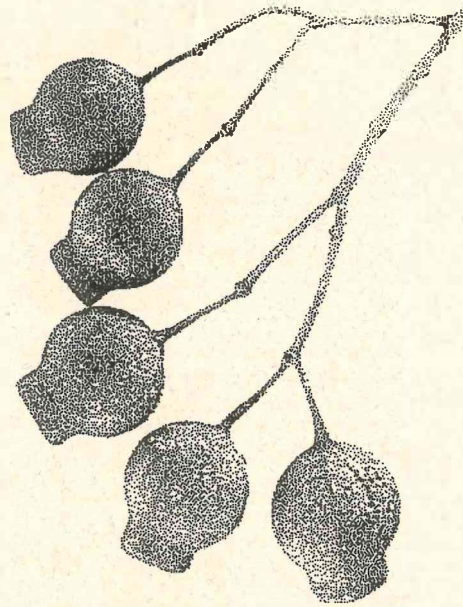


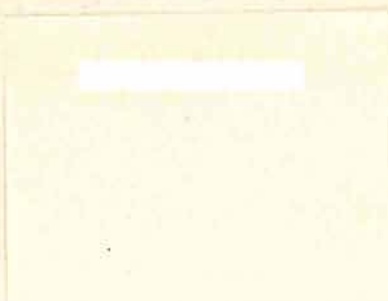
Reality, Dreams and Pathways



A Manual for Preparing and Implementing Management Plans

4th Edition

Brett Tizard



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A Manual for Preparing and Implementing Management Plans

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A Publication of the Armadale Settlers' Common Field Study Centre
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This document can also be downloaded from the Armadale Settler's Common website (see address above), and Department of Environmental Protection website at www.environ.wa.gov.au/rdp.

This publication will only be a success if it meets the needs of those who use it. The author would like to get suggestions, additions, deletions and any other helpful hints to be included in later versions.

Should anyone need further information, I can be contacted through Ecoplan via the Community Involvement Coordinator at the DEP or at the Armadale Settlers' Common Field Study Centre.

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Introduction

My deep, dark past includes compiling the management plan for the Armadale Settlers' Common, a 380 hectare bushland reserve. It took 14 months to complete the draft; with a public comment period and revisions it took over 18 months from start to finish. A great sigh of relief could be heard when the City of Armadale finally endorsed the plan.

This guide is designed for those members of the community who have been asked, forced into, begged, cajoled, blackmailed or honestly want to prepare a management plan.

Although the basic concepts apply to all management plans, this guide has been written for community groups working with local councils. The City of Armadale should get a quick plug here. Their system of community and council working together has proven to be a success with the Armadale Settlers' Common and should be used as a model for other reserves throughout the metropolitan area. More on this later.

Where do you start? What needs to be included? Can you really prepare a management plan? Read on and all will be revealed!

BKT

Armadale, 1997

Preparing Management Plans

If you are planning for a year, sow rice; if you are planning for a decade, plant trees; if you are planning for a lifetime, educate people. — Chinese Proverb

A society grows great when old men plant trees whose shade they know they shall never sit in. — Greek Proverb

Since the mind is a specific biocomputer it needs specific instruction and directions. The reason most people never reach their goals is that they don't define them, learn about them, or even seriously consider them as believable or achievable. Winners can tell you where they are going, what they plan to do along the way, and who will be sharing the adventure with them. — Denis Waitley

About Management Plans

You have just got involved in looking after some bushland, or maybe a wetland, and someone mutters the words: "I think the first thing to do is prepare a Management Plan". Fine, but how? The usual scenario is that there is no money to employ a consultant and no-one in the group has done anything like this before.

Management plans are complex, in depth and highly technical documents representing the culmination of several months work by qualified professionals. True or False? Well the answer is both true and false. Some management plans, especially those produced by CALM, are lengthy technical documents. They do contain the efforts of a team of professionals working on the management problems. Is this what you need? Maybe, but management plans do not have to be in six volumes plus appendices.

Community groups can prepare a management plan themselves with a little assistance from "the experts". A list of useful telephone numbers and web sites are included at the end of this document.

Although there will be variations because of the size of the area, the number of different problems to be solved and other factors, CALM estimates the average management plan will take a full time staff member eight to nine months to complete. This includes time for the writing of the plan, the public comment period and revisions. If volunteers are doing the work, especially inexperienced volunteers, then it will take a lot longer. The draft Plan for the Armadale Settlers' Common took 14 months to finish and then another 6 months for public comment, revisions and Council approval. Admittedly the committee did

not spend all of that time preparing the plan; we planted trees, cleaned up rubbish, held bush walks and did numerous other things in that time and it's highly likely that your group will be doing the same, so give yourself plenty of time.

The Working Group

The first step is to form the working group for the management plan. If you are working in conjunction with the Council then a committee may well exist. On the other hand if you are starting from scratch or need to expand your committee a selection of representatives from various groups is advised. It is important that everyone involved with the reserve feels they have contributed or had the opportunity to contribute. Who do you invite?

Local residents are a must. They use the reserve, they know what is there and probably have some sense of vision for the future of the reserve. They may also be able to solve some mysteries for you. A long term resident in Gosnells was able to tell the Working Group that a night soil dump could be found within the catchment of Mary Carroll Park. This could be a contributing factor to the frequent occurrence of botulism in the lake.

The local Wildflower Society, the Waterbird Conservation Group, the WA Naturalists' Club or other interest groups should be invited to participate. These groups can provide some of the expertises you need to complete your task.

CALM, Fire and Emergency Services Authority of WA, the Water and Rivers Commission and other government departments may also be interested in helping you with the endeavour. These organisations may prefer to attend in an advisory capacity on an as needs basis. For example, a CALM representative should attend the meeting where you discuss dieback.

There is a lot of information available out and about in the community; if you know where to find it. A section below will give some hints as to where to look.

Now that you have established your working group, the next step is putting together the plan. But what needs to go into a management plan?

