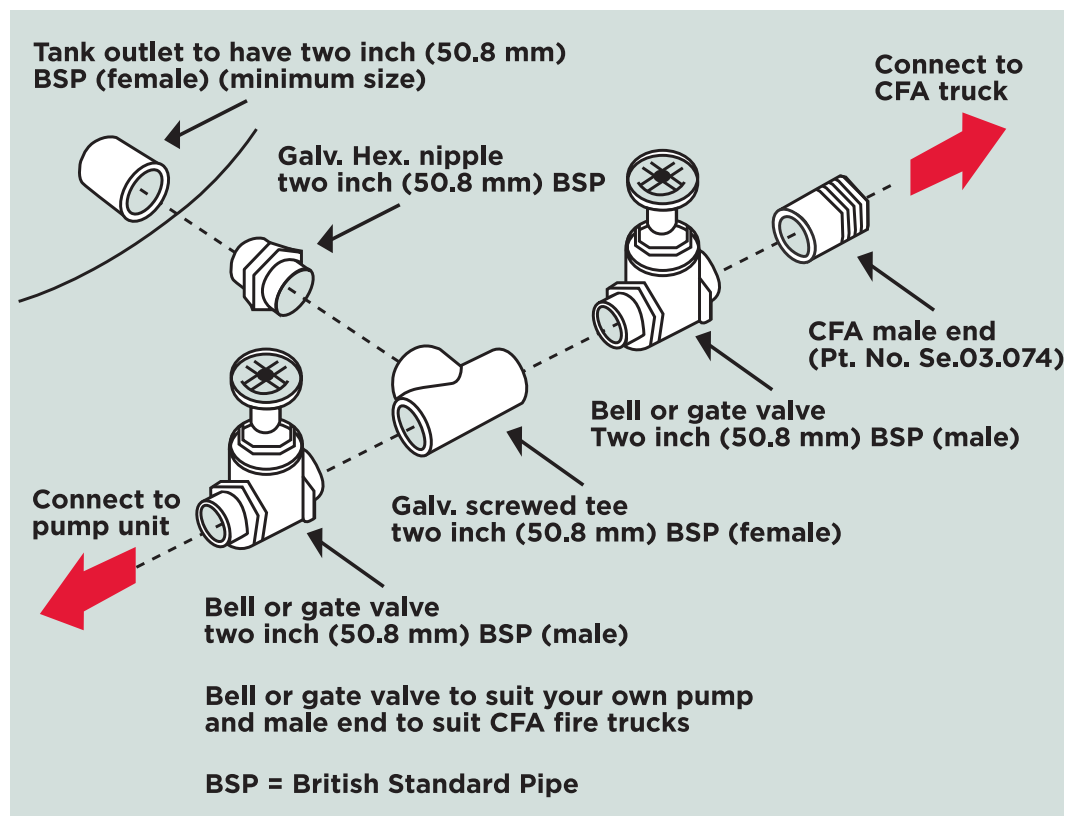
All fixed above-ground water pipelines and fittings, including water supply, must be constructed of non-corrosive and non-combustible materials.

Above-ground water supplies should be provided with a CFA fitting. To make this a useful system it is best to have a 'T' fitting that allows one side for CFA and the other side for you. CFA's specifications for this type of fitting are:

- one 64 millimetre, three thread/25 millimetre x 50 millimetre nominal bore British Standard Pipe (BSP), round male coupling (see below)
- all pipe work and valving between the water supply and the outlet must be no less than 50 millimetre nominal bore
- if less than 20 metres from the building, each outlet must face away from the building to allow access during emergencies.



TANK FITTINGS TO CONNECT TO CFA FIRE TRUCKS



FIREFIGHTING PUMP

Have a petrol, diesel or electric pump if you need to draw water from an independent water supply, such as a tank or swimming pool.

If you have an electric water pump, you will need to have a generator as backup. It is likely that mains power will fail during a bushfire.

The generator must have adequate capacity to start and run the electric pump. Always test your equipment to ensure it works the way you want it to.

The size of the pump you will need depends on:

- the source of water and how far away it is
- piping size, length and configuration
- the number of outlets you will be using at the same time
- the size and length of the hoses you are using with your pump.

Pump suppliers should be able to advise you of the size of pump you require.

When a pump overheats or melts it stops working. If the fuel in the pump vaporises from the heat it will become inoperable. It is extremely important that your pump is protected from fire and radiant heat.

You can protect your pump by:

- removing the vegetation around it
- housing it in a shed or another building that will resist radiant heat, direct flame contact, embers and has adequate ventilation.

The more protection you can give your pump the more likely it will continue to operate during a bushfire.

It is important that every adult in the household knows how to start and operate the pump.

You need to have plenty of fuel to keep the pump running during a fire.

The fuel in the pump must be changed annually. Stale fuel may prevent your pump from working properly.

