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*A booklet that could save
the lives of you and
your family...*



Conservation and
Land Management

Prepare, take care & be fire aware !



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The Natural Gas Company

Emergencies: 13 13 52



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INTRODUCTION

Each year in Western Australia, on average, more than 9,000 fires burn in grass, bushland and forests, causing widespread damage. The effect of these bushfires on our natural resources and the potential loss of human lives is of great concern, not only in this state, but throughout Australia. A sad reminder of the awesome power of bushfires, is reflected in the following statistics:

The major bushfires of 1994 in New South Wales, resulted in the destruction of 206 residential properties, more than 800,000 hectares of bushland and the loss of 4 lives. The total monetary loss was estimated at \$150 million.

The "Ash Wednesday" fires in Victoria and South Australia in 1983, resulted in the loss of 76 lives, 2,463 residential properties, more than 375,000 hectares with a total estimated monetary loss of \$440 million.

Whilst fire authorities in Western Australia undertake to minimise the number and impact of fires on people, property and the environment, it is imperative that we as individuals also take a critical role in preventing unwanted fires.

This booklet has been prepared to help raise community awareness of the potential impact of bushfires and to provide information about limiting their occurrence and where unavoidable how to survive in a bushfire.

Prepare, take care and be fire aware.

THE THREAT OF BUSH AND RURAL FIRES

The potential for fire

The threat of bushfire is highly variable because:

- **Fire ignition** is dependent on many phenomena, such as lightning, human activity, fuel bed characteristics, the weather and on the effectiveness of prevention efforts.
- **Fire behaviour** (that is how a fire spreads and how intensely it burns) is dependent on local conditions, such as the weather, fuels and topography.
- **The effectiveness of fire fighting operations** is closely related to accessibility, water supplies and the resources of the local fire protection agency.

In Western Australia there is the potential for a combination of concentrated natural fuel levels, high temperatures and strong winds, to pose a serious fire threat EVERY summer.

The major risks

Greater public awareness and elimination of major risk factors is necessary if we are to avoid the consequences of bushfire. Listed below are some of the major risks or actions identified as increasing the likelihood of fire in bush or rural areas and over which we have control:

- Unauthorised burning or burning without adequate supervision.
- Adding flammable liquids to a fire.
- Refuelling machines while still running or hot.
- Trees too close to power lines.
- Inadequate insulation on electrical wiring, loose connections and broken conductors.
- Failing to take adequate precautions when lighting or using a campfire or when burning rubbish or vegetation.
- Children playing with matches.
- Arson.

Children and fire

It is recognised by fire authorities that most fires result from carelessness and malicious actions. In particular, statistics show a significant increase in the number of fires occurring in the period immediately after school hours. An average of nearly 25% of all grass, bush and rubbish fires in this state, are reported in the period from 3.00pm to 6.00pm. Communities and individuals therefore have an important role to play in limiting the occurrence of such fires. Acts of carelessness or deliberate fire setting can be restricted if you become more vigilant and report anyone acting suspiciously in your area.

Parents in particular must:

- Emphasise to your children, the dangers and consequences of bushfire.
- Be aware of your children's activities after school hours.

General fire safety activities for children are conducted through the Fire and Rescue Service of WA, Education Centre in Murray Street, Perth.
(Contact phone no.: 323 9300).

DO YOU KNOW THE FIRE RULES?

Fire break orders

Every year, Local Authorities issue a notice that specifies their requirements for the installation of fire breaks and the removal of bushfire hazards.

Please ensure that you have read, understood and complied with your Local Authority requirements.

Because Western Australia is so fire prone, each summer there are restrictions on the lighting of fires in the open. These periods from October through to April in the Southern part of the state, but vary in the North West to correspond with the "Dry period" during the northern winter.

