



NSW
Environmental
TRUST



FOUR WHEEL DRIVING WITH THE *environment* IN MIND



A guide for four wheel drivers
visiting natural areas of Australia

THOUGHTS FROM A FOUR

“ Most Four Wheel Drivers of our acquaintance are thoughtful reputable people that believe it is important to ensure the health of our environment for appreciation by ourselves and for future use for those that come after us. The aims, objectives and ethics set down by our 4WD Club Inc (Dubbo 4WD Club) give our members the pointers to allow us to develop good management practice when planning our travels.

We cannot stress more highly the importance of the planning phase of your adventure. This not only includes your destination, but also the preparation of your vehicle, stores and equipment you will need to take. Many of our members have developed their own check list that can be adapted to the length of their planned trip. Adequate food and water is critical.

In the planning phase, fuel and water availability is extremely important as is the organisation of permits and permission to enter certain lands. We do not like transporting quantities of fuel within our vehicle and extreme care must be taken when carrying fuel on roof racks due to weight affecting the centre of gravity.

On a longer trip, it is of the utmost importance to have your vehicle serviced by an experienced mechanic who is aware of the conditions your vehicle may experience. The condition of your tyres must also be considered. Tyre companies who specialise in 4WD tyres are a good source for supplying the right tyre for your needs and checking tyre condition. Tyre pressures are very important and vary depending on load and conditions. Tyre pressure recommendations can usually be found on a front door or door frame of your vehicle. These recommendations will not apply when travelling on sand or in some extreme situations.

It always concerns us that many drivers set off into the outback without understanding the skills needed to safely traverse difficult terrain. Nor do they understand the physical capabilities of themselves or their vehicle. Deserts and beaches are scattered with the results of this inexperience. Attending a training course or joining a 4WD club is a sure way of gaining the necessary skills. Our own club insists on new members completing some training in 4WDing prior to joining a trip.



WHEEL DRIVING *family...*

Garbage, grey water and human waste are a large problem. When travelling in many areas, we notice much of the landscape littered with garbage and toilet paper. Some years ago, some of our members witnessed a bushfire in a remote part of Australia that had been started by a traveller trying to destroy toilet paper. All our garbage is taken with us until it can be deposited in a designated area. We try to make camp where acceptable toilets are available or if we have to dig latrines, we ensure they are well away from streams.

We also believe that travelling in groups is important for both safety and social issues. However, when travelling in groups, good convoy rules are important for you own safety and the wellbeing of other travellers who may be using the same roads. Good practice in the use of your 2way radio will be appreciated by all. Idle chatter is always annoying to those using the same channel.

Camp sites are another issue. Too often in our travels we witness the result of other travellers' neglect. On many occasions we find fires still smouldering or burning and large amounts of rubbish left behind. Many times we have sacrificed some of our water to extinguish a fire left by others. We always finish up with more than our own rubbish to deposit later. We always endeavour to leave a campsite in a better state than when we arrived. The ongoing use of many sensitive areas will only continue if these practices are followed.

Many of our club members have completed a Certificate III in "Conservation and Land Management" through TAFE NSW Western Institute. This has given us a much better understanding of the current state of the environment and has given us skills and insight to develop better practices when travelling and camping in sensitive areas. The continued access to these areas will only continue if we all follow good practice in our endeavours. ”

Graham Knight
Member of Dubbo 4WD Club



THE A-Z OF FOUR WHEEL DRIVING

Always carry enough water, food, fuel and spare tyres to get you safely to the next settlement. In the outback you may need up to one litre of water per hour per person.

Be a good ambassador for the 4WD community, adhere to rules and have the right attitude to the environment and the outback community. Page 3

Communications are vital. Mobiles won't usually work in remote areas so make alternate arrangements. Page 9

Drive on designated tracks. Page 12

Equip your vehicle appropriately for the type of trip you are planning. Page 9

Fire hazards include cigarette butts inadvertently left or discarded, campfires, sparks from twigs or sticks caught in your muffler mountings etc. Page 12, 17

Garbage disposal is of utmost importance. Take lots of garbage bags and use them. Page 17

Help other road users when it is safe and appropriate. Do not stop if you feel threatened or vulnerable, but if you choose not to stop, alert someone to the situation as soon as you reach the next settlement.

Insurance is important. If you have comprehensive vehicle insurance, check your policy to make sure it covers you if you travel off bitumen. Page 8

Jack and a chock of wood are a must. Make sure the jack is working before you leave. Page 9

Keen flora and fauna enthusiasts should take binoculars and reference books with them. Page 13

Leave livestock and gates as you find them. Page 4

Maps and GPS units can make all the difference. Make sure you have the right maps and know how to read them before you leave. Page 6, 9

National parks and Aboriginal lands often require permits or entry fees. Page 8

Overloaded vehicles are dangerous. Keep the weight as low and as forward as possible.

Plan your trip carefully. Make sure your vehicle is capable of making the journey, and that you take enough supplies to see you through safely. Page 5

Quarantine rules must be followed. They are made to prevent the spread of disease. Page 6

Reduce the risk of spreading environmental weeds, disease, fungus etc on the undercarriage of your vehicle or on your tyres by washing it regularly. Page 12, 13

Safety first. Always carry emergency response equipment, a first aid kit and any medicines or repeat scripts.

Tyres and tyre pressure can make a huge difference to your trip. Page 10

Unsecured items will eventually fall off your vehicle. Make sure you tie down properly and secure caravans, trailers, boats etc.