Reality, Dreams and Pathways

All management plans contain three basic components: the reality, your dreams and the pathways between the two. The following sections answer the three questions, which are essential to a management plan: what do we have? what do we want? and how are we going to get there?

A community group can put together a detailed, yet simple management plan that will meet their requirements using the expertise to be found around the traps. Remember that the experts will answer all the easy questions. You have to answer the hard questions such as: is the reserve for conservation, recreation or both?; should some areas be closed to the public?; and, a most difficult question, where will the money come from?.

Does this make it seem too easy? You decide to write a management plan and then it magically happens? Well, may be not magically, but this manual should guide you through all of processes and at the end you should have a comprehensive management plan. It will require effort on your part. It is very important that everyone involved gets the opportunity to contribute to the plan and that the plan represents the collective view.

Preparing a Management Plan

A management plan is basically a checklist. Some people describe it as a recipe for a cake, but I would say it is more like recipes for a three-course meal. A sample checklist and explanations are included below.

Some general points to remember are outlined here. A management plan should represent the views of the community (including both government authorities and local people) in a coordinated, organized manner. Although it should encapsulate the "vision" for the reserve, it should have some elements of flexibility. Some examples of this will be discussed in the checklist that follows. Monitoring is essential. It gives you the opportunity to assess your successes and modify management programs as required. Your biggest problem will always be money. Implementing the management plan and getting funds will be discussed later.

Remember to look at management plans prepared for other similar reserves. Many bushland reserves around Perth have management plans. Grab a selection and pick out the best bits. Don't be afraid to pinch ideas if they are applicable to your management plan. I think a desk calendar quote sums it up best: "To copy from one work is plagiarism but to copy from lots of works is called research".

Reality

Illusions commend themselves to us because they save us pain and allow us to enjoy pleasure instead. We must therefore accept it without complaint when they sometimes collide with a bit of reality against which they are dashed to pieces.
— Sigmund Freud

The mere formulation of a problem is far more essential than its solution, which may be merely a matter of mathematical or experimental skills. To raise new questions, new possibilities, to regard old problems from a new angle requires creative imagination and marks real advances in science. — Albert Einstein

This section of the Management Plan discusses the existing situation: all of the good bits and all of the bad. There are several standard components described below. Like most reality, dreams and pathways, this is a guide only. You should always mix and match to suit your reserve and its needs.

Introduction/Preface

This should include a couple of profound paragraphs on management and urban conservation, the philosophy behind the plan, who prepared the plan and who the plan is for. This sets the scene for the rest of the plan. The acknowledgements can also be placed here.

General Reserve Description

The general description should include information on the location of the reserve, its size and who has control of it. Is the reserve important for urban conservation? (YES!!) Does it contain rare flora or fauna? Are international treaties or conventions involved? Is it a pocket of remnant vegetation hidden in suburbia?

Planning Considerations

There are a range of planning schemes and Acts of Parliament that can affect a reserve. The Metropolitan Region Scheme (State Government planning), Town Planning Schemes (Local Government planning), Acts of Parliament such as the Parks and Reserves Act, Local Government Act and local laws (local government By-laws) all influence the role of the reserve. The System 6 Report known sometimes as the 'Red Book' (DCE, 1983), and its update *Perth's Bushplan* (EPA et al, 1998) may mention the reserve and it may form part of a proposed or existing regional park.

History

The history of a reserve is very important. It highlights the factors affecting the development of the reserve. Aboriginal sites, European exploration and other heritage values can affect what happens to a reserve. Information such as the original vesting and purpose of your reserve and changes to these can be obtained from the Department of Land Administration (DOLA). Information on Aboriginal sites can be obtained from the Department of Aboriginal Affairs. CALM has an Aboriginal unit that may be helpful. This section should include some recent history that will tell the reader what led to the writing of the management plan.

Physical Features

The physical features section details all of the nonliving components of the reserve. These can include general geology, significant geological features (such as cliffs and rivers), hydrology, rainfall, temperature, catchment and drainage, and water quality.

Vegetation

A brief description of the vegetation types and the weeds should be included in this section. Special mention should be made of any rare, endangered or restricted flora. A list of all species found in the reserve goes in the appendices. A great "how-to" guide to finding out about the plants in your reserve is *Bushland Plant Survey* (Keighery, 1994).

Fauna

This is similar to the vegetation section. It is usually divided into two sections. Firstly, a native fauna section provides details of the mammals, birds, reptiles, amphibians, fish, and invertebrates. The second section provides information on feral animals such as midges, mosquitoes, domestic ducks, cats, dogs, foxes, rabbits, pigs, horses etc.

Rehabilitation Areas (Problem Areas)

This is a description of the degraded areas and the problems associated with them. Don't forget to mention such delights as gravel pits, old pasture land and typha infestations.

Fire History

This includes when and where fires were lit, who is responsible for fire control and whether there are any fire management practices in place.

Landscape Values

Are there any? Does the reserve form part of the backdrop to the city? Does it have views of the coast or any important visual properties? Is it part of a "greenbelt"?

Past Management

Who is currently in control of the reserve? What are the current uses and problems? Has any work been done in the past? Are there any management strategies in place at the moment? Strategies can range from discouraging access, fencing, using the area as a gravel pit or landfill site.

Term of the Plan (Usually 5 or 10 years)

Should the term of your management plan be five or ten years? A good question. Five years does not allow much time for development, but a 10-year plan requires a lot more forward thinking. I personally prefer 10-year plans. This is because it usually takes at least two years to get into the swing of things, so with a five year plan it leaves only 18 months before you have to think about your next plan. Ten-year plans have much more "doing" time, but will require at least one review.

Appendices

This should include a flora list, fauna list, maps, summary of recommendations (and costing), bibliography and other information (such as council minutes, newspaper clippings and photos).

