

A  
SURVIVAL  
GUIDE

By

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This information used to be part of the Guide to W.A. and Camping Australia.

In order to make all the safety and survival information more accessible, we have collated it into one separate document.

### IMPORTANT

We offer the following information in the hope that it will be of assistance if you are ever faced with some sort of emergency while travelling. The information has been gathered from a number of sources but we accept no responsibility what-so-ever for any outcome if you decide to make use of the items presented here.

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## FIRST AID

### In the event of an accident what should I do?

Firstly don't panic. Remaining calm and thinking logically are very important in a crisis situation. The first thing to do is assess the situation. If there is immediate danger then the patient needs to be protected from the danger.

Moving badly injured patients is not usually desirable but if they are in immediate danger due to fire or something similar then the first priority is to get them away from the threat as quickly as possible.

The 'rule of thumb' as given by St. John's Ambulance is expressed as D.R.A.B.C.

**D. Danger:** Ensure the patient is not in danger and that you will not be exposed to danger by going to their assistance. Only move a patient if they are in immediate danger and avoid putting yourself in danger and becoming a casualty.

**R. Response:** Does the patient respond to verbal or physical stimulus?

**A. Airway:** If the patient does not respond turn them on their side check they have a clear airway by tilting their head back slightly.

**B. Breathing:** Look, listen and feel for breathing. If the patient is not breathing then roll them on their back and begin mouth to mouth resuscitation (5 breaths in 10 seconds).

**C. Circulation:** Feel for a pulse in the neck for 5 seconds and if present continue resuscitation at a rate of 15 breaths a minute. If there is no pulse begin CPR. Manage bleeding and other injuries as soon as possible.

### Calling for help

When calling for help it is very important to give clear, concise information. First give your location as accurately as you can and then describe the injuries or the nature of the accident. It is important to stay calm and speak slowly. Your information is often relayed to a second party and therefore what you say has to be easily understood.

### Checking symptoms

Symptoms may be obvious things like bleeding but they may be more subtle to begin with especially in the case of a head injury or a venomous bite.

If the patient is conscious and you did not see what happened then try to get them to relate what occurred. If they seem dazed or confused then they need to be directed to stay put for their own good.

### **Managing a patient while waiting for help to arrive**

In some circumstances you may have to wait with a patient until rescue arrives and there are a number of things you need to do during this time.

- ♦ during the first 8 hours after a severe injury only allow the patient to moisten their lips or suck on small pieces of ice. Do not give any other food or water. After 8 hours allow small amounts of water. If vomiting occurs discontinue water. The reason for this is that a patient may require surgery and be given a general anaesthetic and if they have eaten or been drinking it can place them at risk.
- ♦ always reassure a patient and keep them in a comfortable position out of direct sunlight.
- ♦ observe breathing, check pulse and whether the patient shows any signs of shock.
- ♦ keep a fluid balance chart - measure any water consumed and any loss of fluid by vomiting or passing urine. Give this information to medical carers when they arrive. Similarly record pulse and skin temperature (cool, cold etc.) on the same chart. Check these things every 30 minutes.
- ♦ gently sponge exposed skin with cool water to reduce heat
- ♦ unless moving the patient would cause further injury, move them every couple of hours to prevent pressure sores
- ♦ maintain hygiene for the patient if they are unable to move

#### *Normal pulse rate:*

- ♦ 60 to 90 beats a minute at rest for adults
- ♦ 70 to 110 beats a minute for children
- ♦ 70 to 120 beats a minute for infants

#### *Normal breathing rate:*

- ♦ 16 to 20 breaths a minute at rest for adults
- ♦ 20 to 28 breaths a minute for children
- ♦ 28 to 40 breaths a minute for infants

#### *Normal temperature range:*

- ♦ 36.1C to 37.1C

## **Moving an injured patient**

Try to avoid moving a patient unless it is absolutely necessary. If there is no choice but to move a patient then using the 'blanket lift' may be the best way to achieve it.

4 or 5 people are required to make the lift safe.

- ♦ Roll the patient on to a blanket that has been spread out next to them
- ♦ roll the sides of the blanket up until they touch the sides of the patient
- ♦ grasp the rolled edges firmly and lift slowly and carefully
- ♦ make sure the patient's head is well supported

Head supports can be improvised by wrapping a newspaper around the neck and tying it in place without obstructing the airway.

A stretcher can be improvised by making holes in a sleeping bag and passing poles through them or by turning a couple of coats or jackets inside out, passing poles through the arms and then buttoning or zipping the coats up.

If you have to drive the patient to medical help DO NOT speed or drive recklessly.

## **Rule of three**

*You may die if:*

- ♦ you are 3 minutes without oxygen
- ♦ you are 3 days without water
- ♦ you are 30 hours without shelter in the heat of the outback
- ♦ you are 30 days without food

## **Bleeding**

*Treatment:*

- ♦ wipe away any blood so you can see how bad the wound is
- ♦ apply direct pressure to the wound with a bandage or wad of clothing.
- ♦ if the blood soaks through do not remove the original bandage but add another bandage ON TOP of the first one.
- ♦ lie the patient down
- ♦ elevate the wound above the heart, to reduce blood flow (if possible)
- ♦ for less severe bleeding you should clean the wound, disinfect it and dress it with a bandage as soon as possible.

### *Severe bleeding:*

If the wound bleeds excessively you may need to cut off the blood supply to the area by pressing the artery closest to the wound. To do this use the heel of your hand and press firmly to compress the artery against the bone behind it.

DO NOT use a tourniquet unless everything else has failed and the patient's life is at stake as it can result in the patient losing the limb.

DO NOT wait for sterile dressings if they are not immediately available. Improvise, any cloth item can be used to apply pressure and stop bleeding, towels, clothing etc. If you have nothing else just apply pressure with your hand.

DO NOT attempt to remove foreign material from a wound if it is deeply embedded.

DO NOT apply direct pressure to a wound with deeply embedded foreign matter.

## **Burns**

### *Treatment:*

Speedy treatment of burns is essential.

- ◆ immerse the burn in cold water immediately and keep it there as long as possible
- ◆ remove burnt clothing unless it is sticking to the skin
- ◆ DO NOT puncture burn blisters
- ◆ cover the burn with a clean non-adherent burn dressing
- ◆ if the burn is minor then antiseptic can be used otherwise only use water to immerse the area

Pain for even a minor burn will last a long time. Keeping the burn site in cool water greatly reduces the pain.

seek medical help if:

- ◆ the patient is a child, elderly or the burn is extensive
- ◆ the burn is on the face
- ◆ if the burn is through the third layer of skin (appears as a whitish or charred).
- ◆ the burn was caused by chemicals
- ◆ the person is in shock

## **Choking**

Children:

- ◆ Lay the patient over your lap with the head down and give three or four sharp blows between the shoulder blades.

Adults:

- ◆ Lay an adult with the head inclined down and give three or four sharp blows between the shoulder blades.

## **Dehydration**

If fluid output exceeds fluid input to the body then dehydration may occur. This condition, if prolonged, can be fatal.

*Symptoms include:*

- ◆ pale, cool clammy skin
- ◆ rapid breathing
- ◆ thirst
- ◆ profuse and prolonged sweating
- ◆ loss of skin elasticity
- ◆ sunken eyes especially in children
- ◆ disorientation
- ◆ head ache
- ◆ swollen tongue

*Treatment:*

- ◆ get the patient to shade and make sure they rest
- ◆ remove excess clothing
- ◆ drink cool water slowly, in sips rather than in gulps

## **Fractures**

### **Simple fractures**

This is bone damage that does not pierce the skin. It should be treated carefully to avoid further damage.

*Symptoms include:*

- ◆ swelling around the affected area
- ◆ skin discoloration

- ◆ pain
- ◆ loss of limb mobility
- ◆ a snapping sensation at the time of injury

*Treatment:*

Immobilise the limb by using a splint and bandage.

- ◆ Finger - strap the damaged finger to an adjacent finger
- ◆ Lower arm - splint entire forearm and immobilise with a sling
- ◆ Upper arm - place the arm in a sling and bandage the upper arm to the chest
- ◆ Leg -splint the leg or strap legs together if the patient can be carried.
- ◆ Seek medical attention as soon as possible

### **Compound fracture**

With a compound fracture bone pierces the skin and can result in serious bleeding. Do not apply pressure to a compound fracture to stop the bleeding.

*Treatment:*

- ◆ cover the injury with a sterile pad. Use any kind of padding if a sterile pad is unavailable but try to use clean cloth.
- ◆ apply a splint to keep the bone from causing further injury to the surrounding tissues
- ◆ get medical help
- ◆ avoid moving the person but keep them warm, comfortable and reassured.

A splint can be made out of:

- ◆ a straight piece of wood
- ◆ a rolled up newspaper or magazine
- ◆ a rolled up blanket if nothing else is available

The splint should extend beyond both sides of the fracture.

Elevate the limb to slow blood flow to the wound.

### **HEAT ILLNESS**

There are three stages to heat illness:

## **Heat Cramps**

*Symptoms include:*

- ◆ painful muscle cramps
- ◆ nausea and vomiting
- ◆ dizziness
- ◆ wet clammy skin

*Treatment:*

- ◆ *get the patient to a cool place out of the sun*
- ◆ *lie the patient down and allow to rest*
- ◆ *replace lost fluids by giving water (preferably with glucose or sugar in small amounts.)*
- ◆ *use ice packs on cramped muscles*
- ◆ *gently stretch muscles but DO NOT massage*

## **Heat Exhaustion**

Heat exhaustion is caused by too much strenuous activity during hot or humid weather.

*Symptoms include:*

- ◆ pale, cool clammy skin
- ◆ rapid breathing or breathing difficulty
- ◆ profuse and prolonged sweating
- ◆ thirst, nausea and/or vomiting
- ◆ constant headache
- ◆ exhaustion and lethargy
- ◆ loss of appetite
- ◆ dizziness

*Treatment:*

- ◆ get the patient to shade and make sure they rest
- ◆ remove excess clothing
- ◆ wet clothing and sponge exposed skin with water
- ◆ give cool water once the nausea has passed
- ◆ seek medical aid if patient vomits or does not quickly recover

## **Heat Stroke**

Heat stroke occurs when the body can no longer regulate its own temperature and can lead to brain damage and death if left untreated.

*Symptoms include:*

- ◆ flushed, hot, dry skin
- ◆ sweating stops
- ◆ rapid, weak pulse
- ◆ irrational or aggressive behaviour
- ◆ staggering, difficulty walking
- ◆ headache
- ◆ vomiting
- ◆ body temperature of 40C or more
- ◆ collapse and seizure
- ◆ coma leading to death

*Treatment:*

- ◆ get immediate medical assistance
- ◆ get the patient to shade and make sure they rest
- ◆ remove most clothing
- ◆ cool the person using ice packs to neck, groin and armpits
- ◆ cover them with a wet towel and fan to increase cooling
- ◆ if the patient is conscious get them to drink water with sugar or glucose

### **Leeches**

Leeches are found in many ponds and running streams but in tropical areas they will even move to grass stems to catch a passing 'ride'. They bite the skin and inject an anaesthetic and an anti-coagulant so you will probably be unaware of the initial bite.