Vehicle maintenance is vital. Check your vehicle for oil leaks and get them fixed before you leave. Oil leaks are a source of pollution and will cost you money. Page 9

Wildlife will be scared away by loud noises and bright lights. Tread lightly and quietly. Page 14

X-mas time is a busy holiday period. Take care on and off the roads.

You can make a difference **NSW**
Zoom off and have a great trip!
Environmental TRUST

1. INTRODUCTION

Its all about attitude

Having the right attitude about the environment can make your four wheel drive (4WD) adventure more enjoyable for you, your companions, and the natural environment. Learning about the places you visit and the simple common sense things you can do every day on the road (and off the road) to appreciate and protect the environment can make for a rewarding and educational trip. We all learn by example, so be a good ambassador and help promote environmental awareness and safeguard the magnificent natural environment we have inherited, so that our children can do likewise. Remember - you can make a difference.

The right attitude towards the environment is crucial as people will judge your behaviour and that of all 4WDers based on your activities. Seeing you protect or clean up an environment you visit, will greatly improve the image of 4WDers.

This booklet has been prepared as a simple guide to 4WDing with the environment in mind. It is not intended as a 4WD manual, nor an environmental text book, or cook book for that matter.

attitude



Having the right attitude about the environment can make your four wheel drive adventure more enjoyable for everyone.

FOUR WHEEL DRIVING WITH THE environment IN MIND

CODE OF ETHICS FOR FOUR WHEEL DRIVERS

ethics

Many Four Wheel Drive Clubs have set down operating rules for their members to maximise safety and minimise their environmental impact. Following is an example of one Four Wheel Drive Club's Code of Ethics.

1. Comply with all laws and regulations for 4WD vehicles.
2. Keep to constructed vehicle tracks - do not drive 'off road'.
3. Keep the environment clean. Carry your own and if practical, other people's rubbish home.
4. Obey restrictions on use of public lands. Respect rules in National Parks and other Conservation Areas.
5. Obtain permission before driving on private land. Leave livestock alone and gates as you found them.
6. Keep your vehicle mechanically sound.
7. Take adequate water, food, fuel and spares on trips. In remote areas it is recommended you travel with another vehicle.
8. Respect our wildlife. Stop and look, but never disturb or chase animals.
9. Respect other recreational 4WDers rights to peace and solitude in the bush.
10. Obey all fire restrictions. Extinguish your fire before leaving. Don't let your exhaust emit sparks.
11. Help in bushfire emergencies, and search and rescue operations if properly equipped and able.
12. Join a 4WD Club and support 4WD touring as a responsible and legitimate recreational activity.

FOUR WHEEL DRIVING
WITH THE *environment* IN MIND



2. BEFORE YOU GO

Many four wheel drivers would argue that the most important part of a recreational four wheel driving and camping holiday is done before you leave the garage. Simple things like planning your trip properly, having the right permits to get into national parks or enter Aboriginal lands, having appropriate insurance and adequate skills for the journey all contribute to a safe and relaxing adventure. Knowing a little bit about the environment you are going to be travelling through, and how to protect that very resource will contribute to a more enjoyable experience all round.

Planning

Planning is vital to ensure you enjoy your journey and travel safely and efficiently. A few things to consider may include:

- How long do you want to be away?
- What do you want to see?
- Is it a suitable time of year?
- How far will you get each day?
- Will there be camping available?
- Where will you re-fuel?
- Who will you travel with?
- Do you need to contact anyone for information or permits?





Planning is vital to ensure you enjoy your journey and travel safely and efficiently.

Maps are a very important part of planning. You can find up to date maps in book shops, camping shops, at State or Commonwealth National Parks offices or at your Local Council. The internet can be a good starting place. Some internet sites are listed in the back of this booklet as are some phone numbers for your reference.

National Parks Officers can supply you with information about Aboriginal and historical cultural heritage, and give you more clues to being a sustainable four wheel driver and camper. You may be able to get interesting guest speakers to join touring groups. Take advantage of this, the more that you are able to learn about your destination the more enjoyable your experience will be, and the less impact you will have on the environment. Local councils can be contacted regarding road conditions, places to camp or stay, and any other local points of interest. Tourist Information Centres can be found in most major towns.

During the planning phase of your trip you should work out if you will be crossing any borders or entering restricted agricultural zones. Quarantine rules apply in certain parts of Australia to prevent the spread of diseases. You may be asked to throw out fresh produce at a border crossing. You should plan to run out of fresh fruit and vegetables or give them away. Don't jeopardise someone else's livelihood for the sake of holding onto a \$2 jar of honey. Dried or tinned food is available, and you can always buy local fresh produce on the other side of the border.

Trip Grading

Once you have decided on your route, you need to work out what equipment you need to travel safely. An easy way to do this is to grade your trip. Most groups or clubs have some form of 'trip grading'. An example is found below. It will help you decide if you have the skills, vehicle and equipment to undertake the journey.

Grade	Description	Skills required
1	Picnic type outing	No 4WD necessary Easy driving
2	Some 4WD Dusty or muddy conditions Maybe minor grades	4WD necessary Moderate driving skills Recommend basic recovery gear*
3	Low Range 4WD Some difficult conditions may be encountered	4WD necessary Accredited driver training Basic recovery gear* mandatory Vehicle recovery points front and rear
4	Low Range 4WD Difficult conditions will be encountered	4WD necessary Accredited driver training Good driving skills Basic recovery gear* mandatory Vehicle recovery points front and rear

5 Low Range 4WD
Extreme track conditions



4WD necessary
Accredited driver training
Good driving skills
Basic recovery gear* mandatory
Vehicle recovery points front
and rear
Traction aids and suspension
modifications recommended

* Basic recovery gear includes snatch strap, bow shackles, air brake (hessian bag).