Conclusion

This section of the management plan should give an accurate description of the reserve and all of its features, including management problems. The list above is only a guide and each reserve will have its own list of descriptions required. This section should not be all doom and gloom. There are obviously some good parts of the reserve and that's why you're writing a management plan.

Dreams

They who dream by day are cognizant of many things which escape those who dream only by night. — Edgar Allen Poe

There is nothing like a dream to create the future. — Victor Hugo

*People who soar are those who refuse to sit back, sigh and wish things would change. They neither complain of their lot nor passively dream of some distant ship coming in. Rather, they visualize in their minds that they are not quitters; they will not allow life's circumstances to push them down and hold them under.
— Charles Swindoll*

This is the dreams bit. What do we want for the reserve? How should the reserve be cared for? What is the ideal future for the reserve?

Objectives

What does the reserve represent to the community? There are several options to choose from including conservation, recreation or conservation and recreation. This is a very important decision that will effect how the reserve will be managed.

Zones: Special Conservation, Conservation, Buffer, Recreation

The use of zones or regions in the reserve is a useful management tool. It can clearly define what each area is for and what management is needed. Recreation zones will be treated very differently to areas set aside for conservation. The use of buffer zones can resolve land use conflicts and protect conservation areas.

Nomenclature

Little Frog Island sounds a lot better than “you know, the small island very close to the car park, the car park on Thomas Road not the one on Smith Street”. Naming significant features in the reserve does two things. Firstly, everyone knows where or what you are talking about and secondly it adds character to the reserve. Whether you name features after animals and plants or early settlers or Aboriginal names it doesn't matter, but try to maintain some consistency, e.g. all plant names for trails, animals for car parks etc.

Time for a quick personal plea. When using Aboriginal names, use local ones. Western Australia seems to be plagued by Eastern States, especially NSW, Aboriginal names. The Nyungah language has plenty of words to describe lots and lots of places. Contact the WA Museum or the Aboriginal Community for suitable names (See Abbott, 1983; Powell, 1990; Bindon, 1996 for plant names).

Rehabilitation and Regeneration

Control of Introduced Species

When rehabilitating degraded areas, the removal of exotic or introduced plant species is very important. These weeds will inhibit the natural regenerative process and generally take over. But don't rush out and remove hectares of weeds in one go, they can be performing a vital task especially on slopes. Weeds can and do stabilise the soil. The best method of weed removal is slow and steady, remove enough weeds to allow native regrowth to occur but keep in mind soil conservation as well. There are methods of tackling weeds, such as the Bradley method (see Buchanan, 1989) which take into account the functions of weeds and their effects on the environment. *Managing Perth's Bushland* (Scheltema and Harris, Eds, 1995) contains a wealth of information on weed control and the best methods to use. The Environmental Weeds Action Network's website provides some valuable information on weed mapping.

<http://omen.net.au/~ewan>.

Regeneration of Native Plants

There are a number of philosophies on the ecological restoration of bush and wetlands. There are strong arguments for and against direct seeding, tree planting, herbicide use, which species to plant and when to plant. A method growing in popularity in WA is the Bradley method or bush regeneration. This is best described as assisted natural regeneration. A mix of all of these methods or only one may be appropriate for your reserve.

A very important point to remember in replanting degraded areas comes from Greening Australia: "the right tree in the right place for the right reason". Try to take seed from the reserve or nearby reserves to grow for the plantings. If seeds or cuttings are not available from the reserve, take material from as close as possible. Trees and shrubs that are locals will grow better than seed taken from the same species in a different place. It also helps to maintain biodiversity. This is a great project for the local wildflower society or school.

Further information about bush regeneration can be obtained from the Australian Association of Bush Regenerators (AABR) or APACE. APACE run introductory courses on bush regeneration. These are well worth attending, crammed with information and well presented. Tree planting and direct seeding information can be obtained from at Greening Australia (WA). They have some

great little booklets on both collecting and growing native species. As with most of the work you will do in your reserve, ask around, find what's best and do it.

Removal of Native Plants

Licenses are required for collecting plant material for scientific, educational or commercial purposes. These can be obtained from the Department of Conservation and Land Management. Restrictions apply to where you can collect plant material. Contact the Department of Conservation and Land Management on 93861578 for details.

Often councils will have policies on the removal of native vegetation on their land. For example, the City of Armadale does not allow removal of native flora for commercial purposes. It does permit the removal of native flora for "botanic reference" purposes. Check up on this as it can save you problems in the future.

Fauna Issues

Control of Feral Animals

Feral animals are more difficult to control than exotic flora. There are only a few options for their control including baiting, trapping and fencing. A combination is usually used. Whatever the method there will be a good deal of expense, of both time and money, to do the job right. Baiting programs, such as using 1080, need to be conducted in conjunction with the APB and may only be suitable for larger outer metropolitan reserves. Western Shield, CALM's feral animal eradication program, is being trailed in South Perth. There are also plans for trialing at the Gnangara Pine Plantation Superpark. The results are eagerly awaited.

An education program may be your best bet. The dumping of aquarium fish in wetlands has probably caused as much damage as the dumping of cats and kittens in the bush. If people are aware of the problems caused by dumping, you may get a reduction in its incidence.

Native Species

Native species especially birds can be encouraged back into your reserve by the provision of safe nesting boxes and alike. With the removal of the old dead trees, many nesting hollows have disappeared. There needs to be a variety of types and sizes of nesting boxes to suit each species of bird. Birds Australia (formerly the RAOU) should be able to give you advice on this matter. Dams and other artificial wetlands can be modified so that they provide the right environment for the return of birds.

Bread-driven Ecosystems

Most wetlands provide the public with the opportunity to feed the ducks and seagulls, but this leads to overcrowding and increases the pressures put upon the species that are not fed. People now accept that you don't feed the animals at the zoo. Our current task is to transfer that awareness to the bushland.