*Removing a leech:*

- ◆ sprinkle the leech with salt and it will simply curl up and drop off
- ◆ wash the area to remove the anticoagulant
- ◆ disinfect the wound and apply a dressing until the bleeding stops

### **Seizures**

*Treatment:*

- ◆ DO NOT restrict movement by forcefully holding the patient down
- ◆ remove any nearby objects if possible
- ◆ DO NOT place anything in the patient's mouth or try to open the jaws
- ◆ allow the patient to rest and recover once the seizure is over

## **Shock**

### *Symptoms include:*

- ◆ pale skin
- ◆ cold clammy skin
- ◆ dizziness
- ◆ weak rapid pulse
- ◆ nausea
- ◆ thirst
- ◆ rapid breathing
- ◆ limb extremities may turn blue
- ◆ patient may become unconscious

### *Treatment:*

- ◆ loosen clothing
- ◆ DO NOT allow the patient to eat or drink for the first couple of hours and then only allow small amounts of water
- ◆ if there are no leg or back injuries raise the level of the patient's legs above the heart
- ◆ DO NOT allow the patient to overheat
- ◆ follow the D.R.A.B.C. procedure if required
- ◆ seek medical aid as soon as possible
- ◆ monitor pulse and breathing

## **Snake and spider bites**

### *Symptoms include:*

- ◆ puncture marks and a swollen or red area around the site
- ◆ pale, cool skin, sweating
- ◆ rapid, weak pulse
- ◆ breathing difficulties
- ◆ difficulty swallowing and speaking
- ◆ nausea, vomiting, headache
- ◆ drowsiness progressing to coma

Symptoms from snake bites may not appear for between 15 minutes and 2 hours.

### *Treatment:*

- ◆ immediately apply a pressure bandage over the bite winding it up the limb towards the body
- ◆ immobilise the limb.

- ◆ get to medical help immediately
- ◆ DO NOT wash the bite - the venom identifies the snake/spider and therefore the appropriate treatment.
- ◆ DO NOT apply a tourniquet
- ◆ DO NOT remove the bandage and splint
- ◆ DO NOT try to capture the snake or spider

### **Other Insect bites**

Insect bites can cause a severe allergic reaction in some people. Antihistamine lotion (or tablets) should be used by those who are sensitive to these type of bites. Severe reactions can include respiratory failure and this will require CPR.

Bee stings cause pain, swelling and itching. The sting should be removed quickly as it continues to pump venom into the wound. Use a finger nail or knife edge to scrape the sting away. Avoid putting pressure on it as this will only cause more venom to enter the patient.

Some people have a severe allergic reaction to bee stings resulting in respiratory failure and heart failure. In these cases apply pressure immobilisation to the sting site and get medical help immediately.

There are a variety of creams and lotions that help reduce itching.

### **Sprains**

A sprain is damage to ligaments at a joint or blood vessel, nerve and tendon damage. Ankle sprains are the most common sprains and in the case of such an injury keep footwear in place until treatment can be effected.

*Symptoms include:*

- ◆ sudden pain in a joint
- ◆ loss of weight-bearing ability
- ◆ bruising
- ◆ swelling
- ◆ tenderness in the area

*Treatment:*

- ◆ rest the injured limb
- ◆ apply a cold compress for at least 10 minutes
- ◆ use an firm bandage to support the joint
- ◆ elevate the limb

## **Ticks**

Ticks are very small and difficult to see until they become engorged with blood. If you are in areas known to contain ticks conduct a thorough self-examination, especially around your groin and armpits at the end of each day. Paralysis ticks are most common between Queensland and Tasmania.

### *Symptoms include:*

- ◆ local irritation
- ◆ lack of energy
- ◆ general weakness
- ◆ unsteady movement
- ◆ double vision
- ◆ breathing or swallowing difficulties

Allergic reactions may include rapid local swelling, wheezing and breathing difficulties and collapse.

### *Removing a tick:*

- ◆ spray with insect repellent or dab with kerosene
- ◆ remove the tick with tweezers by grabbing it as close as possible to where it is joined to the skin and pull gently upwards
- ◆ make sure you remove the head.
- ◆ wash the area thoroughly and apply antiseptic cream
- ◆ check your whole body for further ticks

## **The essential first aid kit**

### *Basic Contents:*

- ◆ band aids of differing sizes
- ◆ sterile wound dressings
- ◆ bandages (crepe and elastic)
- ◆ antiseptic fluid (Eg. Dettol)
- ◆ antiseptic cream (Eg. Savlon)
- ◆ eye bath and eye drops
- ◆ cotton buds
- ◆ adhesive surgical tape
- ◆ oral thermometer
- ◆ scissors
- ◆ safety pins
- ◆ tweezers
- ◆ 30+ SPF sunscreen
- ◆ insect repellent

- ◆ insect bite lotion (Stingose or calamine lotion)
- ◆ pain relief tablets
- ◆ antihistamine tablets
- ◆ tea tree oil
- ◆ note pad and pen
- ◆ vinegar

Remember to take extra supplies of your own regular medications.

Replace any used items before each trip.

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Contact St. John Ambulance for more information of first aid courses, information and kits:

<http://www.stjohn.org.au/>

or phone

NSW (02) 9212 1088

VIC 13 13 94

QLD 1300 360 455

SA (08) 8274 0331

WA (08) 9334 1222

ACT (02) 6282 2399

TAS (03) 6223 7177

NT (08) 279 9111

## **Survival**

### **Survival kit**

Apart from the obvious essentials like food and water, you should carry an emergency survival kit whenever you travel in the outback. The contents of a basic survival kit are as follows:

Magnifying glass, waterproof matches, candle, needles and thread, large light plastic sheet, condom, safety pins, length of brass wire, scalpel blades, band aids, water purification tablets, pain killers, fishing line and hooks, wire saw, magnesium block, compass, plastic bag, can opener, pencil & paper, stock cubes, vitamin tablets, small tin box (put everything in the tin box).

This kit has a wide variety of uses, and will fit in a container small enough to carry in your pocket. Obviously this is a very basic kit but make it up and keep it in your vehicle at all times, you might be surprised at how useful it is when you most need it.

If you are travelling in remote areas you will need more gear. It is a good idea to also pack the items in a single box that is easily accessible. Things you should consider include:

Electrolyte sachets (rehydration), methylated spirits (treats tick bites and removes leeches), vinegar (treatment for jellyfish stings), ear drops (in case of infection when swimming), antihistamine tablets, eye drops, disinfectant, hydrogen peroxide (for cleaning cuts made by coral), motion sickness tablets, anti-fungal cream, sunburn cream and skin moisturiser, good quality small torch and batteries (stored outside the torch), fire lighter blocks wrapped in al-foil, sharp folding knife, tea bags, stock cubes, soup packets, super-glue (can be used on wounds instead of stitches in an emergency if applied carefully to the skin surface), glucose tablets, Condy's crystals (water purification), army style mess tin.

### **Survival Techniques**

Creek beds are often a source of water even though they may appear dry on top. Many rivers and creeks run only during the rainy season but there may be water only a few inches below the surface. If you are going to dig down to check for water do it during the coolest time of the day. The best place to dig for water in a creek bed is on the outside edge of a bend.

Water of unknown origins can usually be boiled (for at least 10 minutes) to kill off most harmful bacteria. If you are carrying water purification tablets then they are a better alternative. If the water smells bad after purification you can add a lump of charcoal from your fire. Leave for an hour or more.

You can make a makeshift water filter with a pair of jeans or other long trousers. Tie off one leg of the jeans and hang them from a tree. Fill the bottom third with sand then add one third charcoal (make a fire to produce this) and the top third should be gravel or small stones. Put a container underneath and pour in the water slowly. This process will clarify the water which will then need sterilisation.

If you have the right equipment it is possible to distil salt water if there is no alternative source available. To do this you will need a steel Jerry can, a hose pipe, tape and a plastic bag. Put salt water in the can and then place one end of the hose in the can. Seal the top with tape. Place the other end of the hose in a plastic bag and seal with tape. Light a fire under the Jerry can and the steam will condense in the bag giving you a source of drinkable water. In an emergency you can use a billy can with a towel over the top (being careful not to set the towel alight). Water can be wrung from the towel as it condenses from the steam but be careful not to scald yourself. NEVER under any circumstances drink salt water.

Rock formations are often a source of water seepage from underground. Check around the base of rocks and small cliffs etc.

Dew often collects on plants in the early morning and can supplement your existing water supply.

If you have plastic bags (and you should if you are travelling the outback) you can place them over small bushes or leaves on tree branches and transpiration will produce drinkable water which will collect in the bottom of the bag.

If you use this method you should draw the water off at least every 4 hours as water production will cease if the humidity in the bag reaches very high levels. The water may be a bit green but will still be drinkable.

Salt lakes can be a source of drinking water after recent rains. The top 4mm is likely to remain fresh and may be siphoned off.

Windmills can be seen from far away and may produce fresh water.

Most animals are as dependant on water as we are so animal trails are often good pointers to fresh water.

In coastal areas you can dig down behind the first row of dunes and reach a source of drinkable (if brackish) water. Only drink small amounts of this at a time.

Keep activity to a minimum during the heat of the day and stay in the shade. If you have no water DO NOT EAT as this will make matters worse. You can live

for up to 30 days without food but you won't last more than a couple of days in high temperatures without water.

If you have never experienced the hot dry debilitating heat of the north west then you have no way of understanding how quickly it can effect you. People working in air conditioned buildings are sometimes taken ill if they do not drink fluids on a regular basis. The air is so dry that it leeches fluid from the body at an amazing rate. If that can happen in a cool building just imagine what it will do to you in 52 degree heat outside.

Insects and grubs often make a good source of food. Avoid grubs with furry bodies or with black showing through the skin. Termites and grasshoppers are one good source of protein as are bardie grubs which can often be found in dead trees.

See the 'Bush Tucker' section for details on edible plants.

If you are stranded and are lucky enough to be spotted by an aeroplane the following signals can convey messages without the use of a radio.

V = I require assistance

X = I require medical assistance

N = No

Y = Yes

Arrow = I am heading in this direction

SOS = General distress message

Note: Try to construct your message out of something that contrasts with the colour of the ground. In some circumstances it is easier for a plane to read the word HELP than SOS as HELP is mostly made up of straight lines that do not blend in as well to the environment.

Remember to make the letters large enough for the pilot to see. If your message is understood to plane will rock from side to side or show a green light. If the pilot does not understand he will turn in right hand circles or flash a red light at night.

