



*She'll be right, mate!*

**A Basic Guide to  
Outback Survival**

**by Bob Cooper and  
David Gough**

*More and more people are searching for wilderness experiences, but many are unprepared for the dangers they may encounter. David Gough learned some of the basics of outback safety and bushcraft on a CALM course run by outback survival trainer Bob Cooper.*



**W**estern Australia contains some of the world's harshest and most isolated areas. These areas can give everyone the opportunity to experience 'last frontier feelings'. Their untouched beauty tempts people to undertake journeys for which normal education has left them unprepared. Yet, as the quest for new outdoor pursuits and adventure grows, so, too, does the number of people venturing into the unknown.

Our arid land has claimed many lives, particularly over the past two decades. The victims were not just visitors, but also people who were professionals working in outlying areas. 'She'll be right, mate' and 'it won't happen to me' are attitudes that have cost thousands of dollars in search and rescue operations and have often resulted in the ultimate penalty - death. Such tragedies could have been prevented if the victims had been aware of the dangers they were likely to encounter, and if they had carried emergency supplies. But the effort to organise such emergency procedures can be arduous or time consuming and 'she'll be right' attitudes take the place of common sense. Sadly, these were the famous last words of someone who died of dehydration in 1988 after being warned by a local garage attendant about the condition of an outback track he was about to take. (Reported 8 January 1988 *DAILY NEWS*, Perth.)

## ZEN AND THE ART OF SURVIVAL

In WA 'remote' means just that. It also means abandoning the usual comforts and facilities, and immediate help when getting into difficulty - there's no RAC in Woop-Woop! Surviving unexpected emergencies in remote areas is a problem that, in essence, is yours alone. Whether or not you survive largely depends on your attitude and the decisions you make in the first few hours. These decisions can be made easier if you have had some training in what is now often called 'survival', but is more akin to what our outback-orientated ancestors called 'bushcraft'. The consequences of not having the necessary knowledge in an emergency can be very severe - even tragic.

But before you go on any trip into the outback, remember to inform people of



**Previous page:** An abandoned vehicle in the Great Sandy Desert  
Photo - Jiri Lochman

**The Hamersley Range, in Western Australia's Pilbara region, is typical of the wilderness areas being visited by increasing numbers of people each year.**  
Photo - Robert Garvey

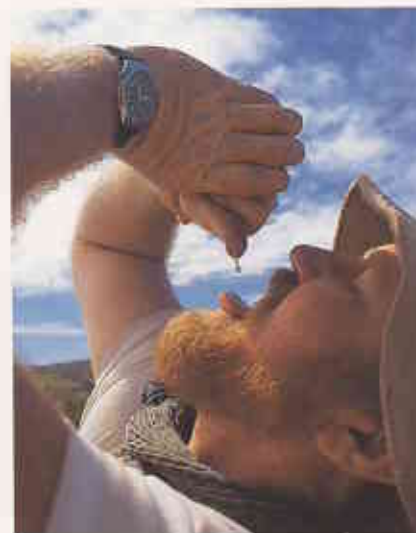
**Bob Cooper demonstrates the bushman's technique of extracting fresh water from pigface.**  
Photo - Noel English

your intended routes and estimated times of arrival, and seek the advice of the locals about road conditions and likely hazards. Remember, no-one will look for you if no-one knows you are lost.

If an emergency does arise, you should remain with your vehicle and sit in the shade. Only if you are certain of the direction and distance to help or provisions, should you leave the site, and then only with much caution. A vehicle is easier to find than a lone person and it is also a huge source of materials for making life much easier. Remove any bright objects from the vehicle - mirrors, chromium strips, hub caps - and hang them high in a tree with empty drink cans, aluminium foil, and any other bright objects you may have available. These will blow around in the breeze and will be visible by search parties. If there are no trees nearby, lay the objects on the ground.

Remove the spare tyre, deflate it, and set it alight. The smoke will be visible for many kilometres and the fire will remain visible at night.

If you are on foot, sit in whatever shade you can find and curb the natural urge to panic.



## MANAGING YOUR BODY

There are four important factors you need to remain alive: water, warmth, shelter, and food. In different situations the relative importance of shelter and warmth may change, but dehydration and exposure are the prime killers, especially here in Australia.