Rubbish Removal

Obviously rubbish should be removed from the reserve. Clean Up Australia Day is held each year and it's a good opportunity to get the community involved in the reserve. This is also a good opportunity to get your council involved. Planning is the key. Make sure that the council knows of your interest so that your reserve can be nominated as one of the official trouble spots.

Pollution/Nutrient Control

The current push by the Water Corporation of WA to have all metropolitan homes on deep sewerage should help ease the burdens placed on suburban wetlands. The Mary Carroll Park Management Plan (City of Gosnells) offers some strategies to reducing the nutrient load on wetlands.

Fire Prevention/Management

The Fire and Emergency Services Authority of WA, which includes your local fire brigade, should play an important part in the formation of your fire management strategy. When you work together quite a lot can be achieved. For example, the Armadale Settlers' Common Management Committee and the Bedforddale Volunteer Fire Brigade have agreed on the need to reduce the number of fire tracks in the Common. The strategic and important firebreaks will remain and the rest will be rehabilitated.

There has also been agreement on the formation of new emergency firebreaks. Freshly created firebreaks will not be accessible from the main road and will be "hidden" from view. This practice was developed so that members of the public don't use them as a road and to minimise rubbish dumping and dieback spread. The integration of fire management with rubbish and dieback control proved successful in the January 1991 fire at the Armadale Settlers' Common.

Dieback Management

CALM can supply a great deal of advice on dieback. An assessment of dieback distribution in your reserve is a good place to start. Information on control, vehicle hygiene and other matters can be obtained from either your CALM Regional Office or CALM's Como office.

An injection program may be considered. The Dieback Working Group has a wealth of knowledge about injection and other forms of dieback control. Parkerville Primary School has run a successful injection program protecting and saving trees at risk of dieback. The injection sets are not that expensive (for the local council) to purchase and can be used successfully with a little training. (Alternatively, you can hire the injectors from the Roleystone Dieback Group).

A Dieback Working Group has been established and has formulated strategies for the control of dieback within the Perth area. They have released publications including *Managing Dieback in Bushland: A Guide for Landholders and Community Conservation Groups* and *Managing Dieback: A manual for Local Government* which provide strong foundation for dieback management in your reserve.

Use of the Reserve

Conservation / Education / Recreation

This is one of the hard questions, especially for smaller reserves. Some reserves place equal value on all three of the above purposes. The recreation component may be restricted to passive recreation such as bush walking, nature photography and bird watching. An overriding factor must be the preservation of the reserve for the enjoyment of future generations. In fact this is one of the principles enshrined in the Australian Heritage Commission's Natural Heritage Charter.

Larger reserves can often accommodate a multitude of roles without compromising the basic principle of conservation. In a smaller reserve it may not be possible for the reserve to be all things to all people. The conservation element may take priority, with a very small recreation component, especially if rare and endangered species are present or the bush is the last local remnant. Some areas may need to have restricted access. In a large reserve walk trails can be lead away from sensitive areas and the public can remain unaware that some areas are restricted. In smaller reserves signs may be necessary and as a last resort, fencing can be used.

High-use areas

The development of high-use areas may require a separate plan. You can provide basic information in the management plan with details to follow in the development plan.

Rubbish Bins

CALM has had some success with asking visitors to take their rubbish home with them. This reduces the maintenance costs but may require monitoring and changing if it proves unsuccessful. Beware - rubbish breeds rubbish. Many small patches of a little rubbish quickly become large ugly piles of rubbish.

Seating

Seating should be provided at appropriate locations and should be in keeping with the area. Be creative and look for "nice spots" to rest.

Toilets

These are probably not necessary in small reserves but a must in high use reserves. If you intend to encourage the public to use the reserve then toilets deserve some consideration. Obviously the toilets will need to be on deep sewerage or "Bio-loos" that have minimal nutrient discharge.

Car parking

Street parking may be all that is required. However, high use reserves need some form of car parking. Beware - car parks cost a lot of money. Old gravel pits close to the road can be converted into car parks and this can reduce both the expense and destruction of the bush. Degraded spots provide useful areas for development.

BBQ Facilities

Once again, these facilities are probably only found in high use reserves. Assuming you wish to provide BBQs, the first question to ask is if you want wood, electric or gas. Using wood means people may "borrow" wood from the reserve and gas BBQs cost more to build and maintain. The fire risk associated with wood BBQs has led the Armadale Settlers' Common to opt for electric. They took over six years to get installed.

Walk Trails

The development of interpretive trails with the reserve should prove popular with visitors. At least three different trail guides can be produced for: 1) the general public; 2) secondary schools; and 3) primary schools. There should be a range of walking difficulties and times. Points of interest should be presented in an active manner that involves participation by the walker, such as "what can you hear?" or "look for the trigger plants hidden under the hakea". The tone of the brochures should be conversational and invite people to be a part of the experience not just observers.

Access

Access to the reserve, too much or too little, will always be a problem. This will probably be an item that gets a fair amount of discussion during the public comment period. It was a concern of the majority of those people surveyed at the Armadale Settlers' Common. Some sections of the Common were being used by trail bike riders and there were lots of tracks throughout those sections. Other areas had off-road tracks every 10 to 20 metres. In both these problem areas a track reduction program was scheduled. Tracks have now been ripped and replanted.

Vehicle access should be kept to a minimum, with either a single track through the middle of the reserve or peripheral access only. The problem with interior access is that it provides the ideal opportunity for rubbish dumping and wood collecting. However, interior access will need to be maintained for emergency and management vehicles. Peripheral vehicle access only can isolate sections of the reserve from some members of the community. Vehicles spread dieback. It's a difficult decision and some thought should go into finding the right solution. The Port Kennedy Land Conservation District set aside a portion of highly degraded land for vehicle use based on the thinking that it is better to sacrifice a small section to save the rest of the reserve. In recent years, this off road vehicle area has been disbanded. Are there facilities in the district that can cater for specific pursuits? Churchmans Bushland, for example, is being managed with an equestrian and rock climbing focus. This reduces the pressure on the surrounding reserves that are being managed for conservation purposes.