If you are lost or if your vehicle has broken down DON'T PANIC. When panicked people can make dangerous snap decisions. First (assuming no-one is injured and you are not in any immediate danger), make a fire, sit down and brew up a tea or coffee. Then take stock of your situation.

If your vehicle is bogged then most of the time you will be able to get it out with a bit of hard work. You should (at a very minimum) carry a long handled shovel with you. This will be needed to dig sand out from under the vehicle and away from the tyres. Sticks, rocks etc. can be used to firm up the ground and dropping

tyre pressures will help get more traction in soft sand. In mud you will probably need large rocks and branches placed along in front of the vehicle.

If your vehicle is disabled can it be repaired? (see 'breakdowns in the bush' for some help with this). If it can't be repaired then you need to think about what supplies you have and how long they will last. If you are going to be stuck for a while you will need to ration your food and water. If the weather is hot you will need a shelter outside the vehicle as inside it will get too hot. Remember to **STAY WITH YOUR VEHICLE**. This is the golden rule. It gives you the best chance of survival and the best chance of being spotted from the air. If you are with other people **STAY TOGETHER**. Splitting up leads to more problems than it solves.

If you can get a fire going and there is a good supply of wood available, keep the fire going all day. Get a supply of green leaves and keep them close by. If you hear a plane you can quickly put the green leaves on the fire to create smoke.

Never travel in remote areas without telling someone where you are going and when you should be back.

If your vehicle is working (or if you are on foot) and have managed to become lost have a look at the 'navigation' section to see how to find your way.

### **Safety Tips**

You may be enjoying your holiday but remember thieves never take a break.

Travellers can do a number of things to help keep their holiday happy. The last thing anyone wants is to lose valuables while on holiday but if you don't take precautions you could easily find your new camera missing or your wallet gone.

If you are travelling in a vehicle always make sure it is locked when you leave it. Keep valuables out of sight and where possible engrave items of value with your driver's license number or some other easily identifiable mark. Many police stations will assist you with engraving.

Never leave the door of your caravan or motor-home unlocked when you go to the toilets in a caravan park.

Be alert when using auto tellers and do so in daylight hours. Only withdraw the amount of cash you need and don't carry large sums.

Keep your bag under your arm. Don't place bags or wallets in shopping trolleys while shopping. Bag snatching is now rife.

In urban areas take care at night and keep to well lit populated areas. Try to stay with a group of people.

Do not ever pick up hitch-hikers. Be wary about stopping for cars that have broken down - you can always inform the next garage you arrive at of other people's problems.

Don't hitch hike yourself, many young women have ended up being assaulted or worse after getting into a strangers car.

There is no need to become paranoid about your security, but be aware that there is always someone willing to take advantage of you, so stay alert at all times.

## Navigation

If you are lost and have no compass, it is still possible to locate north with a good degree of accuracy.

To do this find a long straight stick (about two metres high will do). Locate a flat clear piece of ground and drive the stick in an upright position. (Starting this procedure early in the morning will give the best result.) Mark the tip of the shadow cast by the stick with a rock etc.

Tie a short stick (6 inches) to one end of a piece of string and attach the other end of the string to the stick which you drove into the ground. (The string must be long enough for the second stick to reach the tip of the shadow.)

Draw an arc with the second stick and then sit back and wait for the shadow to intersect with the arc. Mark the position with another rock and draw a line to the first mark.

This is a line running east-west with the first mark being west. This method works anywhere as long as there is sunlight, and although it takes most of the day to complete, it is the most accurate method of determining direction without a compass.

A quicker version for a check of rough direction is to use a long stick driven into the ground as above, mark the shadow's tip with a rock, wait half an hour, then mark the tip of the shadow again with another rock. Put your left foot in front of rock 1, and your right foot in front of rock 2. You are now facing roughly north.

If you are wearing a watch with hands (as opposed to a digital watch) you can also use that as a quick ready reckoner for finding north while you are 'on the march'.

Point the 12 in the direction of the sun (assuming you can see the sun of course). North should be half way between the 12 and the hour hand. If daylight saving is in place remember to wind the watch back an hour before taking your bearing. This is only a very rough guide and the accuracy will vary with the time of year.

So what happens to people with digital watches? Well you can get the same result by drawing a watch on a piece of paper, marking the hour hand in each time you take a bearing and as long as you know what the time is you can get a reading.

## **Placing a camp-site**

Try to find high level ground. Never camp in creek beds as rain many miles away can lead to flash floods – which always seem to catch campers in the middle of the night.

**DON'T CAMP UNDER THE BOUGHS OF LARGE TREES – ESPECIALLY GUM TREES.** These trees are called 'widow makers' for good reason. Limbs weighing hundreds of kilos can drop without warning in hot weather or in strong winds.

Try to use camp-sites that are already cleared and avoid clearing vegetation to make a site.

In wet weather dig a small trench around the tent to stop water flowing underneath.

Use the correct tent pegs for different soil type. Ordinary pegs are useless in sand, remember to take sand and metal pegs with you.

Whenever possible use a tent fly (An extra piece of material over the top of the tent) as this helps reduce heat in hot weather and is extra waterproofing when it rains.

Use natural land formations as wind break or use your vehicle if you are camped in the open.

## Fire

Fire is both a friend and an enemy in the bush. There is little better on a cold desert night than a blazing camp-fire to keep the chills away; but there is little worse than a runaway bushfire.

If you happen to get trapped in a bushfire, stay with your vehicle. Stop the car in a clear area and close all windows and vents. If you have an air conditioner, keep the engine running and the air conditioner on full. This will help to increase air pressure in the car and stop most of the smoke from finding a way in. Switch on your lights and emergency flashers if you have them as this will help others who may be in the area (such as fire fighters) locate you, or avoid crashing into you as they move through the smoke.

Get as low down as you can and cover all exposed skin with clothes or a blanket. If you have spare water you should wet the blanket first.

The worst of the fire will generally pass over you in about 10 minutes. Once it is past you can exit the vehicle and you should immediately drink some water.

If your vehicle is a convertible, or has a canvas roof you must get under the car NOT INSIDE, and cover yourself as above.

Movie makers love to show cars exploding in balls of flame at the slightest suggestion of a fire. This is a load of hyped up rubbish. Petrol tanks in vehicles are constructed to withstand all but the most extreme fires.

If you are bush walking and see smoke TAKE IT SERIOUSLY. Move downhill away from the smoke (forested ridges are very dangerous places in bushfire) If possible find a clearing. If you are camping move your tent to the centre of a clearing and if possible soak it with water. Move any explosive items (gas cylinders etc.) as far from you as possible.

Remember to watch for fire restriction signs, these are not put there to annoy you. Fire bans are also announced on radio and television in the long hot summer months, so watch and listen for them. Make camp-fires small, and place them in concrete BBQ surrounds where they are available. Don't go bush walking when a total fire ban is in place.

If you manage to lose or forget your matches, there are ways of starting a fire that do not involve the tiresome effort of rubbing two sticks together.

If you have a vehicle you can use your jumper leads to get a fire going. Collect some tinder and paper and add a SMALL amount of petrol. Strike the jumper

leads together close by and the fire should start easily. DO NOT USE TOO MUCH PETROL.

Gunpowder can be used as an alternative to petrol if you are carrying firearms.

A magnifying glass or magnesium block and flint, are both good fire starters. You can also try mixing small quantities of Condy's Crystals and sugar in a 9:1 ratio; or powdered chlorine and brake fluid. Be aware that the results of mixing chemicals can be very unpredictable, stand well back and never mix in a closed container.

## Boating safety

When passing other boats when approaching head on, you should remember that you should pass to the right. I.e. it is the opposite of what we are used to on the road. (This rule may occasionally be waived if the vessel you want to pass needs to occupy all of a deep water channel. In this case watch for signals from the other vessel or they may signal you with their horn to indicate their intentions.

- ◆ One short blast - Altering course to starboard.
- ◆ Two short blasts - Altering course to port.
- ◆ Three short blasts - Going astern.
- ◆ One long two short - Manoeuvring with difficulty.
- ◆ Four short - Vessel turning around.
- ◆ Four short, pause one short, going about to starboard.
- ◆ Four short, pause two short, going about to port.
- ◆ Two long, two short - Vessel requires tug assistance.
- ◆ One long, one short - Do not overtake.
- ◆ One long - Warning, or attention.
- ◆ Five short rapid blasts - Your intention is unknown.

If a boat has divers below a signal flag for 'A' should be raised to warn other boats to keep clear. The flag is white and blue.

Boats venturing into offshore waters may be required to have the following safety gear. (Check for rules in your local area).

1 life jacket per person, 1 bucket & lanyard or manual bilge pump, Fire extinguisher if an inboard engine is fitted, paddles or oars, Anchor and cable, water proof torch.

In unprotected waters (I.e. more than 2 nautical miles from shore, the following may also be required.

Compass, 4 litres of fresh water, 2 flares, 2 smoke signals, EPIRB, marine radio.

If you have a marine radio you must alert the nearest coastal station as soon as you can after putting to sea. The following information should be supplied.

1. Your vessels call sign or registration number.
2. Place of launching.
3. Destination.
4. Number of persons on board.
5. Estimated time of return.

Once you have made contact set your radio to Channel 16 on 27.880mhz to monitor the emergency channel. Communication with other vessels is usually done on 27.960mhz channel 73.

## **Water**

Water is one of the most precious commodities in the outback. Having enough can literally mean the difference between life and death. Every year people die on lonely bush tracks after their vehicle has broken down and they have run out of water. Official recommendations suggest 5 litres per day per person in hot weather. If that sounds like a lot then you have never been out in the heat of the day in the north west during the hot summer months.

Always take more water than you think you will need. Spread it around in a number of containers, and above all else let someone know where you are going and when you expect to be back.

If your vehicle does break down then stay with it unless you are positive you can reach help quickly. A vehicle is much easier to find, and it provides shelter from the elements.

See 'Survival techniques' and 'Radio Communications' for more information.

You should carry water purification tablets, so that suspect sources of water can be treated.

Also carry large clear plastic bags which can be wrapped around leaves on bushes and will produce drinkable water through transpiration.

## **Water Safety**

When on patrolled beaches always swim between the flags.

If you get caught in a tidal rip don't waste energy swimming against the flow, swim across it instead.

If you get into trouble float on your back and raise your arm to signal for help.

Never dive into rivers, dams ponds or streams. Always enter the water feet first.

## **Radio communications**

It is a good idea to take an R.F.D.S. (Royal Flying Doctor Service) radio with you if you are travelling through very remote areas. S.S.B. (side band) or U.H.F. radios do not have the necessary range to ensure you get help. S.S.B. radios can occasionally transmit over long distances, but this is dependant on atmospheric conditions and should not be relied upon in an emergency. U.H.F. radios are 'line of sight' only and are useless for long distance contact.