You must plan what you will do if your pump fails during a bushfire. You may consider having a second pump as a backup.

Test your pump regularly to ensure it operates the way you want it to.





FIREFIGHTING HOSES

The standard garden hose is made from plastic and may melt in a bushfire. CFA suggests using fire-resistant hoses in place of garden hoses.

Keep in mind that the bigger the hose the heavier it will become when full of water and the greater the volume of water used.

Consider:

- ✓ Hoses will need to reach to all areas of your home. You can use a string line to work out the required hose lengths.
- ✓ Metal hose fittings for taps are less likely to melt when temperatures rise.
- ✓ Put a hose fitting connection on to your washing machine tap so that you can use your hose inside if needed.

PERSONAL PROTECTIVE CLOTHING

Put together a kit of clothing for each household member. You must cover all exposed skin to protect yourself from radiant heat and embers.

Change into these clothes as soon as you are aware of fire in your area.

Remember, personal protective clothing can only protect you from low levels of radiant heat.

Your kit

- A** A wide-brimmed hat to protect your head.
- B** Eye protection such as smoke goggles to shield your eyes.
- C** A 'P2' type mask or cotton scarf /handkerchief for face protection and to filter smoke.
- D** A long-sleeved, collared shirt and pants made from cotton or some other natural fibre.
- E** Tough leather garden gloves – not rubber or synthetic.
- F** Sturdy boots and wool or cotton socks.



FIREFIGHTING EQUIPMENT

WATER SPRAYER

RADIO

TORCH

BUCKET

SHOVEL

OTHER FIREFIGHTING EQUIPMENT

The equipment recommended on pages 6 and 7 is extremely important. But there is also a range of other equipment to assist you in defending your property. Many of these items are commonly found around the home.

Consider the following:

- **Buckets** – Galvanised buckets are best as plastic buckets can melt.
- **Mops** – Old-fashioned, cotton-headed mops soaked with water can be used to put out embers.
- **Ladders** – Sturdy ladders will be required to check the ceiling space and roof for embers.
- **Blankets and towels** – Made from wool or cotton only. When wet they can be used to seal any gaps under doors. This helps prevent embers and smoke from entering the house.
- **Torches** – Battery-powered or wind-up. Leave a torch in the roof space to check for embers. Have another in the house for when the power goes off during the bushfire. Make sure you have plenty of batteries available.
- **Radio** – Battery-powered or wind-up. Tune into ABC local radio, commercial radio stations and designated community radio stations to receive updated fire information. Power will most likely go out. Have extra batteries handy.

- **Shovels and rakes** – These can be very useful for shovelling dirt onto embers or small fires and to break up piles of burning material.
- **Knapsacks and water sprayers** – Firefighting knapsacks can be purchased. Consider how heavy a knapsack will be when it is full of water. A 20-litre knapsack will weigh more than 20 kilograms. Many of the weed sprayers sold in hardware stores are also suitable (if you used them for other things make sure they are cleaned out first).
- **Downpipe or gutter plugs** – To fill your gutters with water you will need a way to block the downpipes.

Depending on the shape of your downpipes you may be able to purchase specially made gutter plugs. Other materials can also be used such as small sand bags, wet towels and tennis balls. Alternatively, a plumber can install a shut-off valve on all your downpipes.

SPRINKLER SYSTEMS CAN HELP FIGHT EMBERS

The objective of a bushfire sprinkler system is to help extinguish embers that land on the roof or other parts of the building.

Bushfire sprinkler systems are only one way to improve the protection of your house from embers. On their own, they are not a reliable solution to bushfire risk.

There is currently no Australian Standard for the design and installation of bushfire sprinkler systems.

To operate effectively, a sprinkler system needs to have:

- an appropriate, adequate water supply
- an activation mechanism
- a delivery system
- heads that will discharge water at appropriate densities.

The delivery system includes the pump, pipes and spray heads. You must ensure that the:

- pump is the correct size and design to deliver water to the spray heads at a suitable pressure. The pump must be protected from radiant heat

- correct size pipes are used (determined after the completion of a full hydraulic design). Pipes must be made of non-combustible materials such as copper
- spray heads are carefully chosen so that they provide an appropriate spray pattern and discharge density that operates effectively during a bushfire.

Other considerations:

- ✓ Will your sprinkler system be able to run when mains power fails?
- ✓ Do you have an adequate water supply? A sprinkler system should be able to run for several hours.
- ✓ What effect will wind have on the delivery of water to critical areas of your home?

For more information about designing an appropriate bushfire sprinkler system, consult professionals who specialise in them.

FIRETRUCK ACCESS

Although your plan should not rely upon CFA to assist you during a major fire, in some circumstances firefighters may be available to provide some support.

It is in your interests to ensure that CFA firefighters have room to safely bring their trucks into your property and have easy access to a water supply.