Pedestrian access is not usually a significant problem. Firebreaks make ideal walk trails and help protect the reserve at the same time. Contour tracks help prevent erosion and should be used where possible.

Pathways

Whatever you do, or dream you can, begin it. Boldness has genius and power and magic in it. — Johann Wolfgang von Goethe

Imagination is the one weapon in the war against reality. — Jules de Gaultier

Yes, you can be a dreamer and a doer too, if you will remove one word from your vocabulary: impossible. — Robert H. Schuller

This is the Pathways bit. How do you get things done?

Administration

The following extract was taken from the Armadale Settlers' Common Management Plan. It is full of legal definitions and represents the official view as at 1989.

The Armadale Settlers' Common Advisory Committee is the Management Advisory Body reporting to the Armadale City Council which acts as the Board of Management as defined in the Parks and Reserves Act. All management control rests with the Technical Services Committee of the Armadale City Council. No decisions of the Armadale Settlers' Common Advisory Committee can be implemented without the approval of the Council. All expenditure related to the Common must be done via the Technical Services Division, the Advisory Committee cannot of itself expend any funds. The Armadale City Council and its Officers are responsible for the enforcing of the various laws, regulations, and by-laws relating to the Reserve.

Does this suggest the system is cumbersome and frustrating? Probably, but the Armadale City Council has only asked for one decision to be reconsidered and that was about the name of the reserve. The Advisory Committee suggested "Armadale Common" and Council preferred "Armadale Settlers' Common". In practice the Council insists on well-documented expenditure of the monies it allocates to the Common and that monies from grants are spent as detailed in the respective funding proposals. Independent funds raised by the Committee are directed towards specific projects in accordance with the Management Plan.

The new Local Government Act now allows councils to delegate many of their powers to committees. This has allowed the legalities to catch up to reality. It is often the community that manages and cares for these reserves with the assistance of councils rather than the other way round.

Financial management is often one of the more boring aspects of looking after a reserve. However, you should try to set things up so that you can maximize your capital. Before this starts to sound like an advertisement for investment banking,

a simple rule of thumb would be to have at least two "pots" of money. Firstly, open your own bank account and secondly, get your council to do the same. The corporate services division of your council can establish a trust fund for "external" grants for your reserve and can give you access to the council's tax exempt status. This system can work well, with the co-operation of the accounting staff in council.

Funding and Fundraising

This is one of the easiest sections to write. Basically you need as much money as you can lay your hands on from wherever you can get it. Or to put it more formally: *all avenues of funding projects within the reserve should be explored and the committee should actively seek funding for its programs.* You should become familiar with the range of funding organisations and the things they fund. Be inventive and keep an ear to ground. More on this later.

"Friends" Groups

Forming a "friends of the reserve" group is a good way of linking the community with the reserve. The group should have some independence from the management authority, but don't be afraid to use the management body for fundraising or tackling management problems in your reserve.

Publicity

This is another easy section. It is always important to not only do something in your reserve but to be seen to do something. At all times your committee should seek to advertise the events and happenings of your reserve. Good publicity makes it easier to convince council or local businesses to support your projects.

Sometimes low conservation priority areas get work done on them because the location is highly visible.

Monitoring

An easy section to write in a management plan but not so easy to do. Monitoring of your management practices should take place at least annually. Collecting your data and adjusting the management of the reserve to meet your objectives may cause some headaches. Don't forget to get the advice of local experts on issues such as: are your trees growing as they should? and are weeds still a problem? The management plan should allow for changes in management programs should they prove unsuccessful.

Public Participation

This is a very important part of any management plan. Public comment should be sought at all times during the preparation of the draft management plan. This can be done via a number of methods both formal and informal. During the 14 months the Armadale Settlers' Common Management Plan was being formulated, I would tell visitors to the park what we had planned for the Common and ask if they had any comments. The comments and suggestions from over 70 different groups of visitors were incorporated into the final version. Most of these dealt with specific issues such as the provision of seating, BBQs and walk trails, rather than the more general management problems. The information and opinions from these people are of great importance. These people use the reserve. These are the people who the reserve is being protected and managed for. Most importantly, these are the people who *care* about the reserve.

Once the draft has been completed, it should be released for public comment. The draft plan should be sent to all of the local libraries, CALM (Planning Branch), DEP Library, Conservation Council of WA, the Environment Centre, your local Wildflower Society, the Swan Catchment Centre, the WA Naturalists' Club, Armadale Settlers' Common Field Study Centre and other appropriate organisations. The public comment period varies a lot. I think it is important to have as long a comment period as possible. Three months is a good time, it allows community groups to have a couple of meetings to discuss the plan and its implications and get group approval for the submission. Library displays, seminars, field visits and other activities can be conducted to boost public interest in the reserve. The City of Gosnells has found that bribes of free food (sausage sizzles) often help.

At the end of the public comment period all of the submissions are considered and appropriate changes to the management plan are made. The collection of ideas that are found in the submissions may range from "the good" to "the bad" and "the ugly". The "good" can be readily incorporated into the management plan. These ideas can include modifications of the draft strategies taking into account problems you may not have thought about. This is probably the most valuable contribution that a member of the public can make; they can alert the working group or committee to problems in the draft plan.

"The bad and the ugly" are another aspect of the submissions received during the public comment period. Don't be afraid to reject some suggestions made by the public where there are good reasons to do so. If the suggestion clashes with

several aspects of the management plan or is not permitted by the management authority or planning guidelines, if it physically can't be done or if it will cost too much then the suggestion can be rejected. An example of this was submitted for the Armadale Settlers' Common Management Plan. The submission suggested that we erect cyclone fencing either side of our walk trails. Although this suggestion would solve the problem of people wandering off the tracks and trampling the bush, it was rejected because of its affect on the recreational and educational roles of the Common, the aesthetics, the cost and the hazard to people caught in the "cage" during a fire. If it doesn't fit in the management plan, reject it.