If you only have access to an SSB radio then channel 9 LSB is the recognised emergency channel. If you get no response on channel 9 then try channel 35, this is the most popular calling channel. Once you have contacted someone give your location and the situation as clearly and quickly as possible. 'Skip' changes rapidly and you may loose contact at any time so make sure they know where you are. For UHF channel 5 is the emergency channel. **DO NOT USE THESE CHANNELS FOR ANY OTHER PURPOSE** lives may be at risk. An emergency is the only time you should give out identification details over the radio.

AM radios with no SSB are generally useless. The 'skip' which may allow transmission on SSB is not available and range is usually limited to 5 Km.

Modern technology has seen the development of a CDMA/Satellite phone which covers 100% of the Australian mainland and most territorial waters.

## **Breakdowns in the bush.**

If you travel often in the outback, sooner or later your vehicle is going to cause you problems. How you cope with this depends mostly on how well prepared you are, but also on how well informed you are.

This book cannot hope to cover all the likely circumstances that you could find yourself in, but listed here are a few hints and tips that could be very helpful if your vehicle fails.

### **Electrical problems**

If your battery goes flat, and you have no means of re-charging it, you can usually produce a charge by emptying the acid (carefully) into a metal billy, adding half a cup of water and then heating it over a fire. DO NOT BOIL THE ACID, but heat it close to boiling point. Return it to the battery and you should have enough charge to start the vehicle.

Check your battery terminals and make sure they are not corroded. If they are, use a mixture of baking powder and water to coat the terminals for a few minutes, then wash off with plain water.

If you crank the engine with the starter motor and it fails to start, you may sometimes find that the engine kicks after the key is turned off. This usually means that the battery is not earthed correctly. If you have a good piece of wire available, try earthing the battery directly to the engine.

If this fails you can try to push start the vehicle or tow start it if you have two cars. If you have to push start, select second gear, depress the clutch and put the key in the start position. Once the vehicle is moving as fast as the pushers can get it bring the clutch up to engage the engine.

This procedure involves putting the car in gear with the clutch fully depressed, taking the hand brake off, and having someone (preferably several people) push the car as fast as they can. The driver then slowly releases the clutch, and if enough speed has been built up the engine will usually start.

Of course if you have two vehicles and a set of jumper leads you can avoid all the hard work by jump starting the car with the failed battery.

If you have just completed a river crossing and the vehicle stops soon afterwards, it may be due to water in the distributor. (This is of course in a petrol engine car not a diesel). The distributor is found by tracing back the spark plug wires from the engine. The spark plugs are set to fire in a certain sequence, so if you remove the wires from the distributor, do it one at a time so you know where

they came from. Remove each wire in turn and dry it with a cloth. Remove the top of the distributor and dry inside.

While we are on the subject of the distributor, you may one day be driving along quite happily, and the engine suddenly loses all power. All attempts at re-starting fail, but there is plenty of fuel, and there is spark being generated. The cause of this could be a failed rotor arm. The rotor is the small removable button inside the distributor. Have a look at it and check its condition. If it looks clean and shiny it is probably ok, but if it looks burned or cracked, you can make a temporary repair by coating the damaged area with five-minute araldite. Make sure the glue has fully set before replacing the rotor, and this will get you out of trouble. Candle wax is an alternative to araldite, but it doesn't last as long.

If you need to check the spark being produced you can remove a spark plug, re-attach the end of the spark lead, earth the body of the spark plug to part of the chassis and watch the spark gap when turning on the ignition.

Shorts in the electrical system can sometimes be detected with the aid of a portable radio. Set the radio to an unused frequency and then begin tracing the suspect wire(s) with your hands. Jiggle the wires and attempt to make any loose connections short out. If the radio gives off a loud blast of static you have found the (a?) problem area, which you can then tighten or seal off. This may also work with the car's internal radio.

To test the electrical current coming from the coil to the distributor you must first remove the centre wire from the distributor (this comes from the coil). Next take the top off the distributor and remove the rotor button. Hold the end of the central lead about a centimetre from the engine block and crank the engine. If the resulting spark is bright blue then there is no problem. If the spark is a dull red, but still reaches the engine block, there is a possible fault in the coil. If the spark is red and does not reach the engine block, the fault may lie in the condenser. (You do carry a spare condenser don't you?)

If the spark is blue and the engine will still not start, you will have to start looking for fuel blockage problems.

### **Mechanical and other problems**

This information is based around petrol engine vehicles not diesels.

Mechanical problems can be a nightmare if you don't have the right spares, or the right tools to take things apart.

On occasion, you will need to pull apart sections of the engine, which contain gaskets. (A gasket is usually a cork seal between two metal surfaces.)

If you damage the gasket you can use gasket cement to repair the break, but an alternative to this is ordinary jam.

A broken rear axle on a 4WD vehicle doesn't pose as many problems as you may at first suppose. Remove the rear axle shaft, remove any broken pieces from the rear diff, lock in the front hubs and select 4wd and you are on your way again.

Many tracks in the outback are very rough, and you may find yourself with a hole in the fuel tank. If this happens get someone to stick their finger over the hole, then scrape some soap shavings off a block and mix them with the finest dust you can find. Once a soft plasticine type texture is achieved, you can force the 'putty' into the hole. This will usually seal the leak until you can have it properly repaired.

In some very remote areas, the petrol supply will become contaminated with water. To ensure that this does not get passed into your fuel tank you can add a cup of mentholated spirits to your petrol tank.

Punctures are the most common problem in the bush. You should know how to change the spare wheel, but what happens if you have changed the spare already, and another tyre gets staked? If you do, a lot of outback driving you should have your vehicle fitted with tubed tyres (yes you can put tubes in tubeless tyres). Tubeless tyres are very hard to re-inflate, as a good seal has to be maintained around the rim while they are pumped up.

One way to overcome this is to loop a stout rope round the circumference of the tyre and push a piece of wood under the rope. Tie the rope tightly and while the tyre is inflated, have someone twist the piece of wood so that the rope tightens around the tyre. This will force out the edges of the tyre onto the rim and the tyre should inflate. Even if you have tubeless tyres, it is a good idea to carry some spare inner tubes.

Split rim wheels will make removing tyres much easier. If you do not have split rims, then get a set of Tyre Pliers.

A broken fan belt can be replaced old stockings or rope but you should ALWAYS carry a spare fan belt.

Small leaks from the radiator can be fixed by adding the uncooked whites of two eggs to the water in the radiator and continuing to run the engine. If you drive with the radiator cap off it will decrease the pressure but in hot weather can lead to overheating and frequent stops.

## **Spare parts**

This is an essential list of the spares you should always carry in the outback.

Fan belt, set of radiator hoses, set of spark plugs, set of points, spare fuses, electrical wire, fencing wire, insulation tape, tyre tubes, oil, brake fluid, power steering fluid (if applicable), condenser.

## **Recovery kit**

To extract your vehicle from a bog you should always carry a good recovery kit. This will include the following:

High lift jack, air jack, hand winch, several metres of steel cable, snatch block, rated bow shackles (minimum of 2), snatch strap, tyre pliers, tree protector, long handled shovel and a good quality 12 volt tyre pump, welding rods, welding hand piece, high capacity jumper leads.

## **Welding**

On occasion, you may need to do some welding on your vehicle. Whether you do it yourself or have someone else do it for you, remember to disconnect the battery as damage can occur to the battery or alternator if you leave it attached.

Emergency welds can be done by connecting two car batteries in series (ie. connect one end of the welding hand piece to the + terminal of battery 'A' and the second piece to the - terminal of battery 'B' then connect the remaining + and - terminals with a jumper lead.) which will give a 24 volt current and enable most welds to be done.

## **Tools**

A basic tool kit should consist of:

Full set of spanners, several assorted screw drivers, long and snub nosed pliers, wire cutters, large and small hammers, tyre pressure gauge, tyre pump, hacksaw, araldite, spark plug remover, chisel, assorted nuts, bolts and washers. (A pop riveter and assorted rivets is also very handy to have.)

## Weather

W.A. is so large it is not possible to encapsulate its weather patterns into one simple statement.

In the southern regions of the state there are four seasons. Spring is officially from the 1<sup>st</sup> of September to the end of November. Spring can produce clear crisp sunny days but in most areas there is still plenty of rain about. Summer lasts from December to February and apart from the odd thunder storm, is generally hot and dry. Autumn (Fall) is during March to May and is one of the most pleasant seasons. The heat of summer is over and the days are mostly sunny and mild. Though the further you go south the colder and wetter it gets. Winter is basically cold and wet and although it only lasts from June to August it seems to pass much more slowly.

In the north of the state there are basically two seasons, the 'wet' and the 'dry'. The dry lasts from March to October with April to September being the coolest months. The wet is thunder storm and cyclone season when the weather is hot and humid. Aboriginal people in the north recognise 8 separate seasons.

It doesn't seem to matter where you go in W.A. If the weather is going to be hot then you can expect a maximum temperature range from 38C to a whopping 49.8C. If on the other hand it's going to be cold the temperature can range from 10C all the way down to -9C.

The perfect climate would range from about 16C to 25C and have no more than 700mm of rain, unfortunately such a place does not seem to exist in W.A. There are a few that come close but the extremes which can develop make the state a pretty diverse place.

Compared to the rest:

The lowest temperature in the world was recorded in July 1983 in Antarctica. It was a bone freezing -89.6C. The highest temperature in the world was recorded in Lybia in 1922 and was 58C.

Australia's weather can be changeable. Southern and Alpine areas can change from warm to freezing in a matter of hours. Northern and central areas experience extremes of heat and cold and coastal regions experience cyclones. Exposure to the elements, be it through heat or cold, CAN KILL. Be prepared for any eventuality.

If you are caught in a lightning storm seek shelter in your vehicle and avoid touching metal surfaces. If you are not near your vehicle seek shelter under low bushes and squat (don't lie) down. Avoid being the tallest object around and don't seek shelter under tall trees. If you have a backpack with a metal frame

place it away from you. Stay away from metal fences and water. If caught on high ground move to somewhere lower as quickly as is safe. High exposed areas are EXTREMELY DANGEROUS if lightning is about. Do not huddle in a group, stay within sight of each other but well spaced out. If you have no alternative but to shelter in a tent then INSULATE YOURSELF from the ground by sitting on non-conductive material.

When walking take water, food, matches, torch and for long walks a map and compass (a GPS is better and reasonably cost effective.) Keep note of signs and landmarks. Always let someone know where you are going and when you will be back.

When driving be aware that in many areas you share the road with VERY LARGE ROAD TRAINS. Be aware also that the trailers on these vehicles move sideways so keep as far away from them as practicable. When you see a road train approaching on an unsealed or single lane bitumen road, pull off to the side and STOP until it has passed. It WILL NOT get off the road for you and if you force it to you will be showered with stones.

## **Cyclones**

The north west of WA is subject to violent tropical storms called cyclones. In other parts of the world they are called hurricanes and have wind speeds which exceed 64 kilometres per hour.