Note: Trip gradings may vary from group to group. Contact your Trip Leader for exact conditions.

Organise permits

There are many areas in Australia where you need permission to enter, for example private land, some Aboriginal land, and some national parks. Once you have selected your route, it is advisable to look carefully at the map and contact any person or agency through which the roads pass. Sometimes it is written on the map that a permit is required, but it is always wise to check just in case. The internet is a good place to start looking.

Permits differ from place to place. Some restrict the number of visitors allowed at one time, some have seasonal restrictions, some are free of charge, and others are not. It is advisable to get your permits well before you leave, as they can take time to arrange. Restrictions on permits are often in place to protect the environmental or cultural values of that particular place, and in many instances the money raised through permits and other fees is used to manage those sensitive areas.

Insurance

It is always advisable to check that you have up to date comprehensive vehicle insurance, and that your cover includes 4WD travel. Some policies exclude cover when travelling on dirt roads, which is not very useful if you get stuck in the middle of Australia! Make sure you either get cover, or are aware of the risk of not taking out insurance. Consider taking out the highest level of roadside assistance and any other optional extras such as windscreen replacement, use of a hire car, towing your vehicle etc.

Get educated

It is a good idea to get any extra education you may need on your trip before you go. A 4WD course is a good start if you are a novice. Courses are available for almost anything these days. Some suggestions might be learning how to read a map, use a Global Positioning System (GPS), Senior First Aid, basic vehicle maintenance or mechanics, a little bit about Australian flora or fauna, camp cooking, and so on. Both you and the environment will appreciate your trip much more if you are prepared and do not run into any trouble along the way.



2. BEFORE YOU GO CONTINUED

Vehicle Preparation

Have your preventative maintenance up to date to avoid a major breakdown on the trip. A breakdown can be inconvenient, but also dangerous if it happens in an isolated part of Australia. A vehicle in a state of disrepair can cause damage to the environment. Leaking oil, excess noise, fumes or smoke all have a detrimental affect on the environment, and may cause unnecessary disturbance to wildlife. As responsible 4WD operators, we want to be as environmentally friendly as possible.

Make sure you have communication channels established before you leave. Mobile phones are not reliable in remote areas. If you are travelling with other vehicles it can be useful to carry AM or ultra High Frequency (UHF) radio compatible with the Royal Flying Doctor Service (RFDS). AM radio may be cheaper, but UHF radios are often clearer. You can buy these from a two way communication centre, or enquire about hiring as an alternative. Check with local authorities as to which radio frequency to use, and don't use them unnecessarily as rural properties and truck drivers use them for work. If you are travelling on your own, it is advisable to leave your itinerary with family or friends and check in regularly.

If you are going to be travelling in remote areas, a GPS can be a very useful addition to your luggage. A GPS can be used to navigate in extreme cases, when a map is not detailed enough to find your location or destination. If you are told of a secret fishing spot for example, or some other point of interest, you can use a GPS to track it down.

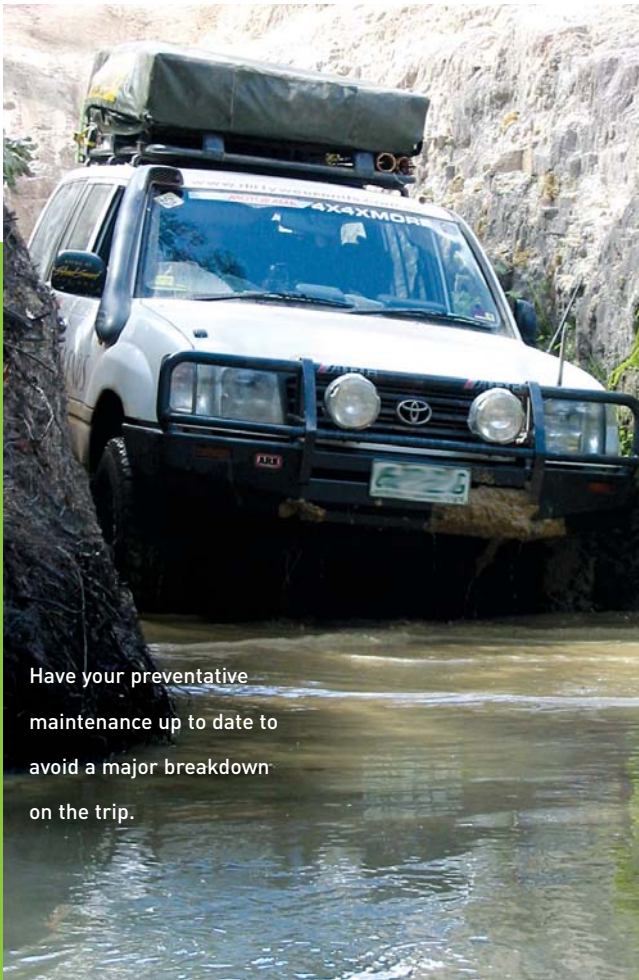
Make sure your vehicle is fitted with all the appropriate recovery equipment for your trip. At a minimum you should have the following:

- specially fitted recovery points (tow hooks - not tie down points)
- a snatch strap
- 'D' shackles and/or bow shackles
- drag chain, tow rope or strap suitable for the weight of your vehicle
- a winch, sand or mud anchor
- hessian bag to use as an air brake if your winch or snatch strap breaks
- chock of wood to drive onto to fit your jack on uneven ground, or to stabilise your vehicle in uneven terrain when changing tyres
- gloves and tree protector.