Consider:

- ✓ Can a CFA firetruck get along your driveway? You need to allow four metres by four metres for adequate clearance.
- ✓ Is there room for a firetruck to turn around?
- ✓ Can a firetruck easily get through the gates?
- ✓ Can the bridges and culverts on your land carry a 15-tonne firetruck?

- ✓ Can firetrucks get within four metres of a dam, tank or pool to pick up water?
- ✓ Are gates and water supplies clearly marked?
- ✓ Does your below-ground water tank have a roof hatch so the firetruck can draw water?
- ✓ Can your tank be connected? For direct connection with a CFA firetruck, the outlets on your above-ground water tanks need to be 64 millimetre diameter and three-threads per 25 millimetres.
- ✓ Is your street or driveway too steep to allow a firetruck to drive down?

Remember, do not expect a firetruck to help you defend your property.





➤ EXPERIENCING A BUSHFIRE

Experiencing a bushfire can be frightening and stressful. Understanding what to expect and planning for what you will do can help you to cope. But remember, the best way to survive bushfire is to be well away from the threat.

WHAT YOU CAN EXPECT TO HAPPEN DURING A BUSHFIRE

- Spot fires moving ahead of the main fire.
- Smoke, heat, noise and possibly darkness.
- Power will most likely be cut off or disrupted by the fire.
- A fire can approach your house from any direction. Sometimes it will come from two or more directions.
- Lots of smoke and burning embers landing ahead of the fire and for many hours afterwards. This makes it hard to know where the fire front is.
- Mains water pressure could fail as other residents and firetrucks access water.
- Telephone lines could be cut by falling trees and mobile coverage can quickly become congested. Loss of power will prevent cordless phones from working.
- Road travel will be extremely dangerous as visibility will be low, fallen branches and power lines may block roads and there will be many emergency vehicles on the road.

HOW YOU MIGHT FEEL

- Confused.
- You do not know where you are.
- You cannot breathe properly.
- Scared. You need to remember your plan. Focus on what you need to do. Do not take risks.
- Thirsty and hungry. You need to drink and eat before you feel thirsty or hungry.
- Tired. You need to take breaks.

⚠ WILL YOU GET A WARNING?

1. Fires can start suddenly.
2. You might not get an official warning.
3. Listen for information about towns or suburbs near you. The name of your town or suburb might not be in a warning.
4. When you can, look outside to check for signs of fire. For example, smoke, embers.
5. Make sure you have a radio that uses batteries. Keep extra batteries. You will need these if there is no power.
6. Listen for alerts and warnings on ABC local radio, commercial radio stations and designated community radio stations, watch Sky News TV or visit cfa.vic.gov.au. You can also receive warnings via the CFA_Updates Twitter account.
7. For some fires, you may hear the Standard Emergency Warning Signal (SEWS) siren before the alert message over your radio or television.
8. You may also get an alert sent to your landline or mobile phone based on its billing address.

HEAT STRESS AND DEHYDRATION

To avoid heat stress and dehydration, which can make you confused and weak:

- ✓ drink plenty of water
- ✓ avoid alcohol and fizzy drinks
- ✓ splash your face with water to keep cool
- ✓ move in and out of shade and the house where possible.



CAUTION

You need to reassess your decision to defend your property the morning of **Severe** and **Extreme** days. Always consider if your circumstances have changed.

On days of **Code Red** fire risk the only safe option is to leave the night before or early in the morning. Do not wait until there is fire in the area to make the decision.

Leaving late when fire is close to your house is extremely dangerous and could result in death. Do not expect a firetruck.



YOUR BUSHFIRE SURVIVAL PLAN

Not everyone thinks clearly in an emergency. A written and well-practised plan will help you remember what needs to be done during a crisis.

Discuss your plan with all family members. Everyone should be aware that staying to defend involves a high risk of psychological trauma, injury or possibly death.

Your plan needs to outline:

- ✓ actions before the bushfire season
- ✓ actions during the bushfire season (the Fire Danger Period)
- ✓ actions to defend your property (the night before or morning of a high fire danger day)
- ✓ actions when fire is in your area
- ✓ what to do after the fire passes
- ✓ your backup plan.

YOUR BACKUP PLAN

Having alternative plans detailing what you will do if parts of your Bushfire Survival Plan fail is very important. This will need to include a plan of what to do if:

- ✗ your pump or other equipment fails
- ✗ your house catches fire and you need somewhere else to shelter
- ✗ you injure yourself and need somewhere to shelter safely.

Leaving when the bushfire has arrived is extremely dangerous and can be deadly. You must consider your safest options should you be unable to stay in your house.

Shelter options may include a:

- well-prepared home (yours or a neighbour) that you can actively defend
- private bunker (that meets current regulations)
- designated community shelter or refuge.

While these survival options carry a high risk of trauma, injury or death they may provide you with some protection from radiant heat.