Due to the sparsely populated coast in the north west, cyclones only rarely cause major damage or loss of life, but when they do strike a populated area they can cause widespread destruction.

Cyclone warnings are issued over the radio whenever a storm looks likely to cross the coast. They are categorised in levels of danger from 1 to 5, 5 being the most dangerous.

If you are in the north west during cyclone season and are unlucky enough to be in the path of a storm, then seek shelter in a solid structure on high but not exposed ground. It is unwise to try and ride out the storm in a caravan.

A category 5 cyclone is a VERY serious storm and must be considered as life threatening. No matter what the category, if you can leave the area safely, do so. If not make sure everything is packed away and tied down. Flying debris is lethal in cyclonic winds.

Make sure you have a cyclone kit - torch, matches, candles, spare drinking water and extra food available. Also it is useful to have a battery operated radio to listen for warnings if the mains power is lost.

## **Dangerous creatures**

Australia has more than it's fair share of dangerous fauna, ranging from marine creatures like sharks, blue ringed octopus, marine stingers, cone shells, poisonous fish, sea snakes, stingrays, and salt water crocodiles, to land based dangers like spiders, scorpions, centipedes and snakes.

From this list alone it might seem that the inhabitants of the 'sunburned country' face constant peril at every turn. Fortunately if you are sensible and take reasonable precautions, the chance of ever coming face to face with one of these hazards is fairly remote.

If you go swimming it is wise to look for signs warning you of danger, (especially in crocodile country). Don't swim alone or pick up shells with your fingers as they may contain a blue ringed octopus, or it may be a cone shell which can shoot a poisonous dart into you if handled.

Don't swim in the tropical north during the 'stinger season'. Don't panic if a sea snake comes near you. They are inquisitive and if left alone will swim away. If you are wading in the tropics either in sandy areas or on reefs, wear stout footwear. If you go bush walking, wear good walking boots and thick walk socks to help lessen the effects of snake bite. Don't poke around under logs or stick you fingers in places spiders may be lurking.

If you are bitten, stung, or spiked, don't panic. Keep as calm as possible and allow those travelling with you to take the necessary steps.

DON'T go round killing every snake you see. Snakes are generally timid and if left alone will go away. Most are non-venomous and some 'snakes' are just legless lizards.

For most marine venoms the only effective treatment is to immerse the effected area in very hot water (as hot as you can possibly stand it) as these toxins quickly break down when exposed to heat. (45 degrees Celsius is the official recommended temperature.)

Many venoms affect the central nervous system and result in respiratory failure. Mouth to mouth respiration and cardiac massage may be required for extended periods if you are not close to a hospital.

The main message with resuscitation is NEVER GIVE UP!

For snakebite and other similar venom injections, always apply a compression bandage to delay the onset of problems. Keep the victim still if possible to slow circulation. The compression bandage needs to be wound tightly along the limb

(it's usually a leg or arm which is bitten) from the bite site right up the limb. Then place a splint on the limb to restrict movement even further.

The theory behind this method of treatment is that most snakes have short fangs and the venom is more likely to enter the lymph system than the blood system. A compression bandage will hold most of the venom in place until you can reach assistance.

There is no need to attempt to kill the snake for identification as hospitals now carry venom identification kits which will allow the doctor to determine what type of snake injected the poison.

For jellyfish stings (especially sea wasp stings) do not try to rub them off with a towel. Remove any tentacles carefully and wash the sting site with vinegar.

In case of shark attack remove the victim from the water as soon as possible, apply a tourniquet if possible or pack wounds with bandages. To slow bleeding keep pressure on wounds. Lie the victim head down, elevate the legs (keep the blood supply flowing to the brain) Obviously get the victim to medical aid as soon as possible.

If bitten by a snake or spider try to remember what it looked like, this will assist in being given the correct anti-venom.

### **Crocodiles**

There are 2 species of crocodiles in Australia, the freshwater (more properly known as the Johnstone River Crocodile) and salt water or estuarine croc. Only the salt water crocodile is a man-eater, but don't let the name fool you. It is also found in freshwater rivers and billabongs many miles from the sea. It's range now extends from Onslow in the west to Gladstone in the east. Saltwater crocodiles are extremely dangerous, you **MUST** always take precautions while in areas that they inhabit.

Americans, who may be used to the relatively placid alligator back in the States, should not make the assumption that the Australian Salty can be treated in a similar fashion. The salty is far more dangerous than the alligator with any croc over 2 metres being regarded as a possible man-eater and any under two metres being capable of inflicting life threatening injuries.

Never swim in water ways known to contain crocodiles. If you must get wet do so at shallow rapids, and post a lookout – preferably someone with a rifle who is a good shot. Keep dogs and children away from river banks, and remember that salt water crocs are common along beaches as well as in rivers. Crocodiles have been seen swimming in the open ocean as much as 30 kilometres from the nearest land.

Always take note of posted warning signs. If you are fishing stay well back from the bank and do not clean fish within 50 metres of the river. Do not camp next to a river. There are cases of crocs attacking people in tents.

If you are fishing the same river over a period of days do not return to the same spot each day.

Using canoes and small boats is dangerous, crocs do sometimes attack them. A 12 foot dinghy is no match for a twenty foot croc.

If fishing from a boat do not lean over the side to retrieve your catch, crocs can jump up out of the water. I have a picture of a 15 foot croc with almost it's entire body out of the water – vertical in the air.

The fact is that large salt water crocodiles can and do kill people. Having legs and being able to run at high speed for short distances makes them a far more serious threat than sharks.

Sharks generally attack because they believe swimmers to be seals, and once they bite they sometimes realise their mistake and swim away. This almost never happens with a croc.

Allowing large estuarine crocodiles to inhabit areas frequented by large numbers of tourists is a recipe for disaster. The current campaign of complete protection for a species which is no longer under threat of extinction, will lead to more deaths. Their range extends further along the coast with each passing year.

What do you do if you are unlucky enough to be threatened by a crocodile in the wild? If you find yourself face to face with a croc don't count on it being afraid of people. They have been protected since 1972 and the large crocs have no fear of mankind. They do have a natural caution like most predators and there is a possibility of bluffing them by throwing things at them and making a lot of noise.

During the tragedy in 1987 that took Ginger Meadows life, two girls were swimming near the Cascades on the Prince Regent River when a large crocodile appeared. They swam to a ledge but were still waist deep in water. The girl swimming with Ginger threw her shoe at the croc and screamed at it, the croc was confused and stopped, at that moment Ginger panicked and jumped off the ledge into deep water and tried to swim to safety. This was just what the croc had been waiting for and immediately it attacked her with fatal results.

Crocodiles prefer to take people when they are on their own in the water, they seem to be more cautious about attacking people swimming close together. This is no guarantee of safety as attacks have come amid a group of people in only

45cm of water. In another case where a couple had to swim from shore to their boat, the croc waited until one climbed aboard before making its move.

Being in a small boat carries a fair degree of risk as well. Val Plumwood was attacked by a large croc while paddling a canoe and there was the infamous 'Sweetheart' who attacked and sometimes sank aluminium dinghies but strangely left their occupants alone.

In crocodile country there is no real safe place near or in the water. People have been attacked while sleeping near rivers, wading in knee deep water and most often while swimming. Aborigines claim that diving to the bottom puts the croc off attacking but there is at least one documented case of a diver being attacked and killed while diving for crayfish offshore. One unfortunate pub goer was coming home in Cairns in the early hours of the morning and saw what he thought was a croc near the side of the road. He stupidly kicked it and had the leg of his trousers torn off as a result. He was lucky not to lose more than his dignity.

Having spent some two years living in crocodile country we never forgot to be very careful when near rivers and creeks but living with crocodiles full time seems to make people a bit blasé. You will see locals wading around, leaning out of boats and doing lots of silly things near the water.

### **Sharks**

People's fear of sharks is deep seated. Sharks are very efficient predators, and it is extremely unwise to be in the water if they are agitated or excited.

Although the species considered dangerous are a small percentage of the total number of species found in Australian waters, you must always be aware of the dangers.

While it is true that you are more likely to be struck by lightning than attacked by a shark, the latter is a far more horrifying prospect.

Do not swim in cloudy water, or at dawn or dusk. Swim where there are groups of people, don't swim alone. Sharks sometimes swim miles up rivers, so being a distance from the sea is no guarantee of safety. After a close encounter with a shark in the Swan River as a teenager, I now swim only in swimming pools.

### **Stonefish**

Stonefish as the name suggests, resemble a weedy stone lying on the sea bed. They have a large number of poisonous spines along the back which cause intense and prolonged pain if you manage to tread on one without adequate protection on your feet. They are most commonly located in tropical areas and are regularly caught when fishing in small tidal creeks.

There are a large number of fish with poisonous spines that can cause varying degrees of pain. Others to be wary of are catfish, flatheads and a cheerful little fellow commonly known as 'happy moments'. Be assured that if you are spiked, happy moments are the last things you will experience. (Happy moments are more correctly referred to as a spinefoot.)

The treatment for most marine toxins is to immerse the wound site in very hot water. 45C is recommended.

### **Blue ringed octopus**

This small octopus has the distinction of being one of the most deadly creatures in the country. It is small, usually only 5-10cm across, and unlike other octopus, it has short tentacles. If approached it will usually brighten its blue markings to a point where they almost appear to glow.

They are found mostly in the tropics and should never under any circumstances be handled.

If you are gathering bait or exploring exposed reef in areas that this creature is likely to inhabit, take great care if you pick up large shells, and refrain from putting your fingers under rocks.

Keep an eye on children who may want to explore exposed reef at low tide as the octopus move about from one tidal pool to another at this time.

They can release their toxin directly into the water and it can be dangerous if you have an open wound.

### **Sand Flies**

The scourge of the north, these tiny winged insects can turn your pleasant picnic, or fun fishing trip into an absolute nightmare.

Smaller than mosquitoes, these small biting insects can be found along much of the northern coastal areas of Australia. Unlike the mosquito, their bite may cause severe irritation for several days and can lead to tropical ulcers if they become infected.

It is almost impossible to avoid getting bitten but frequent applications of Rid seem to be effective, and application of a mixture of strong cold tea and methylated spirits helps lessen the itching.

## Aboriginal Medicine

The Aboriginal people of Australia have existed on this continent for at least 40,000 years. Over that period, they developed a series of specific treatments for various ailments. It should be remembered that their knowledge of plant and animal lore was encyclopaedic. It would be unwise for those without detailed knowledge to attempt to use any of the remedies that follow.

Plants produce chemicals that defend them from the myriad creatures which dine upon them. In the main, these chemicals are poisonous. Man has learned to make use of these toxins to attack bacteria or deaden pain. You should never forget that many plants produce toxins that can make you very sick, so do not attempt to use any of the following remedies yourself.