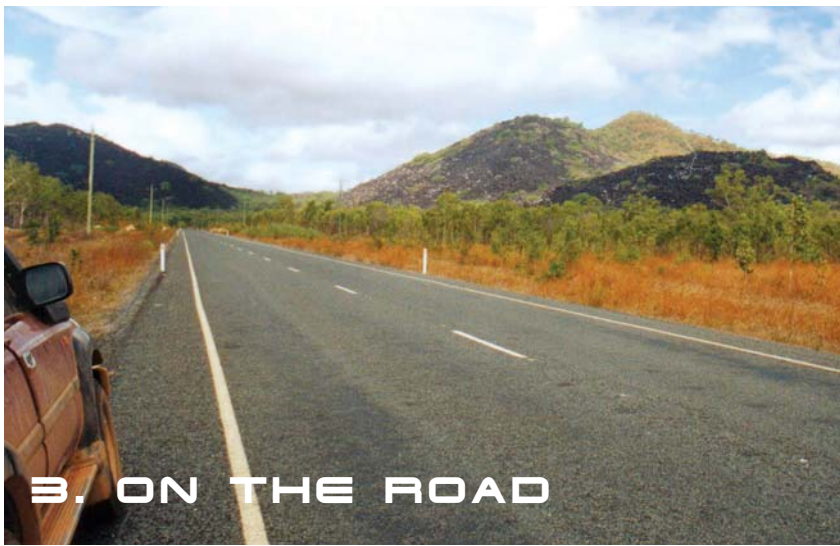
preparation

If you do need to get your vehicle out of a situation using a snatch strap or winch and a tree, choose an appropriate tree, one that is big enough to handle the weight of your vehicle, and preferably one that doesn't have branches in the way that need to be removed. Ensure you protect the tree and don't ring bark it during winching. Try to replace any rocks or branches that you move in the process.

Good advice is needed about your tyres and the optimum pressure for all terrain. Carry a tyre pump, gauge and repair kit, and remember two spares is the minimum you should travel with. Once the car is organised, make sure you pack appropriate clothing for the season and take all necessary measures for insects. It is advisable to carry some cash too, as not everyone accepts cards.



Have your preventative maintenance up to date to avoid a major breakdown on the trip.



3. ON THE ROAD

It is important that while you travel through natural areas, you respect the environment. You are an ambassador for the 4WD community, and you are very visible to others whilst on the road. Make sure that you know what to do when you enter an area where there are native animals, livestock or areas of cultural significance, and that you know how to minimise the impact of camping so everyone has an enjoyable trip.

Driving

Driving with the environment in mind can be a very rewarding pastime, unless something goes wrong. Many problems can be avoided by following some very basic rules. A couple of tips are provided below:

1. **Drive to the conditions.** Driving off road is very different to being on bitumen, and even if you are in 4WD it does not mean you will never slip or skid. Engage 4WD on unsealed roads, especially if you are towing (don't forget to lock your hubs). If dust makes travel difficult, slow down and put your headlights on. Difficult conditions such as soft sand, up and down slopes, in water, dirt tracks, corrugations, bulldust, mud and ice all require skill to negotiate. If you do not feel confident when you encounter difficult conditions, let someone else more capable drive, and get some 4WD training when you get home. This may prevent an accident, and keep your vehicle, passengers and the environment safe from unnecessary damage.



2. **Stick to established tracks and roads and cross rivers at crossings where they exist.** This way damage is restricted to a certain area and the least amount of soil and vegetation is disturbed (this applies when you are on foot as well). Animals learn to stay away from thoroughfares, so by sticking to the track you will avoid disturbing the wildlife.
3. **Keep the undercarriage of your vehicle free from sticks, leaves and other debris.** This material can not only catch fire and threaten the safety of you and your passengers and risk a bushfire, but can cause the spread of weed seeds as the material is transported by your vehicle from one site to another.
4. **Keep your vehicle and equipment maintained.** Make sure that if you suspect something may be wrong with your vehicle, that you get it checked out at the first opportunity. A vehicle that is not functioning correctly will not use its fuel efficiently, leading to excess exhaust fumes in the atmosphere. Keep an ear and an eye out for things that look amiss. Make sure none of your water bottles have leaks and that your spare tyres are in good condition.
5. **Think about where you are driving.** It is not necessary to put your vehicle in dangerous situations. When trying to get out of a difficult situation you could damage your own health, that of your vehicle or that of the environment. Avoid large rocks and branches, very deep water (make sure you test the depth of all crossings before you venture in), very steep slopes or sites that appear unstable. Again, remember that having a four wheel drive does not make you invincible. You, your vehicle and the environment can be damaged by doing the wrong thing.

Basic Convoy Rules

1. Trip Leader to always lead.
2. Wherever possible keep the vehicle behind you in sight, and wait at any turns until the next vehicle can clearly see you.
3. Wherever possible maintain radio contact with the vehicle in front and behind you.
4. In dusty conditions, head lights should be on.
5. Trip Leader to warn of oncoming vehicles on gravel roads or when visibility is poor.