If sheltering in a building during a bushfire, make sure you have a point of exit in every room used as a shelter.

Do not shelter in the bathroom as it typically has:

- only one door out
- a small window that is often frosted.

In a bushfire, it is critical to maintain visibility to know what is happening outside with the fire.

In situations where no other options are available to you, taking shelter in one of the below may protect from radiant heat:

- Neighbourhood Safer Place (**Place of Last Resort**)
- stationary car in a clear area

- ploughed paddock or reserve
- body of water (such as the beach, swimming pool, dam or river). This does not include a water tank. Dams may not be reliable as their water levels fluctuate and they may be empty in summer.

High risk of trauma, injury or death. These are last resort options and do not guarantee your survival.

HOW WILL YOUR BUSHFIRE SURVIVAL PLAN CHANGE IF IT IS A WEEKDAY, A WEEKEND OR A PUBLIC HOLIDAY?

Think about who will be at home if a fire risk day occurs on a weekday, a weekend or a public holiday. How will this affect your ability to put your Bushfire Survival Plan into action?

Questions to consider:

- What if your children are at school?
- What will you do if you have visitors staying with you?
- Will any family members be away on business or holiday?

If they are away, someone else will need to take up their Bushfire Survival Plan responsibilities.

ACTIVATING YOUR PLAN OF ACTION

Bushfires can travel extremely fast and hit without warning. It is vital that you are ready to act as soon as you learn of fire in your area. Many people have been caught out thinking they had more time to act before the bushfire arrived.

Filling tanks and filling gutters with water takes time. Plan for the fact that you may have no more than 30 minutes before fire hits.

What tasks can you do in less than 30 minutes?

Listen for alerts and warnings on ABC local radio, commercial radio stations and designated community radio stations, watch Sky News TV or visit cfa.vic.gov.au. You can also receive warnings via the CFA Updates Twitter account.

Waiting until you are alerted to fire in the area to put all these things in place is extremely risky. Some of these actions may be done the night before or the morning of a high fire danger day:

- Fill tanks or portable tanks, knapsacks and other water points.
- Fill water points inside such as the bath tub and laundry trough.
- Connect and roll out fire hoses.
- Organise enough drinking water for everyone staying to defend.
- Remove all flammable items from around the house including door mats, outdoor furniture and pot plants.
- Remove all dead leaves and other fine fuels (thinner than a pencil) from around the house.
- Ensure gutters are clean. Put gutter plugs in place to partially fill with water.
- Check your protective clothing kits. Place in an easily accessible location.
- Bring small pets inside.
- Move larger animals and stock to safer paddocks or yards.
- Check the pump/s are working and that you have adequate fuel supplies.
- Place wet wool or cotton blankets and towels in an easily accessible location.
- Move portable gas cylinders away from the house.
- Move indoor furniture away from the windows.
- Set up ladders in place outside and inside.
- Set up torches and batteries in an easily accessible location.
- Bring inside any equipment that may melt if left outside.
- Move cars, tractors, caravans and trailers away from the house.

CFA recommends that residents planning to stay and defend book a free Home Bushfire Assessment. Call the Victorian Bushfire Information Line on 1800 240 667 or via National Relay Service on 1800 555 677.

ON DAYS OF EXTREME FIRE RISK

Consider staying with your property only if you are prepared to the highest level. This means:

- your house needs to be situated and constructed or modified to withstand a bushfire
- you are well prepared
- you can actively defend your home if a fire starts.

If you are not prepared to the highest level, leaving high-risk bushfire areas early in the day is your safest option.

ON DAYS OF SEVERE FIRE RISK

Only well-prepared homes that are actively defended may provide safety while the fire front passes.

Leaving high-risk bushfire areas early in the day is your safest option.

! WHEN FIRE IS IN YOUR AREA

As soon as there is a fire in your area you must put on your protective clothing and ensure everyone staying to defend has the correct clothing on.

It is recommended that you:

- ✓ switch off mains gas supply
- ✓ double-check all gas cylinders are securely stored in an upright position with relief valves pointing away from the house
- ✓ partially fill gutters if not already done. Do not overfill as they may collapse with the weight of the water
- ✓ wet down around the house
- ✓ close all windows and doors and use wet towels and blankets to fill gaps under doors
- ✓ turn off the air-conditioner
- ✓ close window shutters
- ✓ continue to listen for updates on ABC local radio, commercial radio stations and designated community radio stations
- ✓ patrol for embers and extinguish them on landing
- ✓ shelter inside as the fire front passes.



AS FIRE APPROACHES AND IMPACTS

As the bushfire approaches there may be many embers falling. You will need to extinguish them as best you can. If you have a sprinkler system – turn it on.

You will need to go inside to protect yourself from radiant heat when it gets too hot. The areas of skin on your ears and cheeks are the best indicators as they are highly sensitive. If they start to feel extremely hot – go inside.