### Billygoat Weed (*Ageratum*)

The plant is crushed and applied to open wounds. Other plants used to treat wounds are, Tree Orchid (bulb sap), Spike Rush (Decaying plant bound to wound), Tea Tree (bark bandage), Cocky Apple (bark infusion).

### Bloodwood (*Eucalyptus dampieri* / *Eucalyptus polycarpa*)

Used as a painkiller for toothache it's gum is rubbed directly on the area of the pain.

### Bush Plum / Northern sandalwood (*Santalum lanceolatum*)

A poultice of mashed warm leaves is used to treat rheumatic pain. Liquid from the bark soaked in water is used to treat skin sores.

Smoke from burning the bark and leaves is used as a mosquito repellent.

### Caper Bush ( *Capparis spinosa*)

The leaves boiled in water were used as an inhalant or as a head wash to help relieve flu symptoms.

### Cocky Apple (*Planchonia careya*)

Liquid from the bark after soaking in water is used as a treatment for skin sores. The roots are soaked in water and mashed to treat prickly heat. The inner bark has been boiled to create a treatment for scabies.

### Caustic bush (*Grevillea pyramidalis*)

Inner bark was crushed and mixed with water to make a poultice that was rubbed on the breasts of new mothers who were not lactating.

It was also used to cure earache.

### Desert pimelea (*Pimelea ammocharis*)

Plant was boiled and the liquid used to treat insect bites and other skin irritations.

Desert poplar (*codonocarpus cotinifolius*)

Leaves and bark were soaked in water and the liquid was used to treat sores.

Desert Walnut (*Owenia reticulata*.)

Leaves and young stems are heated then crushed and soaked in water.

The resulting liquid is then thickened and used as a poultice. Seeds are roasted and extracted, then used to rub on external sores.

Dodder Laurel (*Cassytha filiformis*.)

Used as a primary ingredient for a poultice to help with joint and muscle pain.

Also rubbed into the head to relieve headaches.

(*Dodonea lanceolata*)

Leaves were crushed then soaked or boiled and the solution rubbed on the body for pain relief. A very weak solution could be drunk for the same purpose.

Emu bush (*Eremophila fraserii*)

Leaves were boiled and the liquid used to treat skin sores.

Eucalypt (*Eucalyptus*)

An infusion made from the bark is drunk and used as a cure for Diarrhoea. Other plants used for this treatment include Native Raspberries, Sacred Basil (leaf), Dysentery Bush (root), Cluster Fig (bark) and Lemon Grass.

Fitzroy wattle (*Acacia ancistrocarpa*)

Leaves were crushed and boiled and the liquid used to treat sores.

Green twigs were heated until sweating and then applied to infected wounds to draw out the fluid.

Green bird flower (*Crotalaria cunninghamii*)

Leaves were crushed and boiled in water to make a solution for treating sore eyes.

Green Plum (*Buchariania obovata*)

Plugging the affected tooth with shavings of wood treats toothache. Other plants used to treat toothache are, Coast She-oak (inner bark), Supplejack (stem chewed) and Quinine Berry (fruit held in mouth).

Hairy caustic weed (*Euphorbia australis / myrtoides*)

Leaves and stalks were boiled and the liquid used to treat ear and eye soreness. The sap was also used to treat skin sores. A weak solution was also drunk to relieve cold and flu symptoms.

Hamersley bloodwood (*Corymbia hamersleyana*)

Red sap was boiled and used as a tonic. Young leaves were boiled and the vapour inhaled as a decongestant.

Lemon Grass (*Cymbopogon*)

Crushed and simmered in water the resulting liquid is drunk or applied as a wash to relieve coughs. Other plants used in the same way are, River Mint and Fuchsia.

Native mimosa (*Acacia farnesia*)

Spikes from the branches were poked into warts to make them vanish.

The bark was soaked to make an infusion that helped to relieve a cough.

The wood (minus bark) could be burned and the white ash sprinkled over a wound to promote healing.

The leaves were chewed to relieve stomach ache.

Northern bluebell (*Trichodesma zeylanicum*)

After boiling in water the resulting solution was used to treat sores and a weak solution could be drunk and used as a diuretic.

Pigface (*Carpobrotus glaucescens*)

Leaf juice is applied to stings from marine animals like jellyfish.

Red Ash (*Alphitonia excelsa*)

Leaves are crushed in water and the head is bathed with the resulting liquid to cure headaches.

Red river gum (*Eucalyptus camaldulensis*)

Leaves boiled in water made a tonic to relieve cold and flu symptoms.

Silky wattle (*Acacia ampliceps*)

Leaves and bark were boiled and the liquid used as an eye wash.

Snake Vine (*Tinospora smilacina*)

The leaves and stems are warmed and mashed into a paste that is then applied as a poultice to relieve joint pain.

Spinifex (*Triodia*)

The gum produced on the spiky heads was burned and the smoke inhaled as a decongestant, and to relieve headaches.

Tea Tree (*Melaluca*)

Leaves crushed and vapour inhaled to relieve congestion. Other plants used in this manner include Toothed Ragwort and Jirrpinyinpa.

Tickweed (*Cleome viscosa*)

Leaves were soaked or boiled and the solution used to treat skin sores.

White Berry Bush (*Flueggea virosa/melanthsoides.*)

Leaves and bark are made into a paste that is then painted onto sores rashes and itches. Weak infusions are also made for drinking to treat internal pains.

The fruit is prized as food.

Whitewood (*Atalaya hemiglauca*)

The plant was boiled and the resulting liquid used to treat sores and as an eye wash.

Wild currant (*Carissa lanceolata*)

Roots were boiled or soaked with the liquid being used to treat eye sores.

Wild orange (*Capparis umbonata*)

The bark was boiled and the liquid used to treat skin sores.

## **Bush tucker (food)**

*'You people go to all that trouble, working and planting seeds.... All these things are here for us, the Ancestral Beings left them for us. In the end, you depend on the sun and rain just the same as we do, but the difference is that we just go and collect the food when it is ripe. We don't have all this other trouble.'*

Aboriginal woman. Arnhem Land.

The Aboriginal people of Australia survived in even the most remote and arid parts of the country for thousands of years. In some places, the food was abundant, and life was relatively easy, in others, the struggle for survival was desperate and difficult. In almost all cases food sources were seasonal and the people had to travel long distances in order to maintain their living conditions. There is a fallacy about Aborigines going 'walkabout' whenever they felt the need to do so. The walkabout was actually a planned migration that allowed the tribes to follow seasonal food through out their territory.

In the south west of W.A. there were at least six seasons recognised by the Aboriginal people.

Maggoro (June--July) was a time for hunting possum, kangaroo and quokka in the foothills of the Darling range away from the wet lands of the coast.

Jilba (August-September) Yams were sought in the same areas.

Gambarang (October-November) Yam gathering went on and waterfowl and bustards were hunted on the coastal plains.

Birok (December-January) Reptiles and amphibians as well as yabbies and marron were sought in the rivers and lakes.

Burnur (February-March) Fruits, seeds and fish were the primary food sources.

Wanyarang (April-May) The people started to move inland again hunting birds and starting to 'fire' the land to clear it for harvesting roots.

It appears that in most parts of Australia the Aboriginal people recognised far more seasons than do Europeans, but in a hunter-gatherer society this does make perfect sense.

Although this guide lists some of the bush food and medicine used by Australia's Aborigines, it is extremely unwise, and in some cases illegal to gather bush tucker if you are not in a survival situation.

Many plants used as food require extensive treatment before they are safe to eat, so unless you have no other choice, leave the plants alone and keep to your normal diet.

The main reason for including bush tucker in this guide is to give you an indication of the food sources available, and if you ever find yourself stranded in the outback, the information here may help you survive.

If you are in a survival situation, it is vital that you follow the seven-step method of testing unfamiliar food sources before you attempt to consume them. This method is as follows.

1) To locate a likely food plant if you have no idea what you are looking for it is a good idea to watch birds and see which plants they pick berries etc from. Remember that some birds have natural tolerances to poisons that would make humans very ill.

2) Once you have located a likely food source you should select a small quantity of the plant and crush it up. If it smells of peach or almond then it is almost certainly poisonous. Also avoid plants with milky looking saps.

3) If it passes step two, then squeeze the plant to produce a small quantity of juice. Rub this on the skin under your wrist and wait for two hours to see if any rash or irritation develops.

4) If after two hours there is no sign of irritation do the same thing but rub the juice on the outside of your lips.

5) Again, if there is no inflammation after two hours cut a small amount and let it rest on your tongue for three minutes then spit it out. Wait a further two hours to check for symptoms.

6) If you get past step five, take another small piece and this time chew on it for a few minutes and spit it out. Wait again for two hours for any adverse symptoms.

7) The final step involves eating a small quantity of the plant but this time waiting for five hours to check for problems.

Once you have passed all seven steps, you should be relatively safe eating small quantities of the plant. It is essential to wait the specified periods to check for adverse symptoms. Rushing the process could lead to severe poisoning, or a bout of diarrhoea, which can lead to a fatal loss of body fluids.

Remember that some plants have minute quantities of toxins that may only be detected after prolonged ingestion, and it is a good idea to vary the type of plant

you eat in order to avoid dependence on one that may cause problems after several days.

There are always risks involved in eating food from unfamiliar sources, but it may be necessary to take the chance if the circumstances demand it. Several well-known explorers came unstuck by eating plants they knew Aborigines ate, but without the knowledge of how to treat the plants, they fell ill and in some cases died as a result.

If you have a firearm available then it makes far more sense to shoot game for survival than to rely on plants. Be aware that many Australian native animals are protected, and taking them for food should only be done if it is absolutely necessary. Domestic stock may also be taken in a survival situation, but station owners should be informed as soon as possible after you are out of danger.

The plants listed below are in alphabetical order by common name. We are only listing plants that have been identified as being found in W.A.

### FOOD SOURCES FROM PLANTS

This list of plants is arranged in alphabetical order by the common names.

Common name	Acacia
Scientific name	Acacia
Edible part(s)	Gum from light coloured trees
Preparation	Sucked or soaked in water to make a jelly.

Common name	Australian bluebell
Scientific name	Sollya heterophylla
Family	Pittosporaceae
Edible part(s)	Fruits
Preparation	Raw

Common name	Banksia
Scientific name	Banksia
Edible part(s)	Flowers
Preparation	Sucked or dipped in water

Common name	Beach bean
Scientific name	Canavalia rosea
Edible part(s)	Beans
Preparation	Cooked. (Toxic when raw) Note: Most of the 850 species of bean in Australia are toxic so it is best to avoid all of them.

Common name	Billabong tree
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Scientific name	Carallia brachiata
Edible part(s)	Fruit
Preparation	Raw

Common name	Blady grass
Scientific name	Imperata cylindrica
Edible part(s)	Stems
Preparation	Chewed to extract sugary fluid. (related to sugar cane.)

