INFORMATION SHEET 2

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BUSHFIRE SURVIVAL

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To understand the nature of bushfires in Australia several factors must be taken into consideration. The climate is one of hot, dry periods, following seasonal rains, which soon dries out the highly flammable native forests and understorey vegetation. Also serving as a natural fuel, our European ancestors introduced stock grasses for pasture and food cereals thereby making even cultivated districts prone to bushfires.

Fire suppression organisations such as Rural Bush Fire Brigades and Forest Department Fire fighting services were introduced over the years to limit the damage to life, property and forests. However bushfires continue to occur through acts of carelessness, use of machinery and lightning strikes, so that we must learn to live with this hazard. Danger to life and property due to the ravages of fire are very real and we should consequently all be aware of certain survival measures if trapped in such a situation.

It is now known that the main cause of death in a grass or forest fire is a result of *heat radiation*, causing heat stroke in an extreme form, rather than from a lack of oxygen. As the fire sweeps through the forest updraughts carry away the hot combustion gases allowing fresh air to flow from the surrounding countryside into the fire near ground level. Thus air temperatures, although uncomfortable, are kept to a level that can still sustain life.

Radiant heat, like the visible form of radiation energy travels in straight lines, does not penetrate solid objects and is easily deflected—these physical principles are basic to survival procedures.

Most of the heat felt from a bushfire is radiant heat and although it can reach a high intensity it lasts only a relatively short time. Thus if a person can survive the flaming period of a forest fire (which rarely exceeds three or four minutes, or a grass fire, 30 seconds or less) there is no risk of succumbing later.

If threatened by a bushfire—DO NOT PANIC. Panic seriously drains nervous and physical energy and upsets judgement—so avoid it.

The following advice is offered:

(*a*) In a house stay there. You will survive peak radiation from the passing fire even if the house burns down later.

(*b*) At any fire wear clothing (preferably wool) that covers your body, arms and legs. This clothing will act as a radiation shield that might save your life.

(*c*) Motor vehicles should not be driven blindly through smoke. Switch on headlights and park on bare areas beside the road, but on the opposite side to the fire.

(*d*) Wind up the windows and shelter from radiation beneath the dashboard, with a rug, floor mat, etc., covering your body. If the vehicle catches alight you can leave after the peak fire has passed, but keep your skin covered as much as possible.

Have confidence that the petrol tank will not explode and even in the worst situations it will be some minutes before the vehicle catches alight. It is safer to stay inside the vehicle.

Survival on foot in a forest fire or grass fire is not at all easy—even for experienced people.

The following instructions give the best chance of survival if caught on foot:

(*a*) Try to move to bare ground.

(*b*) Do not run uphill or away from the fire unless a safe refuge is known to be handy.

(*c*) Move across the slope out of the path of the head fire and work your way towards the back of the fire.

(*d*) Do not attempt to run through flames unless you can see clearly behind, and then only if the flames are less that 1·5 m high and are on the back or flank of the fire. Lulls in the fire often result in the flames in these parts being low enough to let you run through to burnt ground behind.

(*e*) In severe conditions use every means to protect yourself from radiation. On bare ground cover yourself with earth, use depressions, wheel ruts, big rocks or logs to give protection. Stay put and give yourself a chance of survival.

(*f*) Take cover in ponds, running streams or culverts but avoid elevated water tanks as water here can heat up rapidly. Water at ground level does not heat up quickly. Remember that a body immersed in lukewarm water cannot sweat and a state of collapse will be reached in about three minutes at 45 °C.

Governing the above suggestions are these basic principles which must be remembered at all times:

1. Select an area where there is the least amount of combustible material.
2. Use every means to protect yourself from radiation from the flames.
3. Remain calm and do not panic.

For further information, see Bulletin 71—*Safety in Prescribed Burning.*

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