The Final Product

Once the draft management plan has been open for public comment and the submissions incorporated into the final version, you should be ready to present it to the management authority. Finally after much discussion (hopefully) the plan will be endorsed and it will become the management plan for the reserve. Congratulations!

Implementing the Management Plan

One of the saddest things that can happen to a management plan is that it is given pride of place on a bookshelf. All too often plans are left to collect dust. Implementing your ideas can be a slow process, but it should never be allowed to stop.

After your management plan has been adopted, compile a list of work to be done. This should not only include general items but specific, easily achievable tasks as well. This is a useful document to have when talking to government departments, councils and community organisations. It will also be handy when preparing funding submissions. Often these don't have a long application period and you can miss the boat if you're not prepared.

Cold Hard Cash

This is probably one of the most frustrating things after the completion of the management plan. Once you have worked out what you want and how you are going to get what you want, the biggest problem will be *money*; or more precisely, the lack of it. But don't despair, money or donations of goods and services can come from all sorts of places.

Firstly, look for funds from the more traditional funding sources. Who is the reserve vested with? A council may be fully behind the project and allocate lots and lots of money for the management of the reserve. The reality will probably be that the council may be fully behind the project but not keen to spend much money. This is a problem that can be tackled in a number of ways. Councils should supply a maintenance budget if they can see some benefit to the community. This can be supplemented by external funding. There are a number of different sources of funding available and a number of these are listed below. Be warned - councils require a fair bit of notice before funds can be allocated. They usually start the budget process in January/February. If your request is submitted at this time you have a better chance of getting money from council.

If MfP owns the land you may be in luck. MfP allocates a modest amount of money each year to the management of reserves in their care. The budgets are reserve specific, so some money should be available for your reserve.

Generally MfP purchases land and is not a land manager, however they are sometimes a caretaker manager whilst land is being transferred to a managing authority. They also like plans. If your group can show commitment and actually

begin work on the reserve, MfP can and will be very helpful. Once again, MfP need to be told in advance of your needs so that they can budget for your requirements.

Don't count on either councils or government departments to do the job for you. They have lots of land and very few staff and resources to manage them. Asking for specific projects or tasks is often the best approach.

A handy hint for those working in conjunction with councils and government departments is to prepare an annual report for the officers and councilors. The best time to present this is at the same time as your budget request. This lets them know what you have been up to and shows them where the money goes.

Funding Submissions

Now that your management plan has been completed, you should have a fair idea about the work that needs to be done. Your "work to be done" list should give you a firm basis on which to prepare funding submissions. The standard grant programs: the Natural Heritage Trust (NHT), Gordon Reid Foundation for Conservation (Lotteries Commission of WA), Community Conservation Grants (awarded by the WA Minister for the Environment), the Swan Catchment Urban Landcare Program (SCULP) and Coastwest/Coastcare can be planned for. However, you should be aware of smaller grants that "pop up" every so often. Parliamentary committees or similar may recommend that money be allocated to certain programs. These are advertised and then disappear. If you can produce a funding submission, then you will be in with a chance. The main problem is deadlines; you don't get much notice, so be prepared. Increasingly, funding agencies require you to be part of a regional approach, so link your projects with others in your region (either LGA or Catchment-based) and you have a better chance of success. A good source of current grants is the WA Grants Register, available for purchase from the Department of Family and Children's Services (Community Skills Training Centre).

Getting it Done

A useful source of labour is Community Service Orders. People serving Community Service Orders are required to do their bit for the community. The Ministry of Justice now manage both adult and young offenders who need to work their allotted hours and they're often looking for project work to do. If you need a team to come in and work be prepared to provide some guidance. Use the

telephone book to look up the district office that deals with Community Services Orders closest to you and ask to speak to the Work Order Officer. Individual and groups (with supervisors) can be placed.

There are several training programs run by TAFE and other agencies and these may be worth linking up with. TAFE students are often required to complete practical exercises such as setting up a plant herbarium or undertaking a certain amount of field hours. Be resourceful in your thinking. Perhaps carpentry students can help make nesting boxes or tourism students can help by writing a brochure or guided tour. Don't forget community groups such as Australian Trust for Conservation Volunteers (ATCV) and service clubs like Rotary and Lions who provide volunteers for specific projects.

For a fee ATCV will send a supervisor and a team of conservation volunteers to undertake environmental management tasks. Money can be raised from grants or your local government or other sponsors may pitch in. ATCV also manage Greencorp teams which are often looking for major (14 week-long) and minor (week-long) projects.

Schools and other community groups may also be sources of labour and enthusiasm for your reserve. There are a range of service groups who could help, and the local council should have a list of the active clubs in your district.

Clean Up Australia Day is a good day to not only clean up your reserve but also to promote it. The "clean up sites" are advertised throughout the metropolitan area and the exposure is free. This also provides the opportunity to contact people who initially may not have been interested in looking after or enjoying your reserve. It is a day that people enjoy. It's not a day of picking up rubbish, but a day in the bush or at your wetland, and the participants just happen to be picking up rubbish at the same time.

Help and Where to Find it

Help, either from experts or the general community, is available if you keep a watchful eye out for it. Sometimes it comes from corners that you least expect. For contact phone numbers and information see the *On-Line Information* and *Useful Telephone Numbers* sections.

Bushland Information and Networks

Infolink is a valuable community resource provided by the Library and Information Service of WA. All community groups should take advantage of this free computer listing. To register, call Infolink and ask for the registration forms. After you've registered, if someone rings up Infolink and asks if there are any environmental projects in their area the Library can tell them about your group. Anyone can use Infolink for free.

The Swan Catchment Centre (SCC) provides information and resources to bushland and catchment groups in the Swan Catchment. A web-based directory of groups is being developed. Training seminars and workshops, equipment loan, advice to groups, a library, maps, meeting room and computers are available. The Centre is open to the public from 9am to 5pm on weekdays and is situated at 108 Adelaide Terrace, East Perth (across the road from the Hyatt Hotel).