Common name	Bloodroot
Scientific name	Haemodorum
Family	Haemodoraceae
Edible part(s)	Roots
Preparation	Raw or roasted

Common name	Bloodwood apple / Hamersley bloodwood
Scientific name	Cystococcus / Corymbia hamersleyana
Edible part(s)	Grub inside round woody growths. / Fruit
Preparation	Raw / Raw

Common name	Boab
Scientific name	Adansonia gregorii
Edible part(s)	Nut pith
Preparation	Raw

Common name	Boobiallas
Scientific name	Myoporum
Edible part(s)	Fruit
Preparation	Raw (may be bitter)

Common name	Bower spinach
Scientific name	Tetragonia implexicoma
Edible part(s)	Leaves and fruits
Preparation	Cooked or raw

Common name	Bracken fern
Scientific name	Pteridium esculentum
Family	Dennstaedtiaceae
Edible part(s)	Unfolding fern tips (fiddleheads)
Preparation	Soak in water for 24 hours, sun dry for several days, remove hairs. <b>Prolonged use has been linked to cancer.</b>
Warning	Toxic when raw.

Common name	Bramble wattle
Scientific name	<i>Acacia victoriae</i>
Edible part(s)	Seeds
Preparation	Young seeds eaten raw, older seeds used to make flour.

Common name	Bull banksia
Scientific name	<i>Banksia grandis</i>
Family	Proteaceae
Edible part(s)	Nectar
Preparation	Flower heads soaked in water

Common name	Bulrush
Scientific name	<i>Typha</i>
Family	Typhaceae
Edible part(s)	Tubers, Flower spike.
Preparation	Tubers pounded then roasted. Green flower spike eaten raw or pollen shaken out and used as a flour.

Common name	Bush banana
Scientific name	<i>Marsdenia australis</i>
Edible part(s)	Fruit casing
Preparation	Raw

Common name	Bush carrot
Scientific name	<i>Rhynchosia minima</i>
Edible part(s)	Tubers
Preparation	Raw or cooked

Common name	Bush onion
Scientific name	<i>Cyperus bulbosus</i>
Edible part(s)	Bulbs
Preparation	Raw or cooked

Common name	Bush tomato
Scientific name	<i>Solanum diversiflorum</i> / <i>phlomoides</i>
Edible part(s)	Fruit
Preparation	Remove the seeds before eating raw or cooked

Common name	Cabbage palm
Scientific name	<i>Livistona</i>
Edible part(s)	White heart of palm trunk just below the crown. Removal kills the tree.
Preparation	Raw or cooked.

Common name	Camel bush
Scientific name	Acacia inaequilatera
Edible part(s)	Seeds. Bark was also boiled and used to treat sores.
Preparation	Cooked.

Common name	Candlenut
Scientific name	Aleurites moluccana
Edible part(s)	Nuts
Preparation	Must be roasted. Eaten raw they have a strong laxative effect.

Common name	Caper bush
Scientific name	Capparis spinosa
Edible part(s)	Fruit
Preparation	Raw

Common name	Chaff flower
Scientific name	Achyranthes aspera
Edible part(s)	Young leaves
Preparation	Boiled

Common name	Christmas tree
Scientific name	Nuytsia floribunda
Family	Loranthaceae
Edible part(s)	Suckers on roots / gum / flowers
Preparation	Peel off bark / raw / dipped in water to produce a drink

Common name	Club rush
Scientific name	Bolboschoenus
Edible part(s)	Tubers
Preparation	Roasted and pounded

Common name	Cluster fig
Scientific name	Ficus nracemosa
Edible part(s)	Fruit
Preparation	Raw

Common name	Coastal Pigface
Scientific name	Carpobrotus virecens
Family	Aizoaceae
Edible part(s)	Swollen purple-red flowers contain white pulp which may be eaten. Leaves may be boiled and eaten. Sap can be used to treat sand fly bites.

Preparation	Raw or dried
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Common name	Coast beard heath
Scientific name	Leucopogon parviflorus
Edible part(s)	Fruit
Preparation	Raw

Common name	Cocky apple
Scientific name	Planchnia careya
Edible part(s)	Fruit
Preparation	Raw or roasted

Common name	Cole's wattle
Scientific name	Acacia colei
Edible part(s)	Seeds
Preparation	Pounded to make flour then mixed with water and baked.

Common name	Common blackboy
Scientific name	Xanthorrhoea preissii
Family	Xanthorrhoeaceae
Edible part(s)	Bardi grubs inside dying plants. The flower is also laden with nectar and can be dunked in water.
Preparation	Raw or roasted

Common name	Conkerberry
Scientific name	Carissa lanceolata
Edible part(s)	Berries
Preparation	Raw

Common name	Corkwood
Scientific name	Hakea lorea
Edible part(s)	Nectar from flowers
Preparation	None

Common name	Corky bark caltrop
Scientific name	Tribulus suberosus
Edible part(s)	Nothing edible but the sap is used by grinding it up and adding it to a waterhole to stun fish that can then be easily collected.
Preparation	

Common name	Cranesbills
Scientific name	Geranium
Edible part(s)	Young roots

Preparation	Cooked
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Common name	Devils twines
Scientific name	Cassytha filiformis and pubescens
Edible part(s)	Fruit
Preparation	Raw

Common name	Dodder laurel
Scientific name	Cassytha
Family	Lauraceae
Edible part(s)	Fruit
Preparation	Raw
Warning	Edible only in small quantities. <b>Large amounts will cause poisoning.</b>

Common name	Early nancy
Scientific name	Wurmbea
Edible part(s)	Roots
Preparation	Roasted

Common name	Emu berry
Scientific name	Grewia retusifolia
Edible part(s)	Berry pulp
Preparation	Raw

Common name	Emu bush
Scientific name	Podocarpus drouynianus
Family	Podocarpaceae
Edible part(s)	Fruit
Preparation	Raw

Common name	Eucalypts
Scientific name	Eucalyptus
Edible part(s)	Root bark, gum and nectar from flowers.
Preparation	Different species produce different usable parts.

Common name	Flax lily
Scientific name	Dianella
Edible part(s)	Fruits
Preparation	Raw

Common name	Fringe lily
Scientific name	Thysanotus patersonii
Family	Anthericaceae
Edible part(s)	Tubers, stem, flowers

Preparation	Raw or roasted
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Common name	Geebung
Scientific name	Persoonia falcate
Edible part(s)	Fruit pulp only
Preparation	Raw

Common name	Gidgie
Scientific name	Acacia pruinocarpa
Edible part(s)	Gum
Preparation	Raw

Common name	Goats foot Convolvulus
Scientific name	Ipomoea pes-caprae Subsp. brasiliensis
Edible part(s)	Roots
Preparation	Roasted (Large amounts may be toxic.)

Common name	Gobin
Scientific name	Terminalia latipes
Edible part(s)	Fruit
Preparation	Raw

Common name	Golden star
Scientific name	Hypoxis
Edible part(s)	Tubers
Preparation	Roasted

Common name	Graceful blackboy
Scientific name	Xanthorrhoea gracilis
Family	Xanthorrhoeaceae
Edible part(s)	Nectar
Preparation	Soak flower heads in water

Common name	Grey mangrove
Scientific name	Avicennia marina
Edible part(s)	Seeds and pulp
Preparation	Baked and soaked to remove tannins.

Common name	Kalumburu almond
Scientific name	Terminalia cunninghamii
Edible part(s)	Nut
Preparation	Raw

Common name	Kanji bush
Scientific name	Acacia pyrifolia

Edible part(s)	Gum / Seeds
Preparation	Raw / Raw or cooked

Common name	Kurrajong
Scientific name	Brachychiton paradoxum
Edible part(s)	Seeds
Preparation	Must first be roasted over a fire to remove hairs.

Common name	Lady apple
Scientific name	Syzygium suborbiculare
Edible part(s)	Fruit
Preparation	Raw

Common name	Leichardt tree
Scientific name	Nauclea orientalis
Edible part(s)	Fruit
Preparation	Raw

Common name	Lilly pilly
Scientific name	Acmena smithii
Edible part(s)	Fruits
Preparation	Raw. There are many types of lilly pilly including Common, Lady apple, Creek, Cherry alder, Magenta and Blue.

Common name	Lolly bush
Scientific name	Lerodendrum floribundum
Edible part(s)	Root tuber
Preparation	Roasted

Common name	Maidenhair fern (climbing)
Scientific name	Lygodium microphyllum
Edible part(s)	Underground stems and leaves.
Preparation	Cooked. (Leaves are reputed to taste like boiled newspaper.)

Common name	Maitland's wattle
Scientific name	Acacia maitlandii
Edible part(s)	Gum
Preparation	Raw

Common name	Maloga bean
Scientific name	Vigna lanceolata
Edible part(s)	Roots
Preparation	Roasted

Common name	Marsh cress
Scientific name	Rorippa palustris
Edible part(s)	Leaves
Preparation	Raw or cooked

Common name	Milkmaid
Scientific name	Burchardia umbellata
Family	Colchicaceae
Edible part(s)	Tubers
Preparation	Raw or roasted

Common name	Mistletoe
Scientific name	Loranthaceae / Amyema / Viscaceae
Edible part(s)	Berry flesh
Preparation	Raw

Common name	Mulga
Scientific name	Acacia aneura
Edible part(s)	Seeds / fruit
Preparation	Roasted and ground to flour / none

Common name	Malgoa bean
Scientific name	Vigna lanceolata
Edible part(s)	Roots
Preparation	Roasted

Common name	Nalgoo
Scientific name	Cyperus
Edible part(s)	Tubers
Preparation	Raw or roasted

Common name	Nardoo
Scientific name	Marsilea drummondii
Edible part(s)	Pods ground to a flour.
Preparation	Dough baked on hot coals. Burke & Wills starved to death by eating only Nardoo when stranded. It apparently has little nutritional value.

Common name	Native apple
Scientific name	Syzygium eucalyptoides
Edible part(s)	Fruit
Preparation	Raw

Common name	Native cherry
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Scientific name	Exocarpos sparteus
Family	Santalaceae
Edible part(s)	Fruits
Preparation	Raw

Common name	Native gooseberry
Scientific name	Physalis minima
Edible part(s)	Fruits
Preparation	Raw

Common name	Native grapes
Scientific name	Vitaceae
Edible part(s)	Fruit & tubers
Preparation	Raw (Sometimes this causes throat irritation). Stems are a source of water.

Common name	Native kapok
Scientific name	Cochospermum fraseri
Edible part(s)	Roots
Preparation	Roasted

Common name	Native lasiandra
Scientific name	Melastoma affine
Edible part(s)	Fruit pulp
Preparation	Raw. (Stains the mouth blue.)

Common name	Native millet
Scientific name	Panicum decompositum
Edible part(s)	Seeds
Preparation	Ground to flour and mixed with water then cooked to make damper.