FLORA AND FAUNA

Australia is rich in flora and fauna and 4WD travellers are fortunate to be able to see some of our unique species first hand. Learning a little bit about the plants and animals may make your experience more rewarding, and knowing how to ensure their protection even more so.

Flora provides essential habitat for native animals. Below are some tips to help you appreciate and protect our native plants and animals:

Flora

1. **Stick to established tracks and campsites** to minimise damage to flora. Imagine if everyone created a new path! If you have to camp outside of established campgrounds move camp each night to minimise trampling, and make sure you thoroughly extinguish fires and remove ash. Ash can alter the nutrient composition of the soil on a site and affect the plants that grow there.
2. **Take some flora guides along with you** and try to identify a few plants that you haven't seen before. Guide books can be worth their weight in gold. Don't get over zealous with your identifications and start picking flowers or seed pods. This can lessen the quality of the habitat, and there is no point taking seeds home to grow as they are unlikely to survive. Native plants have adapted to their own environment, not yours. Species from one part of Australia may actually be considered environmental weeds in another part. Don't be responsible for spreading weeds.
3. **Try to avoid collecting firewood or moving logs or branches.** Old wood, fallen logs and branches are very important habitat providing shelter for many animals.
4. **Try to protect trees** if you have to use them as an anchor point. Choose an appropriately located and sized tree and use a protective tree guard to avoid ringbarking.
5. **Keep your vehicle weed free.** Inadvertently spreading weeds is a very unpopular and expensive exercise, and may destroy the beauty of the area for the future. So keep your vehicle washed and cleaned.



flora and fauna

Fauna

- 1. Be careful when driving at night and around dawn and dusk.**
Animals are most active at these times and often get scared or disoriented with the sound of a vehicle and/or bright lights. Slow down and dip your headlights if an animal is on the road, this will allow it to move off safely. With stock crossings, proceed with caution and don't blow your horn or speed up as soon as you get through the main bunch - there are often stragglers. Watch for drovers on horseback or motorcycles and working dogs.
- 2. Be mindful of animals** living in the bush around your campsite. Loud noises and bright lights will disrupt you in your home, same goes with these critters. They enjoy sleeping, nesting and breeding in the relative peace of the Australian bush.
- 3. Call WIRES** or the relevant national parks office if you find or injure an animal. Don't approach the animal too closely - it will probably be distressed and may hurt you. The last thing you need is an injury to yourself as well. Experienced people can give you advice or call a vet if need be.
- 4. Do not touch any animals, eggs, nests or other animal related objects you may come across.** You may cause unwarranted stress on the animal. Treat animals with respect. You are in their territory and you need to behave responsibly.
- 5. Please don't feed animals.** It may seem appropriate at the time, however animals can react adversely to 'non bush tucker', or they can become reliant on humans for food and forget to forage for themselves in extreme cases. Leave them as you find them.

Be mindful of animals



CULTURAL HERITAGE

Cultural heritage can be a fascinating part of any tour throughout Australia. Both Aboriginal and non Aboriginal heritage fall under this banner, and it can make a huge difference to your trip if you understand the historical context of the landscape and towns through which you pass. The definition of heritage is “that which belongs to one by reason of birth”. It seems a shame to let it pass by unnoticed!

When driving along, contemplate the Aboriginal way of life, the spiritual connection they feel with the land and the timeframes over which they have survived in our harsh climate. Consider also the role of the Chinese in our trade in the 1700s, or the Afghan people with their camels in Central Australia, the Russian farmers in the Top End, only to mention a few. A bit of local knowledge can go a long way to understanding our cultural heritage. Three tips to heighten your cultural experience are listed below:

1. **Respect cultural heritage.** Chances are it is older than you and deserves respect. Remember that even if you cannot see anything special, there is something significant for someone else. Respect peoples wishes in relation to visiting sites. There may be seasonal limitations, or cultural protocols that restrict women or men from visiting certain sites. If in doubt, ask.
2. **Don't damage anything or take souvenirs.** It is an offence to interfere with any item or site of cultural significance, and it should be noted that according to legislation, any item of non Aboriginal heritage older than 50 years is considered a relic. Be careful, and report any damage that you see to either the State National Parks Office, the local council or the Local Aboriginal Lands Council. Contact information is provided at the back of this booklet.
3. **Get a guide to show you through a site,** or get a book from the bookshop or local library. Knowing a little bit about the sites you are visiting can really make all the difference with cultural heritage. It is the understanding of the history and the context that makes something significant. Other important sources of information would include museums, historical societies or tourist information centres in the towns you travel through. Local knowledge will always surpass a book if you ask the right person! There are often little tricks that may make interacting with the local people well worth the effort.

culture

CAMPING

camping

Camping is a fantastic way to get away from it all, relax under the stars and feel like you could be the first person to ever visit that place. Have you ever arrived at a potential camp site to be greeted by a smouldering fire, empty beer cans (or heaven forbid dirty nappies) strewn around the place? Don't be one of these people. It is very easy to set up camp with the environment in mind and to leave the place in pristine condition so the next visitor can enjoy the serenity as you would like to.

TOP 5 sustainable camping tips

1. Camp in a designated site or pick a good place where you will not cause damage to trees or other habitat setting up camp.
2. If you have to collect firewood don't collect too much from the same place, and be very careful when you leave that the fire is totally extinguished. Take the ash with you.
3. Use designated toilets or dig a deep pit and burn/bury or take your paper away with you.
4. Don't feed animals or leave scraps lying around.
5. Don't tip dirty water into rivers or creeks.