Ecoplan is the Department of Environmental Protection's urban bushland community involvement program. Ecoplan has a database of urban bushland groups, runs training programs in conjunction with the SCC, gives advice to groups and provides a networking service and newsletter and runs Bushland Care Days. It is very worthwhile to get on the Ecoplan mailing list so you are kept up to date with bush care events and activities. The Department of Environmental Protection Library is open to the public 9am to 5pm on weekdays.

The Urban Bushland Council (UBC) also network with bushland groups across Perth and can provide some bush care and campaigning assistance to groups. NHT-funded project officers can help establish, support and maintain community bushland groups and assist with on-ground work.

CALM's Land for Wildlife program assists landowners in caring for their bushlands and wetlands. The program has produced several useful books and information sheets including Hussey & Wallace (1993), Sanders (1999) and Patrick (1997).

Wetland Water Quality

Community water quality testing is supported by Ribbons of Blue (a NHT-funded National Waterwatch program based at the Water and Rivers Commission) who run water testing programs through schools, community groups and local government. Your local council may have purchased a testing kit, if not, contact your local Ribbons of Blue regional coordinators (via your local WRC office) who may be able to help you acquire a kit and show you how to use one. Waterways WA is a WRC program that offers training, advice and support to on-ground river and stream restoration, surveys strategies and action plans. WRC has several free brochures and information notes on water quality issues. Balla (1994) is a useful overall reference on wetland issues.

History of Reserves

The history of your reserve can be picked up from many different sources. Try your local historical society or library, DOLA and your local council as the first stops. Advertisements or articles in local papers will bring forth a vast array of information.

Weed Control

The best place to start to look for weed control information is the book *Managing Perth's Bushland* (Scheltema and Harris, 1995: soon to be updated). This has an extensive section on weeds and weed control. Other sources of information include your local council, the Environmental Weeds Action Network (EWAN), APACE, AABR and the APB. EWAN's web site contains guidelines on weed mapping and case studies of various weed control programs. The Weed Science Section at Agriculture WA can provide information and advice on weeds. *Weeds Navigator* (Blood et al, 1998) contains contacts and references for weed issues across Australia and New Zealand. *Western Weeds* (Hussey et al, 1997) will help you identify weeds. A few councils have produced brochures on their local weeds. Weedbase is a database that contains notes on weeds species including distribution, control, identification and dispersal mechanisms.

Fire Management

Fire management has many players. Your local council (usually the Bushfire Control Officer) and the Fire and Emergency Services Authority of WA (FESA) may be part of implementing the management plan. FESA has an environmental advisor who works with community groups and local fire brigades on fire management. FESA and UBC Guidelines for Fire Management Planning for Urban Bushland is a very useful guide to fire management. FESA also has a schools fire awareness program and an arson prevention program.

Injured Wildlife

Wildlife rescue volunteers operate both north and south of the river. Keep their numbers handy. CALM can provide you with numbers for your closest rescue service.

Maps and Photos

Maps and aerial photographs can be purchased from DOLA. The planning section of your council may have maps available. Some councils can produce maps to your requirements such as adding items like signs, car parks, walk trails, sights, look outs and much more. At the SCC groups can have access to a computer program called *PanAIRama* which has aerial photo representations of Perth.

Bush Regeneration Techniques

There are now many sources of information on bush regeneration. The Australian Association of Bush Regenerators (AABR), APACE, bush regeneration volunteers associated with bushland groups (SCC, Ecoplan, UBC networks), Greening Australia (WA) and the National Trust can all provide information. Buchanan (1989), Bradley (1988) and Scheltema and Harris (1995) are key references.

Plant Identification

Your local Wildflower Society and the WA Herbarium can provide assistance in identifying plant species. Patrick (1997) is a useful guide to creating a local herbarium. Complete botanical surveys of reserves require a fair amount of work. If you want to get one done come prepared with an honorarium for your volunteer botanist. *Florabase* is an online computer program with information on identification and distribution of native flora. It was produced by the CALM Herbarium and also available at the SCC.

Dieback Management

The Dieback Working Group and Roleystone Dieback Group offer training, advice and equipment on loan to groups for the management of dieback. A project officer position based at Kalamunda Shire is subject to funding. The Group have produced some useful guides including *Managing Dieback in Bushlands: A Guide for Landholders and Community Conservation Groups* and *Managing Phytophthora Dieback: Guidelines for Local Government*. The Group has also run courses in conjunction with SCC and Ecoplan on dieback management. The CALM dieback coordinator may also be able to offer advice (Como office).

Putting Management Plans Together

Many government agencies can lend a hand, provide advice and should put in their two cents worth to help develop your management plan. The author of this booklet can be contacted for hints on "how-to" (his contact details are found on the inside cover).