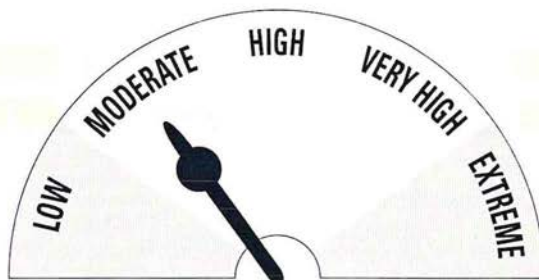
Fire danger forecast system

Bush fire weather warnings are issued by the Bureau of Meteorology.

By relating the factors of the degree of curing of the fuel (how dry it is), the wind speed, the atmospheric moisture (relative humidity), a fire danger index figure is produced.

The fire danger index is expressed as a fire danger classification as illustrated:

FIRE DANGER TODAY



Note: When the classification is “Very High” or “Extreme” greater than normal restrictions apply. (See under General Fire Precautions).

Fire restrictions (burning off times)

1. Restricted burning

Restrictions apply to all burning carried out during the period declared as restricted burning times within most areas of the state. These times are declared in the Bush Fires Act and relate to periods immediately before and following prohibited burning times.

During this time, you are permitted to burn bush, grass, stubble or undergrowth only with a written permit from your Local Authority. However this type of burning cannot be undertaken at times of “Very High” or “Extreme” fire danger.

2. Prohibited burning

The lighting of fires is prohibited during certain times of the year in most districts throughout the state. Except in pastoral areas, the state has been divided into zones. The prohibited burning times vary in each zone. Residents are therefore urged to acquaint themselves with the prohibited burning times for their district. This information may be obtained from your Local Authority.

During this time you are NOT permitted to light fires in the open for the purposes of burning bush, grass etc.

The following diagram illustrates the periods of fire restrictions that normally apply:

Restricted burning	Prohibited burning	Restricted burning
October	December	March
		April

Note: You should contact your Local Authority to determine the exact dates that apply in your area.

General fire precautions

The following precautions should be taken in BOTH the restricted and prohibited burning periods:

- Fires may be lit on the ground for the purposes of destroying garden refuse or rubbish, provided that an area of at least 5 metre radius around the fire has been cleared of all combustible material. The fire can only be lit between the hours of 6.00pm and 11.00pm of the same day. A person shall remain in attendance at the fire and completely extinguish it before they leave. No such fires may be lit on days when the fire danger forecast for the area is **“Very High” or “Extreme”**. (**)

A campfire or cooking fire may only be lit if there is an area cleared of all combustibles for at least three metres around the fire. Such fires are automatically prohibited on days when the fire danger forecast for the particular area is **“Very High” or “Extreme”**. (**)

- Do not leave a fire unattended and always extinguish it with water or earth before leaving the area.
- Fires may be lit at any time in an incinerator which is properly constructed to prevent the escape of sparks or burning material. The areas around the incinerator must be cleared of all combustible material for a distance of at least 2 metres. The incinerator must not be situated closer than 2 metres from any building or fence. (**)
- Do not use welding apparatus of any kind, power operated cutting discs or grinding tools of any kind in the open, unless there is at least one 9 litre water type fire extinguisher situated at the site. Any instruction issued by a Fire Control Officer must be complied with. (Care should be taken in the use of water type extinguishers with electrical equipment).

(**) Check with your Local Authority; some Councils do not permit burning on the open ground, in an incinerator of any kind, or the lighting of campfires.

Bush fire emergencies

On the days when the Minister declares a "Bush Fire Emergency Period" for a defined area of the state, a person **shall not light a fire in the open under any circumstances**, in that area.

This ban includes fires for which a permit has already been issued, campfires, cooking fires, barbecue fire, incinerators and rubbish fires.

For further information about fire laws contact your Local Authority, or Fire Service on the numbers listed on the back cover.