This is not a desirable campfire.
Notice the orange fungus.

Sustainable camping

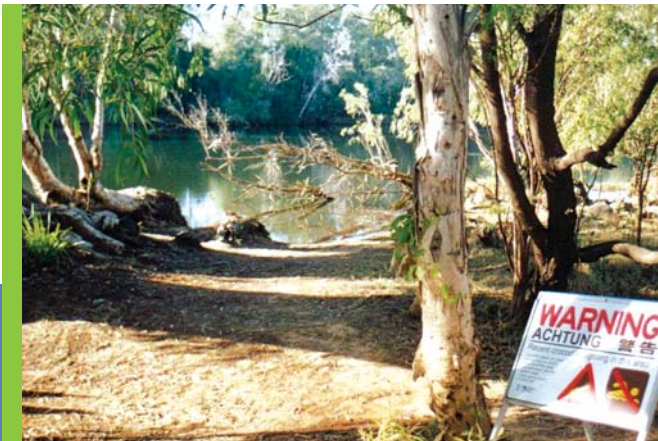
A couple of tips for setting up an environmentally friendly campsite include:

1. **Set up camp in an established site or in a natural clearing** to avoid trampling vegetation, disturbing the soil and/or wildlife. Make sure you look up before situating your tent. If there are big old trees around, don't camp under limbs that you think may fall.
2. **Use an existing toilet or make a designated 'toilet spot'** away from a water course and leave a shovel and paper handy. Take away, burn or at least bury your paper for everyone's sake. This also applies when you are bush walking or stop by the side of the road. Be very careful if you decide to burn your paper.
3. **Take away all your waste.** It is always tempting to throw away your food scraps, however this can upset the balance if vermin have an extra source of food. It can make animals dependent on people, and they can lose the ability to forage for themselves, or worse, make them ill. It can also cause the spread of weeds. In extreme cases, people have been hurt when a scavenger enters their camp looking for food and is disturbed by the camper. Think about your actions. Not only can waste be unsightly, it can also put you and the environment in danger.
4. **Campfires can be a hazard.** Have a fire by all means (when it is permitted), but be aware that they can get out of control and destroy important habitat. Many national parks stipulate that you cannot collect firewood in certain areas, and it is good practise to take your own, or have an alternative heat source for cooking. If you do have to collect firewood try not to collect too much from one area, and don't pull branches from trees or cut trees down. Inspect logs before you move them for evidence of animal occupation, and be conscious of snakes. It is advisable to wear long pants and covered shoes when collecting wood. Always adhere to fire bans.



camping

- 5. Keep the noise and light levels to a minimum.** Remember camping is about getting away from it all. Please don't rev your engines around the campsite. Keep the loud music and bright lights to a minimum for the sake of the animals and fellow campers. Light can affect wildlife breeding and communication.
- 6. Follow any rules pertaining to wildlife.** For example if there are signs to say 'no fishing', don't fish! Signs are there for a reason, if it is not for your safety, then chances are it is there for the safety of the fish. Excessive fishing can deplete native fish stocks. Other things to be mindful of include damage caused by boats sliding into the water and eroding the banks, people digging for bait worms, and leaving lines, hooks, sinkers, lures etc, not to mention rubbish around the place. Enjoy your fishing, but make sure the environment does not suffer as a result.
- 7. Pets are restricted in some areas.** Do your homework to avoid disappointment. You may turn up to a national park and be refused entry. Domestic animals can introduce diseases into natural areas and cause problems for many native plants and animals.
- 8. Be a good ambassador.** If you see any damage to an environmental or cultural heritage item, make sure that you report it to an authority such as the National Parks and Wildlife Service. Similarly if you witness someone causing harm, record as many details as you can and report them. If these parts of the outback are destroyed, then there will be no reason for any of us to visit, and our children won't get the chance either.



CAMP COOKING

camping

No restaurant can offer what an outback dining experience can. There is nothing quite like sitting around the campfire with good friends, enjoying a drink and listening to the dinner sizzling away in the camp oven. With a little bit of practise almost anything that you can cook at home can be cooked in the bush. You just need to be organised and prepare meals to suit your ability and situation. Below are a few pointers to make your dining experience enjoyable for both you and the environment.

1. **Heat sources** can include fire, gas burner, kerosene burner, or heat beads in a BBQ. Having your own fuel stove is best for the environment as it doesn't involve collecting firewood and reduces the potential to cause a bushfire. If you do light a fire, remember that you don't need a roaring bonfire, and it is absolutely critical that you completely extinguish the fire before you leave.

Ideally you would remove coals and ash completely as they can alter the soil chemistry and thus the habitat for micro organisms.

The golden rules for putting fires out

1. **drown it**
2. **stir sand or dirt through the embers**
3. **drown it again.**

2. **Bush tucker can be dangerous** if you don't know what you are doing. Harvesting bush tucker without proper instruction can damage the environment and make you seriously ill. You should always seek advice from an authority such as the National Parks or the Aboriginal Land Council if you are in any doubt about whether something is edible or not.



Bush tucker can be dangerous, don't be tempted if you're not sure.

3. **Cooking with a camp oven** can produce superb results with minimum fuss. Simply build a good sized fire and let it burn down to a bed of hot coals. Warm up the camp oven by the fire while it is burning down and prepare your meal. Once the coals are ready, dig a hole nearby, add a layer of coals, then your camp oven, and put some coals on the lid to get an even heat. Listen for the 'sizzle', and add or remove coals according to how hot you want the oven. You can buy thermometers, and you can check the dinner by carefully lifting the lid. As with cooking in the oven at home, the bigger the meal the longer it will take to cook. A generally rule of thumb is one hour per kilogram. Heat beads can be used as an alternative to hot coals. A single layer of heat beads under the camp oven and several on the lid will usually do the job.