If water supplies are perilously low, it is better to bury any food to avoid the temptation to eat. You can live longer without food than without water, and it takes precious body fluids to digest it. If you have water, **never** sip it. Always have a good drink. Sipping does not prevent dehydration and severely reduces your chances of remaining lucid. There are many cases where people have been found with sufficient water on them, but have still died through dehydration.

Rest during the heat of day and be active at cooler times. Wear clothes to protect the body from sun and wind;

both cause water to evaporate through the skin, which in turn speeds the dehydration process.

## OBTAINING WATER

Water sources can be found, but you need to know the signs to look for. Animal tracks form natural arrows pointing towards water. Seed-eating birds, like pigeons and finches, rarely stray more than a few kilometres from a water source. They can be seen heading towards or leaving such places in the morning or evening. If they are flying straight and hard they are probably heading towards the water source. If there are no water holes nearby, there are many other ways to obtain water.

If your vehicle has an air-conditioning unit, use it to condense water from the air. This water can be collected from the overflow pipe, near the condenser. The car may also contain another water source in the windscreen washer reservoir, but only drink this if you are sure there are no harmful additives. **Never** drink radiator water, as nowadays radiators contain anti-freeze and anti-corrosive chemicals.

About one litre of water in four or five hours can be obtained through transpiration.

Photo - Noel English

Water in old water tanks, such as this one near Mt Augustus, must still be purified before drinking.

Photo - Robert Garvey



In the early morning, dew can be collected by walking through grass and low herbage, wearing tufts of grass, sponge or absorbent cloth tied around your ankles.

On the coast, dig carefully behind the first row of dunes until water begins to seep into the hole. When this happens, stop digging and allow the water to settle. Fresh water will become suspended above the denser salt water and can be scooped from the top of the pool that forms in the hole.

A large clear plastic bag tied tightly around the branches and leaves of a healthy non-toxic tree or shrub can yield about one litre of water by transpiration in four or five hours. The bag should be tied on the sunny side of the tree or shrub and angled downwards so condensation will drain to the bottom corner. Remember to shake the branch first to remove insects and as much leaf debris as possible before tying the bag in position.

## WATER PREPARATION

All water **must** be purified before you drink it. Bacteria and germs can lead to severe illness that, if left unchecked, may kill. Diarrhoea, for example, is very serious in a hot climate. It can cause rapid dehydration and death within a matter of hours. Purification of the water will help prevent illness and greatly increase the chances of survival.

There are two stages to making water safe to drink: clarification and purification.

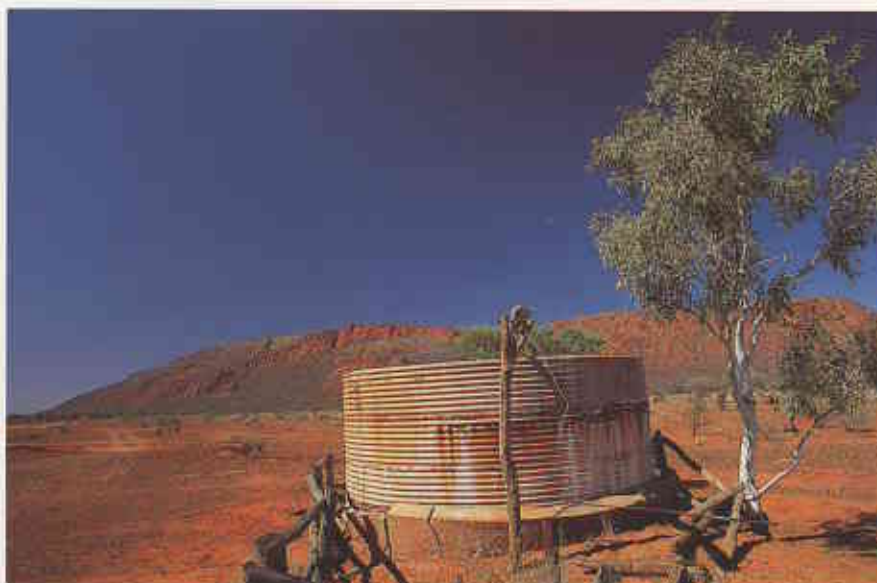
**Clarification** is the process by which suspended matter - dirt, insects, leaf debris - is removed from the water. This can be done by pouring the water through a cloth such as a handkerchief or tee-shirt, or through a more elaborate filter system such as fine sand contained in a cloth bag, trouser leg, or shirt sleeve. However, clarification alone does not make the water safe to drink, it only makes it clearer and more palatable.