Once inside you need to actively patrol inside the house for embers that may have entered. Check in the roof space and in every room.

You may need to remain inside for 20-30 minutes or longer, as the fire passes.

The time it takes for a fire to pass varies. It depends on fire conditions and what is burning around the house.

As the fire front passes it may be very noisy – some people describe a fire front passing as a freight train going past. The sky will turn black and it will be like night time.



IF YOUR HOUSE CATCHES FIRE

When sheltering inside as the fire passes you need to actively patrol and monitor the situation. You need to respond quickly if your house catches fire while you are inside. If this happens you must:

- ✓ close the door to the room that is on fire
- ✓ move to the other end of the house, closing all the doors behind you
- ✓ make sure that you have a point of exit in every room you move to
- ✓ do not get caught in a room without an exit
- ✓ do not get trapped in a burning house
- ✓ move outside onto burnt ground as soon as you can.

If it is still too hot outside you will need to seek shelter in another building or structure.

AFTER THE FIRE

Even though the fire front has passed the danger is not over yet. You need to continue to wear your protective clothing and stay hydrated.

Embers will continue to land on and around your house for many hours. It is advised that you check for burning embers:

- ✓ inside the roof
- ✓ under the floor boards
- ✓ under the house
- ✓ on verandahs and decking
- ✓ around window sills and doors
- ✓ in garden beds and mulch
- ✓ in wood heaps
- ✓ in sheds.

Large trees may continue to burn for many hours and will be very difficult to extinguish.

Focus on extinguishing embers that may ignite your house.

Call friends and family to let them know you are safe.

ANIMALS AND BUSHFIRE

Pets

The safest place for your pets is far away from bushfire risk places. You can move your pets to:

- stay with family
- stay with friends
- a place that can look after your pets. For example, kennels.

If your pets are with you when the bushfire goes past you need to:

- ✓ bring your pets inside with you and contain them. Pets get scared and become difficult to manage
- ✓ make sure pets drink water.

Horses

Horses know how to move to safe open areas during bushfire.

Take these items off your horse:

- ✓ rugs
- ✓ halters
- ✓ fly veils.

Put horses in a big paddock with:

- ✓ short grass
- ✓ a small number of trees and plants.

Do not:

- ✗ lock horses in small areas
- ✗ lock horses in stables
- ✗ let horses out on the road.

If you do not have a safe place for your horses during bushfire, move them to:

- local showgrounds
- sale yards
- a park
- a racetrack
- pony club grounds.

Livestock

Put livestock, such as sheep, goats and cattle, in a paddock with:

- ✓ green grass
- ✓ no grass
- ✓ no dry feed
- ✓ a small number of trees and plants.

There should be firebreaks; for example, a lane with no grass or trees.

The Department of Primary Industries (DPI) will assist with assessing injured stock and losses to farm assets.

Call DPI on 136 186 or visit dpi.vic.gov.au for more information.





RADIANT HEAT IS THE BIGGEST KILLER IN A FIRE

- Bushfires produce enormous amounts of radiant heat.
- This heat travels in straight lines, radiating out from a bushfire ahead of the flames.
- Radiant heat is the warmth you feel from a campfire, a radiant heater, or the flame from a gas stovetop, but could be up to 50,000 times more intense in a major bushfire.
- Without protection, intense radiant heat will kill you.
- Radiant heat can be blocked by a solid object, such as a concrete wall or building, which creates a barrier between you and the bushfire.
- The best protection from radiant heat is distance.

BUSHFIRES AND RADIANT HEAT

- The hotter, drier and windier the day, the more intense a bushfire will be and the more radiant heat it will generate.
- Being outdoors during a bushfire means you risk exposure to radiant heat.
- The radiant heat from a bushfire can kill a human without flames ever touching them.
- Radiant heat kills very quickly. The human body cannot absorb large amounts of radiant heat or withstand extremely high temperatures.
- Radiant heat causes death from heatstroke where the body's cooling system fails, leading to heat exhaustion and heart failure.

PROTECTION FROM RADIANT HEAT

This advice will only protect you from very low levels of radiant heat. Your safest option is to not be there.

- ✓ Wear protective clothing to safeguard yourself from radiant heat (see page 7).
- ✓ Make sure all skin is covered.
- ✓ Do not wear shorts, t-shirts and thongs during a bushfire as they do not give your body any protection from radiant heat.
- ✓ Cover up as soon as you are alerted to a fire in your area.
- ✓ Have a kit of clothing ready for each family member who is staying to defend, including:
 - ✓ a long-sleeved shirt and pants made from cotton or some other natural fibre.
 - ✓ sturdy boots and woollen socks.
 - ✓ tough leather garden gloves – not rubber or synthetic.
 - ✓ a wide-brimmed hat to protect your head.
 - ✓ a face mask or towel to cover your mouth and nose.
 - ✓ eye protection such as smoke goggles to shield your eyes.