Common name	Native pear
Scientific name	Cynanchum floribundum
Edible part(s)	Fruit
Preparation	Raw or cooked

Common name	Native plantain
Scientific name	Plantago
Edible part(s)	Seeds with sticky coating
Preparation	Boiled to make sago pudding.

Common name	Native plum
Scientific name	Psydrax latifolia
Edible part(s)	Fruit

Preparation	Washed then eaten raw
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Common name	Native rock fig
Scientific name	<i>Ficus platypoda</i> / <i>brachypoda</i>
Edible part(s)	Fruit
Preparation	Raw

Common name	Native yam or Spear leaved dioscorea
Scientific name	<i>Dioscoria hastifolia</i>
Family	Dioscoreaceae
Edible part(s)	Tubers
Preparation	Raw or roasted

Common name	New Zealand Spinach
Scientific name	<i>Tetragonia tetragonoides</i>
Edible part(s)	Leaves
Preparation	Cooked

Common name	Nitre bush
Scientific name	<i>Nitraria billardieri</i>
Edible part(s)	Fruit
Preparation	Raw

Common name	Nipan
Scientific name	<i>Capparis lasiantha</i>
Edible part(s)	Fruit
Preparation	Raw

Common name	Northern blue bush
Scientific name	<i>Halgania gustafsenii</i>
Edible part(s)	Fruit
Preparation	Raw or cooked

Common name	Nyilla nyilla
Scientific name	<i>Lysiana casurineae</i>
Family	Loranthaceae
Edible part(s)	Fruits
Preparation	Raw

Common name	Old man's beard
Scientific name	<i>Clematis microphylla</i>
Family	Ranunculaceae
Edible part(s)	Tubers
Preparation	Roasted

Common name	Orchids
Scientific name	
Edible part(s)	Tubers
Preparation	Raw or ground and roasted

Common name	Pandanus
Scientific name	Pandanus
Edible part(s)	Nuts or pulp
Preparation	Raw or roasted. Fruits pulp is only edible after cooking to remove irritant substances.

Common name	Parakeelya
Scientific name	Calandrinia polyandra
Edible part(s)	Seeds
Preparation	Cooked

Common name	Parrotbush
Scientific name	Dryandra sessilis
Family	Proteaceae
Edible part(s)	Nectar
Preparation	Soak flower heads in water

Common name	Peanut tree
Scientific name	Sterculia quadrifida
Edible part(s)	Seed kernel
Preparation	Raw

Common name	Pig weed
Scientific name	Portulaca oleracea
Edible part(s)	Seeds ground to flour. Leaves eaten raw or cooked.
Preparation	Raw or cooked

Common name	Pilbara kurrajong
Scientific name	Brachychiton acuminatus
Edible part(s)	Roots
Preparation	Roasted

Common name	Pindan wattle
Scientific name	Acacia tumida
Edible part(s)	Seeds
Preparation	Roasted

Common name	Pin heath
Scientific name	Styphelia tenuiflora

Family	Epacridaceae
Edible part(s)	Berries
Preparation	Raw

Common name	Plum wood
Scientific name	<i>Terminalia grandiflora</i>
Edible part(s)	Nut kernel
Preparation	Raw

Common name	Quondong
Scientific name	<i>Santalum acuminatum / lanceolatum</i>
Family	Santalaceae
Edible part(s)	Fruits / Nuts
Preparation	Raw / Roasted

Common name	Red beak orchid
Scientific name	<i>Burnettia nigricans</i>
Family	Orchidaceae
Edible part(s)	Tubers
Preparation	Raw or roasted

Common name	Red eye wattle
Scientific name	<i>Acacia cyclops</i>
Family	Mimosaceae
Edible part(s)	Seeds / Gum
Preparation	Ground to flour / Raw

Common name	River club rush
Scientific name	<i>Schoenoplectus litoralis</i>
Edible part(s)	Underground stem
Preparation	Roasted and pounded

Common name	River red gum
Scientific name	<i>Eucalyptus camaldulensis</i>
Edible part(s)	Seeds
Preparation	Raw or ground to flour and mixed with water then cooked.

Common name	Rock morning glory
Scientific name	<i>Ipomoea costata</i>
Edible part(s)	Tubers
Preparation	Cooked

Common name	Saltbush
Scientific name	<i>Rhagodia baccata</i>

	Also <i>Enchylaena tomentosa</i>
Family	Chenopodiaceae
Edible part(s)	Red berries, leaves
Preparation	Berries raw, leaves cooked

Common name	Samphire
Scientific name	<i>Sarcocornia quinqueflora</i>
Edible part(s)	Stems
Preparation	Pickle

Common name	Sandalwood / Northern sandalwood
Scientific name	<i>Santalum lanceolatum</i>
Edible part(s)	Fruit / Nuts were roasted, pounded and mixed with water to treat sores.
Preparation	Raw

Common name	Sandpaper fig
Scientific name	<i>Alpinia caerulea</i> / <i>ficus opposita</i>
Edible part(s)	Berries
Preparation	Raw

Common name	Seablite
Scientific name	<i>Suaeda australis</i>
Edible part(s)	Leaves
Preparation	Vegetable or pickle

Common name	Sea celery
Scientific name	<i>Apium prostratum</i>
Edible part(s)	Leaves
Preparation	Raw or cooked

Common name	Sea Purslane
Scientific name	<i>Sesuvium portulacastrum</i>
Edible part(s)	Leaves
Preparation	Pickle or vegetable.

Common name	Sedge
Scientific name	<i>Schoenoplectus</i>
Edible part(s)	Base of the stem
Preparation	Raw or cooked

Common name	Silver cadjeput
Scientific name	<i>Melaleuca argentea</i>
Edible part(s)	Nectar from the flowers. Burning the leaves was also used as a mosquito repellent.

Preparation	None
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Common name	Snakewood
Scientific name	<i>Acacia xiphophylla</i>
Edible part(s)	Seeds. / Gum
Preparation	Cooked in a fire. / None

Common name	Snappy gum
Scientific name	<i>Eucalyptus leucophloia</i>
Edible part(s)	Lerp on the leaves is sweet and edible
Preparation	None

Common name	Snottygobble (lovely name)
Scientific name	<i>Persoonia saccata</i>
Family	Proteaceae
Edible part(s)	Fruits
Preparation	Raw

Common name	Soapbush
Scientific name	<i>Trymalium floribundum</i>
Family	Rhamnaceae
Useable part(s)	Leaves
Preparation	Not eaten, used as soap

Common name	Sowthistle (common)
Scientific name	<i>Sonchus oleraceus</i>
Edible part(s)	Leaves
Preparation	Cooked

Common name	Spike rush
Scientific name	<i>Eleocharis dulcus</i>
Edible part(s)	Tubers
Preparation	Roasted and pounded or boiled. (Similar to the Chinese water chestnut).

Common name	Split jack
Scientific name	<i>Capparis lasiantha</i>
Edible part(s)	Fruit
Preparation	Raw

Common name	Sturt desert pea
Scientific name	<i>Swainsona Formosa</i>
Edible part(s)	Nectar from flowers
Preparation	None

Common name	Swamp dock
Scientific name	Rumex brownii
Edible part(s)	Leaves and root.
Preparation	Leaves steamed or boiled. Root roasted or ground to make a coffee substitute. Can also make a dye which can be fixed with alum.

Common name	Sword sedge (coastal)
Scientific name	Lepidosperma gladiatum
Family	Cyperaceae
Edible part(s)	Stem base
Preparation	Raw or roasted

Common name	Tar vine
Scientific name	Boerhavia
Edible part(s)	Taproot
Preparation	Roasted

Common name:	Tassel flower (bush)
Scientific name:	Leucopogon verticillatus
Family:	Epacridaceae
Edible part(s):	Fruits
Preparation:	Raw

Common name	Tree orchid
Scientific name	Cymbidium canaliculatum
Edible part(s)	Kernel of the brown pods
Preparation	Raw

Common name	Waterlily
Scientific name	Nymphaea macrosperma
Edible part(s)	Tubers and seeds
Preparation	Roasted

Common name	Water ribbons
Scientific name	Triglochin procera
Edible part(s)	Tubers
Preparation	Raw or roasted

Common name	Weeping pittosporum
Scientific name	Pittosporum phylliraeoides
Edible part(s)	Seeds and gum
Preparation	Seeds ground and cooked, gum sucked.

Common name	White gum
Scientific name	Eucalyptus wandoo
Family	Mytaceae
Edible part(s)	Roots
Preparation	Raw or roasted

Common name	Wickham's grevillea
Scientific name	Grevillia wickhamii
Edible part(s)	Gum
Preparation	Raw

Common name	Wild currant
Scientific name	Carissa lanceolata
Edible part(s)	Berry
Preparation	Raw

Common name	Wild orange
Scientific name	Capparis spinosa / umbonata
Edible part(s)	Fruit pulp
Preparation	Raw

Common name	Wild raspberry
Scientific name	Rubus rosifolius
Edible part(s)	Berries
Preparation	Raw

Common name	Wild tomatoes
Scientific name	Solanum
Edible part(s)	Fruits
Preparation	Raw or dried. <b>These can easily be confused with poisonous varieties that have a very bad taste.</b>

Common name	Witchetty bush
Scientific name	Acacia kempeana
Edible part(s)	Seeds & grubs in roots
Preparation	Seeds ground to flour, grubs eaten raw or roasted.

Common name	Wood sorrel (yellow)
Scientific name	Oxalis
Edible part(s)	Leaves and tap root
Preparation	Raw or cooked

Common name	Zamia palm
Scientific name	Macrozamia riedlei
Family	Zamiaceae

Edible part(s)	Fruits
Preparation	Buried in the ground for some time, soaked in water and then roasted.
Warning	<b>Poisonous when raw</b>

The plants listed here are but a fraction of those used by Aborigines for food preparation and medicine. Sadly, with the decline of tribal life, much of the knowledge about bush food has been lost forever.

## **Safety Tips**

You may be away on holiday but remember thieves never take a break.

Tourists can do a number of things to help keep their holiday happy. The last thing anyone wants is to lose valuables while on holiday but if you don't take precautions you could easily find your new camera missing or your wallet gone.

If you are travelling in a vehicle always make sure it is locked when you leave it. Keep valuables out of sight and where possible engrave items of value with your driver's license number or some other easily identifiable mark. Many police stations will assist you with engraving.

Be alert when using auto tellers and do so in daylight hours. Only withdraw the amount of cash you need and don't carry large sums.

Keep your bag under your arm. Don't place bags or wallets in shopping trolleys while shopping. Bag snatching is now rife in Perth.

Take care at night and keep to well lit populated areas. Try to stay with a group of people.

Do not ever pick up hitch-hikers. Be wary about stopping for cars that have broken down - you can always inform the next garage you arrive at of other people's problems.

Don't hitch hike yourself, many young women have ended up being assaulted or worse after getting into a strangers car.

There is no need to become paranoid about your security, but be aware that there is always someone willing to take advantage of you, so stay alert at all times.