RECREATIONAL FIRE SAFETY

Special care should be taken by people who participate in outdoor recreation, to prevent fire spreading in bushland areas. In the event of an uncontrolled fire occurring or a suspected fire, it is advisable to get everyone to safety before calling for help or attempting to extinguish the fire - **fire can spread very rapidly**. The chances of fire occurring and spreading from camping areas, caravans and boats operating on inland waters, can be limited if these safety procedures are followed:

Camping

- When buying camping equipment, look for tents that are made of flame retardant materials.
- Use battery powered lights in or near tents.
- Set your campfire in a trench and keep combustibles clear for at least three metres around your fire. Keep your tent upwind of the fire.
- Prepare a plan to escape from the tent and be prepared to cut a way out if fire occurs.
- Never light or rekindle a fire with flammable liquids.
- Always extinguish your fire and turn off fuel lanterns and stoves, before leaving the campsite or going to bed.
- The best way to extinguish an open fire is to pour water over the flames and smother the coals with soil.

Caravanning

- Keep LPG cylinders outside the caravan and connections to them tight. The cylinders should be fitted with a safety shut-off valve.
- Store flammable liquids outside the caravan.
- Turn off gas cylinders and appliances before going to bed.
- Provide adequate ventilation to refrigerators, gas cookers, lamps and any other source of heat.
- Keep pot handles turned in and heat sources away from things that burn.
- Check all switches, sockets and appliances regularly and maintain them in good order.
- Make sure that extension leads connecting your caravan to the electrical supply are not faulty.
- Never leave children alone in a caravan.
- Fit a battery powered smoke alarm.



Boating

- Shut down engines, motors, fans and heating devices before fuelling.
- Never smoke while refuelling.
- Leave room for fuel expansion in the tank and wipe any spillages.
- Refuel portable fuel tanks in a clear space on shore, rather than in the boat.
- Check bilges for leakages, fuel odours and ventilation.
- Install the recommended fire extinguishers.

In the interests of fire safety, do not enter bushland areas on days of "Extreme" fire danger.

PLANNING - THE KEY TO BUSHFIRE SURVIVAL

Your risk of losing life and property during a bushfire or grassfire is affected by many factors, and whether you stay with your home and defend it, or evacuate when a fire threatens is a complex and very personal decision. During a major fire, firefighters and fire appliances must be positioned at the fire front, working to prevent fire from spreading. There simply may not be enough resources available to defend every home, so a great deal of responsibility rests with the home owner to develop an individual survival plan.

Since bushfires move quickly and unpredictably, it is extremely dangerous to make last minute decisions to evacuate. Once the fire is close by, visibility will be very poor and travel will be hazardous. Escape routes may be cut off by the path of the fire. Should you be trapped in your car, or worse still stranded on foot, your chances of survival are poor. You are advised to think about your individual situation and make your decision now, well before any fire threatens your home.

To leave or to stay with your home

The first and most important decision you must make is whether or not you plan to stay with your home. In most circumstances, you have the right to stay if you wish, however, the Fire Authority, in consultation with the Police, will decide if there is a need to evacuate communities in a major fire. If so, the Police will organise the evacuation.

Research has shown that most houses which burn down during bushfires, have been abandoned by their occupants, and many burn down after the main fire front has passed.

Homes occupied by able bodied residents during a bush or grass fire are far more likely to survive because small outbreaks on the structure can be extinguished quickly by the occupants. However, you must be properly equipped and mentally and physically prepared to fight the fire. The safety of children, elderly or handicapped members of the family must also be considered.

Whether or not your home can be safely defended, will depend on how well you have prepared for the bushfire season, including:

- Satisfactory fuel reduction work.
- Sufficient water supplies being available; independent of mains supply.
- The structure being sound with no places where sparks can lodge and ignite the building.

Plan your evacuation early

Should you decide to evacuate or to have some members of your family leave the home, you must plan to do so early, well before the fire reaches your vicinity. Lives are most often lost during unplanned last minute evacuations. When evacuating, be sure to:

- Know where you are heading (the local sports oval, the beach or the nearest town) and if possible have alternate routes planned.
- Dress in protective clothing, such as long trousers and shirts and strong shoes.
- Put woollen blankets (wet if possible) and drinking water in the car.
- Take your pets with you.
- Drive carefully and slowly with your headlights and hazard lights on, as smoke may make it difficult to see and there will be fire tankers and other vehicles on the road.