SHIELD YOURSELF FROM RADIANT HEAT

- ✓ Solid objects provide a barrier against radiant heat.
- ✓ Radiant heat can pass through glass so stay away from windows.
- ✓ A well-prepared house or building that is situated and constructed or modified to withstand a bushfire can provide a shield against radiant heat during a bushfire.

Remember, the only sure way to survive bushfire and avoid radiant heat is to be away from the threat.

HEAT-RELATED ILLNESS

- ✓ Heat stress occurs when the body is exposed to too much heat.
- ✓ Symptoms of heat stress include cramps, fatigue and dizziness.
- ✓ Managing heat stress is important as it can lead to heat exhaustion and heat stroke.
- ✓ Heat stroke can kill you.
- ✓ You can become dehydrated or heat-stressed during bushfires and not be aware of it.
- ✓ To prevent heat stress, drink plenty of water as well as electrolyte drinks such as sports drinks to keep hydrated.
- ✓ Cool yourself by placing wet towels over your lower arms.
- ✓ Loosen clothing to circulate air flow, remove head protection and get some rest when safe to do so.
- ✓ If someone is affected by heat stroke, move them to a shaded area if safe to do so and cool them by removing excess clothing, damping them down and fanning air over them.
- ✓ Give small sips of fluids and place wet towels to the back of their head and armpits.
- ✓ For heat stroke, call 000 and seek assistance immediately.

LOOK AFTER YOUR EMOTIONAL HEALTH AFTER A FIRE

- ✓ Make sure you and your family are safe.
- ✓ Do your normal routine if you can.
- ✓ Get information about how people feel after an emergency.
- ✓ Get information about how long it takes to feel better.
- ✓ Spend time with people you care about.
- ✓ Talk about what has happened to you.
- ✓ Talk to your children about how they feel.
- ✓ Take time to rest and do things you enjoy.
- ✓ If you are not feeling better, seek help from a mental health professional, doctor, or recovery worker.



PREPARE. ACT. SURVIVE.

FireReady 

STAY AND DEFEND

BUSHFIRE SURVIVAL PLANNING TEMPLATE



➤ Your Bushfire Survival Plan

Use this guide to help you write your Bushfire Survival Plan. It is important to have read the *Stay and Defend* section of the FireReady Kit first. You will need to consider your personal circumstances and how they will affect your plan.

Not everyone thinks clearly in an emergency. A written and well-practised plan will help you remember what needs to be done during a fire. It also lists the preparations you will need to undertake to help become fire ready.

Your plan needs to outline:

- ✓ Actions before the bushfire season
- ✓ Actions during the bushfire season (the Fire Danger Period)
- ✓ Actions to defend your property (the night before or morning of a high-risk day)
- ✓ Actions when fire is in your area
- ✓ What to do after the fire front passes
- ✓ Your back-up plan.



**Fill out this Template
and keep it handy**

INTRODUCTION

- What year is this plan for ? Every year you will need to update your plan. _____
- Who is this plan for ? _____

In high-risk areas, leaving early is your only safe option on **Code Red** days. Do not wait and see. Know your trigger to leave – make a decision about when you will leave, where you will go, how you will get there, when you will return and what you will do if you cannot leave.

Houses are not designed or constructed to withstand fires in **Code Red** conditions. Defending your home is very risky. You could die or be seriously injured.

Only consider staying with your property on **Extreme** or **Severe** days if you are fully prepared and can actively defend your home. Defending a house requires at least two able-bodied, fit and determined adults who are physically and mentally prepared to work long and hard in arduous and difficult conditions. If you are not prepared to the highest level, leaving high-risk bushfire areas early is your safest option.

Children, the elderly, or people with special needs should be well away from the threat. The safest option is to leave early.

Attend a FireReady Victoria community meeting in your local area. Check **cfa.vic.gov.au** or call the Victorian Bushfire Information Line (VBIL) on 1800 240 667 for meeting dates and locations.

- If you – or someone you care for – will need help to prepare and leave early when there is high fire risk, get a Red Cross *Bushfire: Preparing to leave early* guide at **www.cfa.vic.gov.au** or request a copy by phoning the Victorian Bushfire Information Line on 1800 240 667.

STAY AND DEFEND

BUSHFIRE SURVIVAL PLANNING TEMPLATE

ACTIONS BEFORE THE BUSHFIRE SEASON

Preparing your property – vegetation management

Managing the vegetation on your property will reduce a bushfire's intensity. You will reduce the amount of direct flame contact and radiant heat on your house.

Before you decide to develop a Stay and Defend Bushfire Survival Plan it is recommended that you book a free bushfire risk assessment of your home and property. Visit **cfa.vic.gov.au** or call 1800 240 667.

It is also a good idea to form or join a local Community Fireguard Group. Stay and Defend workshops may be offered by CFA in your area. Enquire through your CFA Regional Office.