You can also cook using a camp oven on stove tops using gas or kerosene. A couple of handy recipes have been included in this booklet, and there are many books on the market for cooking in the bush, indulge yourself and your friends.

4. **Cleaning up** after a fine meal is easy, especially if everyone gets in and helps. Put all your scraps and rubbish into garbage bags and make sure they are out of reach of inquisitive or hungry animals. Half fill your camp oven or another container with water and heat up for washing the dishes. Add a small amount of biodegradable detergent to the water. Be aware that most detergents contain nitrates and phosphates which are a form of nutrient (food) for aquatic plants. If you add too much extra nutrient to a river or stream it can lead to algal blooms which look and smell terrible, as well as causing environmental problems and sometimes fish kills. Tip the washing up water on a grassy patch or a small shrub away from any water course. The vegetation will filter the nutrients out of the water. Do the same with water for brushing teeth.



RECIPES



ROAST DINNER

Prepare your coals, pre-heat the oven, add oil, meat, herbs and spices such as garlic, mixed herbs, rosemary, pepper, put on the lid, shovel the coals onto the lid and listen to the 'sizzle factor'. Adjust the coals according to the 'sizzle', rotate the oven occasionally. Pumpkin and potato cook quite quickly in the camp oven. Gravy and greens can be made in a separate saucepan.

CURRIED SAUSAGES

Ingredients

1 kg thick pork or beef sausages
60g butter or margarine
2 onions, chopped
1 green apple, chopped
1 tbsp curry powder
Salt and pepper
1/4 tsp mixed herbs
2 1/2 cups water
2 tsp powdered chicken stock
2 carrots
2 potatoes
1 tbsp flour
1/4 cup water, extra

Method

1. Preheat the camp oven, then melt the butter and saute the onion and apple for 5 minutes. Add the curry powder, salt, pepper and mixed herbs, stir over heat for 3 minutes.
2. Add the water and powdered chicken stock, bring to the boil.
3. Chop the raw sausages, carrots and potatoes into bite-size pieces. Add to the curry, cover and cook until tender. Some Surprise Peas could be added halfway through cooking as well, if desired.
4. Blend the flour and extra water, add to curry and stir until sauce boils and thickens.

DAMPER

Ingredients

3 cups S.R. flour
1-2 tsp salt, to taste
90 gm (3 tbsp) margarine or butter
1/2 cup milk
1/2 cup water

Variations

Use water instead of milk
Use powdered milk
Use 90ml canola oil instead of margarine
Add sultanas, mixed dried fruit, chopped dates or grated cheese and herbs

Method

1. Mix flour and salt in bowl.
2. Rub in butter until mix resembles fine breadcrumbs.
3. Make a well in the centre and pour in the combined water and milk.
4. Mix lightly with a knife in a cutting motion.
5. Turn out onto a lightly floured surface and knead lightly, into a round shape.
6. Place onto a foil covered rack and place in the camp oven and put coals on the lid.
7. Check in approximately 1/2 hr. When cooked, damper should be golden brown and sound hollow when tapped.

EMERGENCY SITUATIONS

Keep an eye out for signs to hospitals, airstrips or telephones, and local UHF radio frequency for use in emergency situations. Some emergency phone numbers are provided below.

Situation	Agency	Phone Number
Life threatening or critical emergency	Police, Ambulance, Fire Brigade	000 112 on GSM digital mobiles
Floods and storms	State Emergency Services (SES)	132 500
Poisons, medicines, plants, bites, stings	Poisons Information Centre	131 126
Report crime	Crime stoppers	1800 333 000
Wildlife Information and Rescue Service	WIRES <i>(only in NSW)</i>	1800 641 188



emergencies

contacts

Useful Contacts

These contacts can be used when planning your trip or when you are on the road and would like advice or further information.

State National Parks

NSW National Parks and Wildlife Service	www.nationalparks.nsw.gov.au
Tasmanian Parks and Wildlife Service	www.parks.tas.gov.au
Queensland Parks and Wildlife Service	www.epa.qld.gov.au
Parks and Wildlife Commission NT	www.nt.gov.au/ipe/pwcnt
Department of Environment and Heritage	www.parks.sa.gov.au
Parks Victoria	www.parkweb.vic.gov.au
Canberra Parks and Places	www.parksandplaces.act.gov.au

Commonwealth National Parks

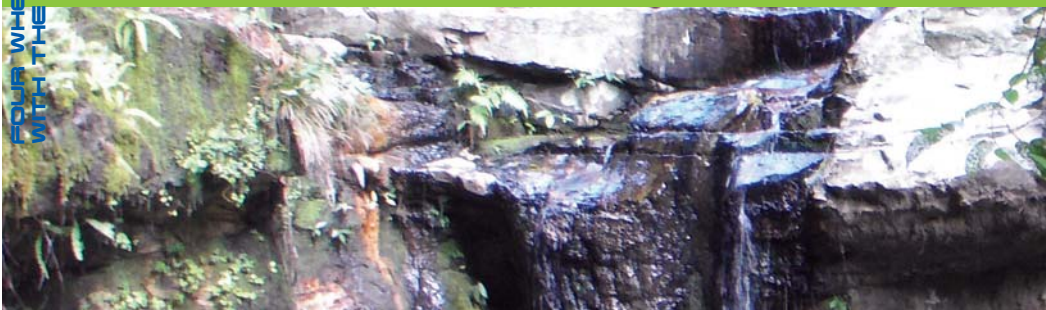
Parks Australia	www.deh.gov.au
-----------------	--