If all escape routes are cut off while in transit, find the largest clearing away from dense bush and stop. Keep headlights and hazard lights on and keep all the windows wound up. Turn off fans and airconditioning and close all vents to keep smoke out. Do not get out of the car, but lay flat on the floor or seats and cover yourself with a blanket to avoid direct heat radiation. It will get very hot inside the car, but if you are under a blanket, you will be protected from most radiant heat until the fire has passed.

PREPARE FOR THE BUSHFIRE SEASON

1. Fuel reduction is one of the most important preparations you can make. Clear away fallen leaves, long grass, and dead undergrowth, and maintain this fuel reduction throughout the summer. Tan bark or heavy mulch covering in areas close to the house should be removed, as should wood piles or other flammable materials.

Clearing vegetation around established trees and creating a green "oasis" around your home is essential to make a fuel break.

If you ignore the need for ground fuel reduction prior to, and during the Fire Danger season, you endanger not only your own property, but the lives and property of your neighbours.

2. Check your water supply. You cannot rely on mains water during a bush or grassfire. Tanks, dams and swimming pools can provide necessary reserves, provided you have a portable pump. Remember that sprinkler systems may require as much as 22,000 litres of reserve water, and even then, used with a back-up of mains water flowing into your tanks.

3. Gather equipment and make sure it is in working order. Ladders, hoses, and buckets and mops are simple but invaluable tools. Check to be sure hoses reach all sides of the house. Make sure portable water pumps are fuelled and start easily.
4. Remember to prepare for your own personal safety. If you plan to stay with the house, put together a kit of protective clothing for everyone. Include sturdy leather shoes or workboots, a broad-brimmed hat, gloves, and goggles. A wet towel over the mouth and nose can assist breathing in heavy smoke.
5. Your long-term preparations may also include changing the layout of your property. Properly placed garden walls, driveways, trees and shrubs and outbuildings can play a big factor in the survival of your home. Brick garden walls can also protect from radiant heat.



Good fuel reduction requires removal of dead branches and fallen leaves and cutting of long grass within 20 metres of the house. On a slope, greater ground clearance is desirable, especially under established trees.

In grasslands, the intensity of grassfires increases with the height and weight of the grass. If grass cannot be kept short by grazing animals, it should be slashed well before the fire danger period so that cut grass has time to rot prior to summer.

A portable pump will ensure sufficient water pressure during a bushfire emergency. In areas of high fire



danger, including forested suburban areas, a portable pump is a valuable investment in the security of your home against fire. House the pump in a readily accessible shed protected on the side of the house away from the most likely direction of a bushfire.



Gravity fed water tanks with wide opening outlets allow quick filling of buckets and use of your portable pump. Fit gate valves to all new tanks to use with your pumping equipment. Ensure your water supply is close to the house - or that you do not have exposed areas of plastic pipe or hose which can burn.



HOW TO KEEP FIRE OUT OF YOUR HOME

Roofing

Most homes ignite when sparks or burning embers blow under tiles and start burning roofing timbers. Steel and iron roofing offers more protection provided it is firmly secured and sealed around vents, skylights, fascias and roof caps.

Underfloor

Underfloor areas which are not enclosed may allow sparks and embers to penetrate. If these areas are used to store timber, firewood or other flammable materials, the risk is compounded. Make sure that underfloor areas are kept clear during the summer.

Crevices - Windows - Vents

Crevices where embers can collect are potential ignition points. Cracks under doors, on window ledges, or along verandahs are particularly vulnerable. Vents into the house structure are also common entry points for sparks. They should be covered in fine metal wire mesh to prevent embers from getting into walls or roof cavity areas.

WHEN THE FIRE COMES...

What will happen?