Managing the vegetation includes:

Tick

- ☐ Clearing fine fuels from around your home (fine fuels are those that are the same thickness or less than a pencil, such as grass, bark and leaves)
- ☐ Keeping grass areas well trimmed and watered. Grass should be no more than 10 centimetres high
- ☐ Raking up and reducing leaf litter (dead leaves). Leaf litter must be no more than one centimetre high
- ☐ Removing or trimming shrubs. There should be no shrubs over one metre next to or below windows
- ☐ Trimming tree branches overhanging your house.

➤ What else will you do?

➤ Who will do this?

Preparing your property – house maintenance

This includes things such as:

Tick

- ☐ Clearing gutters of leaves and rubbish
- ☐ Ensuring underfloor areas are enclosed or screened
- ☐ Sealing gaps, vents and roof spaces to prevent embers entering your house
- ☐ Storing fuels and chemicals away from your house
- ☐ Storing LPG gas tanks appropriately. They should be vented away from your house
- ☐ Ensuring roofing is firmly fixed.

➤ What else will you do?

➤ Who will do this? _____

➤ List any firefighting equipment you need to purchase.

➤ Have you put together a personal protective clothing kit for each member of your household who is staying to defend? ☐ ^Y ☐ ^N

➤ Is there anything you still need? ☐ ^Y ☐ ^N _____

➤ Have you stored your personal protection kit/s in an easy-to-access location? ☐ ^Y ☐ ^N

➤ Do you have other important firefighting equipment, such as mops, buckets, ladders and shovels or rakes? ☐ ^Y ☐ ^N

➤ Do you have adequate house and contents insurance? ☐ ^Y ☐ ^N

➤ List your irreplaceable family keepsakes and valuables. Identify a safe location to store these valuables. Where will you store them? Consider moving these out of the area during summer.

➤ Discuss your plan with all family members. Everyone should be aware that staying to defend may involve trauma, injury and possibly death.

STAY AND DEFEND

BUSHFIRE SURVIVAL PLANNING TEMPLATE

ACTIONS DURING THE BUSHFIRE SEASON (THE FIRE DANGER PERIOD)

Tick

- ☐ Check Fire Danger Rating (FDR) daily.
- ☐ Monitor conditions.
- ☐ Check firefighting equipment – such as pumps, hoses and backpack water sprayers – and carry out maintenance as required.
- Do regular maintenance in your home and garden to reduce fine fuels. This includes weeding and cleaning out your gutters. List anything specific that you will do.

- ☐ Check you have plenty of fuel for your pumps.
- ☐ Move flammable items from around your house (e.g. paper, boxes, crates).
- ☐ Move woodpiles away from the house.
- ☐ Face the vent pipe of any LPG cylinders away from the house.
- ☐ Store fuel supplies and chemicals away from the house.
- ☐ Check you have sufficient water supplies. You may need to increase your independent water storage.
- Do you have a plan for where you will secure your pets and livestock?

ACTIONS TO DEFEND YOUR PROPERTY (THE NIGHT BEFORE OR MORNING OF A HIGH-RISK DAY)

Even people who are well prepared can die fighting fires at home.

- What is your trigger to activate your plan of action? How will you know that a fire is approaching?

Actions:

Tick

- ☐ Your personal protective kit is current and easily accessible (Your kit must have long-sleeved shirt or jumper, long trousers, broad-brimmed hat, goggles for eye protection, sturdy footwear, gloves – natural fibres only, not synthetics).
- ☐ Fill inside water storage such as bath, laundry trough and buckets. This is as back up when the power goes out.
- ☐ Fill outside water storage.
- ☐ Check all equipment (such as pumps, hoses and backpack water sprayers) is working and set up in the required locations.
- ☐ Move garden furniture, doormats and other loose outdoor items away from the house.
- ☐ Move furniture away from the windows to prevent embers that do enter your house from starting a fire.
- ☐ Set up a ladder under the manhole.
- ☐ Have a torch in the roof cavity.
- ☐ Move stock or large animals to a cleared or grazed-down paddock.
- ☐ Secure pets in a safe place.
- ☐ Listen for alerts and warnings on ABC local radio, commercial radio stations and designated community radio stations, watch SKY News TV or visit **cfa.vic.gov.au**. You can also receive warnings via the CFA Updates Twitter account.

- Ensure you have enough drinking water set aside for all those actively defending. How will you store this and where will you locate it?

- List family, friends and neighbours to call to let them know you are activating your Bushfire Survival Plan.

- What else will you do?