**Purification** follows clarification and is the process that kills organisms which can cause anything from nausea to death. If time and resources are limited, the clarification stage, which is largely cosmetic, should be hastened to make as good a job as possible of the purification.

There are several ways of purifying water. Before venturing into the outback, try each method to see which taste you prefer and to determine whether you have any adverse reaction to the chemicals used in some of the preparations.

Boiling is the best known and one of the simplest and most effective water purification techniques. It requires no special equipment or chemicals and leaves no aftertaste, which is particularly important if the water is for an infant or someone whose stomach may react to water purification additives. Water should be boiled for at least 10 minutes.

Condy's crystals (potassium permanganate) are a useful item to take on any trip. They can be used in varying strengths for water purification, as a mouthwash, or as an antiseptic. For water





The twenty-two items that make up the standard Outback Survival Kit supplied free of charge to all course participants.  
Photo - Noel English

purification, three or four crystals should be added to a litre of water and stirred until dissolved. The water should then be left to stand for 30 minutes. If the correct dosage has been used, the water will have a slight pink tinge to it.

Puritabs® are water purification tablets that are chlorine based and give a 'swimming pool' taste to the water with no discolouration. The tablets are tiny and lightweight, making them ideal for bushwalking where space and weight are a major consideration. One tablet should be added to each litre of water and left for 10 minutes.

Iodine solution is the most effective

water purification agent, but its method of use is the most complex. Before your trip, make a saturated solution of iodine by putting 7 g of iodine crystals into a 30 mL glass bottle with a sealed screw cap. When you are ready to purify water, carefully pour the 30 mL of saturated solution off into one litre of the untreated water, keeping the remaining crystals in the bottle. Wait for 30 minutes. When the water has been treated it will have a slight brownish tinge and a very faint taste. Meanwhile, top up the small bottle with water and after an hour you will have a fresh bottle of saturated solution ready for the next treatment.

## DAY AND NIGHT NAVIGATION

If you do decide to walk in search of help, you must be able to determine your direction of travel and destination. If you have a compass and know how to use it, it is relatively simple to navigate along your chosen bearing. But what if you have no compass?

A wrist watch can be used with the sun to find north, and a compass face can be drawn on the ground to determine your direction of travel. There are two methods of doing this, but the method you choose depends on whether you are north or south of the sun. In Australia it is quite possible to be north of the sun in the summer (if you are north of the tropic of Capricorn), so it is vital to establish your position in relation to the sun's latitude (see fig 1).

Place a stick vertically in the ground, using stones to keep it upright if necessary. Mark the end of the shadow with a small stick, stone or scratch on the ground. After 15 or 20 minutes, mark the end of the shadow again. Place your left foot on the first mark and your right foot on the second mark; you are now facing north. If the stick is in front of you, you are south of the sun; if the stick is behind you, you are north of the sun.