There will be a shower of sparks and embers before the main fire front approaches. This shower of embers will continue for several hours after the fire has passed. You should also expect strong winds and heavy smoke which will make it dark, and visibility will be reduced. In addition, the fire will generate a very loud noise level which may be traumatic. Dozens of homes will be under attack by the oncoming fire front at the same time. Able-bodied people actively patrolling their properties have a significantly greater chance of saving the home.



you plan to leave, just in case your evacuation is unsuccessful. If you are working outdoors after the fire front passes, you should also wear a broad-brimmed hat, gloves, and goggles to protect your eyes from smoke and flying embers.

4. What to do inside

Windows are a weak point in your home's defence against fire. They may break and allow sparks and embers to enter. Radiant heat can also penetrate. Therefore, heavy curtains, especially if they are wool, should be drawn to increase your protection. Fill the bath with water and soak towels to place in any crevices, such as under the door. Fill buckets with water, ready to use in

putting out spot fires. Place a ladder in the ceiling manhole so you can check the roof space periodically for fires. You will need to continually patrol the interior of the house during the period when fire passes, to check for ignition points.



5. What to do outside



Much depends on how much time you have before the fire arrives. When a fire approaches it is too late to clear leaves out of the guttering. But you still need to think about flammable items near the house structure. Remove flammable blinds or roll them up before main fire front arrives. Move any materials near the house which could catch embers and ignite (ie. wooden outdoor furniture). If your water supply is limited, conserve it until the fire reaches your

area. Otherwise, use water to dampen all areas on the side of the house facing the fire. Block the gutter outlets and hose the roof and allow water to drain into the guttering. Dampen window ledges allowing water to penetrate any gaps and turn on your garden/roof sprinkler system using an auxiliary pump.

6. Retreat indoors

As the fire front advances and passes your home, retreat indoors, or retreat whenever radiant heat becomes too great outdoors. The walls of your home will protect you from radiant heat. When you retreat, leave pumps and hoses in a protected area on the side of

the house away from the advancing fire. While you are indoors, keep watch for any outbreaks of fire. Take a wool blanket with you for cover and protection if you are forced to leave the home for any nearby refuge. Make sure it's made of wool. Protection may be gained behind a solid object, such as a brick garden wall, if you are forced to leave the house. After the main fire has passed go outside and patrol for fire outbreaks.



7. Inspect and hose down

As soon as possible after the fire front has passed, go outside to inspect for spot fires. Hose down the house, paying special attention to the roof space and underfloor areas, and extinguish ignition points. Make sure you are properly dressed before you go outside. Breathing through a wet towel helps protect you from superheated air. The towel can assist in protecting your eyes if you do not have any goggles.



8. Patrol for 3-4 hours

Your home will need to be under constant surveillance for three to four hours after the fire has passed, since sparks and embers will continue to fall. Watch where embers land and extinguish spot fires while they are still small. Be vigilant. The work will be hot and uncomfortable, but it is essential to ensure the survival of your home.

9. Drink water frequently

Remember to drink water frequently to prevent dehydration. This is particularly important while you are working outdoors, extinguishing spot fires. Your body will be under stress from the heat, and fluids must be replenished. Have something to drink at every available opportunity, preferably every ten minutes. Do not drink alcohol, which dehydrates the body.



A SPRINKLER SYSTEM CAN SAVE YOUR HOME

Sprinkler systems can be extremely valuable in defending your home against bushfires, provided you have sufficient water supplies. You will need at least 22,000 litres of water from a tank, dam or swimming pool. Do not rely on mains water except to help replenish the water tanks. The system need not be elaborate. An extension of your garden watering system can be used to wet the most vulnerable areas of the house, such as the immediate surrounding garden or lawn area, under floors, roofs, caves, verandahs and timber balcony areas.