Aboriginal Land Councils

Northern Land Council	www.nlc.org.au
Central Land Council	www.clc.org.au

Local Council Numbers

Australian Local Government Association	www.alga.asn.au
---	--



SUGGESTED READING FOR *environmental* 4WDING

Most 4WD books and books about Australia give some advice about environmental care, however examples of dedicated publications include:

- *Green Guide for Four Wheel Drive Tours - Best Practice Environmental Management for Four Wheel Drive and Off Road Tours*, produced by Ralf Buckley (2000). Tread Lightly Australia, Griffith University, 4WD Australia and the West Australian Department of Conservation and Land Management.
- *Treading Softly* - NSW National Parks and Wildlife Service (2001) Sydney.



Australia is an amazing place. Go out and appreciate it, and leave it in the same or better condition for next time you visit.

4. WHEN YOU GET HOME

home

Contact people

The very first thing you should do when you get home is ring a family member or friend to tell them what a fabulous trip you had, and that you have arrived home safely. Even if this is not your priority, it is good practise to make sure someone knows that you are away and roughly when you will be home. This ensures that if anything happens on the road, someone at home will miss you and alert the proper authorities.

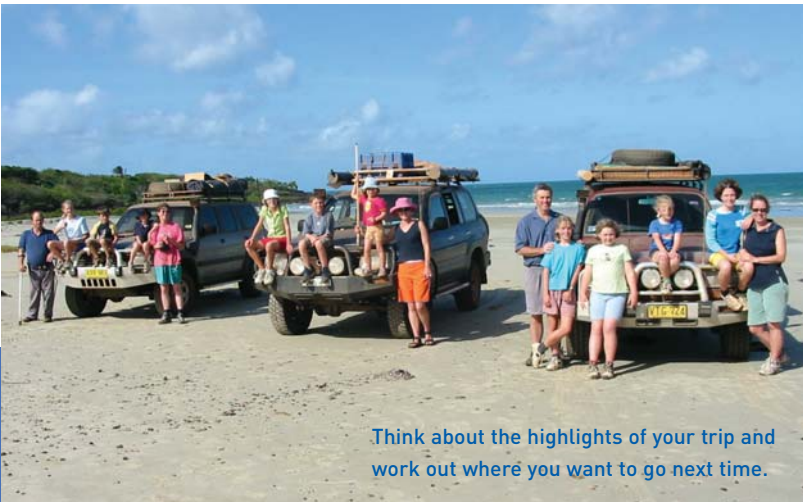
Clean up

Make sure you clean your car when you get home to remove any risk of spreading weeds or other natural organisms that have hitchhiked around Australia with you. Clean the undercarriage of your vehicle and the wheels thoroughly.

Unpack everything and lay it out to dry properly before cleaning and putting it away. It may be a long time before you venture out again, and it is not pleasant camping in a mouldy tent.

Start planning your next trip

Now that you have returned home safely and have learnt so much about the natural environment, you will probably want to go and do it all again. Think about the highlights of your trip and work out where you want to go next time. Australia is an amazing place. Go out and appreciate it, and leave it in the same or better condition for next time you visit.



Think about the highlights of your trip and work out where you want to go next time.



TAFE NSW Western Institute provides Four Wheel Drive Training Courses with the Environment in Mind and other Conservation & Land Management Courses. If you are interested in finding out more, please return this page to:

Richard Ingham

Head Teacher, Environment
TAFE NSW Western Institute

100 Prince Street
PO Box 1059
ORANGE NSW 2800

Phone: 02 6391 5726
Fax: 02 6391 5820
Mobile: 0428161232
Email: richard.ingham@tafensw.edu.au

Your contact details

Name: _____

Postal Address: _____

Areas you are interested in studying



FOLD

Richard Ingham

Head Teacher, Environment
TAFE NSW Western Institute

PO Box 1059
ORANGE NSW 2800

AFFIX
STAMP
HERE

FOLD



ACKNOWLEDGEMENTS

This project was inspired by the members of the Dubbo Four Wheel Drive Club Incorporated, and made possible through funding and support from the NSW Environmental Trust and was project managed by TAFE NSW Western Institute.

The Dubbo 4WD Club strongly encourages its members to keep the environment in mind whilst four wheel driving and the environment conservation is one of the clubs aims and objectives. See below for a full list of their aims:

- to promote goodwill and fellowship between members and other clubs;
- to ensure the correct representation of the recreational use of Four Wheel drive vehicles;
- to promote the conservation of the natural environment;
- to promote road safety and driver education;
- to co-operate where possible with other organisations having similar interests to the club;
- to assist with community services where necessary;
- to promote and adhere to the Australian National Four Wheel Drive Councils' Code of Ethics;
- to promote and conduct, alone or with other clubs or organisations, events, outings, training and conferences; and
- to provide Dubbo and district with a viable Four Wheel Drive Club for family and single unit activities.

Adopted by motion at General Meeting, 11 December, 1995



Printed on paper made from sugar cane waste (bagasse) and pulp from sustainable plantation forests. Elemental chlorine free (ECF).
Graphic design by www.vaada.com.au



its all about attitude