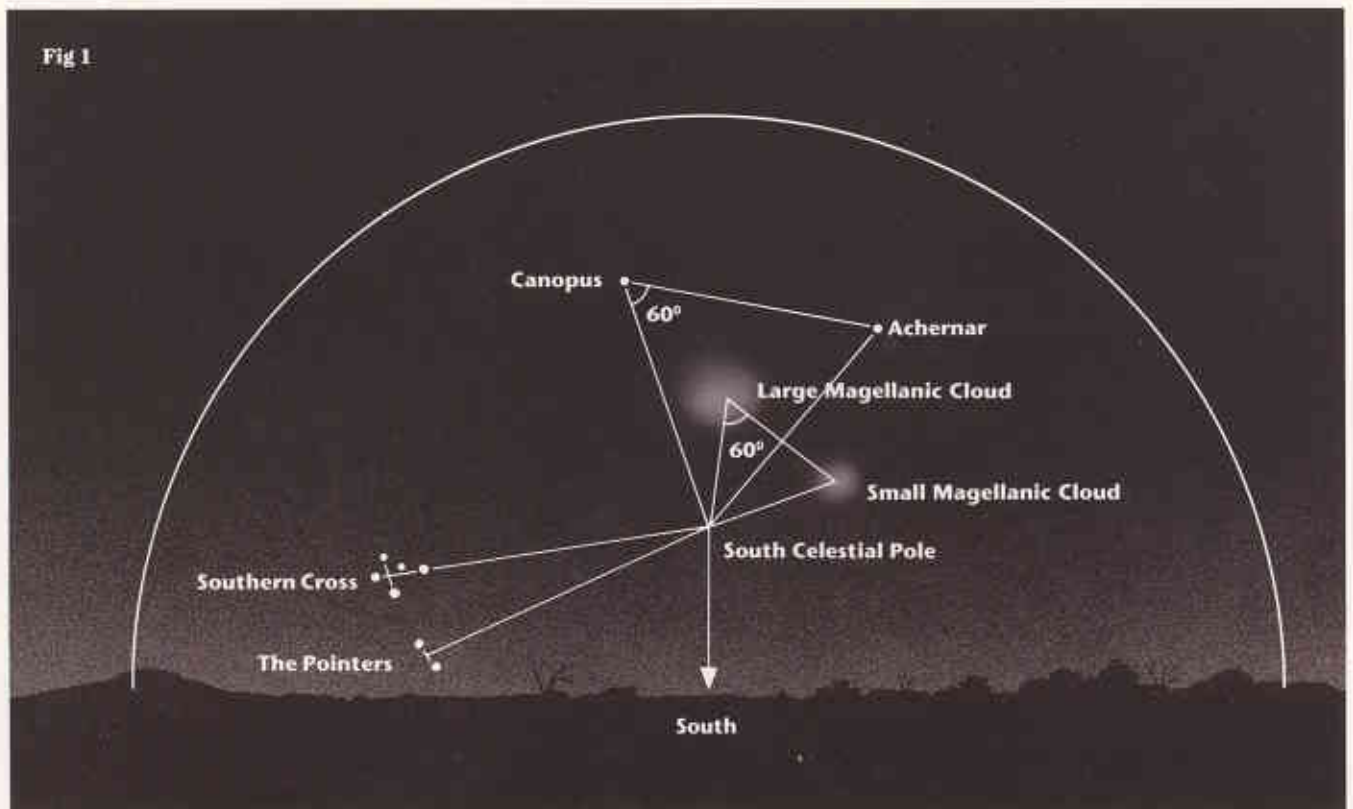
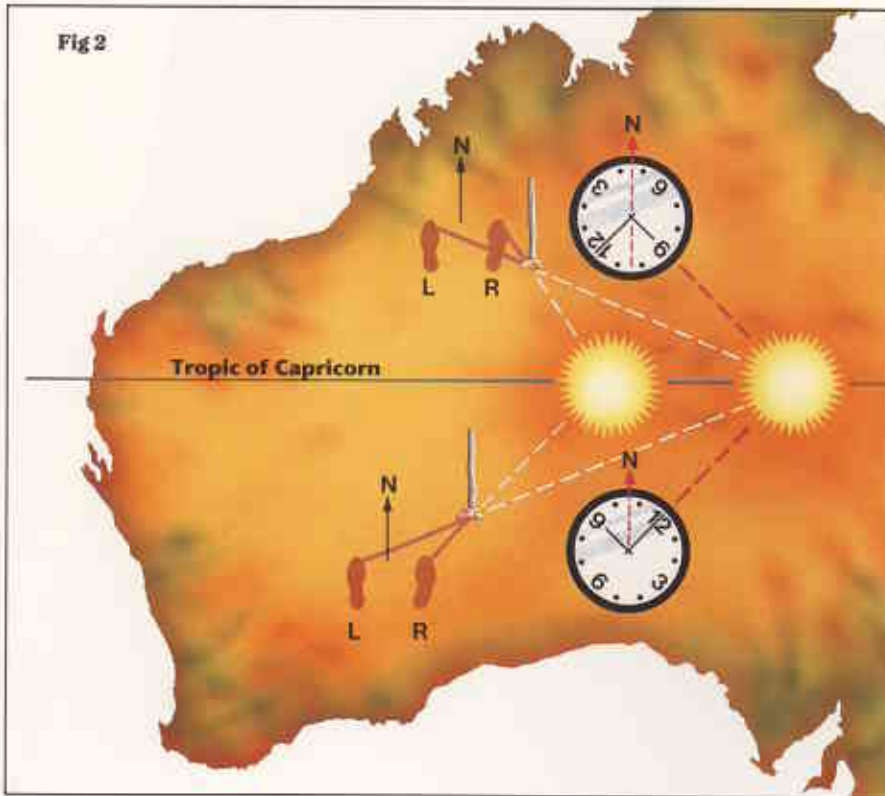


Fig 2



Having determined whether you are north or south of the sun, you can now take a bearing frequently and quickly using your wrist watch.