STAY AND DEFEND

BUSHFIRE SURVIVAL PLANNING TEMPLATE

ACTIONS WHEN FIRE IS IN YOUR AREA

- ✓ Dress in personal protective clothing (this is always the first thing you do).
 - ✓ Shut all windows and doors to prevent smoke and flames entering your house.
 - ✓ Switch your air conditioner to recycle/recirculate mode to reduce the amount of indoor smoke, or turn it off.
 - ✓ Turn off mains gas supply.
 - ✓ Block downpipes and fill gutters with water.
 - ✓ Place wet wool blankets or cotton towels around window and door edges inside the house to stop smoke and embers getting in.
 - ✓ Hose down the side of the house facing the fire and the garden area close to the house.
 - ✓ Move cars, tractors, caravans away from the house into a clearing.
 - ✓ Listen for alerts and warnings on ABC local radio, commercial radio stations and designated community radio stations (use a battery powered or wind-up radio). You can also watch Sky News TV, visit **cfa.vic.gov.au** and receive warnings via the CFA Updates Twitter account.
 - ✓ Keep an eye out for embers that the wind may be carrying. Extinguish them with wet mops, backpack sprayers or a fire pump.
 - ✓ Turn on your sprinkler system if there is one.
 - ✓ Drink lots of cool water often even if you don't feel thirsty.
 - ✓ Close window shutters.
- What else will you need to do?

- Power could be cut off or will be disrupted by the fire.
- Mains water pressure could fail as other residents and firetrucks access water.
- Telephone lines could be cut by falling trees and mobile coverage can quickly become congested.
- Loss of power will prevent cordless phones from working.

Actions as the fire fronts impact

As the fire fronts impact it will become extremely hot outside. You will be unable to survive out in the open. You must protect yourself from radiant heat and move inside.

- ✓ Go inside when it becomes too hot to stay outside. The skin on your ears and hands will alert you that radiant heat has become too hot to survive outside.
- ✓ Take all your plastic firefighting equipment inside with you, including all taps and hoses, because they can melt if left outside.
- ✓ Stay inside with doors and windows shut, shutters or curtains drawn, but be alert to where the fire is. Don't hide in a part of the house where you can't see the progress of the fire. You may need to wind up shutters to check the fire's status.
- ✓ Do not shelter in the bathroom as it typically has only one door out and a small window that is often frosted, making visibility extremely difficult. In a bushfire, it is critical to maintain visibility in order to know what is happening outside with the fire.
- ✓ Check for embers in the roof and elsewhere in your home.
- ✓ Drink lots of cool water often even if you don't feel thirsty.
- ✓ Keep cool by splashing your face with water.
- ✓ If your house catches fire, close the door to the room that is alight and progressively close all doors moving to the other end of the house. Always have an exit from each room. Move outside, shielding yourself from radiant heat, when you can. Do not return to the house for any reason.

STAY AND DEFEND

BUSHFIRE SURVIVAL PLANNING TEMPLATE

WHAT TO DO AFTER THE FIRE FRONT PASSES

- ✓ Continue to wear your personal protective clothing and go outside again as soon as it is safe to extinguish any small fires that may have started.
- ✓ Water down the outside of the house, including the roof.
- ✓ Drink lots of cool water often even if you don't feel thirsty.
- ✓ Call family, friends and neighbours to let them know you are safe.
- ✓ Actively patrol your property for embers for hours after the fire has passed.
- ✓ Places to look for embers include:
 - on roof lines and in gutters
 - in garden beds and mulch
 - around outdoor furniture
 - in wood heaps
 - on door mats
 - in sheds and carports
 - on verandas and decking
 - on window ledges and door sills
 - under the house
 - inside the roof
 - under the floor boards.
- ✓ If you have lost your power supply and have frozen food, do your best to try to keep it cold. If food is still cold to touch, less than 5°C, it is safe to use.
- ✓ Once cold or frozen food is no longer cold to the touch, it can be kept and eaten for up to four hours and then must be thrown out.
- ✓ If power is restored when frozen food is still cold to the touch (less than 5°C), the food is safe to refreeze.
- ✓ Have details for your local council as a first point of contact for recovery assistance after a fire.

YOUR BACK-UP PLAN

- If it becomes clear that it is not safe to stay and defend, what is your back-up plan? Survival must be your main priority.

- Leaving as a last resort is extremely dangerous. Where do you plan to shelter if it is unsafe to leave your property or your area? Shelter options may include a well-prepared property or home (for instance a neighbour), a private bunker (that meets current regulations) or a designated community shelter or refuge.

- Do you have a designated Neighbourhood Safer Place (**Place of Last Resort**) in your area that could be used as a last resort?

- Other last resort options when fighting for your life may be a stationary car in a cleared area, a ploughed paddock or reserve, or a body of water such as a dam or swimming pool.

Note: Last resort options do not guarantee survival. There is a high risk of trauma, injury or death.

- What other things do you need to consider in your planning?

- What is your plan if your equipment fails? Consider having back-up equipment.

**For more information about bushfires visit cfa.vic.gov.au or
call the Victorian Bushfire Information Line (VBIL) on 1800 240 667
or via National Relay Service on 1800 555 677**

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