Abbreviations

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|-------------|--|
| A/B/C Class | "A" class reserves require an Act of Parliament to have their purpose changed or boundaries altered. "B" class reserves require the Parliament to be notified of any changes and these can be done by the Minister. "C" class reserves can be amended by the Minister and all changes are published in the Government Gazette. |
| AABR | Australian Association of Bush Regenerators |
| ANCA | Australian Nature Conservation Agency (Commonwealth) |
| APACE | Appropriate Technology and Community Development Group |
| APB | Agriculture Protection Board |
| ATCV | Australian Trust for Conservation Volunteers |
| Bushplan | <i>Perth's Bushplan (EPA et al 1998)</i> |
| CALM | Department of Conservation and Land Management (soon to be split into conservation and forestry departments) |
| DCE | Department of Conservation and Environment (pre- DEP) |
| DEP | Department of Environmental Protection |
| DOLA | Department of Land Administration |
| DPUD | Department of Planning and Urban Development (Now MfP) |
| Ecoplan | DEP's urban bushland volunteer network and community support program |
| EWAN | Environmental Weeds Action Network |
| EPA | Environmental Protection Authority |
| FESA | Fire and Emergency Services Authority of WA |
| GAWA | Greening Australia (Western Australia) |
| GWA | Greening Western Australia (now GAWA) |
| LGA | Local Government Authority |
| MfP | Ministry for Planning |
| MRS | Metropolitan Region Scheme |
| NHT | Natural Heritage Trust |
| NPNSA | National Parks and Nature Conservation Authority |
| RAOU | Royal Australasian Ornithologists Union (now Birds Australia) |
| SCC | Swan Catchment Centre |
| SPC | State Planning Commission |
| SRT | Swan River Trust |
| STB | Save the Bush Program (now part of NHT) |
| System 6 | The Darling System: Perth and its hinterland (referred to in DCE, 1983) |
| TPS | Town Planning Scheme |
| UBC | Urban Bushland Council |
| VCL | Vacant Crown Land |
| WAMA | Western Australian Municipal Association |
| WAPC | Western Australian Planning Commission |
| WAWA | WA Water Authority (now split into Water Corporation of WA and WRC) |
| WRC | Waters and Rivers Commission |

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On-line Information

Government sites

Australian National Botanic Gardens
<http://www.anbg.gov.au>

Environment Australia (Federal Government department)
<http://www.erin.gov.au>

Environmental issues in Federal Government
<http://www.erin.gov.au/corporate/envgov.html>

Australian floral biodiversity at the species level
http://www.erin.gov.au/life/species/species_flora.html

Department of Environmental Protection
<http://www.environ.wa.gov.au>

Department of Conservation and Land Management
<http://www.calm.wa.gov.au>

Department of Land and Administration
<http://www.dola.wa.gov.au>

FloraBase : CALM's on-line flora database
<http://www.calm.wa.gov.au/science/florabase.html>

Government of Western Australia
<http://www.wa.gov.au>

National Weeds Strategy
<http://www.weeds.org.au>

Natural Heritage Trust
<http://www.nht.gov.au>

Ministry for Planning
<http://www.planning.wa.gov.au/>

Swan Catchment Centre
<http://www.wrc.wa.gov.au/swanavon>

Swan River Trust
<http://www.wrc.wa.gov.au/srt>

Water & Rivers Commission
<http://www.wrc.wa.gov.au>

WA Planning Commission
<http://www.planning.wa.gov.au/>

Community organisations

Armadale Settlers' Common

<http://www.general.uwa.edu.au/u/btizard>

Australian Trust for Conservation Volunteers

<http://www.atcv.com.au>

Birds Australia (formerly RAOU)

<http://www.birdsaustralia.com.au>

Birds of Western Australia and nearby areas

<http://cygwww.uwa.edu.au/~austecol/birds.html>

Community Biodiversity Network

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

Environment Centre of WA

<http://www.iinet.net.au~ecwa>

Environmental Weeds Action Network

<http://www.omen.com.au/~ewan>

Men of the Trees

<http://www.iinet.net.au/~treeswa>

Society for Growing Australian Plants

<http://www.ozemail.com.au/~sgap/index.html>

Threatened Species Network

<http://www.peg.apc.org~ntsnsnw>

WA Naturalists' Club

<http://www.wanats.iinet.net.au>

Wildflower Society of WA

<http://www.ozemail.com.au/~wildflowers>

Other

Yahoo - online environment resources

http://au.yahoo.com/society_and_culture/environment_and_nature

Cooperative Research Centre for Weed Management Systems, Adelaide University

<http://www.waite.adelaide.edu.au/CRCWMS>

Useful Telephone Numbers

Agriculture WA and Agricultural Protection Board 9368 3333

APACE 9336 1262

Australian Association for Bush Regenerators (community contacts)

David Kaesehagen 9430 8955

Norma Calcutt 9384 4274

Janice Marshall 9381 1479 (or via Dani Boase-Jelinek 9381 3470)

Australian Trust for Conservation Volunteers 9336 6911

Birds Australia 9383 7739

Conservation Council of WA 9420 7266

Conservation and Land Management

General Enquiries 9334 0333

Herbarium 9334 0530

Land for Wildlife program 9334 0530

Injured Wildlife 9334 0333 (after hours you can leave a message for the rostered officer)

Wildlife Carers list 9334 0251

Aboriginal unit and Regional Parks 9431 6500

Cooperative Research Centre for Weed Management Systems, Adelaide University 08 8303 6590

Clean-up Australia Day 1800 024 890 (national) or 9388 0033 (McDaniel Associates, State contact)

Department of Aboriginal Affairs 9235 8000

Department of Environmental Protection 9222 7000

Department of Land Administration enquiries 9273 7373

Map Centre 9273 7075

Aerial photos 9273 7209

Dieback Working Group and Roleystone Dieback Group Ian Colquhoun (community contact) 9397 6813, Kalamunda Shire 9257 9999.

Ecoplan, Department of Environmental Protection 9222 7000

Environment Centre of WA 9225 4103

Environmental Weeds Action Network project officer 9220 5300

Fire and Emergency Services Authority of WA 9323 9300.

Environmental advisor 9323 9573

Greening Australia WA 9335 8933

Infolink, WA State Library 9427 3100

Ministry for Planning 9264 7777

Bushplan office 1800 626 477

National Trust of WA 9321 6088

WA Naturalists' Club office 9228 2495

Swan Catchment Centre 9220 5300

Swan River Trust 9278 0400

Urban Bushland Council 9420 7207

Waterbird Conservation Group (community contacts)

Joan Payne 9371 1670

Maureen Campbell 9537 7465

Regina Drummond 9459 2964

Water and Rivers Commission (including Ribbons of Blue and Waterways WA advisory service) 9278 0300

WA Municipal Association 9321 5055

WA Planning Commission 9264 7777

Wildflower Society of WA 9383 7979