If you are south of the sun, point the 12 o'clock mark at the sun. Bisect the angle between the hour hand and 12 o'clock and you have north.

If you are north of the sun, point the hour hand at the sun. Bisect the angle between the hour hand and 12 o'clock and you have south.

However, you must remember to deduct one hour if daylight saving is in operation.

Surprisingly, you can still perform this direction-finding technique if you have a digital watch or a radio. Trace a watch face on the ground and insert 'clock hands' according to the time displayed on the watch or given out on the radio. Then follow the above procedure. Again, you must remember to deduct one hour if daylight saving is applicable.

After the sun has set, sit or stand with the sunset on your right and wait for the first stars to appear. The two brightest stars in the southern sky are *Canopus* and *Achernar*, and these can be used with the southern cross (if it is visible) and two distinctly visible galaxies to determine the position of the south celestial pole and hence the compass points (see fig 2).

## MESSAGES

Finally, make sure you leave meaningful messages for search and rescue personnel, both at the vehicle and frequently along your route. The basic information must include: the time, date, and direction of departure (with a visible arrow on the ground to confirm the direction); how much water you have available; the names and ages of the people in the party; and details of any injuries or illness. Along your route, leave markers - arrows on the ground, stones, or pieces of coloured material - to make your trail as visible as possible, and again leave a note giving the date and time you left each marker.

By following these simple guidelines you would have a much better chance of survival in an outback emergency. In such situations, these basic bushcraft skills become survival techniques. Skills weigh nothing and can be carried with you on any journey in any climate or terrain. Remember, many have perished needlessly in Australia's interior as well as closer to the coast. Many have had the resources they needed to survive, but lacked the skills to use them. □

# ABC FOR SURVIVAL

If you are lost or stranded:

- A** - Accept the situation. Don't waste time and energy chastising yourself or blaming others.
- B** - Brew a drink. A cup of tea or coffee will help you keep calm and focus your attention.
- C** - Consider. Consider your options while drinking your tea or coffee.
- D** - Decide. After you've considered all your options, make a decision.
- E** - Execute. Execute your decision and stick to it.

Bob Cooper learnt his bushcraft skills while living with traditional Aborigines, and as a qualified instructor with the Australian special forces. In 1983 he formed his own company, Outdoor Education Pty Ltd, and began teaching bushcraft survival techniques to school children. He runs a successful Basic Outback Safety and Bushcraft Course for the Department of Conservation and Land Management (CALM). The course, which is ideal for anyone contemplating a trip into the outback, comprises four evenings of theoretical training and a weekend practical phase. Course participants receive a certificate of training and an outback survival kit containing essential items that have been tried and proved under survival conditions.

Further details of the courses can be obtained from Bob Cooper Outdoor Education, PO Box 8486, Stirling Street, Perth WA 6000, telephone (09) 377 1767, or from CALM's Head Office on (09) 367 0437.

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# LANDSCOPE

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Each year more people seek wilderness experiences, but many are unprepared for the difficulties they might encounter. Learn about the basics of outback safety and bushcraft on page 35.



Will the honey possum become a secondary victim of dieback disease? See page 22.



Australia is a land of lizards - tough competitors evolving amid spinifex and wildfires in the Great Victoria Desert. Turn to page 10.



Botanists search for a eucalypt last seen by Giles in his expedition across WA deserts 115 years ago. See page 28.



Straight and vigorous pines don't grow by accident. Years of research and breeding have gone into producing the perfect pine. See page 49.

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## C O V E R

The tiny honey possum (*Tarsipes rostratus*), seen in our cover illustration by Philippa Nikulinsky, feeds almost exclusively on nectar and pollen. However, most of its important food plants are threatened by dieback disease caused by the *Phytophthora* fungi. The endangered scarlet banksia (*Banksia coccinea*) is one plant species used by the possums that is highly susceptible to the dieback disease. See story on page 22.



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