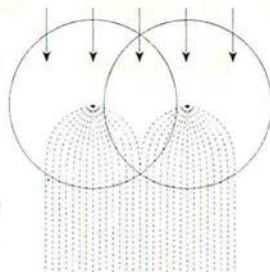
In designing a sprinkler system, be sure to use metal sprinkler heads. Metal pipes are best, but if plastic pipes are used they must be installed 40 cm underground so they will not melt. Sprinklers should be positioned so that the water canopy will not blow away in high winds or evaporate. You will need a portable pump to ensure that you have sufficient water pressure. Make sure the pump can be operated by any member of the family.

Check the pump on high fire danger days to be sure it is fuelled and starts readily. A key start ignition system is of course ideal. The pump should be housed in a readily accessible shed in a protected area on the side of the house.

Garden sprinklers on the windward side will aid your survival. When planning a sprinkler system, remember that fires are accompanied by high winds and high temperatures which can reduce the effectiveness of fine sprays. Keep the sprinklers operating until well after the fire has passed.

Verandahs and balconies can be vulnerable areas of your home with their expanse of timbers open to spark and ember bearing winds. Fine mist sprinklers spraying up toward roofing on verandahs can help save your home. Consider sprinklers placed on the leading edge of guttering so the spray is blown down over the walls and windows and back onto the roof.

The sprinkler system should be designed for 50% water pattern overlap to allow for elliptical wetting pattern under strong wind conditions. Garden sprinkler systems can aid your fire prevention effort.



Your local fire authority and council fire control officer can help you with planned protection for your property.

HOME FIRE SAFETY

Natural Gas

The Dampier to Bunbury Natural Gas Pipeline carries natural gas more than 1500 kilometres from the North West Shelf. Native bushland grows along many parts of the pipeline route. Pipeline markers indicate the location of the pipeline for its entire length. You should telephone the AlintaGas' Dampier to Bunbury Natural Gas Pipeline Emergencies on 1800 019 919 to report pipeline damage or emergencies, 24 hours a day, 7 days a week.

If you smell natural gas in your street or home, or lose your natural gas supply, telephone AlintaGas Emergencies on 13 13 52, 24 hours a day, seven days a week.

Don't forget natural gas is not poisonous. It is lighter than air and therefore dissipates quickly and safely in the event of a leak if you have sufficient ventilation.

In its natural state natural gas is odourless. AlintaGas put a smell into it so you can easily detect leaks.

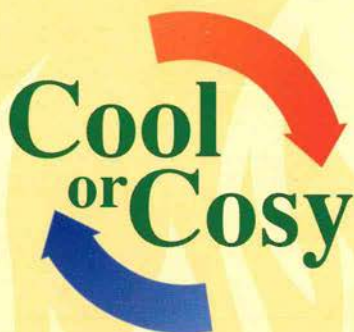
What do you do if you smell gas

There are several essential steps that need to be taken.

1. Avoid flames and sparks. Don't light matches or cigarettes. Don't operate electrical switches or appliances. Never light a gas appliance that gives off a gas smell when it is turned off.
2. Turn off all gas appliances.
3. Open all windows to disperse the gas.
4. If the gas smell remains after you have turned off the appliances and opened the windows and doors, turn off your main gas tap at your gas meter and call AlintaGas Emergencies on 13 13 52 (24 hours a day). This is very important as some appliances have a pilot light, which is a small burner that lights the main burner. Turning the main gas tap off will stop this pilot light from burning if the appliance is leaking.
5. If the gas smell disappears after you have turned off the appliances and opened the windows and doors, it is likely that one of your appliances is leaking. AlintaGas does not carry out maintenance work on appliances so you will need to contact the appliance supplier or a licensed gas fitter.

For further information contact:

Bush Fires Board of Western Australia Phone: 367 0777
Department of Conservation and Land Management Phone: 334 0333
Fire and Rescue Service of Western Australia Phone: 323 9300
Fire Emergency Calls Only Phone: 000



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OUR MISSION

To minimise the number and impact of fires and other emergencies on
the people, property and environment of Western Australia.

Dial 000 in Emergencies.